

The KEYSTONE

The ORGAN of the JEWELRY & OPTICAL TRADES



Rings, Brooches,
Earrings, Hat Pins,
Pins, Bracelets,
Buttons, Crosses,
Necklaces and

COPYRIGHT 1905
BY S. THORPE PUBLISHER
1910 BROWN ST. PHILA.

Vol. 4

October, 1905

No. 10




An ELGIN Art Treasure for You

This large "Father Time and Lady Elgin" calendar, because of its matchless beauty and superiority of execution, compels the admiration of the most discriminating lovers of art. Hanging on the walls of any home, it will share attention with the most highly prized masterpiece of painting. It is entirely free from all advertising matter. Size 8x15 inches.

The calendar is the work of Maud Humphrey, the well-known artist. It illustrates in four beautiful pictures the popular periods of English fashion—the fifteenth, seventeenth, nineteenth and twentieth centuries. Its strikingly delicate color effects, combined with remarkable originality of conception, places it among the treasures of art. It is instructive and valuable from a historical point of view as well. Send for sample calendar.

ELGIN NATIONAL WATCH CO., General Offices, 131 Wabash Ave., CHICAGO.

Look for These

F&B. Trade-Marks 

whenever you want

GOODS OF GOOD QUALITY

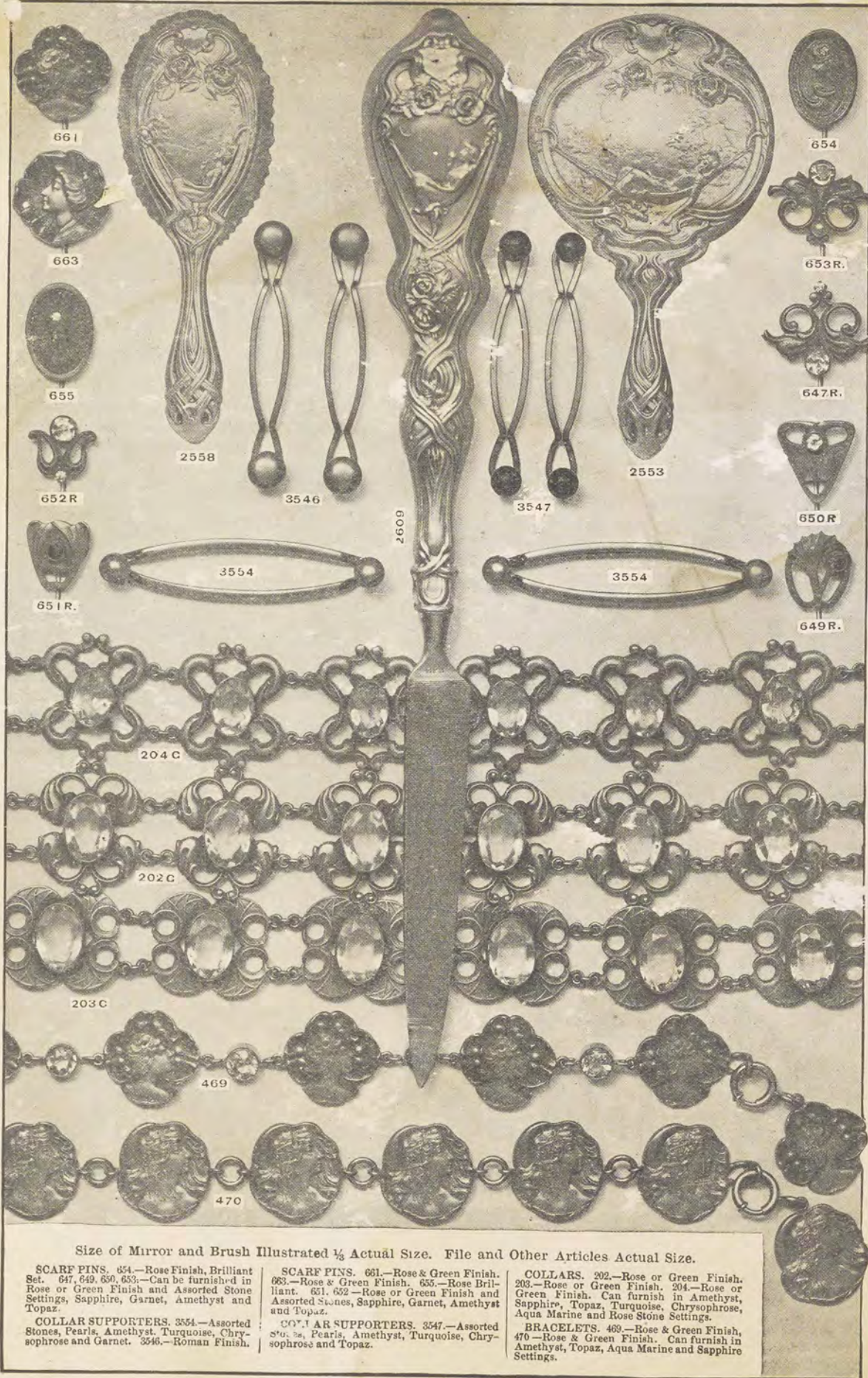
They stand for our guarantee and are your protection from imitations.

We are continually adding new goods to our lines, and the Jeweler who does not have **F&B** goods in his stock this season is going to lose business.

The goods illustrated are all new. The Collar Supporters are made in different shapes and with assorted stones, and the Collarettes are of different finishes and a variety of stones set, as are also the Bracelets.

Chains, Locket, Brooches, Scarf Pins, Hat Pins, Waist Pins, Bracelets, Link Buttons, Crosses, Earrings, Necklaces and Hair Chain Mountings, Sterling Silver Toilet and Manicure Sets and Useful Novelties.

See our Catalogue for other goods.



Size of Mirror and Brush Illustrated $\frac{1}{2}$ Actual Size. File and Other Articles Actual Size.

SCARF PINS. 654.—Rose Finish, Brilliant Set. 647, 649, 650, 653.—Can be furnished in Rose or Green Finish and Assorted Stone Settings, Sapphire, Garnet, Amethyst and Topaz.

COLLAR SUPPORTERS. 3554.—Assorted Stones, Pearls, Amethyst, Turquoise, Chrysophrose and Garnet. 3546.—Roman Finish.

SCARF PINS. 661.—Rose & Green Finish. 663.—Rose & Green Finish. 655.—Rose Brilliant. 651, 652.—Rose or Green Finish and Assorted Stones, Sapphire, Garnet, Amethyst and Topaz.

COLLAR SUPPORTERS. 3547.—Assorted Stones, Pearls, Amethyst, Turquoise, Chrysophrose and Topaz.

COLLARS. 202.—Rose or Green Finish. 203.—Rose or Green Finish. 204.—Rose or Green Finish. Can furnish in Amethyst, Sapphire, Topaz, Turquoise, Chrysophrose, Aqua Marine and Rose Stone Settings.

BRACELETS. 469.—Rose & Green Finish, 470.—Rose & Green Finish. Can furnish in Amethyst, Topaz, Aqua Marine and Sapphire Settings.

THEODORE W. FOSTER & BROTHER COMPANY

MANUFACTURING JEWELERS AND SILVERSMITHS

100 Richmond Street, Providence, R. I.

53 Years
SOLE AGENTS
for the Celebrated

1853 Mainsprings
American



Mainsprings 1905
and Swiss

The
AR

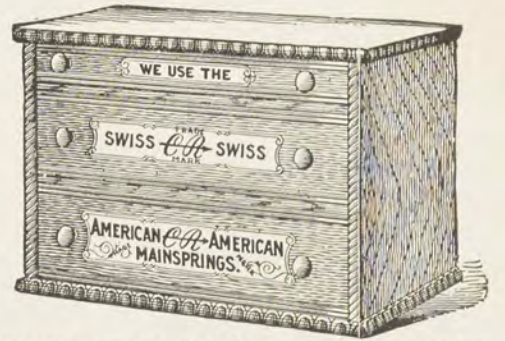
American and Swiss
MAINSPRINGS

are so well known by the
expert and most critical
watchmakers that further
claims are unnecessary.

Send for a list of
Styles, Sizes, Width
and Strength by
Dennison's Gage

FREE OF CHARGE
This Handsome Cabinet

with three drawers and a series of twenty-six handsomely
decorated tin boxes, marked with sizes, grades, class, num-
ber, width and strength by Dennison's gage. These boxes
are fitted to the Cabinet, and are specially intended for the
loose mainsprings which naturally accumulate in every
watchmaker's stock. We will send one of these Cabinets
free with the first order for one gross of **AR** Ameri-
can or Swiss Mainsprings.



Size, 15 inches long, 10 inches high and 9 1/4 inches deep
Capacity, 10 Gross **AR** American and Swiss Springs

Sole
Agents
For the
United
States

**JURGENSEN
RECOILING
R MAINSPRINGS**

Sole
Agents
For the
United
States

MAIL ORDERS we care for promptly, and get them to you according to order
Orders filled from any catalogue

L. H. KELLER & Co.

IMPORTERS, MANUFACTURERS AND JOBBERS
Fine Watch Materials, Tools, Files, Supplies
and Optical Goods

64 Nassau St., New York

Watches

Watches

Non-Retailing

means—that we protect the **Retail Trade** by **Positively Refusing** to sell any goods other than at **Wholesale**. Any **Jobber** who **retails** becomes a competitor of the **Retailer**.

Are you buying your **Watches** from a competitor of yourself? We are not your competitor, and we solicit your trade.

The Non-Retailing Company

Jobbers in

Watches and Chains

Lancaster, Pa.

Watches

Watches



EXTRA **X** ★ **F** FINE



SWISS PATTERN FILES

“GOOD WORK REQUIRES GOOD TOOLS”



NICHOLSON FILE COMPANY

PROVIDENCE, R. I.

ON A LARGER SCALE



We handle tools and materials in such large quantities that we can give you the best goods at the lowest prices. We are among the largest dealers in this class of goods in the United States, and we pass the benefit of our large-quantity-buying on to you. And another thing—we fill your orders promptly and **as you give them**. Our stock is large and complete and our facilities ample. We have what you want and we lose no time in getting it to you. Try us with a tria' order and we'll **convince** you.



BALANCE STAFFS

ALL PRICES PER DOZEN

	Genuine Factory	E. & J. S. Brand	Eagle Brand
Elgin, all sizes, 7 jewel	\$2.00	\$1.00	\$.75
Elgin, all sizes, 17 jewel	3.00	1.00	...
Elgin, all sizes, 21 jewel	4.00	2.50	...
Waltham, all sizes, 7 jewel	2.00	1.00	.75
Waltham, all sizes, 15 jewel	3.00	1.00	...
Waltham, all sizes, 17 jewel	4.00	2.50	...
Waltham, all sizes, 21 jewel	5.00	2.50	...
Illinois, all sizes, 7 jewel	2.00	1.00	.75
Illinois, all sizes, 17 jewel	4.00	2.50	...



BALANCE JEWELS

ALL PRICES PER DOZEN

	Genuine Factory	E. & J. S. Brand	Eagle Brand
Elgin, all sizes, 7 to 17 jewel	\$2.00	\$1.50	\$.75
Waltham, all sizes, 7 to 15 jewel	2.10	1.50	.75
Waltham, all sizes, 17 to 23 jewel	2.35	1.50	...
Illinois, all sizes, 7 to 21 jewel	2.50	1.50	.75
Hampden, all sizes, 7 to 21 jewel	3.45	1.50	.75

ALL ABOVE PRICES SUBJECT TO 6% DISCOUNT FOR CASH

Genuine Factory Material. We keep the different makes and grades of material for American Watches in large variety. We sell these materials at lowest factory prices. All orders are carefully selected and promptly returned to you.

Our New Catalogue will be extraordinarily handsome and something new in catalogue making. It will be in our hands for October delivery, the printer says. If you have not sent us your name for a copy, do it now—if you are in our territory—and we will send the book free of charge.

E. & J. SWIGART, Cincinnati, Ohio





A man in a suit and tie stands behind a large ruler. The ruler is marked with dollar signs (\$) and is held horizontally across the frame. The background consists of vertical lines.

A RULE THAT WORKS BOTH WAYS

**GIVES
FULL MEASURE
and a LITTLE MORE**

GETTING AN EXTRA PROFIT

The miner has to dig the ore out of the ground and put it through certain processes in order to get the gold.

If the ore contains a little silver and a little copper it means an additional clear profit for the miner, with practically no extra labor or expense.

A wise jeweler conducts his business on the same principle. He sells his goods and runs a repair shop in order to get a profit out of it—the gold.

If the jewelry business and the repair department accumulate a little old gold and silver and bench filings and sweepings, it means an additional clear profit with practically no extra labor or expense.

Make it a rule to gather together and ship your scraps and filings at regular intervals. It rids your store of old junk and puts an extra profit into your cash drawer—a rule that works both ways.

Our old, tried and true plan is: You send your consignment, we send you a check immediately. If the amount of the check is not large enough, you return it and we return your shipment and pay the freight.

We are paying 50 cents per ounce for old silver.

GOLDSMITH BROS.

Sweep Smelters, Refiners and Assayers

OFFICES, 63 and 65 Washington Street
WORKS, 58th and Throop Streets

CHICAGO, ILL.



BETSY ROSS TERRITORY

The Betsy Ross Memorial Association has 957,922 members. Here is where they live. Most of them will buy the Betsy Ross Watch if you let them know about it. Isn't this a substantial nucleus of trade?

Six New England States

Massachusetts, 60,570	New Hampshire, 3,480	
Rhode Island, 17,070	Maine, 2,520	
Connecticut, 16,350	Vermont, 1,290	101,280

Four Middle States

Pennsylvania, 295,080	New Jersey, 97,110	
New York, 210,780	Delaware, 4,830	607,800

Eleven Southern States

Maryland, 23,040	North Carolina, 600	
West Virginia, 1,620	Texas, 570	
Virginia, 1,560	South Carolina, 300	
Louisiana, 1,500	Alabama, 270	
Florida, 750	Mississippi, 90	
Georgia, 690		30,990

Twenty-four Western States

Ohio, 28,800	Oregon, 1,890	
Illinois, 19,590	Kansas, 1,740	
Indiana, 9,530	Utah, 1,170	
Missouri, 8,190	Tennessee, 1,080	
California, 7,800	Washington, 930	
Wisconsin, 6,960	North Dakota, 870	
Michigan, 6,060	Montana, 570	
Kentucky, 3,300	South Dakota, 330	
Minnesota, 3,090	Arkansas, 300	
Iowa, 2,940	Idaho, 210	
Nebraska, 2,760	Nevada, 180	
Colorado, 2,190	Wyoming, 60	110,640

Territories and Colonies

New Mexico, 480	Oklahoma, 60	
Hawaii, 330	Ladron Islands, 60	
Philippine Islands, 210	Indian Territory, 30	
Alaska, 120	Porto Rico, 30	1,380
Arizona, 60		

District of Columbia, 8,280	
U. S. Navy, 330	8,610

Foreign Countries

Canada, 180	Scotland, 30	
France, 150	South Africa, 30	
England, 120	Italy, 30	
Greece, 90	Germany, 30	
Rep. of Colombia, 60	China, 30	
Cuba, 60	Costa Rica, 30	
Australia, 60	Mexico, 30	
Nova Scotia, 30		960

In club form,	866,220
In miscellaneous form,	91,702
Grand total,	957,922

DID you ever see a prettier headpiece to an advertisement than these new *Jas. Boss* 20-year cases we are using for the *Betsy Ross* Complete O-size Watch? They are entirely worthy of this interesting association, and the movement is entirely worthy of these admirable examples of case-making—a combination that has created a phenomenal demand. There is no better seller than the



BETSY ROSS COMPLETE O-SIZE WATCH

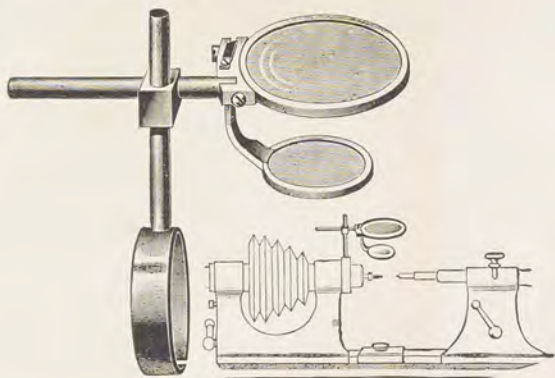
Its *intrinsic worth* makes the demand and the story of Betsy Ross colors it with enthusiasm. If you have not ordered, you have a trade waiting; if you have ordered, you will need more this fall, and yet more as the holiday trade develops. *Do not delay*—the pressure on the factory is getting greater every day. There is no other such value in O-size complete watches. Order from your jobber.

We have just prepared a very interesting folder—in colors—illustrating the Betsy Ross Watch and telling how and where she made the first American flag. We print your name on them and furnish free as many as you can use. Send your business card.

The Keystone Watch Case Co.
Philadelphia

New York
Chicago

Cincinnati
San Francisco



Lathe Loupe, No. 25

(PATENT APPLIED FOR)

A most useful article, devised by a practical watchmaker. Easily applied to any make lathe. If great power is required, bring into action the two lenses; otherwise swing the small lens out of place. Rings of two different sizes are furnished with each loupe to meet all requirements. The loupe will enable anyone to inspect the work without bending close to it as with ordinary eye-loupe.

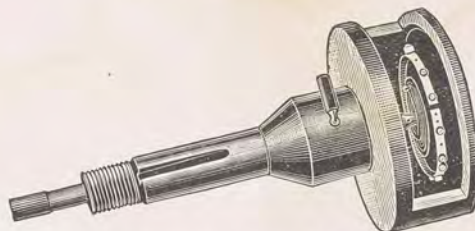
Price, \$1.25 each



Adjustable Jaw Roller Remover, No. 16

The two movable jaws are easily adjusted so they will take in any size roller by means of the knurled screw.

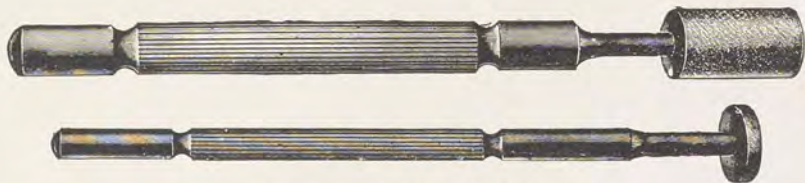
Price each, \$1.50



Culman Balance Chuck

For refinishing balance pivots without removing the hairspring or roller, and protecting them while the pivots are being repolished. Made for all standard sizes of American Lathes.

Price, \$3.50



Frosting or Matting Tool, No. 1

(PATENTED)

Wheels, Bridges and Plates, which at present can only be polished, may, with this tool, be given a frosted or matted surface similar to the original finish produced in the factory. Wheels may be placed in the lathe or otherwise held, polished with fine emery paper and the small roll used with light pressure for refrosting. Bridges, Plates or other large flat surfaces may be treated in the same way with fine emery paper, after which the large roll is to be passed forward and backward over the work with light pressure.

Price per set, \$1.00

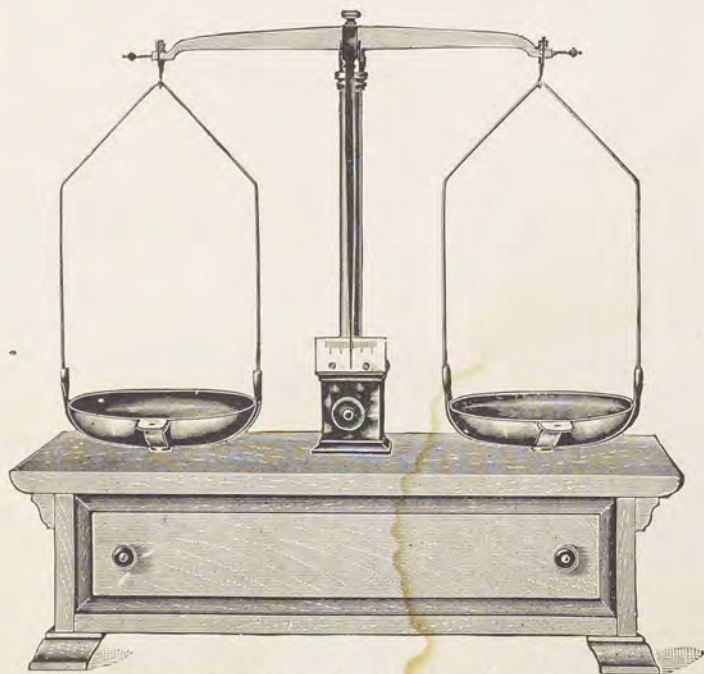


CLOCK HAND SET COMBINATION No. 16

Consists of all the styles used on the following Clock Co's Movements:

ANSONIA, SETH THOMAS,
GILBERT, WATERBURY,
NEW HAVEN, WESTERN.

CONTENTS 50 PIECES. PRICE \$1.00



Jeweled Bearing Scale, No. 120

Above illustration represents our new line of Jeweled Scales, which we furnish in various sizes. The bearings supporting beams are jeweled. Pans are hung in hardened knife bearings. Adjusting screws on ends of beams. Exceedingly sensitive. All parts heavily nickel-plated. Removable pans. Finely finished hardwood boxes. Weights finely adjusted.

PRICES	}	Complete with set of 2 oz. weights	\$ 8.00
		" " " 4 " "	10.00
		" " " 6 " "	12.00
		" " " 8 " "	14.00
		" " " 10 " "	16.00

A fine scale at a moderate price



Clow's Steel Screw Solvent

is a chemical preparation for removing steel screws that have been broken off or rusted in Watch Plates, Crowns, Eyeglasses or Spectacle Frames.

It Acts Only on Steel

It abolishes the old custom of punching or drilling out screws. With this preparation a screw can be removed in from ten minutes to one hour without taking any of your time. Full directions with each bottle.

Price, 50 cents



BACK WINDER COMBINATION No. 17

Consists of all the styles used on the following Clock Co's Movements:

ANSONIA, SETH THOMAS,
GILBERT, WATERBURY,
NEW HAVEN, WESTERN.

CONTENTS 50 PIECES. PRICE \$1.50

Order from your Jobber.

If he is unable to supply you, if you will write us we will inform you who can.

**HAMMEL,
RIGLANDER & CO.**

47 & 49 Maiden Lane
NEW YORK



English Case as Received

As Remodeled for American S. W. Movement

WENDELL & COMPANY
WATCH CASE MAKERS, REMODELERS AND REPAIRERS

Special Cases to order in Gold and Silver, for English, Swiss and American Movements.
Key-Wind Cases changed to Stem-Wind.
English Cases changed to fit American Movements without altering outside appearance.
Hunting Cases changed to Open-Face.
Old Watch Cases Repaired and Renewed.
Melting old gold cases and making over into new case (using same gold) a specialty.

TWO WONDERFUL SHOPS

103-105 William Street, New York

57 Washington Street, Chicago

NEW CLAWS ON OLD DIAMOND RINGS



These two cuts show Flat and Round Belcher Rings as received, with claws badly worn off and too low to permit resetting stones again.

These cuts show the same rings with new, high claws, stones securely reset, and entire rings refinished like new.

Net Price for six new claws, resetting stone and refinishing ring like new, \$.75 to \$1.25
" eight " " " " " " " " " 1.00 to 2.00
We retip or put new claws on diamond Tiffany, Belcher, Tooth and rings of every description, to cost from 75c. to \$2.00, according to the condition of ring and number of claws in setting.



Initial glove ring with one claw at each end holding set.

These two cuts show initial and cameo glove ring, with two and four claws soldered to the setting, which holds the sets in very securely.

Two new claws on glove ring, 50c.
Four " " " " 75c.



Cameo glove ring with four claws at corners holding set.

WENDELL & COMPANY

The Special Manufacturers for the Retail Jewelry Trade

TWO WONDERFUL SHOPS

103-105 William St. NEW YORK

57 Washington St. CHICAGO



SAMPLE JOB AS RECEIVED



AS DELIVERED



FANCY LINK CHAIN AS RECEIVED FOR RENEWING



AS DELIVERED

Gold Chains Refilled, Renewed and Repaired
Old Chains made over into new patterns, using same gold
Good Work. Low Prices. Prompt Attention

WENDELL & COMPANY

THE SPECIAL MANUFACTURERS FOR THE RETAIL JEWELRY TRADE

NEW YORK
103-105 William Street

TWO WONDERFUL SHOPS

CHICAGO
57 Washington Street



Stone-Setting

We carry a most complete stock of Precious and Semi-Precious Stones for special work and replacing lost sets. We import them direct from the cutters in Europe, and furnish them to the trade in single stones at dozen and gross prices.

Have your stone-setting done in our shops and save from thirty-five to fifty per cent.

We employ first-class setters, and turn out work very promptly.

No job too small to receive our careful attention.

Wendell & Company

Repairers and Special Manufacturers for the Retail Jewelry Trade

103-105 William Street
NEW YORK

TWO LARGE FACTORIES

57 Washington Street
CHICAGO

For 23 years we have been doing

Gold and Silver Plating

Sterling and Plated Ware Repairing for the Trade

Do we do yours?
Our plating rooms are the best equipped in the country for job work.



BEFORE



AFTER

WE REPAIR

any article in the silverware line; making new parts to match the old ones that have been melted or broken off, the same as new.

WE REPLATE

any metal article in gold, silver, nickel, bronze, brass, oxidized silver, old bronze, statuary bronze, and all antique finishes.

Wendell & Company

Repairers and Special Manufacturers for the Retail Jewelry Trade

TWO WONDERFUL SHOPS

103-105 William Street, New York

57 Washington Street, Chicago

**Great Promptness in Getting Out
Special Order Work and Repairing of all kinds**

together with Good Work and Low Prices are the features that made our business the only success of its kind in the country.

For 23 years we have made a separate and distinct business of doing Special Order Work and Repairing for the Trade.

We understand our business and there is not a Job or Special Order for New Work that is taken into a Retail Jewelry Store (except watch work) that we are not prepared to do in our own factories.

It is to your best interest to deal with us. By giving your customers perfect satisfaction with their repairs and made-to-order work, you increase your entire business.

Send for our Repair Price-List and Special Order Work Catalogues

Wendell & Company

The Special Manufacturers for the Retail Jewelry Trade

Two Wonderful Shops in Fire-Proof Buildings

103-105 William Street, New York

57 Washington Street, Chicago

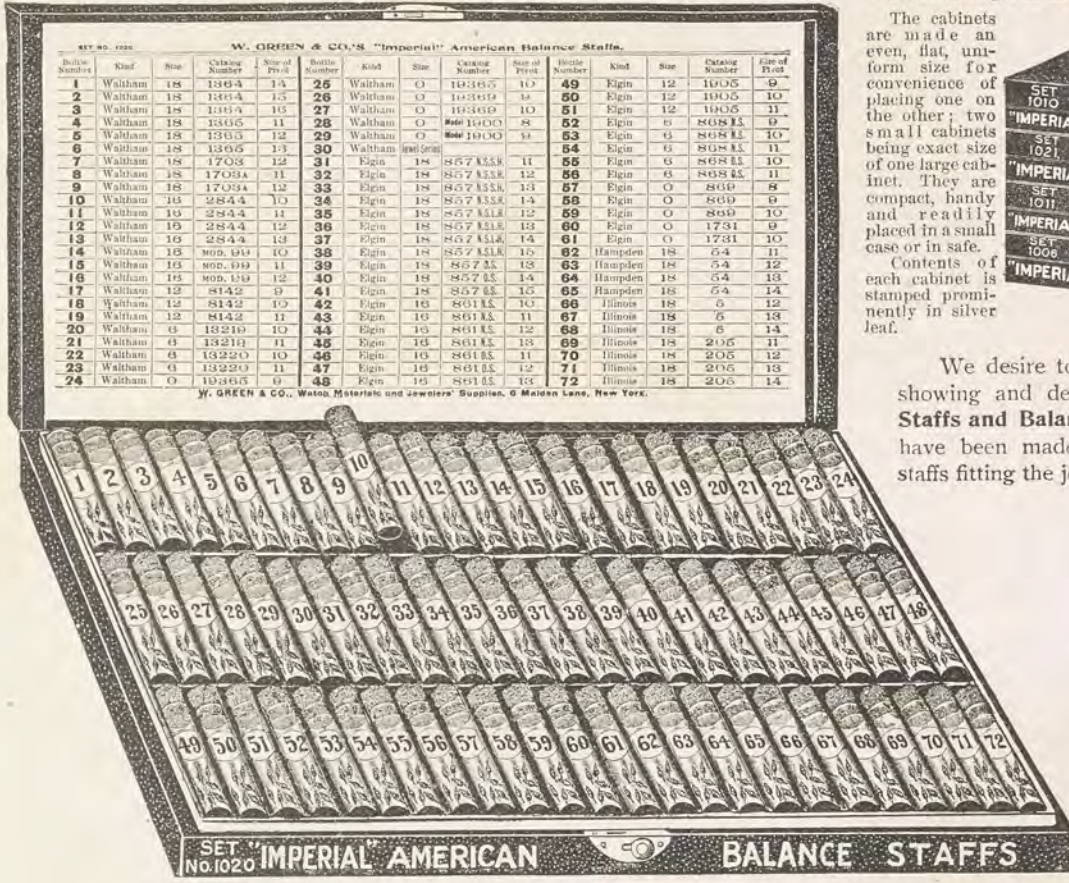
American-Made Balance Staffs and Hole Jewels 1593

for American Watches, in Separate Size Holes and Pivot

Cut showing set of 6 cabinets

The cabinets are made an even, flat, uniform size for convenience of placing one on the other; two small cabinets being exact size of one large cabinet. They are compact, handy and readily placed in a small case or in safe.

Contents of each cabinet is stamped prominently in silver leaf.



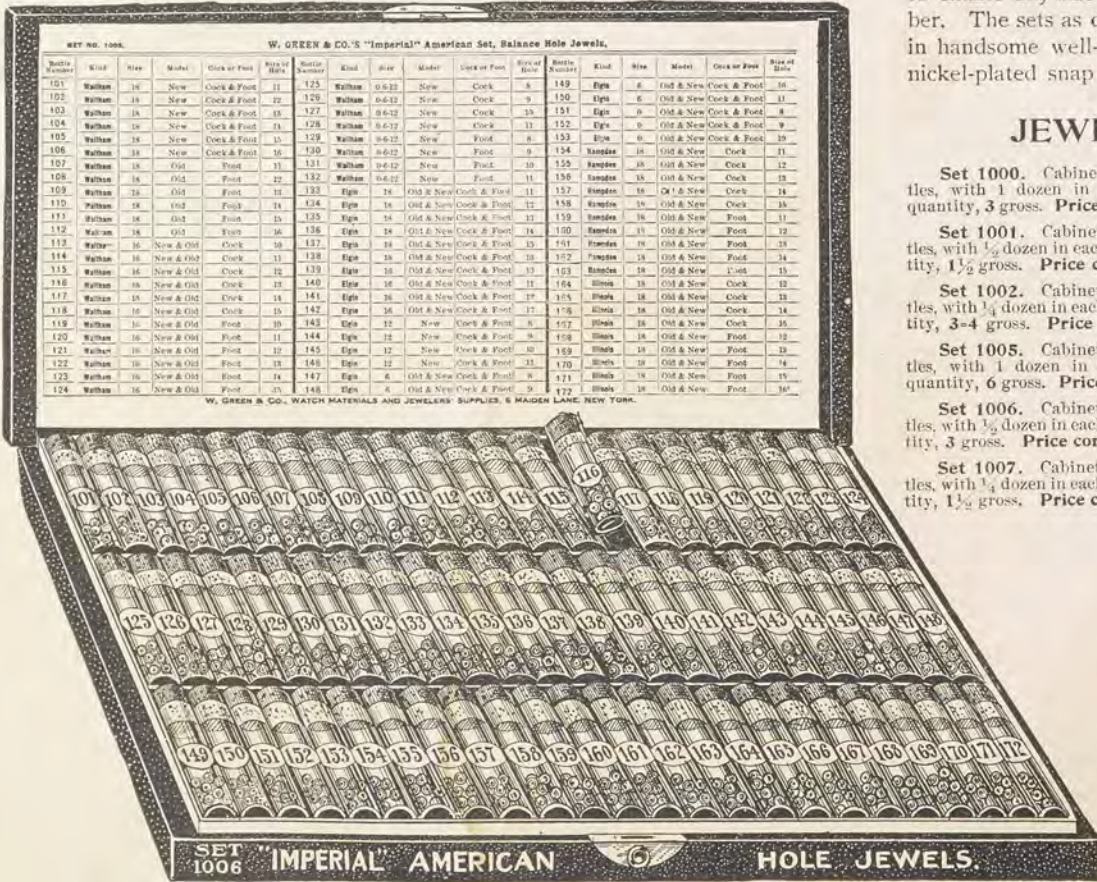
Bottle Number	Kind	Size	Case No.	Size of Pivot	Bottle Number	Kind	Size	Case No.	Size of Pivot
1	Waltham	18	1335.4	14	25	Waltham	O	10316.5	10
2	Waltham	18	1335.4	15	26	Waltham	O	10316.9	11
3	Waltham	18	1335.4	16	27	Waltham	O	10316.9	12
4	Waltham	18	1335.5	11	28	Waltham	O	10316.9	13
5	Waltham	18	1335.3	12	29	Waltham	O	10316.9	14
6	Waltham	18	1335.5	13	30	Waltham	O	10316.9	15
7	Waltham	18	1703.8	12	31	Elgin	18	857.858.8	11
8	Waltham	18	1703.8	11	32	Elgin	18	857.858.8	12
9	Waltham	18	1703.4	12	33	Elgin	18	857.858.8	13
10	Waltham	18	2284.4	13	34	Elgin	18	857.858.8	14
11	Waltham	18	2284.4	14	35	Elgin	18	857.858.8	15
12	Waltham	18	2284.4	15	36	Elgin	18	857.858.8	16
13	Waltham	18	2284.4	16	37	Elgin	18	857.858.8	17
14	Waltham	18	2284.4	17	38	Elgin	18	857.858.8	18
15	Waltham	18	2284.4	18	39	Elgin	18	857.858.8	19
16	Waltham	18	2284.4	19	40	Elgin	18	857.858.8	20
17	Waltham	18	2284.4	20	41	Elgin	18	857.858.8	21
18	Waltham	18	2284.4	21	42	Elgin	18	857.858.8	22
19	Waltham	18	2284.4	22	43	Elgin	18	857.858.8	23
20	Waltham	18	2284.4	23	44	Elgin	18	857.858.8	24
21	Waltham	18	2284.4	24	45	Elgin	18	857.858.8	25
22	Waltham	18	2284.4	25	46	Elgin	18	857.858.8	26
23	Waltham	18	2284.4	26	47	Elgin	18	857.858.8	27
24	Waltham	18	2284.4	27	48	Elgin	18	857.858.8	28

W. GREEN & CO., Watch Materials and Jewelers' Supplies, 6 Maiden Lane, New York.

We desire to call your attention to the accompanying illustrations showing and describing the highest grade American-made Balance Staffs and Balance-Hole Jewels in Settings. Both Staffs and Jewels have been made on scientific principles and are interchangeable—the staffs fitting the jewels of corresponding size and number as shown in cut and index. The Staffs are highly polished, tempered and guaranteed to be perfectly true and correctly gaged. The Jewels are genuine Ruby and Sapphire of the finest quality, and settings are gaged to fit accurately. Particular attention has been given to making the countersink in jewels sufficiently deep to prevent the spreading of oil, also to have the walls of jewels as short as possible without making them too thin, which is one of the main faults with most American jewels in the market.

By having a supply of our American Staffs and Jewels arranged in our cabinets, with each size hole and pivot in a separate bottle, it affords greater facilities in selecting the material, and much time and annoyance is thus avoided. This method of keeping staffs and jewels saves time, patience and money, and combines simplicity with economy. Each bottle is numbered to correspond with an accurate directory and guide, placed in each cabinet, to enable any size or style to be duplicated by simply quoting the number. The sets as described below are arranged in velvet compartments in handsome well-made Leatherette Cabinets, with hinged cover and nickel-plated snap lock, containing evenly-made bottles with corks.

W. GREEN & CO., 6 Maiden Lane, New York



Bottle Number	Kind	Size	Case No.	Size of Hole	Bottle Number	Kind	Size	Case No.	Size of Hole	
101	Waltham	18	New	Clock & Foot	11	125	Waltham	18	New	Clock & Foot
102	Waltham	18	New	Clock & Foot	12	126	Waltham	18	New	Clock & Foot
103	Waltham	18	New	Clock & Foot	13	127	Waltham	18	New	Clock & Foot
104	Waltham	18	New	Clock & Foot	14	128	Waltham	18	New	Clock & Foot
105	Waltham	18	New	Clock & Foot	15	129	Waltham	18	New	Clock & Foot
106	Waltham	18	New	Clock & Foot	16	130	Waltham	18	New	Clock & Foot
107	Waltham	18	Old	Foot	17	131	Waltham	18	Old	Foot
108	Waltham	18	Old	Foot	18	132	Waltham	18	Old	Foot
109	Waltham	18	Old	Foot	19	133	Waltham	18	Old	Foot
110	Waltham	18	Old	Foot	20	134	Waltham	18	Old	Foot
111	Waltham	18	Old	Foot	21	135	Waltham	18	Old	Foot
112	Waltham	18	Old	Foot	22	136	Waltham	18	Old	Foot
113	Waltham	18	New & Old	Clock	23	137	Waltham	18	New & Old	Clock
114	Waltham	18	New & Old	Clock	24	138	Waltham	18	New & Old	Clock
115	Waltham	18	New & Old	Clock	25	139	Waltham	18	New & Old	Clock
116	Waltham	18	New & Old	Clock	26	140	Waltham	18	New & Old	Clock
117	Waltham	18	New & Old	Clock	27	141	Waltham	18	New & Old	Clock
118	Waltham	18	New & Old	Clock	28	142	Waltham	18	New & Old	Clock
119	Waltham	18	New & Old	Clock	29	143	Waltham	18	New & Old	Clock
120	Waltham	18	New & Old	Clock	30	144	Waltham	18	New & Old	Clock
121	Waltham	18	New & Old	Clock	31	145	Waltham	18	New & Old	Clock
122	Waltham	18	New & Old	Clock	32	146	Waltham	18	New & Old	Clock
123	Waltham	18	New & Old	Clock	33	147	Waltham	18	New & Old	Clock
124	Waltham	18	New & Old	Clock	34	148	Waltham	18	New & Old	Clock

W. GREEN & CO., WATCH MATERIALS AND JEWELERS' SUPPLIES, 6 MAIDEN LANE, NEW YORK.

JEWELS

STAFFS

- Set 1000. Cabinet containing 36 bottles, with 1 dozen in each bottle. Total quantity, 3 gross. Price complete, \$40.00.
- Set 1001. Cabinet containing 36 bottles, with 1/2 dozen in each bottle. Total quantity, 1 1/2 gross. Price complete, \$22.50.
- Set 1002. Cabinet containing 36 bottles, with 1/3 dozen in each bottle. Total quantity, 3-4 gross. Price complete, \$12.25.
- Set 1005. Cabinet containing 72 bottles, with 1 dozen in each bottle. Total quantity, 6 gross. Price complete, \$75.00.
- Set 1006. Cabinet containing 72 bottles, with 1/2 dozen in each bottle. Total quantity, 3 gross. Price complete, \$42.50.
- Set 1007. Cabinet containing 72 bottles, with 1/3 dozen in each bottle. Total quantity, 1 1/2 gross. Price complete, \$24.00.

- Set 1010. Cabinet containing 36 bottles, with 1 dozen in each bottle. Total quantity, 3 gross. Price complete, \$40.00.
- Set 1011. Cabinet containing 36 bottles, with 1/2 dozen in each bottle. Total quantity, 1 1/2 gross. Price complete, \$22.50.
- Set 1012. Cabinet containing 36 bottles, with 1/3 dozen in each bottle. Total quantity, 3-4 gross. Price complete, \$12.25.
- Set 1020. Cabinet containing 72 bottles, with 1 dozen in each bottle. Total quantity, 6 gross. Price complete, \$75.00.
- Set 1021. Cabinet containing 72 bottles, with 1/2 dozen in each bottle. Total quantity, 3 gross. Price complete, \$42.50.
- Set 1022. Cabinet containing 72 bottles, with 1/3 dozen in each bottle. Total quantity, 1 1/2 gross. Price complete, \$24.00.

For replenishing stock
Price per Gross, \$15.00
“ “ Dozen, 1.35

NOTE:—Cut this page out of THE KEYSTONE and insert it either in your Catalogue or paste in a convenient spot near your workbench. Do not cut or destroy the illustration, as we can fill all orders correctly simply by quoting number desired.

W. GREEN & CO., 6 Maiden Lane NEW YORK, U.S.A.

Importers Exporters Jobbers Manufacturers { Watch Materials, Tools, Jewelers', Engravers' and Opticians' Supplies

Hewes Hand-Wrought Gravers



Made entirely by hand, by skillful workmen. Each one carefully tempered and tested. They are hard, tough and reliable; will cut anything from lead to steel. Every one warranted unconditionally.

This style can be had with round, flat or square tops, assorted sizes.

Straight Gravers 35c.
Curved Gravers 50c.

For sale by all jobbers.



Try the Phoenix Recoiling Mainsprings

The best in the market. Expert watchmakers pronounce them to be perfect in every respect. Order from your jobber. If he is unable to supply you, write us and we will inform you who can.

\$1.00 Dozen; \$12.00 Gross

HENRY ZIMMERN & Co., INC., Sole Agents, 77 John Street, NEW YORK

ELECTRO-PLATING SALTS

THESE ELECTRO-PLATING SALTS ARE PREPARATIONS IN DRY FORM CONTAINING METAL AND CHEMICALS IN ACCURATE PROPORTION PRODUCING AT ALL TIMES CORRECT SHADES. DISSOLVED IN WATER THE BATH IS AT ONCE READY FOR USE WORKED WITH EITHER DYNAMO OR BATTERY, SAME AS OTHER SOLUTIONS.

SOME OF THE SALTS: Rose Gold, Green Gold, Parisian, Roman, 14 or 18 K., Red, Guinea, Old English Guinea Green, Guinea Rose, Gold Dip, Silver Salts, French Gray Dip, Silver Ebonizer, Oxides, Etc.

OUR ELECTRO-PLATING SALTS FOR

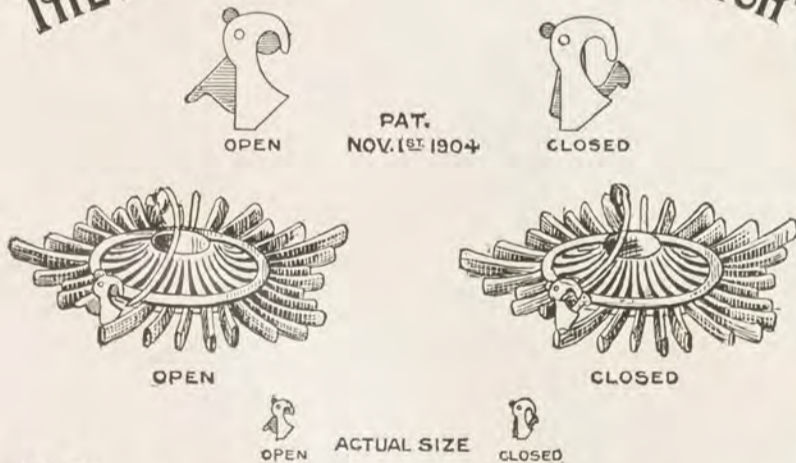
Dark Green Gold and **Orange Rose Gold**
(Antique Green) (Orange Yellow)

are the leading shades now extensively used for single and double coloring. Directions for doing this kind of work with order. Our Electro-Plating Salts are universally used. Write for circular.

U. S. ELECTRO-CHEMICAL CO., H. Hirschbach, Prop., 80 Elm St., NEW YORK

are the leading shades now extensively used for single and double coloring. Directions for doing this kind of work with order. Our Electro-Plating Salts are universally used. Write for circular.

THE ABEL AUTOMATIC SAFETY CATCH



YOU may have this wonderful catch, which locks itself, on all your **Diamond Brooches or Mountings** without extra charge. It absolutely secures the pintongue; simply insist on having it.

Special Prices on this Catch, in Large Quantities, to
Manufacturers, Wholesalers and Exporters

We make every possible conception in **Diamond Mountings, Mounted Diamond or Rich Gold Jewelry** at values that defy competition, because we buy all our loose stones in Europe for spot cash of first hands.

When **YOU** intend purchasing your **DIAMONDS, Rubies, Sapphires, Emeralds, Pearls, etc.**, for the Holiday business, write us for a selection package.

ABEL BROS. & CO.

Importers and Cutters of Diamonds. Makers of Fascinating Diamond Jewelry
Abel Building, John & William Streets, NEW YORK

Branches in Amsterdam, Antwerp, Paris, London, Idar, Oberstein

No. 6-F Automaton Blowpipe

For Light Soldering

The flame can be instantly changed from a needle point to a large brush flame. A slight movement of the hand does it.



Price by mail, \$2.00

The "B. D. M. Co.'s" original No. 6 F Automaton Blowpipe is substantially made and correctly proportioned to give best results. Order direct, or specify "B. D. M. Co.'s" when ordering through your dealer.

Write for catalogue "B. k." illustrating gas and gasoline furnaces and blowpipes, foot blowers, etc.

Buffalo Dental Manufacturing Co.

587 and 589 Main St.

BUFFALO, N. Y., U.S.A.

IN LINE FOR THE FALL TRADE

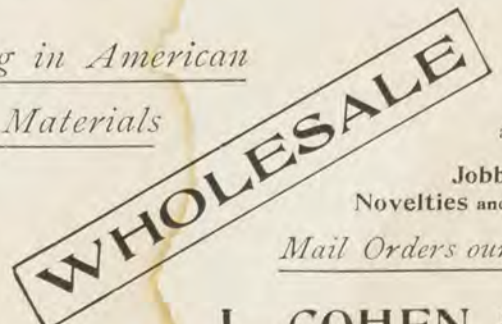
Everything in American

Tools and Materials

Order from any catalogue

Jobbing Stones
Novelties and Souvenirs

Mail Orders our Specialty

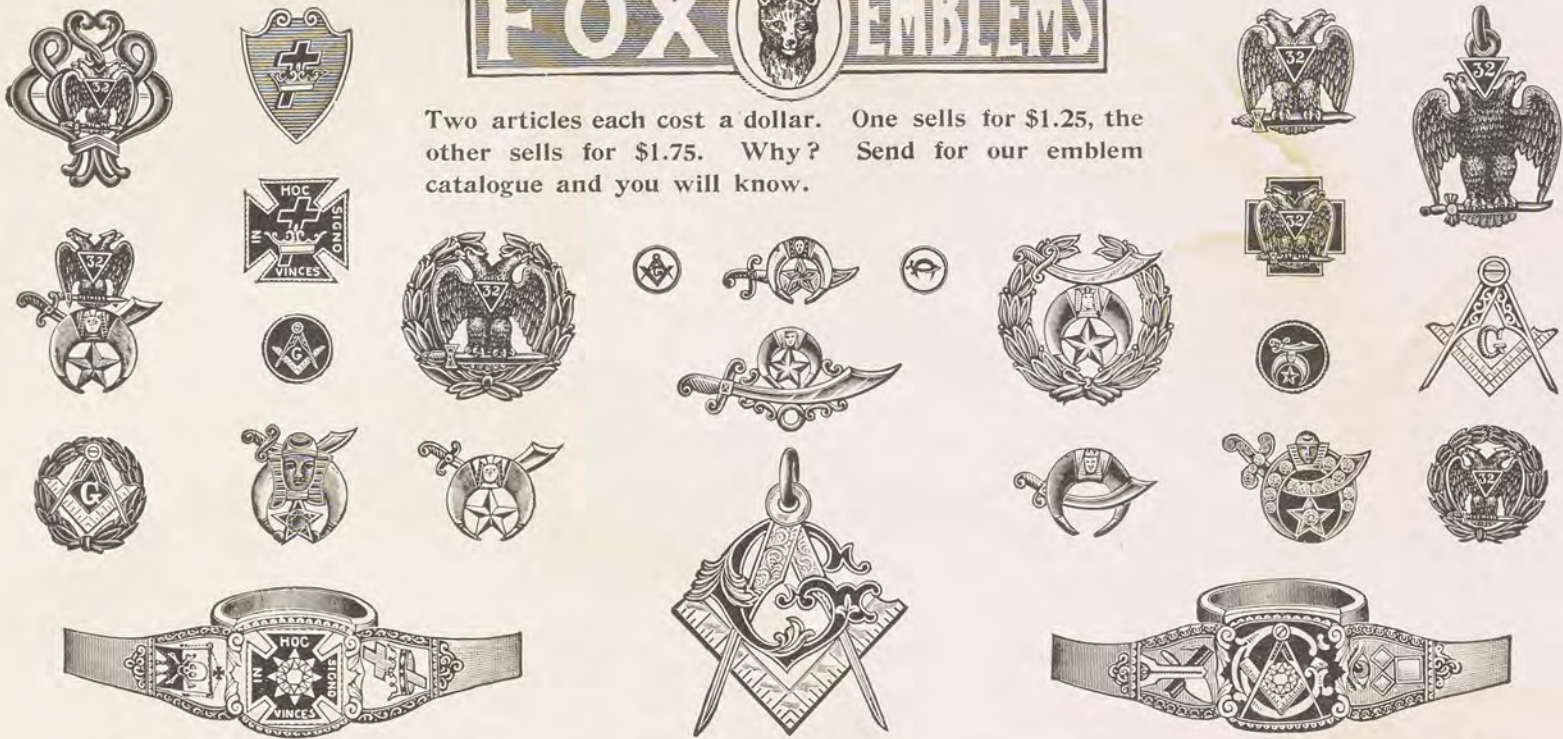


Send for Prices on our New Nickel Alarm Clock and the New Guaranteed Dollar Watch, Stem Wind and Set.

L. COHEN & CO.

630 Pennsylvania Ave., N. W.
Washington, D. C.

FOX EMBLEMS



Two articles each cost a dollar. One sells for \$1.25, the other sells for \$1.75. Why? Send for our emblem catalogue and you will know.

The Gustave Fox Co
 No. 14 - 16 East Fourth St. ~ CINCINNATI, O.
 EUROPEAN OFFICE, ANTWERP, BELGIUM.



All the Year Essentials

90c. 15 Jewel grades, polished, \$1.15. 17 Jewel grades, polished, \$1.35 per dozen, net cash.
 ★ "STAR" Brand American Balance Hole Cock and Foot Jewels in settings, made by automatic machinery, correctly gaged, special, per dozen, 90c. net cash.
 ★ "STAR" Brand American Roller Jewels that will fit properly, 25c. per dozen; special, \$2.50 per gross net cash, including Oak Cabinet with 12 bottles.
 ★ "STAR" Brand American Long Case Screws that will fit properly, 20c. per dozen; special, \$2.00 per gross net cash, including Oak Cabinet with 12 bottles.

All the above prices are strictly NET CASH. Orders filled in rotation as received.

H. B. Peters & Co., 177-179 Broadway, New York



THE REES ENGRAVING SCHOOL

Steele Memorial Library Building, ELMIRA, N. Y.

worth night; a beautiful building; ground floor location. The finest equipment. Your instructor the author of "The Art of Engraving," "Modern Letter Engraving," etc.

THE W. J. FEELEY COMPANY

Ecclesiastical Art Metal Workers

203 Eddy Street, PROVIDENCE, R. I.



In Pure Stone

Amethyst, Topaz, Garnet, Crystal, Onyx and Turquoise. Mounted in 14 K. rolled-gold plate, \$10.00, \$12.00, \$14.00 each. Mounted in solid gold, \$35.00 to \$50.00 each.

In Imitation Stone

Mounted in 14 K. rolled-gold plate, stones of good color, clear cut facets, Amethyst, Topaz, Garnet, Emerald, Crystal, Opal and Turquoise.

Mother of Pearl

Prices—\$2.00, \$2.50, \$3.50, \$4.00 and \$5.00 each.

Our new illustrated Catalogue now ready for distribution. Mailed on request. Selection package on application.

Our list includes *Chalices, Ciboria, Ostensoria, Crucifixes, Candlesticks, Candelabra, Pulpits, Altar Lamps, Sanctuary Rails and Memorial Tablets.*



No. 3296
 In Sterling Silver, \$1.00 each

A GOLDEN RULE

Trade with us as you would have others trade with you

Get on our satisfied list and get the refining end
of your business off your mind

THE BROWN & DEAN COMPANY

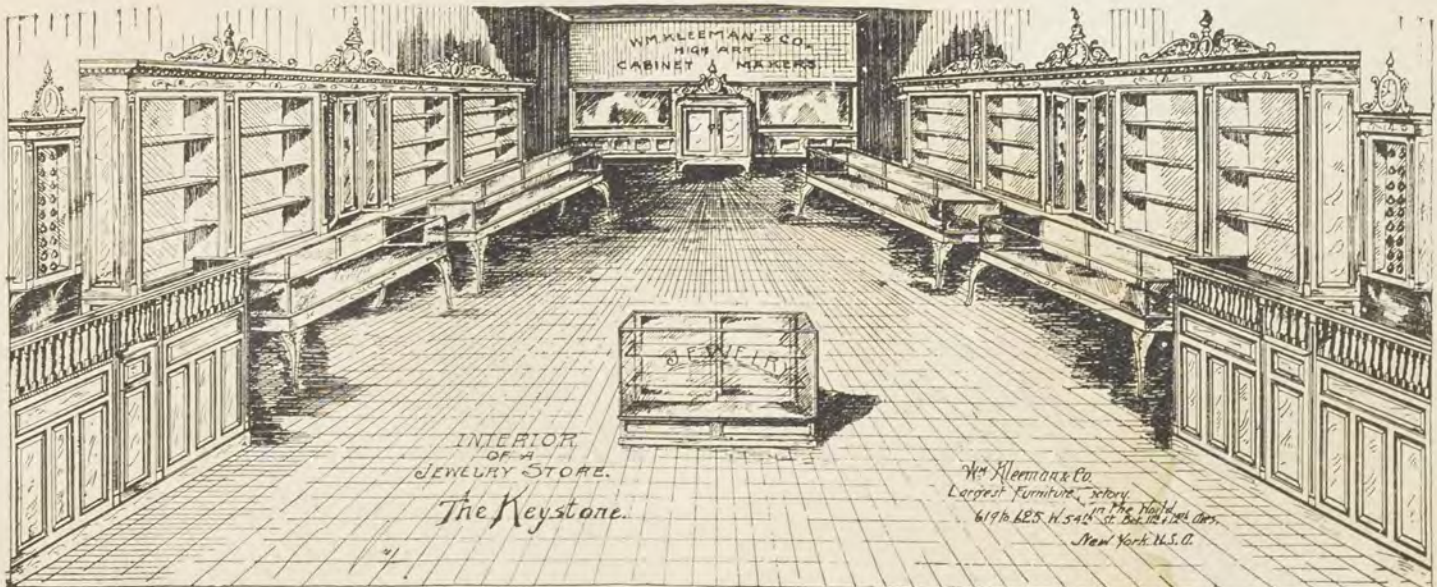
Gold and Silver Refiners

102 and 104 Richmond Street

Providence, R. I.

RELIABILITY—THAT'S THE POINT

when it comes to ordering **JEWELRY STORE FIXTURES**



INTERIOR
OF A
JEWELRY STORE.
The Keystone.

*Wm. Kleeman & Co.
Largest Furniture Store
619 to 625 N. 54th St. Bklyn. N.Y.
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For 43 years
Wm. Kleeman
& Co. have
held the record
for **High Art
Jewelers'
Store Fixtures
MADE TO
ORDER**,
from plans and
specifications
which they pre-
pare through
correspondence
or personal inter-
views with their
experienced
traveling
representatives.

No regular **HAND-ME-DOWN STOCK, MODELS OR DESIGNS.**
Every piece of Store Furniture to suit the demand of the location, the
business expected to be gained and **THE CUSTOMER'S POCKETBOOK.**
YOU PAY NO MORE for what you need and want and ought to get
than you used to pay for ready-made fixtures, and the kind of wood or glass
and color of finish is to your individual taste.

**THAT'S THE KIND OF CABINET WORK WE LEARNED HOW
TO MAKE.**

Do you need us? If you need information, our draughtsmen are at
your service. No charge for plans, designs or suggestions.

Delivery guaranteed within the time it takes the sluggish, old-time dealer
to pack his stock goods, and at **REASONABLE COMPETITIVE PRICES.**

WRITE US; WE'LL TELL YOU ALL ABOUT IT

WM. KLEEMAN & CO., 54th to 55th Streets, 11th to 12th Avenues, New York

For 43 years Largest Makers of High-Grade Jewelers' Store Fixtures, Wholesale Interiors and Offices in the World

The Bryant Rings.

TO THE RETAILER:—If you want a line of RINGS that will sell at sight and pay you a good profit—Rings that will not come back with the stones out, to plague you—try the BRYANT RINGS. We have made and sold them for 50 Years.



Trade-Mark

M. B. BRYANT & CO.

7 Maiden Lane, NEW YORK

FIRE

SEND AT ONCE

for the most complete Catalogue of Fire and Police Department Badges ever published

THE C. G. BRAXMAR CO.

Manufacturers

No. 10 Maiden Lane, NEW YORK

POLICE



HIGH-GRADE JEWELRY STORE FIXTURES

THE EXTREME OF BEAUTY in store furniture is attained in our special jewelry store fixtures in

ORIGINAL DESIGNS

Counters, Show Cases, Wall Cases and all manner of artistic cabinet work.

EXCLUSIVE AND UNIQUE

Drawings and estimates furnished free.

Glaser, Rohrer & Co., First Ave., Forty-first
to Forty-second St., New York



No. 91015. Grape Vine. 9 large green very finely plated leaves to yard. Per dozen yards, \$1.50. Per gross yards, \$15.00.



MONSTER GRAPE

A wonderful piece of work, being equal or even superior in size and shape to the largest bunch of grapes ever grown in sunny California, and for appearance deceptive enough to eat. Just the thing for fall decoration, for store, show window, etc.

No.	Each
91990. 18 in. long, containing 2 gross of single berries, round	\$2.50
91991. 12 in. long, containing 1 gross of single berries, round	1.50
91992. 8 in. long, containing 6 dozen of single berries, round	.75
91993. 5 in. long, containing 2 dozen of single berries, flat	.20
91975. 4 in. long, containing 1 1/4 doz. of single berries, flat	.15

The above grape clusters may be had in either red, blue or green. For prices of gold or silver grapes, ask for special quotations.



No. 91031. Oak Vine. Autumn shaded, 12 leaves to yard. Per dozen yards, \$1.50; per gross yards, \$15.00.



No. 91024. Ivy Vine. 18 leaves to yard. Per dozen yards, 90c.; per gross yards, \$9.00.
No. 91022. Ivy Vine. 12 leaves to yard. Per dozen yards, 60c.; per gross yards, \$6.00.



No. 91199. AMERICAN BEAUTY

The best imitation to nature yet produced, each spray 36 inches long, roses can be had in any color. Each, 60c.; per dozen \$6.00.

No. 91186. Rose sprays, 14 in. long, per dozen, \$1.50
No. 91187. " " 14 in. " " " 2.25

Just as pretty and natural appearing as the natural ones, but not quite as expensive, though better for lasting qualities.



No. 91896. OAK WREATH
24 inches diameter. Made of fine autumn shaded oak leaves, just in season. Each, \$1.50.



No. 91011. Maple Vine, autumn shaded, 12 leaves to yard. Per dozen yards, 60c.; per gross yards, \$6.00.



SAGO PLANTS (Unpotted.)

No.	In. high	Lvs.	Each	Doz.
91851	24	4	\$.40	\$4.00
91855	36	5	.70	7.00
91857	36	6	1.00	10.00
91860	42	12	2.00	20.00



No. 91834. PALM TREE (Potted)

No.	Ft. high	Lvs.	Each	Pair
91830	7	12	\$3.00	\$5.50
91832	9	18	4.00	7.00
91834	12	24	6.00	11.00



No. 91842. Arecia Plant (Unpotted)

No.	Inches high.	Leaves.	Each.	Per Dozen.
91840	24	3	.20	2.00
91841	36	5	.75	7.50
91842	42	6	.85	8.50
91843	48	8	1.00	10.00
91844	60	10	1.50	15.00
91845	60	12	2.00	20.00



No. 91158. OAK SPRAY
Autumn shaded

Per dozen sprays \$.75
Per gross sprays 7.50

No. 91159. Oak Spray, composed of three of my regular 91158 sprays. Per dozen, \$2.25; per gross, \$22.50.



No. 91005. Chrysanthemum Vine. 3 large paper chrysanthemums in any color and 12 leaves to yard. Per dozen yards, \$3.00; per gross yards, \$30.00.



No. 91121

CHRYSANTHEMUM SPRAY

No.	In. long	Per. Doz.
91121	18	\$2.40
91122	24	3.00
91120	14	1.50

9756. Paper Chrysanthemums, any color, per doz., 40c.; per gross, \$4.00

PREPARED PUFFING

of cotton bunting for trimming the woodwork and background of your show window. Serviceable for background to my vines. Can be had in any desired color.

In widths of 1 1/4 3/4 5/4 7 8 10 1/2 inches
Price per yd. 5c. 7c. 9c. 11c. 13c. 15c.

Also Complete Line of
Paper Flowers for Parades, Carnivals, etc., to decorate Floats, etc.

If you have not received my fall circular No. 29 C, would be pleased if you would write for it



140 Wabash Avenue, CHICAGO



No. 91814. PALM PLANT (Unpotted)

No.	In. high	Leaves	Each	Doz.
91200	24	3	\$.18	\$1.75
91805	36	4	.25	2.50
91809	36	5	.40	4.00
91814	42	6	.50	5.00
91818	42	7	.65	6.50
91822	48	10	1.25	12.50
91827	60	12	2.00	20.00



No. 91012. Grape Vine. 12 autumn shaded leaves to yard. Per dozen yards, \$1.25; per gross yards, \$12.50.



No. 91046. Wild Vine. 12 autumn shaded leaves to yard. Per dozen yards, \$1.00; per gross yards, \$10.00.



No. 91048. Snowball Vine. 4 fine large paper snowballs and 12 leaves to yard. Per dozen yards, \$3.00; per gross yards, \$30.00.



BEWARE
OF
IMITATIONS

FULL NICKEL PLATE

IN COMPARING PRICES WITH
OTHER LATHES, LEARN THE
DIFFERENCE IN SIZE,
QUALITY AND DETAILS
OF CONSTRUCTION

Lathe, including Taper and Screw Chuck,
6 Cement Chucks and belting . . . \$29.00
Extra Wire and Wheel Chucks75 each

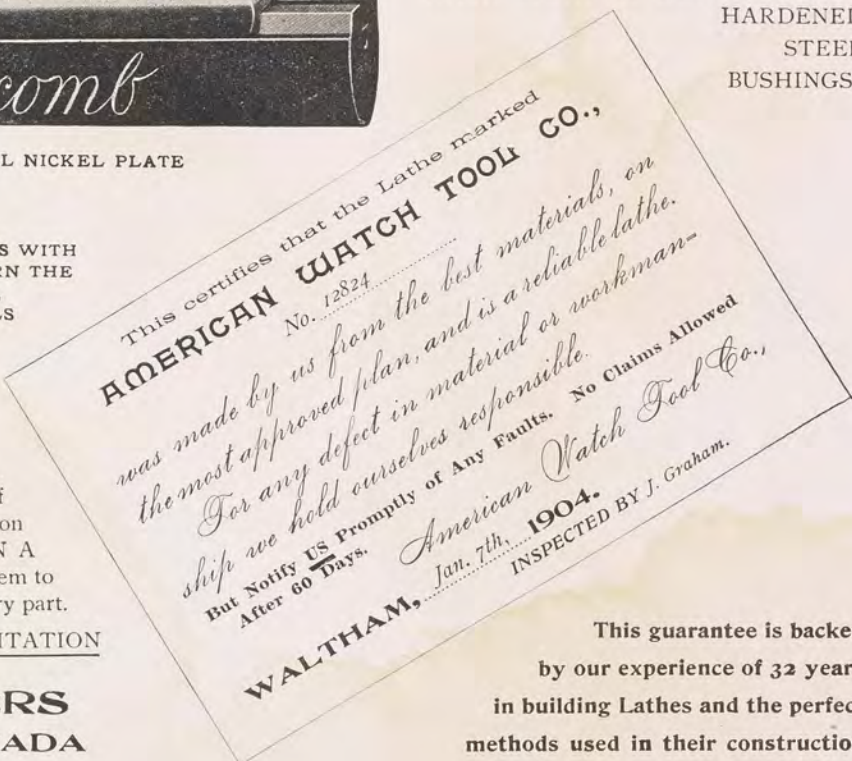
A CHUCK MAY LOOK ALL RIGHT, YET BE ALL WRONG.
Our Chucks are made of the very best steel and absolute concentricity of
cone, thread and hole is obtained by the most improved methods based upon
years of experience. We use no Dies for the threads, but CUT THEM ON A
LATHE; nor do we file and polish the cone, body or hole, but GRIND them to
a standard on special grinding machinery and guarantee perfection in every part.
WE CAUTION YOU AGAINST THE IMPERFECTIONS OF THE IMITATION

FOR SALE BY ALL JOBBERS
IN THE UNITED STATES AND CANADA

1599
**PERFECT
CONSTRUCTION**

IN EVERY DETAIL

HARD SPINDLES RUNNING IN
HARDENED
STEEL
BUSHINGS



This guarantee is backed
by our experience of 32 years
in building Lathes and the perfect
methods used in their construction

THE TRUE BLUE


Beaded Label

French Watch Glasses



The Crown Watch Glass



Note the  and beware of imitations

Ask your jobber for them

SUSSELD, LORSH & Co.

Wholesale Agents

PARIS
21 Rue de l'Echiquier

NEW YORK
37 Maiden Lane

HARDINGE BROS., 1036 Lincoln Ave., Chicago, Ill.

MOSSO'S MONARCH TEMPERING COMPOUND



Do not
away your
They can
perfect by
in this

throw
old tools.
be made
treatment
compound.

Full directions accompany each bottle

This compound fills a long-felt want in the watchmakers', jewelers', engravers' and dentists' business. It has been used by large tool manufacturers for the past twenty years with great success, and we are now placing it upon the market in quantities suitable for watchmakers, jewelers, etc.

An ordinary drill tempered in this compound will cut chilled cast iron, tempered steel or the enamel of a tooth. It will temper a lathe tool, hand tool or graver which will cut glass and still retain a keen, tough cutting edge and will not crumble or break on any kind of work. It makes all steel fully twice as good as when tempered in water, and with it a result has been attained that has never before been possible.

It never evaporates or loses its strength. One bottle, if not wasted, will last a lifetime.

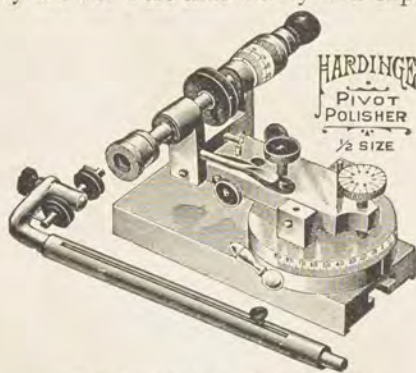
Price, per bottle, \$1.00

HARDINGE BROS., Sole Distributors for
United States and Canada

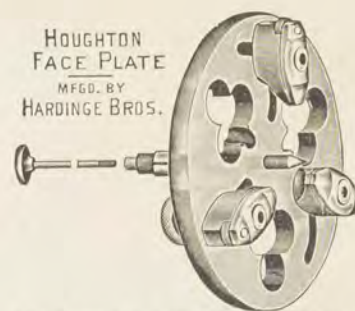
DALE CHUCKS—For all standard sizes watchmakers' lathes 60 cents each. Every chuck guaranteed



We have reached a proficiency in chuck manufacturing excelled by none. We are selling more chucks now than ever before. Quality and price talk. Buy Dale Chucks, they are the best that money and experience can produce.



Fitted to any lathe. Price, \$30.00



With Trefoil Peep Holes. Price, \$8.00

Reliance

Balance Staffs and C. & F. Jewels are American-made and guaranteed to fit



Jewelers' Findings are made of the best grades only

Brand

American Mainsprings

are guaranteed to be the most perfectly gaged and best finished mainsprings on the market.

Per dozen, \$1.00

With your first order for one gross of our Reliance Brand Mainsprings we give you gratis a handsome oak or walnut 20 drawer Mainspring Cabinet.



- No. 168. Balance Staffs, Hardened, Tempered and Polished . . . \$1.00 per doz.
- No. 169. Balance Staffs, Hardened and Tempered, Gray Finish60 "



- No. 170. C. & F. Jewels in Polished Settings, Ruby and Sapphire . . . \$1.00 per doz.
- No. 171. C. & F. Jewels in Turned Settings, Garnet50 "

We send gratis a handsome cabinet and 12 bottles with 6 dozen of our best grade Reliance Brand Balance Staffs and Jewels.

NOTE.—Only the best material and the most up-to-date automatic machinery are used for making the Reliance Brand Balance Staffs and Jewels. All our Balance Staffs and Jewels are carefully examined as to their accuracy by experienced watchmakers before being put on the market. We will be only too pleased to exchange any Balance Staff or Jewel which you may find defective.

Orders Filled from any Catalogue

WE CARRY EVERYTHING KNOWN TO THE TRADE
WRITE US FOR PRICES AND CASH DISCOUNT



No jeweler should be without our new Catalogue of Jewelers' Findings. You can obtain one by sending us your business card.

KORONES BROS.
32 Maiden Lane and
38 Chrystie Street, New York

Importers
and
Jobbers of

Watches
Clocks
and
Jewelry

Watchmakers'
Tools, Materials
Jewelers'
Supplies

Optical
Goods
and
Silverware

We Carry a Complete Stock of Watches, Diamonds, Jewelry, Silver and Plated Ware, Watchmakers' Tools and Material

MAIN SPRINGS

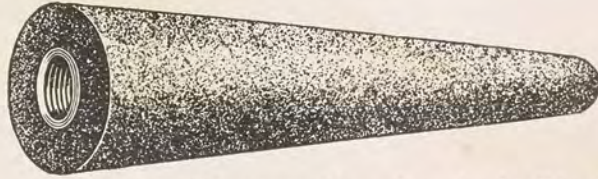


\$ 1.00 per Dozen
10.50 per Gross



A Regent Mainspring Cabinet is given FREE with your first order for 1 gross Regent American Mainsprings

Lathe Cone for Rings OF SOLID GRIT



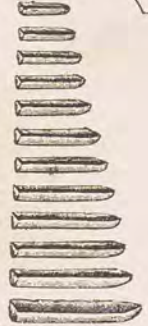
A desirable article for repairing. Is made of solid grit and will outwear thousands of paper shells. Has a metal taper cone to fit on brush arbor.

In two grades—one to cut down solder, the other to finish next to rouge.

Refuse metal can be removed in a few seconds with ammonia and gold saved if desired.

Price per pair, 75 cents

ROLLER JEWELS

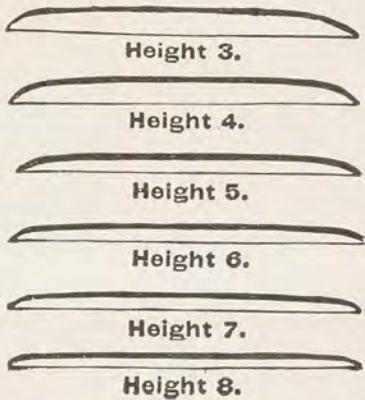


\$.15 per Dozen
1.50 per Gross

BALANCE STAFFS



\$.75 per Dozen
7.50 per Gross



Fac-Simile of Our Label



BALANCE JEWELS



\$.75 per Dozen
7.50 per Gross

NOTICE—Owing to the further advance in the prices of Watch Glasses by European manufacturers, we have revised our prices to date as follows:

Genevas	\$3.60 per gross	Patent Genevas	\$ 7.20 per gross
Thick Mi-Concaves	4.00 " "	Lentilles	12.00 " "
Mi-Concaves, Extra Thick	9.00 " "	Antiques	7.20 " "
Parallels	7.20 " "	Lunettes	3.00 " "

DOZEN LOTS AT SAME RATE

BLANK ORDER SHEETS SENT ON APPLICATION

Discount, 6 per cent. off

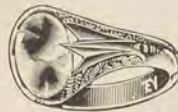
ORDERS FILLED FROM ANY CATALOGUE

Cross & Beguelin,
(A Corporation)

Importers, Exporters and Manufacturers
Watches, Diamonds, Jewelry,
Silver-Plated Ware, Etc.

17 Maiden Lane, New York

10 Kt. Rings



DAMM & BLOCK
BUFFALO, N. Y.

The **Southern Jeweler** who wants satisfactory values and prompt shipments should remember

that—
Baltimore being the natural distributing point for the **South** saves you from twenty-four to forty-eight hours on your orders.



WATCHES and DIAMONDS
Baltimore, Md.

2 East Lexington St., cor. Charles

Selection packages sent upon request

that—
as we sell the **Jewelry Trade only** we are able to anticipate your needs and to fill your orders with absolute correctness.



BEFORE

ESTABLISHED 40 YEARS

Watch Case Making, Repairing Remodeling and Reconstructing

OUR SPECIALTY—Changing old Antique Cases to Stemwind

Engraving and Engine-Turning. Gold and Silver Plating.
Satin-Finishing and Polishing

SEND FOR PRICE-LIST

MINIATURE PORTRAITS

DEMAGNETIZING

N. J. FELIX, 18 John St., NEW YORK CITY



AFTER



ELKS' BUTTON
(Front.) Pat'd.
Sterling Silver and Gold-Plated



ELKS' BUTTON
(Side.) Pat'd.



TIGER CLAW RING
Solid Gold. Pat'd.



TIGER CLAW RING
Side View

I do all kinds of work for the trade. Workmanship the very best, and satisfaction guaranteed.

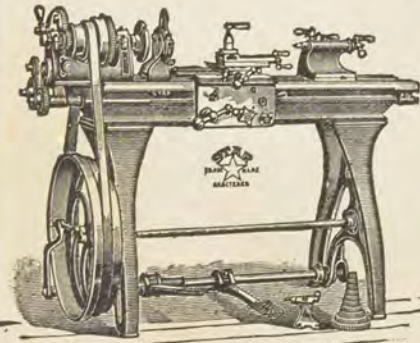


MONKEY RING
Solid Silver, Oxidized

Ikko Matsumoto
Rooms 1, 2 and 3, 17½ S. Meridian St.

Manufacturing Jeweler
Indianapolis, Ind.

"Star" Foot and Power Lathes



High-grade complete screw-cutting engine lathes, 9 and 11-inch swing, with automatic cross-feed, with or without compound rest, draw-in chuck, taper, milling and gear-cutting attachments, friction countershaft, metric lead-screw, etc. Suitable for tool, model, and scientific instrument makers, optical, laboratory and experimental work, for profitable use in all lines of fine, accurate manufacturing and precision service.

Send for Catalog "B."
We also make Bench Lathes, Speed Lathes, Wood Lathes and Heavy Engine Lathes.

The Seneca Falls Mfg. Co.
246 Water Street
SENECA FALLS, N.Y., U.S.A.

Special Value in Self-Filling Fountain Pens



We will sell you

One dozen assorted for \$12.00

Less 2 per cent for cash

This assortment contains a variety of points.

These **SELF-FILLING "EAGLE FLASH"** Fountain Pens have Solid Fourteen Karat Gold Pens with Iridium Points.

The Barrels are hand-made, hand-finished.

No better Fountain Pen made.

If you ever use an "Eagle Flash" you will have no other!

It is better and simpler in construction than pens sold at \$18 to \$24 per dozen.

We sell the	Per Doz.
Gold Band at	\$18.00
Ex. Large size Barrel at	24.00
" " " Gold Band at 30.00	
	Net Cash, Less 2 per cent.

Order Now!

We will send you a liberal supply of advertising matter with an order for one dozen pens.

M. J. AVERBECK
Nineteen Maiden Lane, NEW YORK

A LITTLE ARGUMENT

1603



FILES? Yes, but—

"Only the best are good enough"—for—

TOOL MAKERS, JEWELERS, WATCH and WATCH CASE MANUFACTURERS, Etc.

Ever tried "AMERICAN SWISS"—No?—

Then kindly send for Price-List and Samples.

No charge for Files used in trying them.

We offer to pay the freight on Sample order both ways, if you wish (because they never come back).

KIND? Swiss Patterns, all shapes and cuts. Sizes up to 12".

QUALITY? A trial will tell.

PRICES? Lower than imported—higher than any other "made in U. S."

MADE WHERE?—Elizabeth, N. J., U.S.A.

BY WHOM? American Swiss File & Tool Co.

Enufsed?

OH! DELIVERY?—Prompt by

E. P. REICHELHM & CO. Principal Owners and Selling Agents 23 John Street, New York

PLATINUM

Special Sheet and Wire for Jewelers
Seamless Tubing

Platinum Scrap Bought
at
Highest Price

BELAIS & COHN

Metallurgists

13 Dutch St.

NEW YORK



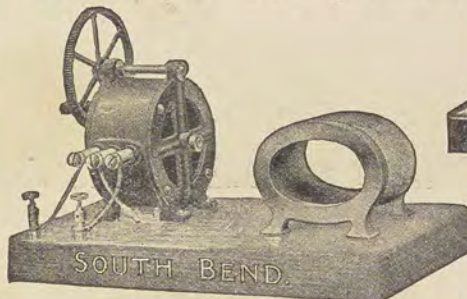
We Blank Form Swedge

Our finish finest for
the money

Submit sample for
our price

A. N. Clark & Son, Plainville, Conn.

"South Bend" Demagnetizers



ORDER FROM YOUR JOBBER

PRICES:
For Direct Current, \$15.00
For Alternating " 5.00

Agents for England: GRIMSHAW & BAXTER, 29 Goswell Road, London, carry stock
THE KNOBLOCK-HEIDEMAN MFG. COMPANY
Successors to
THE MILLER-KNOBLOCK ELECTRIC MFG. COMPANY
South Bend, Indiana



Swartchild & Company



IMPORTERS AND JOBBERS OF

Watchmakers', Jewelers' and Engravers' Supplies

Jewelers' Building, 134-138 Wabash Avenue

CHICAGO

Established 1870

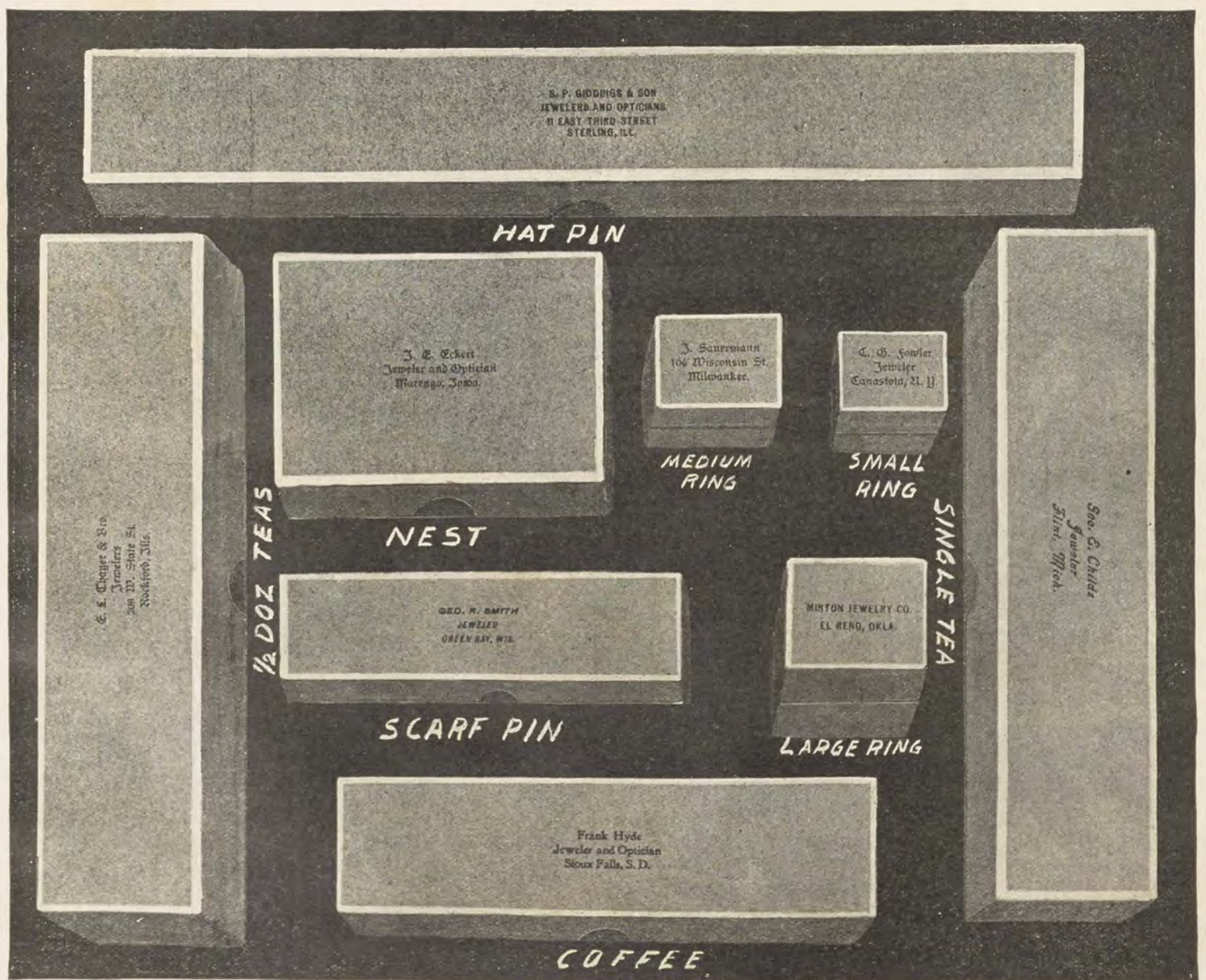
Our 700-page catalogue sent free on application

Our Fine Gray Cheviot Paper Boxes

The Most Popular—Attractive—Rich Looking

Covered with Gray Cheviot Paper of Medium Shade, with White Border, Telescope Style

No charge for printing name and address

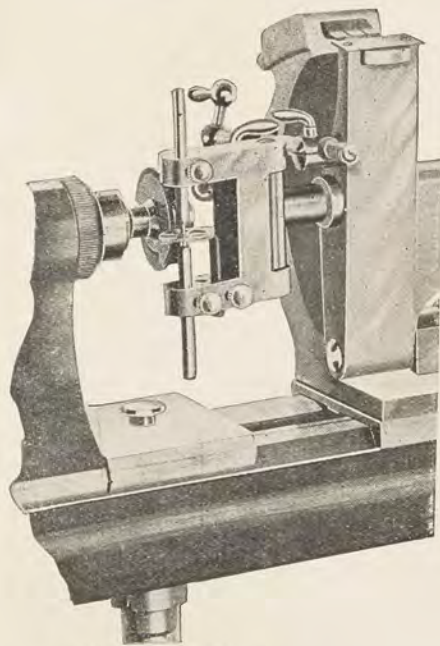


No.	Description	Plain	Embossed	No.	Description	Plain	Embossed
No. K 84.	Nest Boxes, sizes 3 to 6 per gross	\$2.50	\$3.25	No. K 92.	1 Tea Spoon per gross	\$3.25	\$4.25
No. K 85.	Nest " sizes 7 to 9 "	3.00	4.00	No. K 93.	1 Coffee Spoon "	3.00	4.00
No. K 86.	Ring " for baby rings "	3.25	4.25	No. K 94.	1 Dessert Spoon "	3.75	4.75
No. K 87.	" " small size "	3.25	4.25	No. K 95.	6 " Spoons "	5.00	5.75
No. K 88.	" " medium size "	3.25	4.25	No. K 96.	1 Table Spoon "	6.00	7.00
No. K 89.	" " large "	3.25	4.25	No. K 97.	6 " Spoons "	6.50	7.50
No. K 90.	Thimble Boxes "	3.25	4.25	No. K 98.	Hat Pin, extra long "	3.75	4.75
No. K 91.	6 Tea Spoons "	3.75	4.75	No. K 99.	Scarf Pin "	2.25	3.25

SEND FOR SAMPLES OF OUR EMBOSSED BOXES

Clement Combined Lathe Attachment

1605



Shown above as
ROUNDING-UP FIXTURE

Does the regular work of the rounding-up tools.

If its use is not fully understood, please write for further information; we are always pleased to give it.

REPLACING 12 ATTACHMENTS including the two shown

Did you ever find a wheel that was not free in its pinion? This attachment will fix those wheels P. D. Q.

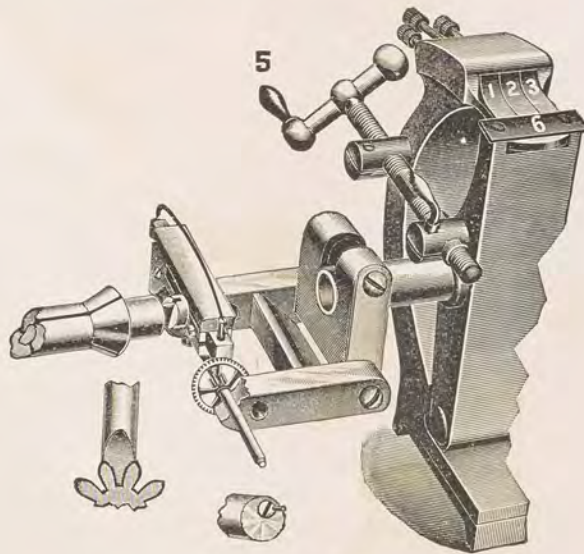
Did you ever find rusty pinions in your watches? And did you ever try to polish them out by hand? Can you imagine how nice it would be to have a machine that would do the work in one-tenth of the time and ten times better? This does it.

Did you ever see the nicely polished staffs and pinions of the highest grade Swiss watches? Did you not wish that you might do work of that kind? By use of this attachment you can duplicate that work exactly.

Complete in every detail

\$40.00 strictly net

W. D. CLEMENT, Waltham, Mass.



Shown above as the
RUSTY PINION POLISHER

For polishing new or rusty pinions.

Not necessary to remove the wheel.

It works like a charm.

Is entirely new.

Stroke fully adjustable.

Set of 12 polishers furnished to fit the different sizes of pinions.

Exceptionally Good Jewelry Repairing

stone-setting and special order work is what we are equipped for in our new department.

Many words of appreciation of its work have reached us from customers and we would be pleased to add you to the number of our well-satisfied patrons.

We have everything in personnel, machinery and ample stock of material, to turn out the very best work promptly. Let us send you our price-list.

Ezra F. Bowman's Sons
Lancaster, Pa.

Did You Get
That Bottle of



Get it
To-Day

It makes your Hard Soldering Easy. Never "balls up," which means a whole lot to the Jeweler. It saves a lot of time and maybe wicked words.

FREE! FREE!

You get a large piece of E-Z-Floe Silver Solder free with every bottle. These **Reliable** Jobbers handle it:

Otto Young & Co., Chicago, Ill.
Henry Paulson & Co., Chicago, Ill.
A. Hirsch & Co., Chicago, Ill.
F. W. H. Schmidt, Chicago, Ill.
A. C. Becken, Chicago, Ill.
Calvin Clauer Co., Chicago, Ill.
Henry Zimmer & Co., New York City
L. H. Keller & Co., New York City

Lindner & Co., Cincinnati, Ohio
Jos. Mehmert, Cincinnati, Ohio
O. H. Bingenheimer, Milwaukee, Wis.
Reed-Bennett Co., Minneapolis, Minn.
S. H. Clausin & Co., Minneapolis, Minn.
Pelot Haroldson & Co., Los Angeles, Cal.
Leonard Kröwer, New Orleans, La.
W. P. Ellis & Co., Toronto, Can.
Sischo & Beard, St. Paul, Minn.

Write for our free book "How to Hard Solder."

E-Z-FLOE CHEMICAL CO.

Globe Bldg., St. Paul, Minn.

PLAIN FACTS

We have been engaged in the manufacture of watchmakers workbenches for almost a quarter of a century. We are the originators of the modern bench and know a thing or two about them.

Our benches are made of different kinds of wood, such as Mahogany, Walnut, Quarter-sawed Oak, Plain Oak, Birch and Ash. They are **honestly and well made** in every detail and of the best seasoned and kiln-dried lumber. We finish them in any shade of color desired. **We ship our benches to every State** in the Union and to **foreign countries** as well.

Besides benches we make Watch Repair Cases, Jewelry Repair Cases, Material Cabinets, Material Cases, Glass Cabinets, Mainspring Cabinets, Optical Cabinets, Lens Cabinets, etc. We make to order special benches and woodenware of every description that an **up-to-date watchmaker** needs.

WATCHMAKERS AND JEWELERS

Send for our new illustrated catalogue and order what you want through your Jobber. **Insist upon getting our make.** Our name-plate is on every article we make.

Almost all Jobbers handle our goods.



Our Latest Flat-Top Bench, No. 8
Made in Walnut, Quarter-sawed Oak, Plain Oak and Birch

JESSEN & ROSBERG, 397 to 405 W. Kinzie St., Chicago

TIDD'S BALANCE STAFFS



are made of Stubbs steel, finely tempered, accurately sized. Every staff is guaranteed to fit, finish equal to any made, made in two qualities, viz:

Gray finish body, polished pivots - - - \$1.00 doz.

Highly polished for high-grade movements, 1.25 "

Single staffs matched, 15c. each. Try a sample dozen.

TIDD & CO., Columbiana, OHIO

Our Catalogue Is Made to Buy From

It is not the "biggest" Jewelry Catalogue in print, for we have aimed at compactness and the listing of absolutely new goods, so that our new catalogue would suit the busy, up-to-date jeweler. We have tried to keep it as small as possible and still show the biggest line of goods.

It is the most concise and best illustrated catalogue gotten up by an American wholesale jewelry house.

It quotes but one price and that is the lowest.

All of our goods and our only prices are there before you in plain black and white. Every item is illustrated and all the facts about it are given.

We believe every progressive jeweler in the Central West and Southern territory to be a possible customer of ours, and feel confident that he will buy of us sooner or later. The best we can do is to talk to him through our Catalogue; the best he can do is to consider what we have to say.

Get our new Catalogue. It will be sent out to the trade about the latter part of October. If your name is not on our mailing list, it should be. Should you not receive our new book by October 25th, write for it.

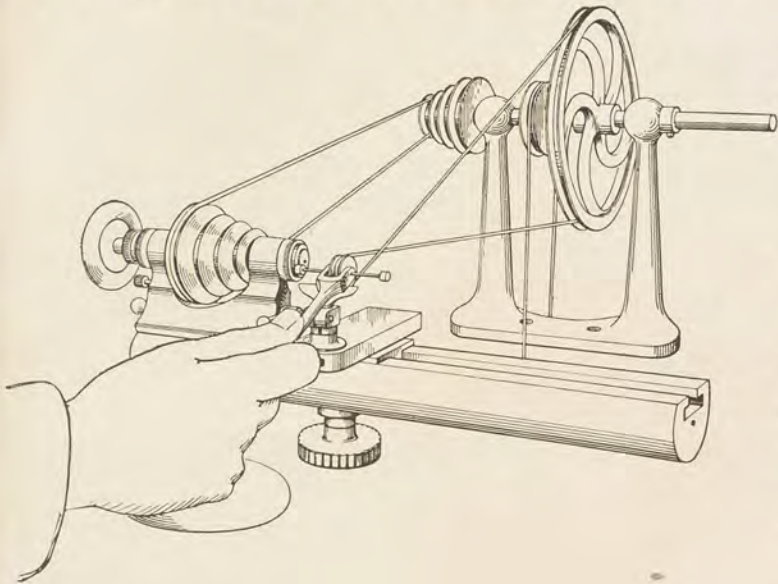
Get our new Catalogue, which is free to all regular jewelers for the asking. Use its goods and hints for more business now. And from the holiday goods it displays choose the goods for easy business in December.

ALBERT BROTHERS

The Quick Delivery House

CINCINNATI, OHIO

PRACTICAL UP-TO-DATE TOOLS



THE LIGHTNING PIVOT POLISHER AND GRINDER

THIS tool can be attached to the counter shaft in a moments time.

It has two bell metal laps, straight and one conical.

It needs no adjusting and so simple, any one can operate For grinding, use oil ston powder and oil.

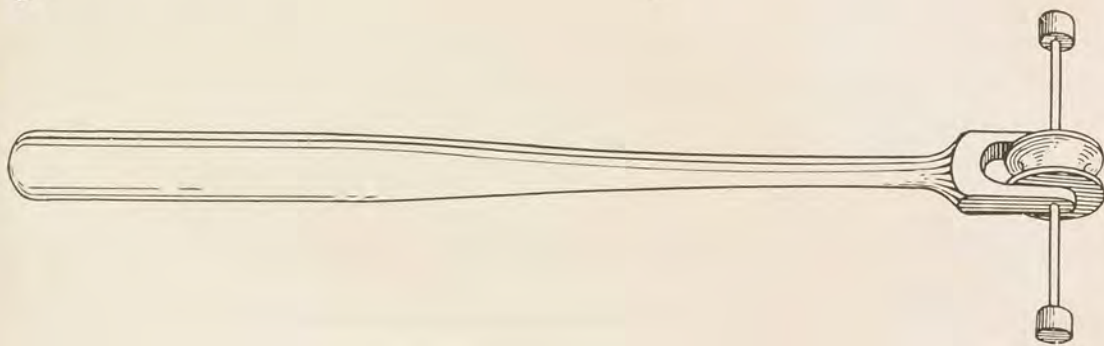
For polishing, use diamantine and oil.



Hungarian Transparent Cement

Especially adapted for cementing 1/2 Pearls, also used for Watch Glasses when size is a little small.

PER BOTTLE 25 CENTS.



The Lightning Pivot Polisher and Grinder

No watchmaker should be without this tool. As a labor saving device it has no equal

PRICE EACH \$2.50



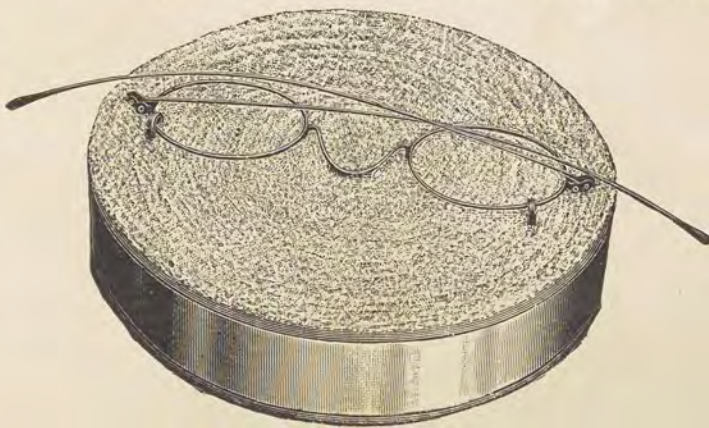
The Perfect Movement Holder

THIS movement holder has three compartments and is just the thing for the work bench. Oftimes when the watchmaker takes a movement apart, he finds some part broken which it will be necessary for him to send for.

This movement holder will hold three movements and is covered with a glass cover, keeping out dust, etc.

Price, 60 cents each

The "Perfection" Soldering Block



This is the only Asbestos Soldering Block that work can be pinned on, as it takes pins readily, and will outlast dozens of charcoal blocks.

Price, with 1 doz. Pins 50c.

YOUR MAIL ORDERS ARE WHAT WE ARE AFTER

We are accurate and quick. All orders filled the same day as received.

Orders filled from any catalogue. Our catalogue is free for the asking.

Material Dealers can obtain the above tools from

HAMMEL, RIGLANDER & CO., New York, or direct from us

JOS. HORNBACK & CO., EVERYTHING IN WATCH MATERIAL TOOLS AND SUPPLIES

11 West Fifth Street, CINCINNATI, OHIO

A Profitable Side Line FOR JEWELERS

In any city, town or village, a good business can be quickly developed in the world-renowned Edison Phonograph. Extensive advertising and continuous improvement have made the

Improved Edison Phonograph and Gold Moulded Records

so popular that good profits await the jeweler who prepares to meet the increasing demand. As every dealer must sell at the retail list price, there is no price-cutting, and his sales yield a gross profit of 66 $\frac{2}{3}$ cents on every dollar invested. We want a dealer in every town to develop new business and to sell those who answer our advertisements.

Start now while the business is heaviest. Write for full information on your business letter-head.

NATIONAL PHONOGRAPH CO., 55 Lakeside Ave., Orange, N. J.



Elgin, Waltham and
N. Y. Standard
Movements
Keystone, Boss,
Crescent, Crown and
Royal Cases
Jewelry, Diamonds
Optical Goods
Tools and Materials
for Watchmakers
and Jewelers

MAX KOHNER

Importer and
Wholesale Dealer

11 North Charles Street
Baltimore, Md.

Being advantageously
located for the Southern
trade, we solicit your
orders, and guarantee
every satisfaction regard-
ing prices and qualities.

Special attention paid
to mail orders, and
memorandum packages
cheerfully sent.

L. LELONG & BROTHER

Gold and Silver REFINERS, ASSAYERS and
SWEEP SMELTERS



BULLION SOLICITED

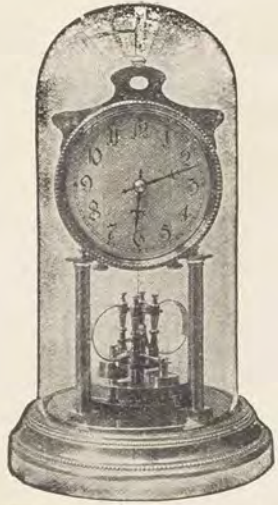
SMELTING FOR
THE TRADE

SWEEPINGS
OUR SPECIALTY

Prompt attention given to
Old Gold and Silver forwarded to us
by mail or express

Southwest Corner
Halsey and Marshall Sts.
Newark, N. J.

Radical Reduction



YEAR-LONG CLOCKS

\$8.90 Net Cash, f. o. b. Philadelphia

J. B. BECHTEL & CO.

725 Sansom Street

PHILADELPHIA

"WINTER QUALITY" Jewelry Store Fixtures

The Best at Right Prices from \$300.00 up



A "WINTER" QUALITY CASE

WINTER'S
ENCYCLOPEDIA
AMERICANA
STORE FIXTURES
AND FITTINGS

The Finest and Most Complete Book of its Kind Ever Issued.

Plans, interior views, new suggestions, separate fixtures, cases, counters, floor cases, soda fountain fixtures. Illustrated fully, described and listed in so plain a manner that you can make your own plans and estimate the cost of your fixtures.

Sent postpaid on receipt of 25 cents

THE LINE OF QUALITY. Not how cheap, not how much, but how good. At prices that are right. Ask our customers. Anything from a store stool to the most complete outfit.

M. WINTER LUMBER CO., Sheboygan, Wis.

Established 1865 The High-Grade Fixture Makers
Finlay-Dicks & Co., New Orleans, La., Sales Agents for Louisiana, Mississippi and Alabama.
C. D. Smith Drug Co., St. Joseph, Mo., Sales Agents for Missouri, Kansas, Nebraska, Oklahoma Territory and Indian Territory.
R. H. Birdsall, Room 7, Hamilton Bldg., Portland, Oregon, Sales Agent for Washington and Oregon.
Texas Drug Company, Dallas, Texas, Sales Agents for Northern Texas, Southern Oklahoma and Indian Territory.



Have You Seen Our Auxiliary Caselets?

In the Good Old Harvest Days



Jewelers' Findings, College Seals and Flag Pins. SPECIAL EMBLEMS of every description.

F. H. NOBLE & CO.

SALESROOMS
Chicago—103 State St.
New York—51-53 Maiden Lane

59th and Wallace Streets
CHICAGO, ILL.



GEO KUEHL & CO., 178 E. Randolph Street
CHICAGO, ILL.

MANUFACTURERS AND IMPORTERS OF

Genuine Black Forest

CUCKOO CLOCKS

with TRADE  MARK

Jewelers! If you order Cuckoo Clocks, order them with the . . .

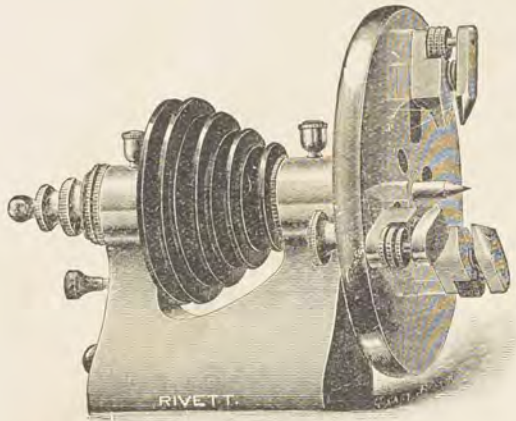
TRADE  MARK

They are the BEST. There are none BETTER

Our clocks have received the highest award, "Gold Medal," at the Chicago, Omaha, Paris and St. Louis Expositions

For sale at all Wholesale Clock and Jewelry Houses

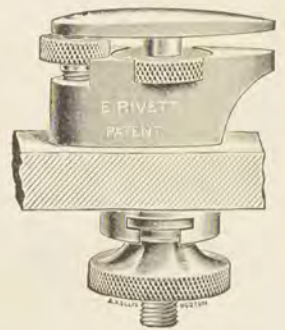
Rivett Lathes and Attachments



The **Rivett Universal Head** is made with a spindle just like that in the regular Rivett Lathe head, of the very best tool steel, hardened and ground, by a machine especially made for this work. The pump-center is fitted with a light spring, and the solid nickel face-plate has three peep-holes, which makes it easy for the watchmaker to see around the pump-center to examine his work. It is considered by all who have used it to be a great improvement over all others.

In our **Patent Jaws** we do away with the spiral spring. The thumb screw is grooved and runs in a T-slot in the sleeve of the lower jaw, which enables it to be thrown in and out without any trouble. The lower jaw can be bound to any position on the plate with the thumb nut in the center of the jaw, which holds it firm and steady. This will be found of great advantage when it is necessary to take out and replace the watch-plate a number of times.

Ask your dealer for **Rivett Tools**, or just address,



Rivett Lathe, Brighton, Boston, Mass., U.S.A.

The Object of Our Instruction

is to produce competent workmen without loss of time. We receive many letters asking whether a student who comes here with some previous experience is required to go over the entire course. Our reply is, that because we teach individually, it is not necessary for the student to go over ground which he has already covered, but we always test him to learn whether he has learned **proper methods** of doing what he already can do, and we generally find that we can show him better or quicker ways of accomplishing **some** of the operations he has been doing, and we can correct such deficiencies in a very short time. Then he is ready to advance into new and higher subjects with the assurance that he is building on a perfectly sound foundation. Our pleasure is to impart the knowledge which can be converted unceasingly into hard cash. Send for our catalogue, which is full of new ideas.

**The Ezra F. Bowman
Technical School**
of Watchmaking and Engraving
LANCASTER, PA.



The
**Hold-On
Clutch**

\$6

Per Dozen

Price according to
Keystone Key

The best of
all safety
devices

Pat. May 20, '02

Chicago
405 Masonic Temple
L. KATLINSKY
Factory
51-53 Maiden Lane



HOOPS

in solid gold
and in superior
quality
gold filled,
the celebrated
"Sturdy" and
"Simmons"
makes.

Samples cheerfully submitted

L. Witsenhausen
47-49 Maiden Lane
New York

WATCH REPAIRING for the Trade

"I have had my extra watch work done by a number of 'watchmakers for the trade' with indifferent success until you were recommended to me, since which time I have found your work as near perfect as it is possible to make it."

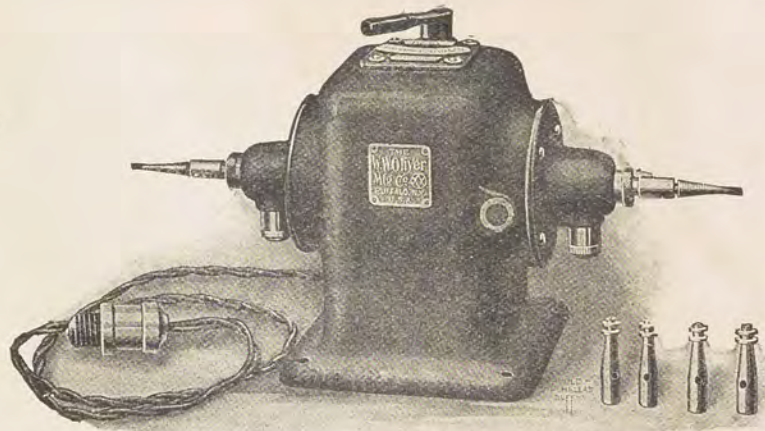
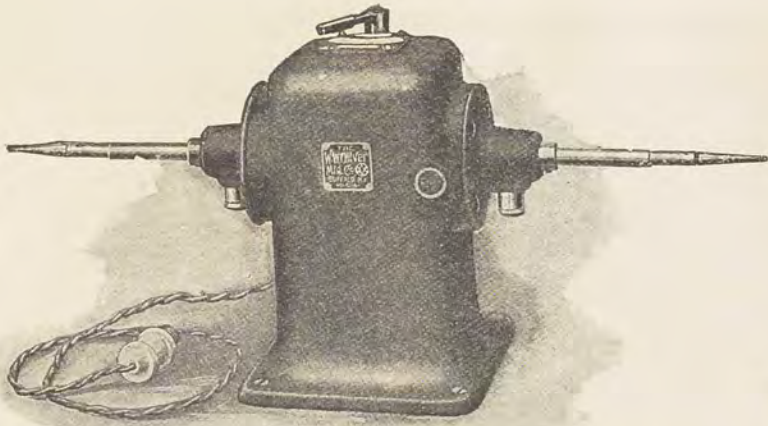
June 6, 1905.

W. E. GILGER,
Norwalk, Ohio.

W. H. Craft

210 Pearl St., Buffalo, N. Y.

When writing to advertisers, kindly mention The Keystone

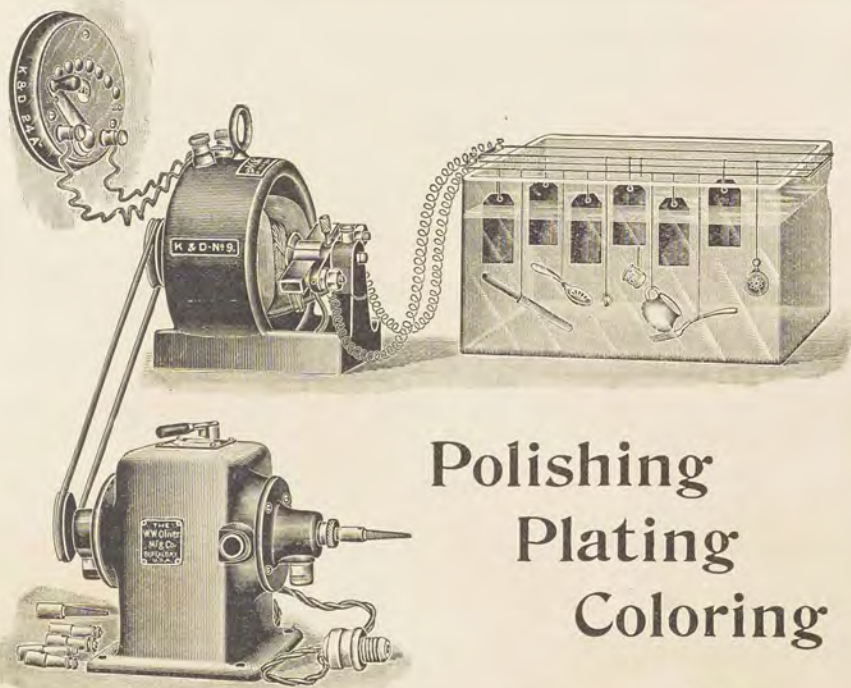


Our **ELECTRIC POLISHING HEADS** represent the highest development in the operation of such apparatus, and embody all the essential features necessary for strictly high-grade, efficient, and durable machines. They will develop full power as indicated. If you have the electric current on your premises, let us know whether it is direct or alternating and the number of voltage.

Send for latest catalogues and bulletins

W. W. Oliver Manufacturing Co., Manufacturers

1490-1492 Niagara St., BUFFALO, N. Y., U.S.A.



**Polishing
Plating
Coloring**

The above illustration shows the No. 9 Dynamo connected with a Type "A" 1-5 H. P. Electric Polishing Motor made by the W. W. OLIVER MFG. CO., Buffalo, N. Y. (Descriptive price circulars on application.)

The Rheostat (illustrated in the upper left-hand corner) is used in connection with the No. 9 Dynamo to regulate the current that any required amount may be allowed to flow through the tank. (Price, \$1.00.)

Prompt attention given to applications for price circulars and other information regarding Electric Polishing Motors, No. 9 Dynamo, K. & D. Rheostat, Plating Tanks, etc. Address,

KENDRICK & DAVIS, Lebanon, N. H.

W. W. OLIVER MFG. CO., Buffalo, N. Y. OR

No. 9 DYNAMO PRICE \$8.00

Manufactured by

KENDRICK & DAVIS, Lebanon, N. H.

A shunt-wound and **very powerful** little Dynamo which can be operated from any convenient source of power. As a **Plating Dynamo** it has every advantage over primary batteries; this arrangement does away with the renewal of elements and solution, besides having the strength to operate a 5-gallon bath successfully.

Speed, 2200 R. P. M. Volts, 2. Size, 6 x 4 $\frac{3}{4}$ x 6. Weight, 9 pounds.

Its **design** and construction embody the best practice common to the larger machines in general use.

The Field is of the ring type cast solid with the frame.

The Coils are form wound and taped, and are safe from mechanical injury or breakdown.

The Armature is laminated and slot wound, which prevents its heating.

The Commutator is of hard copper and sparkless.

The Brush Holders are of new design, and add greatly to the efficiency of the machine.

The Brush Holder Yoke is adjustable; an advantage in regulating and operating.

The Bearings are of hard bronze, nicely fitted.

Only the Best Material is used in its construction; the Dynamo being finished in black enamel and furnished with 1 $\frac{1}{2}$ " grooved or flat pulley as desired.

At Speed of 2200 it generates 6 amperes and 2 volts, an output of 18 watts.

SUSSFELD, LORSCH & CO., WHOLESALE AGENTS, **37 MAIDEN LANE**
NEW YORK



The Great Central Market for Jewelry and Optical Goods

The foremost market in America for the distribution of Watches,
Diamonds, Jewelry and Optical Goods. The best
place for you to buy your fall bills

Excursion Rates and Dates of the Chicago Commercial Association will be found on the opposite page

JOHN H. HARDIN, General Secretary, 9th Floor Great Northern Building, 77 Jackson Boulevard, CHICAGO

We are members of the Chicago Commercial Association. Write us for additional particulars

OTTO YOUNG & COMPANY
F. A. HARDY & COMPANY
H. F. HAHN & COMPANY

BENJ. ALLEN & COMPANY
NORRIS, ALISTER & CO.
JUERGENS & ANDERSEN CO.



CHICAGO—THE GREAT CENTRAL MARKET

REDUCED FARES during the months of JULY, AUGUST, SEPTEMBER and OCTOBER to the Great Western Metropolis and return, in connection with the

FALL MEETINGS, 1905, of

THE CHICAGO COMMERCIAL ASSOCIATION

At CHICAGO

The following reduced railroad rates to Chicago are now in force for Merchants' Meetings **Western Passenger Association Territory**—Rates of one and one-fifth for round trip on certificate plan have been granted as follows

Dates of Meetings	Dates of Sale	Return Limit
1st Meeting, July 19-26	July 15-22	July 19-August 1
2d Meeting, August 9-16	August 5-12	August 9-22
3d Meeting, August 23-30	August 19-26	August 23-September 5
4th Meeting, September 6-13	September 2-9	September 6-19
5th Meeting, November 1-8	October 28-November 4	November 1-14

Central Passenger Association Territory—Rates of one and one-third fare for round trip on certificate plan have been granted as follows

Dates of Meetings	Dates of Sale	Return Limit
1st Meeting, August 9-16	August 5-11	August 9-19
2d Meeting, August 23-30	August 19-25	August 23-September 2
3d Meeting, September 6-13	September 2-8	September 6-16
4th Meeting, November 1-8	October 28-November 3	November 1-11

Illinois Central Territory Points South of Ohio River—Commencing June 1st and continuing until September 30th, and bearing final return limit of October 31st, the following rates from basing points will obtain

Martin, Tenn. \$19.50	Holly Springs, Miss. \$24.90	Vicksburg, Miss. \$26.10
Jackson, Tenn. 21.75	Winona, Miss. 25.35	Baton Rouge, La. 33.00
Memphis, Tenn. 23.70	Greenville, Miss. 26.10	New Orleans, La. 33.00
	Jackson, Miss. 25.35	

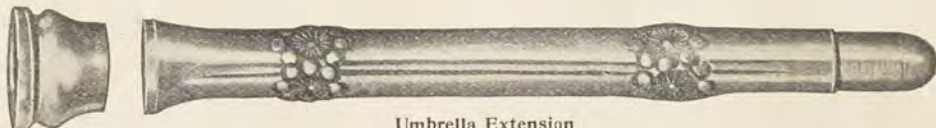
The rates above are slightly in excess of one and one-third fare for round trip

Make our stores your headquarters when you come to town. We are at your service

- | | |
|------------------------------------|-------------------------------------|
| C. H. KNIGHTS & COMPANY | STEIN & ELLBOGEN COMPANY |
| SPROEHNLE & COMPANY | M. S. FLEISHMAN COMPANY |
| SWARTCHILD & CO. | M. A. MEAD & COMPANY |



Tip Cup



Umbrella Extension



Tie Clasp

Tip Cup, Extension and Tie Clasp made in Gold and Sterling Silver to match the Handle

Mr. Jeweler:

See that the umbrellas you buy this fall have the new Braitsch Specialties, "Tip Cups," "Tie Clasps" and "Umbrella Extensions," illustrated herewith. They are the latest and best accessories now on the market. If your umbrella maker cannot supply you, write us. Our trade-mark, "W. J. B. & Co.," on all our goods.

Established 1887

W. J. BRAITSCH & CO., 396-8 Broadway, New York

United States Smelting and Refining Works

L. & M. WOLLSTEIN

Office: 16 John St., New York

Telephone, 5644 Cortlandt

Works: 17 John St., New York

Sweep Smelters and Assayers

Refiners of all kinds of Gold, Silver, Platinum, Waste
Manufacturers of Sterling Silver

Highest prices paid for Old Gold, Old Silver, Platinum Scraps
Ore and Bullion Assays a specialty

Proprietor of Platina Melting Furnace and Gold and Platina
Filing Separating Process of greatest advantage to manufacturers
of Platina Jewelry

**The Matchless
Pocket Cigar Lighter**

The only perfected cigar lighter on the market

Made in Gun Metal, Aluminum, Brass, Silver Plate
Gold Plate and Solid Gold

Write for Prices

**The Matchless Cigar Lighter
Manufacturing Co.**

Office and Salesroom

16 John St., New York, N. Y.



The GREAT AMERICAN JEWELRY CATALOG
· 1906 ·
FROM THE WIGWAM HE DEPARTED
LEADING WITH HIM LAUGHING WATER
HAND IN HAND THEY WENT TOGETHER
THROUGH THE WOODLAND AND THE MEADOW
HIANATHAS WOODING

OSKAMP-NOLTING & CO.
- MAMMOTH WHOLESALE JEWELERS -
OF AMERICA

Hand in hand we'll go together,
Leading you to success and prosperity.

Our 1906 Catalog will be ready for
distribution November 1, 1905

Meanwhile let us send you
our 1905 Catalogs

Oskamp, Nolting & Co., 413 Elm Street
Cincinnati, Ohio

WEBSTER'S ADJUSTABLE SOLDERING BLOCK

(Patented Dec. 3, 1903)

**It Will Save You Time
and Trouble**



Showing jewelry pads



Block as used for bridge work

No pins or binding wire necessary. Holds
spectacle frames, rimless bridges, hat pins, stick
pins, cuff buttons, rings, studs and many odd jobs
of jewelry repairing.

This block is not an experiment, it has been
successfully used for the past two years. When I
say that it will do your work quicker and better
than any other adjustable soldering device on the
market, I am telling nothing but the truth. Don't
take my word for it, I am prejudiced, try one your-
self for thirty days, and if not found perfectly
satisfactory I will return your money.

If your jobber does not have them I will send
by mail upon receipt of price and 10 cents postage.

Price with Pads for Holding Spectacle
Frames \$1.75

Price complete with both the Spectacle
and Jewelry Pads 2.00

ARTHUR R. WEBSTER, Milford, N. H.

**LIQUID AMBER
JEWELERS
CEMENT**

The Strongest Cement

yet discovered—much superior to Shellac or
other gum or gelatine cements.

It has no equal for fixing Pallet Stones and Roller
Pins, making a much stronger and cleaner job than
shellac. It is quite transparent, and will successfully
repair Broken Cut Glass, China, etc. The same prop-
erties make it invaluable for setting fine Pearls. It will
fix a slack Watch Glass so that dirt cannot work
through the bezel, and do any other job where a strong,
clean cement is required.

Sold by every material dealer in America
Price, 25c.

SUSSFELD, LORSCH & CO.

Wholesale Distributing Agents
37 Maiden Lane, New York



OMEGA MOVEMENTS

ARE FINE TIMEPIECES



All made with Lever Escapements and Double Roller
Pendant Set Fitting American Cases

Made in 6 Different Grades

10 Ligne, 11 Ligne, 0 Size, 12 Size, 16 Size

From 7 Jewels to 21 Jewels, Adjusted to
heat and cold, and 5 positions



SOLD ONLY TO LEGITIMATE JEWELERS
PRICES NOT ADVERTISED IN ANY JOURNAL

A TRIAL WILL CONVINCEN YOU OF THEIR MERITS

SEND FOR PRICE-LIST

EDMOND E. ROBERT

3 Maiden Lane, NEW YORK

SELLING
AGENTS

CROSS & BEGUELIN

17 Maiden Lane, NEW YORK

NOVELTIES IN FANS



suitable for the Jewelry
Trade, consisting of
Real Lace, Hand-
Painted and Richly
Spangled Gauze Fans
mounted on Ebony,
Ivory, Pearl and Bone
Mountings.

Repair Department



OSTRICH FEATHER FANS

Mounted in Pearl or Tortoise Shell
Mountings. All prices

IGNAZ STRAUSS & CO.

Manufacturers

Office, 621 Broadway, NEW YORK

Factories at Vienna, Paris, Kobe,
New York



C. O. BAKER, Pres.

C. W. BAKER, Vice-Pres.

PLATINUM

and its alloys, made expressly for
jewelers' use

GRAND PRIZE, UNIVERSAL EXPOSITION

St. Louis, 1904

Awarded

BAKER AND CO., INC.

Newark, N. J.

120 Liberty St.

New York City

YOU USE

GOLD ALLOY

WE MAKE

SHOT COPPER

AMERICAN OIL & SUPPLY CO.

23-27 Division Place, NEWARK, N. J.

Importers of Hessian Sand Crucibles.

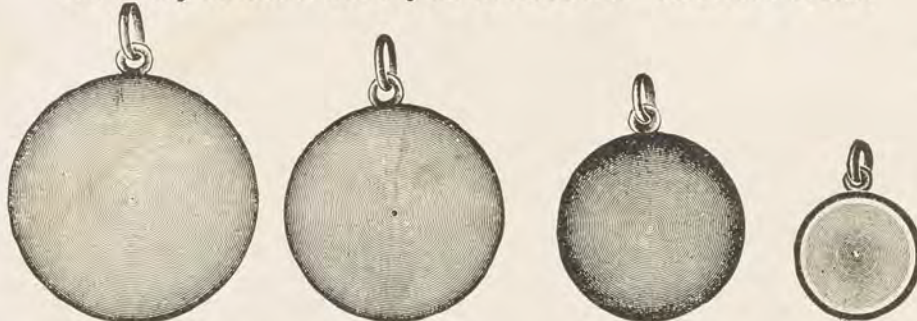
Dealers in Everything for the Manufacturing Jeweler

GET ACQUAINTED WITH US. SEND FOR CATALOGUE

It's Because of the Volume of Business

that we are enabled to sell goods on narrow margins, net cash. It will pay you to get in touch with us. TRY IT HERE.

We Carry in Stock all Styles of Locket. Reduced Prices

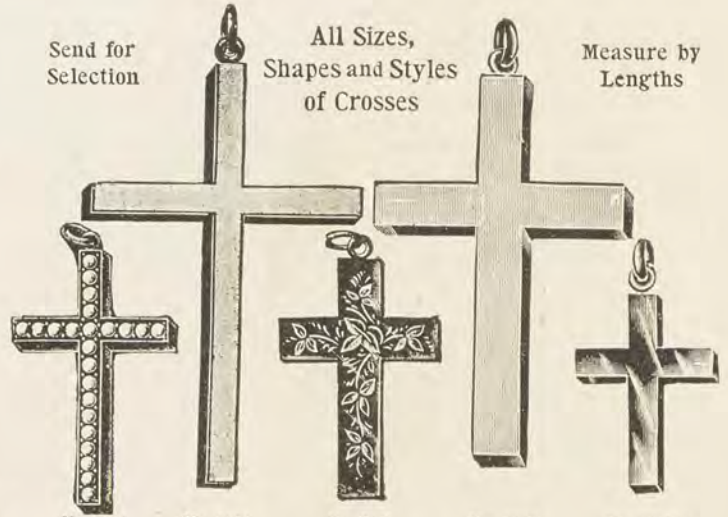


No. 4301	No. 4300	No. 4299	No. 4302
10 K. solid gold, \$5.25	\$4.80	\$3.36	\$2.00
1/2 " " " 2.40	1.80	1.60	
20-year filled . . . 1.35	1.20	.90	.81
10 " " " .74	.60	.40	.38

Send for Selection

All Sizes, Shapes and Styles of Crosses

Measure by Lengths



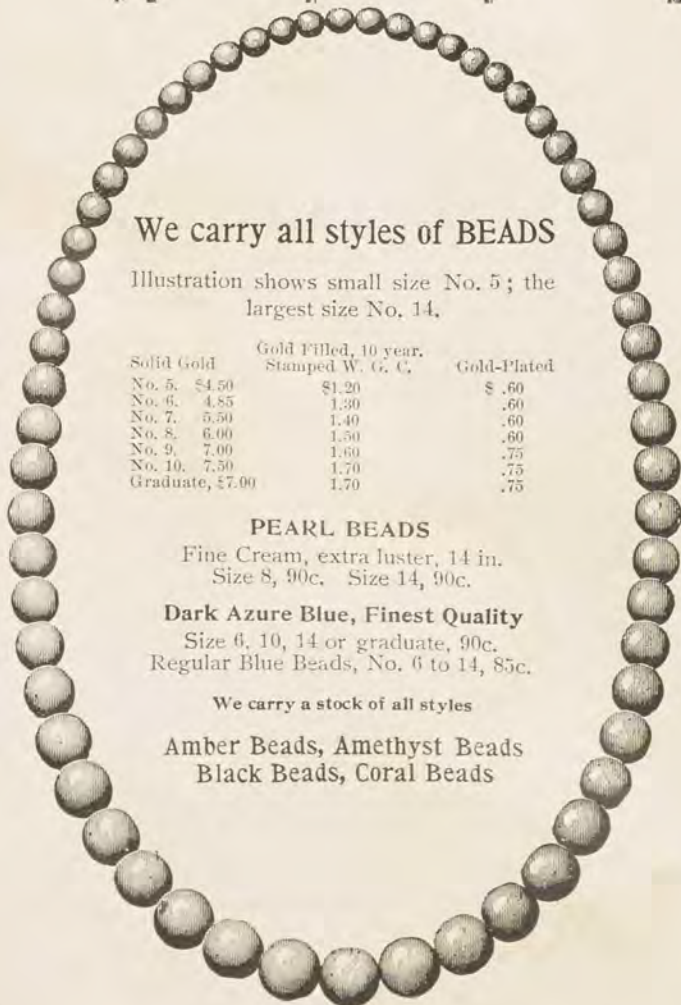
No. 5941	No. 5958 No. 5955	No. 5931	No. 5917	No. 5917 1/2
No. 5941	Nos. 5958 and 5917	No. 5955	No. 5931	No. 5931
White Stone or Pearls. Set in Silver, Roman gold sides and back.	Roman, Gold Filled. 10 year. R. P.	Heavy Solid Gold Front and Back. Warranted 25 yrs.	Plain or Engraved Solid Gold Front.	
7/8 in., \$.75	1 1/4 in., .50	1 1/2 in., \$.66	1 in., \$.35	
1 1/2 in., .90	1 3/4 in., .70	1 3/4 in., .83	1 1/2 in., .66	
1 3/4 in., .99	2 in., .79	2 in., .95	2 1/2 in., .99	
2 1/2 in., 1.12	2 1/2 in., .83	2 1/4 in., 1.06	Solid Gold. 1 3/4 in., \$1.35	
	3 in., 1.00		2 in., 1.65	



CUT OUT THIS PAGE
for reference

We have a complete line of all the latest styles of Hat Pins, Solid Gold, Gold Filled, Signets and Fancy Patterns from 19c. to \$1.85.
(Order a selection.)

No. 4051. 1 dozen, assorted as shown, \$1.35. Sterling Silver Tops, warranted and stamped. (Average price, 11c.)
Retail for 50c. each



We carry all styles of BEADS

Illustration shows small size No. 5; the largest size No. 14.

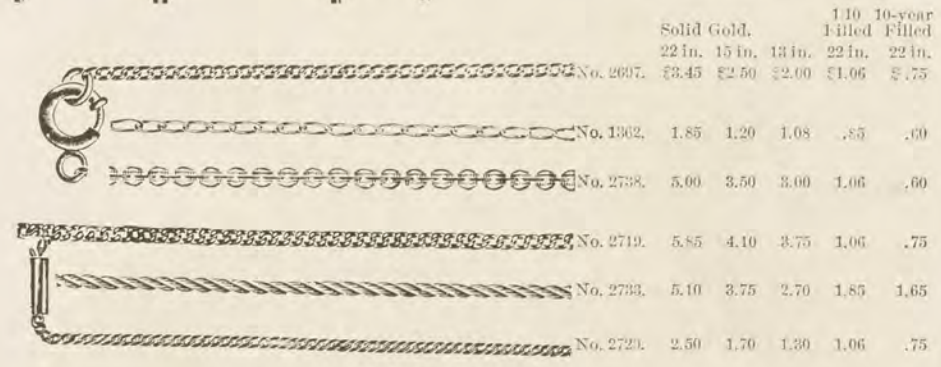
Solid Gold	Gold Filled, 10 year. Stamped W. G. C.	Gold-Plated
No. 5. \$4.50	\$1.20	\$.60
No. 6. 4.85	1.30	.60
No. 7. 5.50	1.40	.60
No. 8. 6.00	1.50	.60
No. 9. 7.00	1.60	.75
No. 10. 7.50	1.70	.75
Graduate, \$7.00	1.70	.75

PEARL BEADS
Fine Cream, extra luster, 14 in. Size 8, 90c. Size 14, 90c.

Dark Azure Blue, Finest Quality
Size 6, 10, 14 or graduate, 90c.
Regular Blue Beads, No. 6 to 14, 85c.

We carry a stock of all styles

Amber Beads, Amethyst Beads
Black Beads, Coral Beads



No. 2607	\$3.45	\$2.50	\$2.00	\$1.06	\$1.75
No. 1302	1.85	1.20	1.08	.85	.60
No. 2738	5.00	3.50	3.00	1.06	.60
No. 2719	5.85	4.10	3.75	1.06	.75
No. 2733	5.10	3.75	2.70	1.85	1.65
No. 2720	2.50	1.70	1.30	1.06	.75



No. 9828

We carry the largest line of Combs in Chicago
Shell, Amber and New Pearl Gray

No. 9828. Rose and Green Colored Gold (Pearl Gray Comb).
Back, \$1.06. Side, per pair, \$1.20.

No. 9811. 1 1/10 Filled Top.
Back, 99c. Sides, per pair, \$1.80

No. 9811 1/2. R. P., like cut.
Set of 3. Back and Sides, complete, \$1.35

No. 9811 3/4. R. P., but square ends.
Set of 3. Back and Sides, complete, 75c.

We have the new back 2-prong fancy tops, 75c. to \$1.12.
Regular back combs, fancy patterns, with rose gold ornaments, 50c. to \$1.20.
We only sell goods we can guarantee.

Calvin Clauer Company, WHOLESALE JEWELERS AND SUPPLIES
151-153 Wabash Avenue, CHICAGO, ILL.

NOTICE—If you know of anyone who is about to start into business, tell him of CALVIN CLAUER CO., 151-153 Wabash Ave., Chicago, Ill., Wholesale Jewelers and Supplies

RINGS

RINGS

RINGS

¹⁶¹⁷
RINGS

Our Ring business this season has been simply immense

Why?

- The designs are up to date
- The finish is perfect
- The stones are all selected
- The Prices are right
- They are Sellers

PURCHASE YOUR FALL STOCK OF RINGS NOW

Our salesmen will call or you can order from catalogue.

Our goods are all shipped direct from factory. They are fresh and clean and not shop-worn, as is usually the case when selected from a salesman's sample trunk.

To our neighbors we extend a cordial invitation to call and inspect our office stock.

We assure you a hearty welcome and courteous treatment, whether you wish to buy or not.

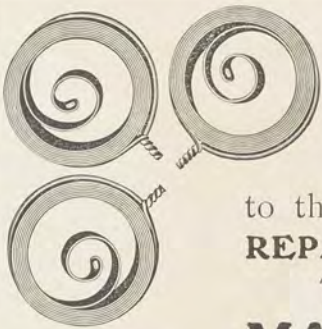
M. J. AVERBECK, Manufacturer, Nineteen Maiden Lane, NEW YORK

RINGS

RINGS

RINGS

RINGS



THE SECRET

Of your "SUCCESS" is largely due to the "Character" and "Constancy" of your **REPAIR TRADE.**

This, in turn, is governed by the kind of **MAINSPRINGS** you use.

If you wish to enjoy this distinction, you cannot afford to be without either our "GOLDEN" coiled or "RECOILING" Guaranteed.

The **STANDARD** for 20 years

"RECOILING" Guaranteed, \$15.00 gross, \$1.25 dozen.

L. C. R. "GOLDEN" \$12.00 gross, \$1.00 dozen

ONE DOZEN
"GOLDEN"
MAINSPRINGS.
FOR ALL
AMERICAN
WATCHES.
Every spring fully warranted



RECOILING
"GUARANTEED"

MAIL ORDERS PROMPTLY FILLED

H. S. MEISKEY COMPANY
WATCHMAKERS' and JEWELERS' SUPPLIES
LANCASTER, PA.

1618



RHODE ISLAND RING CO., INC.
NO. 103 SABIN STREET



Providence, R. I., July 1, 1905.

Mr. Jeweler:

This month we send you a few more of our new designs in Signets. These, and our Tiffany and Wedding Rings carry our Twenty Years Guarantee and are all made of Gold Shell, which we certify to be 14 K. They imitate exactly Solid Gold, both in finish and appearance, and stand the 14 K. test (stone and acid).

Yours truly,

Rhode Island Ring Co., Inc.



DOUBLE YOUR INCOME

and in many cases more than three times their former salary, is the verdict of young men who have availed themselves of an opportunity to take a course in the **Horological Department, Bradley Polytechnic Institute, Peoria, Illinois.**

It does not cost much to find out about these things. You have been thinking of investigating something of this kind for years, perhaps, why not **send a postal to Horological, Peoria, Ill.,** and learn all about it.

It is a fact not generally known that one-half the students entering this school have had previous experience more or less, and wish to improve their condition as a workman, and at the same time swell their bank account.



HOROLOGY HALL

The Largest Building in the World Devoted Exclusively to a School of This Kind

IT WILL DO IT

Green's Electric Automatic Demagnetizer ¹⁶¹⁹

(Patent applied for)

ALTERNATING AND DIRECT CURRENT

A perfect instrument

"Simple—Quick—Sure"

Actual time to demagnetize a watch with this instrument 3 seconds. 12 watches demagnetized in 36 seconds, which pays cost of machine.

Complete in Polished Solid Mahogany, with flexible cord, socket, etc. Price, \$12.00 Net

"FULL INSTRUCTIONS ACCOMPANY EACH INSTRUMENT"

One of the greatest necessities of a watchmaker's outfit at the present time is a thoroughly reliable Demagnetizer. Every jeweler appreciates this necessity, because of the many watches which daily become magnetized by close contact with Electrical Machinery, Street Car Motors, Dynamos, or other electrical machinery, etc.

Any article containing iron or steel will become magnetized if placed in or near a magnetic field, which magnetism may be taken from Motors, Dynamos, Electro or Permanent Magnets. When the article magnetized is hardened to any degree it will retain a certain amount of magnetic flux, therefore the parts of a watch which are made of steel become permanent magnets. Owing to the delicate Mainsprings and Hairsprings being affected the watch on being magnetized becomes useless as a time-keeper, and the only means to destroy the magnetism, and to bring the watch to its proper standard once more, is to demagnetize the movement by employing the alternating current in so doing.

In the majority of cities and towns, direct current only is used for lighting and power purposes; it is therefore necessary to convert this into alternating current to the proper degree of strength to effectually destroy this magnetism.

This new automatic Demagnetizer is placed on the market to supply a long-felt want in this direction, and is without doubt the most useful article of its kind manufactured. It not only transforms direct-current into alternating-current, giving absolutely perfect pulsations, but it can also be used on an alternating-current circuit with the same equally satisfactory results.

There are no wheels, pulleys, wiring attachments or mechanical parts to get out of order on this machine, and in this also it is entirely different to all other demagnetizers on the market.

The design is neat, compact, attractive and ornamental. It is made of Solid Polished Mahogany, with nickel trimmings inside and out, the drum covered in solid leather and lined inside with water-tight leatheroid. All parts, both exterior and interior, are made from best material obtainable, the connections permanently made and soldered, the wiring arranged inside of base, by which a short circuit is not possible, and other important troubles are avoided. It may be used on any standard lighting circuit by simply removing lamp from electric light socket and placing it in the socket on the top of instrument; then attach the plug into the socket from which the lamp has been taken.

With ordinary usage and reasonable care this instrument will last indefinitely. If neither direct nor alternating current is available, we can supply a specially wound instrument complete with dry battery which will produce same results.

Wholesale trade supplied by

W. GREEN & CO., 6 Maiden Lane, New York, U.S.A.
HAMMEL, RIGLANDER & CO., 47 Maiden Lane, New York, U.S.A.
HENRY ZIMMERN & CO., 77 John Street, New York, U.S.A.
SUSSFELD, LORSCH & CO., 37 Maiden Lane, New York, U.S.A.

SPECIAL NOTE.—Order Demagnetizer from your jobber, but if for any reason they cannot or do not care to obtain it for you, write to us direct and we will give your order and correspondence prompt attention. Yours truly, W. GREEN & CO.




<p>Q. Importers and Jobbers</p> <p>Watchmakers' Tools and Materials, Jewelers' Supplies and Findings, Paper and Plush Boxes</p> <p>M.</p>	<h2>Q. C. M. Co.</h2> <p>Queen City Material Company</p> <h3>BUFFALO, N. Y.</h3> <p>Mooney Building</p>	<p>C. American Agents</p> <p>Genuine NEUCHATEL Mainsprings \$1.00 per Dozen None Better</p> <p>Co.</p>
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17TH SUCCESSFUL YEAR

The Jewelers' School of Engraving

ESTABLISHED 1889 Suite 1104 Heyworth Building, CHICAGO

RICHARD O. KANDLER, PROPRIETOR AND CHIEF INSTRUCTOR



RICHARD O. KANDLER
Founder of the Jewelers' School of Engraving

BEST EQUIPPED SCHOOL OF ITS KIND

BEST AND ORIGINAL SYSTEM

SEND FOR HANDSOME NEW CATALOG

CORRESPONDENCE SOLICITED

Specimen Book of Monograms and Lettering 75 cents

Spoon Bowl Engraving

Names, \$2.00 up. Buildings, \$4.50 up

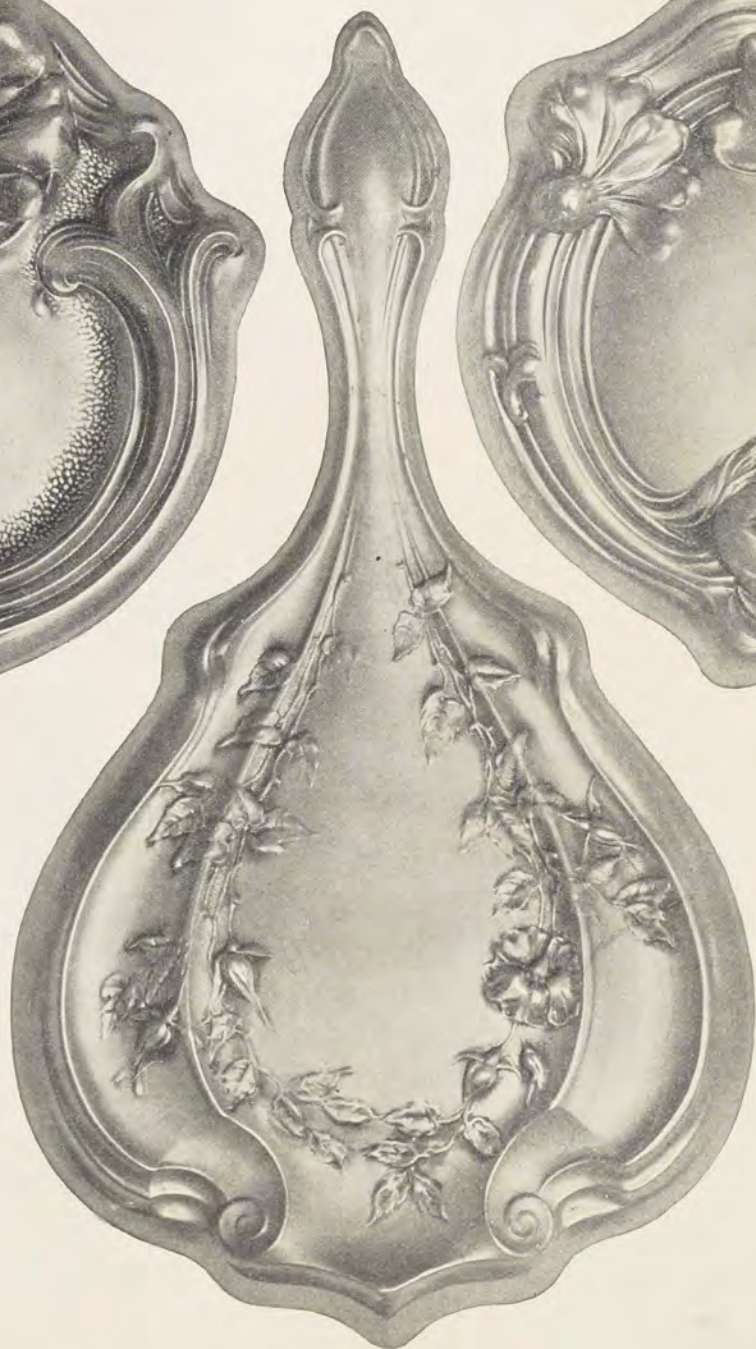
Artistic Monograms . . . 15 cents up

RICHARD O. KANDLER
Studio: 1104, 42 Madison St.
Chicago

STERLING SILVER $\frac{925}{1000}$



"POPPY" PATTERN, No. 1287
Mirror, 10 $\frac{1}{4}$ inches in length



"COLONIAL," No. 1318
Mirror, 10 $\frac{1}{2}$ inches in length



"ORIENTAL," No. 1301
Mirror, 10 inches in length

"The Winners for the Fall of 1905"

Just a few of our new patterns. Do not fail to see our line. The most complete line of sterling silver goods shown by any one house

W. S. Sickles & Sons

MANUFACTURERS

726 Chestnut St., Philadelphia

Factories { Newark, N. J.
Philadelphia, Pa.


Prosperity Without Parallel Reigns in the United States

1621

**And in prosperous times the Jeweler, more than any other merchant,
gets the full benefit**

See to it that your stock is full and well selected, and the only way to do this is to buy your goods from the house that has the goods. We occupy a unique position in the jewelry trade. We are not only **Manufacturers** on a large scale of **Fine Diamond Mountings, Emblem Goods and Gold Jewelry of every description**, but are also **Manufacturers of Sterling Silver Goods, including Sterling Silver Jewelry, Toilet Ware and Novelties**; besides, we are agents for the **Elgin, Waltham, Howard, New York Standard and United States Watch Movements, Keystone, Crescent and Philadelphia Watch Case Companies Cases**, in Gold, Silver and Filled, and distributing agents for the **New England Watch Co.**; besides, we are Importers of Diamonds and other Precious and Semi-Precious Stones, and we carry, without doubt, the largest and most complete stock of Diamond Jewelry, Gold and Plated Jewelry of every description, Silver-Plated Ware, and have the most complete **Watch Material and Tool Department** in the country. Our separate departments are in charge of experienced men, so that your orders are filled promptly and carefully.

**The only Jobbing House in the United States
running 2 factories, and where you can get everything**

 Write to us for our Special Bargain Sheets and for information regarding our Special Order Work and Repair Department.



MANUFACTURERS

726 Chestnut St., Philadelphia

Factories { **Newark, N. J.**
Philadelphia, Pa.

Every Customer Advertises You
If You Tie Your Parcels With



Reis' Advertising Tape

It is strongly woven and finished like silk ; made in many bright color shades and different widths—from 1-16 to 1/4 inch. Saves time in packing, because it sets flat and snug around the parcel and neither slips nor breaks in tying. The tape carries your name and address plainly printed from four to ten times every yard—providing a novel way of making EVERY CUSTOMER ADVERTISE YOUR BUSINESS. Hundreds of successful jewelers use it.

Costs but a trifle more than string ; infinitely better.
WRITE FOR SAMPLES AND PRICES.

G. REIS & BRO.  Department K **640 BROADWAY**
NEW YORK CITY

The Improved "Ever Ready" Plato Clock

Guaranteed to be mechanically perfect and to keep accurate time

Make a most attractive window display

"Watch the Time Fly"

NO HANDS
NO DIAL

Wound, set and regulated like any clock



Upper plates represent the hour
Lower plates, the minutes

An appropriate HOLIDAY BIRTHDAY or WEDDING GIFT

No. 1 \$6.00 No. 2 \$6.50 No. 3 \$7.00 No. 4 \$8.00

This elegant display case given free with order for eight clocks, two of each design

ORDER NOW TO INSURE HOLIDAY DELIVERIES

For trade discount apply to your jobber or

American Electrical Novelty & Mfg. Co., 304 Hudson St., New York City



No. 2745³/₄. Palm Plants

	Leaves	Inches High	Each	Dozen
No. 2745 ¹ / ₄	5	36	\$.40	\$3.20
No. 2746 ³ / ₄	7	36	.50	5.40
No. 2759.	10	45	1.00	9.00

Palm Tree, Potted

No. 2206.	Palm Tree, 8 feet high, 15 leaves.	Each, \$3.00
No. 2208.	Palm Tree, 12 feet high, 18 leaves.	Each, \$4.50
No. 2209.	Palm Tree, 14 feet high, 24 leaves.	Each, \$5.50

VINES

Autumn-colored grape, maple, oak or holly vines. Per dozen yards, 75c.
 Smilax, per dozen yards, 50c.
 Clematis Vines, 4 flowers, 12 leaves; per dozen yards, \$1.50.
 Ivy Vines, 18 leaves; per dozen yards, 80c.



No. 2145. Rose Bush

No. 2143. Rose Bush, 24 inches high, 3 roses and 3 buds, each, \$1.00; dozen, \$11.40.



Chrysanthemum Sprays

(Cut representing Flowery Spray)

No. 2539A.	Jap.	12 inches long, per doz.,	\$1.00
No. 2539.	"	" " " "	1.80
No. 2539D.	"	" " " "	2.40
No. 2527 ¹ / ₂ .	"	" " " "	6.00
No. 2527.	"	" " " "	12.00

The Chrysanthemum—the flower selected for the Horse Show—gives a touch of aristocracy and elegance, especially in displaying jewelry. White and yellow are the most favored.



No. 2533. Rose Sprays

No. 2532.	Dozen roses,	\$1.50
No. 2533.	" " "	1.80
No. 2534.	" " "	3.00



No. 2975B. Fall Grapevine Garland. (Cut representing two yards)

No. 2975B. 12 extra fine, large, fancy, autumn colored grape leaves, as red, brown and green leaves, mixed in each yard; per dozen yards, 75c.



No. 2707 Folding Garland

Autumn colors, as yellow, red, green. Closed in a package 8x2 inches. Opened, it extends 10 feet, for 30c.; per dozen Garlands, \$3.00.

Send for Catalogue No. 2, of 1905, just from press

Frank Netschert Co.

34 Barclay Street, NEW YORK

Do not fail to ask for our new Catalogue 1905, No. 20, just from press. Free for the asking

FLAG PINS

ARE YOU SELLING FLAG PINS?

Many a jeweler is getting ready to make some extra money selling Bastian's Flag Pins. Are you going to let the opportunity go by?

Flag Pins, as illustrated, in Sterling Silver, \$1.88 a dozen.

We have dies on hand for a great many school pins.

Write us, and if we have the die you wish in stock, you can order in any quantity. We will make a special die for any School if the order amounts to \$5.00 net. These pins are rapid sellers at 25 cents each and you have our guarantee of satisfaction.

We create a demand for Bastian's Flag and Class Pins by extensive magazine advertising. We also make to order Badges, Medals and Buttons in Gold, Silver, Bronze or Ribbon. Special designs and estimates free of charge. Send for our new catalog—it's free.

BASTIAN BROS., R, 21 South Ave., Rochester, N. Y.

The Silver Standard

ESTABLISHED IN 1847 BY ROGERS BROS.

VOL. I

SEPTEMBER, 1847.

NO. 6

HIGHLY IMPORTANT INTELLIGENCE FROM THE CITY OF MEXICO

By Special and Extraordinary Overland Express From New Orleans to Baltimore and thence TELEGRAPHICALLY The Confirmation of ... brought by the ... Usceola to Pensacola

- THE CAPTURE OF THE CAPITAL OF MEXICO
- TERRIBLE AND BLOODY CONSEQUENCES
- TREMENDOUS LOSS OF LIFE
- THE FLIGHT OF SANTA ANNA TO GUADALOUPE
- GEN. SCOTT'S ORDERS TO THE ARMY

THE intelligence received by the special overland express last evening is of the greatest importance. We give it in these columns to the exclusion of other matter of less consequence. The public will read these telegraphic details and also those received by the mails, which we annex, with the most intense interest. Our thanks are due to the telegraphic operators for their attention.

"Telegraphic Despatch—No. 1 Orizaba, Sept. 19, 1847. I have the honor to inform you that an express arrived here this evening from Mexico which brings intelligence that General Scott was in the City of Mexico. That on the

13th the American troops took Chapultepec and the Citadel and went into the city that night. General Bravo was killed and Santa Anna fled. We do not see that Santa Anna was its way through the fields and Fort of Contreras. San Antonio, Churubusco, Molino del Rey, Chapultepec and the gates of San Gastea and Tacubaya to the Capital of Mexico.

THE LEADING NEWSPAPER of New England, the SPRINGFIELD REPUBLICAN

edited by Samuel Bowles, says:

A novelty in advertising is the "Silver Standard," published by the Meriden Britannia Co. One side advertises the company's goods; the other has every appearance of being a remarkably enterprising illustrated journal for August, 1847, giving accounts of events which took place at that time, including the issue of the first American postage stamps, the drafting of a new treaty with New Granada, giving the rights of the United States on the Isthmus of Panama, and a movement for the settlement with the heirs of Paul Jones.

JEWELERS

who have not seen this "remarkably enterprising illustrated journal" should write the publishers at Meriden, Conn.

FILIBUSTERING! EXCITEMENT IN CUBA!

S. SHIPS WATCHED. SEVENTEEN YOUNG MEN ARRESTED SUSPICION.

New York says that excitement throughout another ... arrested and thrown into prison on Friday, on suspicion of being connected with the revolutionary party. By letters from Havana, we are apprised of the most cruel treatment of all persons suspected of liberalism. The chain gang is full of young men who have dared to breathe of hope for liberty, and a large number of young women, particularly from the inland towns, are confined in the city prison, because of singing some air wedded to republican verse!

NEWS FROM THE GOLD FIELDS.

Gold dust was selling at San Francisco on the 3rd ult., at \$17 per ounce, with the freight, insurance of 5 per cent., expense, making a loss of 2 per cent. on remittances. Col. Fremont has completed and confirmed the sale of his Mariposa tract of gold land in California to a London company for one million of dollars.



SCOTT'S ARMY ENTERING THE CITY OF MEXICO. Drawn by our artist from telegraphic descriptions.



A monthly journal devoted to the interests of the Watch, Jewelry and Optical Trades. The purpose and policy of this journal are the protection and promotion of all trade interests. A rigid censorship assures the reliability and worth of all reading matter, and the exclusion of all that is not trustworthy or relevant. We decline to insert advertisements that are unreliable, or misleading in representation, defamatory in statement or detrimental to the welfare of the trade.

Vol. 26 Philadelphia, October, 1905 No. 10
 Copyright, 1905, by B. THORPE, Publisher. All rights reserved. Entered at the Philadelphia Post-office as second-class matter January 14, 1887

THE KEYSTONE

A Monthly Journal Devoted to the Interests of the Jewelry and Optical Trades

Subscription—One Dollar per year, postpaid, to all parts of the United States, Hawaii, Porto Rico, Philippines, Guam, U. S. Island of Samoa, Cuba, Mexico and Canada (except Newfoundland); **single copies**, regular issues, 15 cents; special issues, 25 cents. To Foreign Countries 10 Shillings (\$2.44) per year; **single copies**, 1 Shilling (25 cents).

Payment for THE KEYSTONE, when sent by mail, should be made by a Post-Office Money Order, Bank Check or Draft, or an Express Money Order. When neither of these can be procured, send the money in a Registered Letter. **All Remittances should be made payable to THE KEYSTONE.**

Change of Address—Subscribers desiring their address changed, should give the old as well as the new address.

Advertisements—Advertising rates furnished on application. No advertisements but those of a reputable character will be inserted.

To Advertisers—Copy for advertisements must reach us by the 25th of each month to insure insertion in the issue of the following month. Changes in advertisements should reach us not later than the 18th of the previous month. All communications should be addressed to

CHICAGO OFFICE THE KEYSTONE
 42 MADISON STREET 19TH & BROWN STREETS
 LONDON OFFICE PHILADELPHIA, PA.
 45 HOLBORN VIADUCT, E.C.

Index to Advertisers on page 1791

CONTENTS

	PAGE
AMONG THE TRADE	1729
DECORATIVE ART IN FRANCE	1633-1636, 1641
FOOLISH PATENTS THAT ARE APPLIED FOR	1727
GEMS OF THE PACIFIC COAST	1741
ITEMS OF INTEREST	1728 f
LETTERS FROM THE TRADE	1733
MEASURES MINUTE TIME	1721
MODERN MERCHANDISING	1715
NEW GOODS AND INVENTIONS	1728 c, 1728 e
NEW SUN-DIAL, A	1713
NEWS LETTERS:	
Chicago	1649, 1651, 1653
Cincinnati	1673
Cleveland and Northern Ohio	1728 g
Dallas and the Lone Star State	1680
Detroit	1728 h
Indianapolis	1675, 1677
Kansas City and the Great Southwest	1679
New England	1671
New York	1643, 1645, 1647, 1656
News from the Northwest	1728 k
Philadelphia	1680
Pittsburg and Vicinity	1667
Providence and Attleboro	1665
San Francisco	1669
St. Louis	1655
NOTES ABOUT TRAVELING MEN	1744 g
OPTICAL DEPARTMENT:	
Clinics in Optometry	1751, 1753
Frame Fitting and Adjusting	1771, 1775, 1777
Method of Measuring Latent Hypermetropia, A	1757
New Apparatus to Detect Malingering	1773
New Apparatus for Photographing the Fundus	1765
New Instrument to Shorten the Subjective Branch of Refraction	1761
Optical Questions and Answers	1755
Photographing Pictures	1769
Reviews of Ophthalmological Literature	1747, 1749, 1753
Tests and Studies of the Ocular Muscles	1759
What is the Most Expressive Title for a Refracting Optician?	1777
SAMPLE ADVERTISEMENTS	1717, 1719
SHOW WINDOW, THE	1723
STATIONERY DEPARTMENT	1725
TECHNICAL DEPARTMENT:	
Art of Engraving	1693
Electricity for Jewelers	1697, 1701
How to Make a Hall Clock Case	1695
Lessons in Horology	1689, 1691
Photographs on Watches, Cigarette Cases, Etc.	1704
Workshop Notes	1699, 1703
TWEEZER'S TALKS, JOHN	1745
WHAT TO DO WITH SMALL SAVINGS	1737

Holiday Number of THE KEYSTONE

THE November number of this journal will be our annual Holiday Number, with the customary extra attractiveness of cover and contents. We anticipate, indeed, that the forthcoming number will be the most magnificent and valuable which we have ever issued—an impressive reflex of current conditions, in that it will symbolize in external richness and internal worth the flood-tide of prosperity which the country and the trade are now enjoying. The special cover design will be an accurate reproduction in colors of an exquisite oil painting executed to our order by an eminent artist, and beautifully symbolic of the jewelry trade in its most refined and poetic aspects. The contents will be enriched by many special features of seasonable interest to the trade, and an unusual wealth of high-grade illustration.

In view of the extra value and beauty of this issue, we would suggest that all whose subscriptions expire this month renew at once, so as not to miss this unique Holiday Number.

New Serial "Electricity for Jewelers"

ELECTRICITY is now used for such an infinite variety of purposes, that a knowledge of its properties and utilities is a recognized part of a modern liberal education. For the mechanic of the time, however, this knowledge is a necessity rather than a mere accomplishment, and for the jeweler in particular, the time has come when a practical acquaintance with the working of the mysterious fluid will have much to do with the successful practice of his craft. Already there are on the market myriad electric machines for facilitating the work of the jeweler and optician, and the number is being increased almost daily. In view of this, our readers will be gratified to know that we are beginning in this issue the publication of a serial aptly entitled "Electricity for Jewelers." The various books on electricity, which treat the subject in an academic and general way, call for more time for study

than the jeweler can afford. In the serial the subject will be treated from the one standpoint of practical value to the jeweler, who will thus acquire the knowledge that serves him with a minimum expenditure of time and study. An installment of the serial will appear in each issue till concluded.

Growing Audacity of Jewelry Thieves

IN view of the growing audacity of the thieves and swindlers who make jewelers and jewelry stores their special prey, it is opportune at this time to impress upon the trade the necessity of extra watchfulness against this mischievous and resourceful fraternity. Last month a new record was made by the Eastern operators, when a number of robberies were committed within the well-watched Maiden Lane district. A "dead line" was supposed to exist around this district which no robber could cross with impunity, but the bolder spirits have shown their contempt for this circle by several successful robberies at its very center. In one case a piece was cut out of the show window and several hundred dollars' worth of goods extracted under the very nose, so to speak, of watchmen and police. In another case, the burglars simply opened the front door with a key, locked it behind them and went about their work in a leisurely fashion, operating by the aid of the electric light on the corner. They passed everything that was bulky and decided that silver knives and forks would do. They emptied a score of boxes of knives and forks, and when they had enough to load a dress-suit case they departed and locked the door behind them. That this should happen within the well-watched precincts of Maiden Lane, should be a sufficient warning to the trade in less-guarded localities.

IN justice to the burglars, thieves and window-smashing desperadoes, we are compelled to say that the majority of the thefts in jewelry stores are made possible by the almost incredible guilelessness of the storekeeper and culpable laxity in the pro-

tection of his stock. One country jeweler recently left several hundred dollars' worth of goods in his window over night to find them gone next morning, and the Maiden Lane jeweler did likewise. He "intended to remove them later," of course, but the burglar was more prompt and attended to business in the interval. Almost daily we hear of jewelers being victimized by plausible swindlers, from whom they very considerably accept bogus checks in payment for goods, not infrequently giving a considerable amount in change. This is a most inexplicable manifestation of mercantile imbecility. Need we repeat that jewelers should never neglect to put their goods, or the most valuable part of them, in the safe before leaving the store, and they should never countenance payment by check except in case of such customers as are personally known to them.

In view of recent happenings, we must also warn our readers to be extra watchful of strangers who examine such goods as diamonds, rings, etc., lest they be made victims of the substitution game as has happened very frequently in recent months. There is, indeed, little excuse for being swindled by such tricks as this. Ordinary care, a judicious suspicion of strangers, and a fixed rule never to allow your attention to be diverted from the customer or the goods in the course of the examination, will generally give sufficient security.

A Novel Method of Advertising

THE strenuousness of modern business competition, and the sometimes ridiculous extremes to which the modern advertising man will go, found a unique illustration in a recent happening in Brooklyn. It is a peculiarity of many business streets that one side of the thoroughfare is patronized much more by pedestrians than the other side, and very often a store on one side is, for this reason, much more valuable than a store on the other. A portion of Fulton Street, Brooklyn, is one of the thoroughfares which have this peculiarity, and the merchants of the dull side started a co-operative movement to attract the passing crowds to their side. An advertisement appeared in the local papers on the morning of September 18th announcing that every morning of the week, between 9 and 10 o'clock, a man would start walking up and down the "bargain side" of Fulton Street, as the merchants interested have dubbed their location, and would continue to do so until between 4 and 5 P. M. The man, it was announced, would carry a pocket full of silver dollars, and at every half hour and quarter hour, to the moment, figured from the time he started, he would turn around sharply and present one of the

silver dollars to the person he found directly behind him—man, woman or girl. No money was to be given to boys.

All that the recipient of the money was required to do in return for the money was to give his or her address, so that the "bargain man," as the representative of the firms was called, might be enabled to prove that he had actually given away the money. In the windows of the five leading stores was displayed each day a list of the names and addresses of those who received the dollars distributed for the previous day.

This novel method of advertising is chiefly remarkable for its spectacular character. As a means of spreading the fame of the so-called bargain side of the street it may have been temporarily successful, but it is not the kind of advertising which would have the endorsement of business ethics or indeed of common sense. A preferable way and the only permanently effective one to enliven and popularize the dull side of the street is by new store fronts, more attractive windows, better light and thoroughly progressive business-doing.

The Patent Office a Paying Institution

IT is but natural to suppose that the rapid industrial development in this country should stimulate unusual activity in the field of invention, and the recently published report of the Commissioner of Patents shows that such is the case. We learn from this interesting report that the twelve months ended June 30th last were the banner year in the history of the United States Post Office. The report states:

There were received in the last fiscal year 52,323 applications for mechanical patents, 749 applications for designs, 174 applications for reissues, 1846 caveats, 11,298 applications for trade-marks, 1236 applications for labels and 448 applications for prints. There were 30,266 patents granted, including reissues and designs, and 1426 trademarks, 1028 labels and 345 prints were registered. The number of patents that expired was 19,567. The number of allowed applications which were by operation of law forfeited for non-payment of the final fees was 5154.

It is a gratifying fact, and an exceptional one in government departments, that the Patent Office not only pays its way, but makes a very substantial profit. The report for the past fiscal year states: "The total receipts of the office were \$1,737,334; the total expenditures, \$1,472,467, and the surplus of receipts over expenditures, being the amount turned into the Treasury, was \$264,667." As there is no greater benefactor of his country than the inventor, and as the compulsory precaution of patenting should be facilitated and cheapened as much as possible, it is but natural to expect that the surplus

income of the Patent Office should be used for the purposes of the office and not diverted to general treasury needs. As a rule, inventors are not overburdened with individual wealth, and the extra amount paid in by them, if used in perfecting the equipment of the office, would, at least indirectly, revert to its worthy source.

Floating Exposition of American Manufactures

OF all the plans devised for the extension of American trade in foreign countries the most novel and, let us hope, the most effective, is the floating exposition organized by the Export Shipping Company of New York City. Arrangements have been completed for chartering a 500-foot, 8000 tons register, trans-Atlantic steamer, for a fifteen-months' trip around the world.

The voyage of the American invasion, or the American Floating Exposition as it has been named, is to begin with the year 1906, and the itinerary includes stops at the principal ports of Great Britain, Russia, Sweden, Norway, Denmark, Germany, Holland, Belgium, France, Spain, Portugal, Italy, Austria, Greece, Turkey, Bulgaria, Egypt, India, China, Japan, Australia, New Zealand, Ecuador, Peru, Chile, Uruguay, Brazil, the Northern South American countries, Central America and the West Indies, making a sea voyage of about 60,000 miles.

THE ship is to be equipped with three decks for the purpose of displaying samples of what the United States has to sell to her neighbors, and the space available for the purpose is about 30,000 square feet.

On the first or shelter deck will be shown samples of industrial art and novelties of all kinds, such as small tools, hardware and articles of small bulk. The second or upper decks will be devoted to agricultural implements, vehicles, musical instruments and other bulky articles, while the third deck will contain machinery and heavy articles. On this deck both steam and electric power will be developed and supplied to the exhibitors throughout the vessel so an actual working sample of machine demonstrating its uses can be shown.

The saloon deck will contain dining rooms, smoking rooms, library and school room, and the promenade deck has cabin capacity for the two hundred representatives who will accompany the exhibit for the purpose of exploiting the goods on exhibition.

The enterprise is to be managed entirely in the interests of the exhibitors, who share the expense on a most economical scale.

The Flood-Tide of Prosperity

THE period of prediction is now over and the country stands face to face with the greatest opportunity in its history. The crops are no longer at the mercy of the fickle elements or destructive insects, and their volume runs into figures that would stagger belief if prediction had not made them so familiar. Once again corn is king, the total yield being placed at 2,625,000,000 bushels, which surpasses all previous records. The wheat crop falls but a little short of the largest previous yield, with an estimated total of 685,000,000 bushels. This year's grain crop, as estimated on government data, compared with the ascertained harvests of 1903 and 1904, is as follows:

	1905. Bushels.	1904. Bushels.	1903. Bushels.
Corn*	2,625,000,000	2,467,000,000	2,224,000,000
Wheat	685,000,000	552,000,000	638,000,000
Oats	899,000,000	894,000,000	784,000,000
Rye	27,000,000	27,000,000	29,000,000
Barley	130,000,000	139,000,000	132,000,000
Totals	4,366,000,000	4,079,000,000	3,827,000,000

TO convey some idea of the immense volume of these crops, many ingenious calculations have been made. One statistician has figured that to transport this grain crop it would take 1,500,000 cars, which divided into trains of fifty cars each would require 37,500 locomotives. These trains would extend a distance of 12,286 miles, and would occupy four tracks, extending from New York to San Francisco. To hold the corn crop alone, it is estimated, would require trains 21,000 miles in length. It is little wonder that the railroads have placed orders amounting to millions of dollars for new equipment in locomotives, cars and improved roadway. The Pennsylvania Railroad alone has ordered no less than 16,000 new freight cars for delivery early next year, at an approximate cost of about \$16,000,000, and other railroads, especially the Western roads, are said to be doing even more in proportion.

BUT it is when converted into dollars that the billions of bushels impress us most forcibly. We would then have \$1,312,500,000 for the corn crop at 50 cents a bushel; \$548,000,000 for the wheat crop at 80 cents a bushel; \$233,740,000 for oats at 26 cents a bushel; \$16,200,000 for rye at 60 cents a bushel, and \$65,000,000 for barley at 50 cents a bushel, making a grand total of \$2,175,440,000.

This divided among the entire population of the country would make a snug sum, and yet it does not include the values of the

minor farm produce in hay, vegetables, fruit, poultry and animals. There are also cotton, tobacco, sugar cane, rice, hops and other articles to swell the grand total of wealth for the farmers.

QUITE naturally these immense crops have infused life into every branch of business. R. G. Dun & Co.'s latest weekly review says: "Current trade shows a distinct gain in comparison with the same time last year; crop reports are reassuring and evidences of continued activity are noted in almost every department of industry. A wholesome growth, without the threatening

August aggregate of bank clearings for the United States reached the stupendous figure of \$10,838,989,760. This amount was never approached by any previous August total, and the reports from the first weeks in September indicate a similar rate of increase for the present month. For the week ending September 21st, the bank clearings were \$2,514,652,749, which is 17 per cent. in excess of the clearings for the same week of last year.

Nearly every month of 1905 has shown an increase over the corresponding period of last year, and the total figures for the ninety clearing-house cities of the United States, from January 1st to the end of August, were \$92,298,470,000, against a total of \$66,785,409,243, for the corresponding period of 1904. Business failures, too, indicate the gradual strengthening of the mercantile situation. The number of failures for the week ended September 21st was 173, compared with 203 for the same week of last year.

All this is indicative of a record-breaking holiday business for the trade at large and suggests the wisdom of early and liberal purchasing. In view of the unusual demand, late-comers may find jobbers' stocks so picked and depleted that there may be delay in filling orders. Such an exigency would be unpleasant for the jobber who is desirous for policy as well as for profit sake to please every customer, while the retailer would only have himself to blame for the loss he would sustain through lack of the goods. Under present conditions the



FROM HARPER'S WEEKLY. Uncle Sam and his Best Girls. COPYRIGHTED, 1905, BY HARPER & BROTHERS.

danger of reckless inflation of prices, is a commercial condition greatly to be desired, and these elements are recorded in the majority of dispatches." *Bradstreet's* informs us that "the tenor of jobbing trade and industrial advices is more unanimously favorable than at any preceding period this year," and that the industrial activity is unprecedented. "Collections are unusually good, money is easy and railway tonnage very heavy. Labor is well employed, and additional reports of a scarcity of help come from widely-separated points." Similar reports come from all other sources. The iron industry, that great barometer of trade, is having an unprecedented demand, and the production will be the greatest ever recorded.

BANK clearings, which are a pretty accurate measure of mercantile activity, tell the same story of unusual prosperity. The

danger of over-buying is reduced to a minimum, and it is wise to be on the safe side.

Patenting Articles in Japan

IT is an interesting fact that the result of the Russian-Japanese war has introduced a new factor in the matter of patents. The attention of America and the European countries has been officially directed to the importance of patenting their inventions in Japan. It is pointed out that Europeans generally are not fully alive to the importance of patenting their inventions in Japan, one reason being that most of their inventions have not as yet much to do with the trade of the far East. But inventors are warned that if they still continue indifferent and omit to patent their future inventions in Japan, they will be necessarily deprived in the near future of the privileges of Japanese patent law.

THE GORHAM

TO THE JEWELRY TRADE

¶ The Gorham Mfg. Company beg to announce that they have moved to the New Gorham Building at Fifth Avenue and Thirty-sixth Street, New York.

¶ Advantage is taken of this opportunity to impress upon their friends in particular, and the trade in general, their earnest desire that the New Building may be regarded as the headquarters of jewelers who may visit New York.

¶ Special accommodations have been reserved for them and every facility is tendered to further the transaction of their business, not only with ourselves but, by appointment, with other houses. Here their letters may be addressed and here business appointments made.

GORHAM M'F'G CO.

Silversmiths and Goldsmiths

Fifth Avenue and 36th Street, New York

BRANCHES

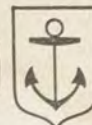
CHICAGO
137 Wabash Ave.

NEW YORK
23 Maiden Lane

SAN FRANCISCO
120 Sutter St.

LONDON
Ely Place

WORKS: Providence and New York



The Making of the Clerk or Salesman

A Word to Employers

IT is too frequently the practice to let the clerk make himself. If he is ambitious, and possesses unusual natural ability, such a course is probably best for the *clerk*, as it affords opportunity for the exercise of his own initiative; but if he is of the quality of the majority he needs guidance, so that he will subsequently not have to confess, with Topsy, that he "just growed up." He needs the guidance for his own good; but he likewise needs the guidance for his *employer's* good.

Yet few clerks and salesmen get real guidance, instruction, coaching, business education, from the employer, but must acquire knowledge entirely from observation and imitation. Such indifference or shortsightedness on the part of the employer is wasteful of the opportunities which are at hand for increasing the efficiency of his force and thus immediately promoting the welfare of his business.

You are quite willing to spend time on the preparation of your advertising matter, but grudge the time given to showing the salesman why and how; yet your advertisement speaks at long range while the salesman must speak at close range; and effectively, if the advertisement is to show returns in profits. The subsequent personal contact must make the advertisement pay, else the advertisement is wasted; yet many employers ignore that close attention to the schooling of the hands which insures the efficiency of the selling-end, after the publicity-end has brought the people to the store.

"Business" schools are all right, within their limitations, but they cannot supply just what you want *for your store*; for they cannot furnish that particular quality of *personality* which is in yourself and which should be reflected in some degree from those you employ. The ready-made clerk or salesman is not the best for you; *your* make will pay you best.

It takes time and trouble to "make" a clerk; but everything worth while takes time and trouble. If you employed fifty or five hundred hands, individual instruction would be too great an undertaking; but the average jeweler employs from one to five. It should not be felt impossible to take a single clerk in hand, day by day, for a brief schooling; to show the differences in qualities of goods, the why and wherefore of your preferences, the manner of meeting objections and answering inquiries; to explain your theories of salesmanship, and illustrate them; to quiz the clerk on how he would do in such-and-such cases, and then improve his ideas; to encourage him to make suggestions for the improvement of the service; to act as his "guide, philosopher and friend."

The result of such effort on your part to "make" the clerk would be to add immediately and considerably to his value to you; and thus simply as an investment you would be the gainer for the time spent upon his improvement. Indeed it is most surprising that while merchants will haggle for the ultimate last penny in buying, or will be parsimonious in their store economies, so many of them seem to overlook the gains which would come to them by increasing the efficiency of their salesmen through careful and systematic teaching. From the view-point of selfish self-interest, the employer should "make" his clerk.

And from another quarter comes the same call upon him. The employer of from one to five clerks is charged with certain moral responsibilities to them. He is a trustee for their development while in his employ. The old man of eighty who planted a young fruit tree recognized his obligations to the future. The employer has no defence on the ground that "his efficient clerks generally leave him when they know all he can teach." If they do, *theirs* is the responsibility; he must assume, instead, that they *will* "act squarely." Without attempting to divine the future, he must act up to his full duties in the present; and his duty is clearly to do the best possible for those under him, in the way of counsel and instruction. And *while* they get, he will surely gain.

Transforming "Dull Monday"

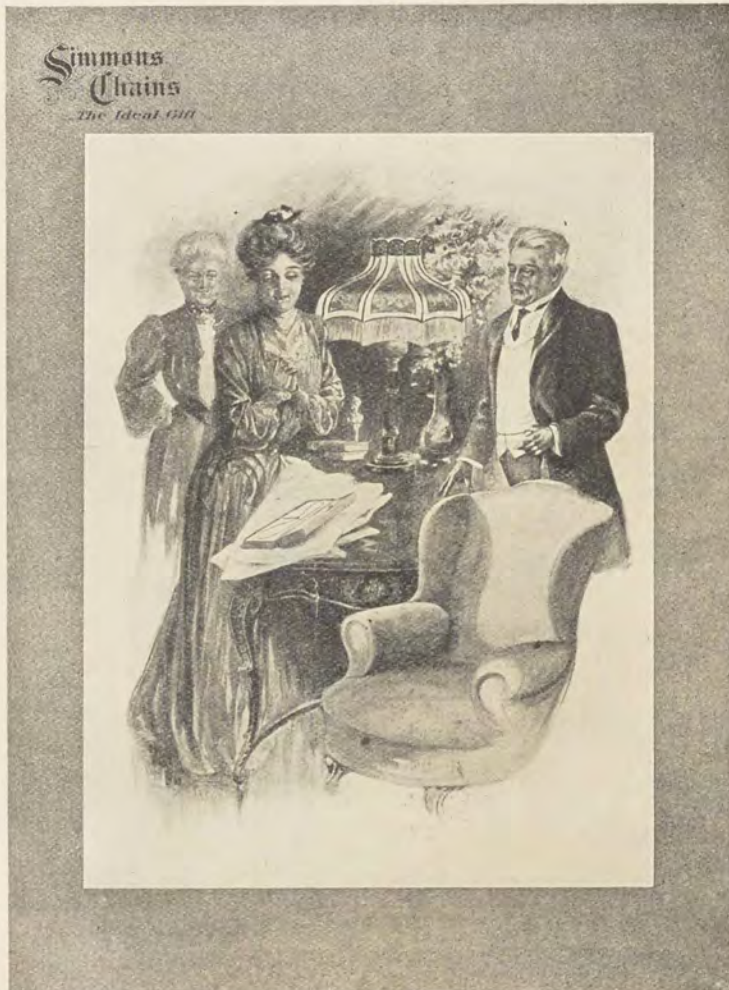
THE merchants' associations throughout the country, which are now so popular, are proving their usefulness in a great variety of ways. For instance, Saturday, in most towns and small cities, is usually a very busy day, while on Monday business is correspondingly dull. This was the case in Knoxville, Tenn., and the local association decided to adopt some measure whereby trading on the two days might be more equally divided. Accordingly they agreed to boom Monday as a bargain day and each one advertised a goodly list of bargains. The newspapers lent their aid to the movement by devoting considerable space to the plan and explaining its advantages.

The result, as reported in the *Merchant's Record*, was highly satisfactory. The combined announcements of the merchants brought out a great crowd of shoppers and, while Saturday's business did not suffer to any great extent, Monday's trading was beyond all precedent. The merchants are so well pleased with the idea that "Bargain Monday" will be a regular event in Knoxville, and no doubt similar action will be taken by the local merchants' associations in other towns and cities. To transform "dull Monday" into a busy business day is well worth while.

Improvements in Modern Store Construction

IT was our privilege a few days ago to examine with some particularity the magnificent new store now being erected by that world-famed master of merchandising, John Wanamaker. One of the things of interest to the trade which particularly arrested our attention in this new structure was the closeness of the window floors to the level of the sidewalk. The distance between the window and the ground does not seem to be more than six or eight inches, and this, we were told, is in accordance with the very latest ideas in show-window construction. As six inches seemed to us to be the limit which good judgment would suggest, we were surprised to learn that a large shoe manufacturer, who has some forty stores in as many different cities, recently gave instructions to have the show-window floors lowered to the level of the street. This seems to be rushing to the other extreme, but jewelers who contemplate reconstructing the front of their stores should keep in mind the advisability of having the window floors as low as possible. In this age of hurry the window display should be easily visible, and to this end should be placed in the natural line of vision. This necessitates a low floor, high, window-filling displays being no longer in order. In our day the show window has attained such importance as an advertising factor and sale-maker that, architecturally, it merits more attention than probably any part of the store.

ANOTHER feature of the new store is the greatly improved method of lighting. It has long been evident that, in the case of the store as well as the window, the ideal lighting system would be one in which the lamps would be hidden from view. In the new method this has been practically attained, the much-desired effect being made possible by ingenious improvements in the arc lamps and the steel ceiling, or rather by a combination of these improvements. The scientifically designed steel ceilings of latest construction have a circular light-balancing cove, in which the improved lamp is practically hidden from view. This cove, which forms an ornamental part of the ceiling itself, has other advantages besides the lamp concealment. It results in a better and more evenly distributed light and does away with the annoying shadows thrown by the old form of arc lamp. The excessive brilliancy of the illumination below the lamps and in the immediate vicinity is toned down to normal requirements, while the fainter light between the lamps is increased to a perceptible degree. This improved lighting system is admirably adapted for use by the jeweler.



The New Simmons Chain Posterette

IT is by far the handsomest window poster we've ever put out and tells most attractively a pretty story sure to appeal potently to all women and to all men who are thinking of gifts for women.

In this miniature reproduction in cold black and white, there's no hint of the rich, harmonious warmth of tint shown in the posterette itself—which is 11½ x 15 inches and mounted on a handsome tinted and pebbled mat.

It's an ideal attraction for a jeweler's window—striking, yet wholly refined and artistic. If shown in your window, unquestionably it would draw all eyes—not only to itself, but to whatever goods were displayed with it.

IT WILL BE SENT FREE—POSTAGE PAID—UPON YOUR REQUEST, so secure it without delay; better write at once.

R. F. Simmons Company

Main Office and Works, ATTLEBORO, MASS.

Salesrooms, 9-13 Maiden Lane, New York, and 103 State St., Chicago

Fighting a Sudden Blaze in the Store

IN a recent issue we reported the almost total destruction of a jewelry store by a fire which started in broad daylight and in a few moments gained such headway that the single clerk in the store at the time was unable to extinguish or control it. This accidental conflagration affords food for thought, now that we are on the threshold of the holiday season, when the stock in the store is exceptionally valuable, when the long, dark evenings call for abundant illumination and when the inflammable materials usually used in window displays are necessarily in close proximity to many lights. Merchants, as a rule, are all too negligent in this matter. Some of those whose property is insured seem to think that the insurance policy in the safe makes the store fire-proof, and some will tell you that there is not so much reason for care as they have sufficient insurance to cover any loss that may occur. But it must be kept in mind that the loss in stock or in the structure is not the only loss to be considered. It is a recognized and very serious fact that a loss of trade invariably follows the destruction of a store building and its contents. This is mainly due, no doubt, to the fact that customers find another store in the interval of reconstruction.

WITH these thoughts in mind, you should ask yourself what would happen if a fire broke out in your store, or in the rubbish of the cellar or in any other part of the building. We have still with us the match-chewing mouse, the faulty insulation, the explosive benzine and gasoline and numerous other unlikely, but always possible, sources of a blaze. We cannot eliminate the sources of fire, but we can do much to reduce the possibilities of serious damage to a minimum.

In every store or workshop some form of fire extinguisher should always be at hand, and a pail of water is probably the cheapest and most available of all. If a faulty insulation should start a blaze in your Christmas window, a pail of water at the moment will be a much more effective property-saver than the entire fire-brigade ten minutes later. Tank extinguishers are another serviceable invention in case of a sudden blaze, but, as in the case of the pail of water, they are rarely in their proper place when wanted.

A more recent device which should be conveniently placed in the store and window is the dry compound extinguisher. We have, from time to time, stated in our columns the formula for this powder, but it can be more cheaply purchased than made. These extinguishers have one good advantage in that they occupy little space, being about two inches in diameter and twenty-two in length.

Besides their small dimensions they have the following qualifications to commend them :

They are effective. The powder in one tube will do the work of several buckets of water, and in much less time.

They can be operated by any one. A precocious child could easily handle one of the tubes, if necessary, and with telling effect.

They are always available and for instant use. It is simply a case of "yank and throw," as a tube weighs only three pounds.

The powder is absolutely harmless—except to the fire. It will not injure the finest fabrics, but will brush off as easily as ordinary dirt.

The expense is inconsiderable—one-fifth that of the usual tank extinguishers.

The tubes are never out of order. The contents can never freeze, cannot explode and will not deteriorate.

In the fight with fire, science and invention are accomplishing much, and it behooves the merchant to keep posted on the many new contrivances.

A Cash Discount Calculation

A MERCHANT, who was evidently awakening to one of the fundamental factors in successful merchandising, recently propounded the following very practical question to our esteemed contemporary, *The Dry Goods Economist* :

What advantage, if any, has a merchant of limited means and of good credit, if he borrows \$1000 from bank and pays interest at the rate of six per cent. per annum and uses said money to pay his bills, and also for anticipation at the rate of six per cent. per annum, or fifty cents on each hundred dollars?

We have frequently answered this question in its various forms, but the subject is one of such importance at this purchasing season that we can well afford to give space to our contemporary's very complete reply :

ACCORDING to circumstances, there may be an immense difference between interest at six per cent. per annum and six per cent. cash discount.

If a merchant borrows \$1000 at six per cent. per annum, he can have the use of the sum for a whole year for \$60, but by discounting one bill amounting to \$1000 at six per cent. he could get \$60 in one day. And if the terms of the bill were : "July 1st, six per cent., otherwise strictly net July 2d." the \$60 discount would be the equivalent of interest at the rate of over two thousand per cent. per annum.

A merchant certainly will gain in various ways by discounting his bills, even if money does cost him six per cent. per annum. There is little doubt that merchants who discount, especially those who "anticipate," obtain advantages in regard to prices, etc., which are not enjoyed by merchants who do not pursue this policy.

For example, wholesalers at times give to favored merchants (those who discount, etc.) exceptional "net" prices, perhaps far

below what the usual discount prices might be, knowing that such merchants will pay the net bills when due ; whereas they hesitate to give such "net" prices to merchants who are *not* in the habit of discounting, lest such merchants, though taking advantage of the low net prices (thinking that, since it is "net" there would *apparently* be no gain thereby), may not pay the net bill when due.

BUT laying aside all such considerations, there is no doubt that a merchant would gain by borrowing money from a bank at six per cent.

As an everyday example, let us take a bill subject to the low discount of two per cent. Say it is dated July 1st. The terms read, two per cent. ten days ; sixty days net—which means that if the bill is paid on or before July 11th, two per cent. may be deducted—but that if the buyer waits until, say, August 30th, he must pay the full amount of the bill without discount.

Therefore, if he pays the bill on or before July 11th—*i. e.*, fifty days before maturity—and deducts two per cent., he earns an amount that, in this case, is equivalent to interest at the rate of more than fourteen per cent. per annum.

Let us take another bill, dated July 1st, with terms as follows : Six per cent. ten days ; sixty days extra ; four months net. This bill is due net about six months after its date, say December 30th ; but in this case the merchant has three options.

Firstly, he may pay the bill on or before July 11th and deduct at least seven per cent., being six per cent. for ten days and — per cent. extra for anticipation. In this case also this is equivalent to interest at the rate of more than fourteen per cent. per annum.

SECONDLY, he may pay the bill seventy days after its date, say September 9th, and deduct only six per cent. For paying the bill almost four months before its maturity, he gets six per cent., which, in this case, is equivalent to interest at the rate of about eighteen per cent. per annum.

Thirdly, he can wait till maturity and not deduct any discount.

From the above example it seems plain that the higher the discount—and in many cases bills are subject to more than six per cent.—the greater will be the advantage of the merchant if he borrows, as mentioned, and discounts.

As to anticipation, if the allowance for the period covered by the dating is at the rate of only six per cent. per annum, then the merchant will only come out even, except in so far as the reputation for anticipating his bills gives him an exceptional advantage.

Waltham Watches

The issue is announced of the following
16 size movements

16 Size, 3/4 Plate, S. W. Movements
Pendant Setting



Hunting or Open-Face

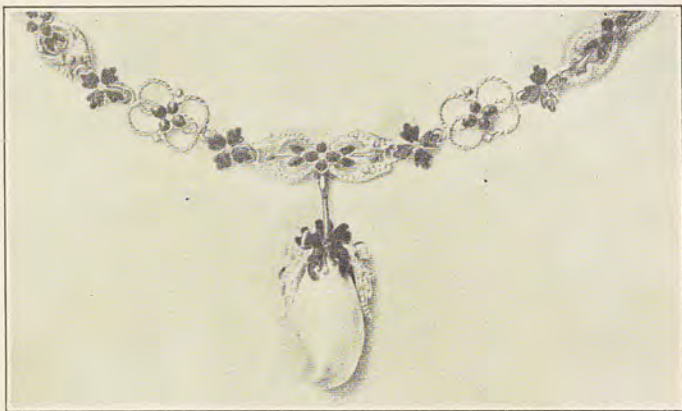
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American Waltham Watch Co.

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Decorative Art in France



M. Rémagé

Necklace and Pendant

Paris Salon of 1905 by Irene Sargent

Throughout the industrial nations the decorative arts hold to-day a position of importance which they have never before attained. In these arts, it is too well known to need comment, France was the pioneer. From the fifteenth century onward, beginning with Louis XI. of sinister memory, sovereigns, prime ministers and, upon occasion, even royal favorites, set their energies to found the enterprises which have contributed so largely to the prolonged artistic and economic predominance of their country. But fate, fortune, evolution—perhaps it were better to say, ultimate justice—does not permit any one people to absorb, to the detriment of all others, that degree of creative energy which is necessary to permanent supremacy. Therefore, in accordance with this fixed law, we find that excellence in the decorative arts is at present divided and diffused among a variety of nations and races. Ours is an age of decentralization, and the tendency to diffusion, favored by the rapidly multiplying means of communication and transport, will strengthen with advancing time.

France, to argue even from the opinion of her most loyal and enlightened children and admirers, will never again regain her old-time dictatorship in the arts, major or minor. But we may compare her present, and her probable future position with reference to competing nations, to the place occupied in American educational interests by Harvard University, which was long recognized as the paramount intellectual force of the new world,

raising up a constant succession of great scholars to cope with the constantly changing problems of science and of society. This position, altered through the gradual development of the entire country and the consequent multiplication of centers of culture, still remains unique; for the past cannot be effaced, and individuality is persistent. Thus it is with France, and in all that pertains to art her contemporaries must yet learn of her. Her technical skill is unparalleled, her power of selection unique, and such is the delicacy of her vision that it recalls the refinement of the ancient Greek.

For these reasons the American artist, especially the designer or the art-artisan, cannot turn his thoughts in a more profitable direction than to study the work, the methods, and the habits of his French similar, as well as the conditions by which the latter is surrounded.

Superiority of French Culture

Gifted highly by Nature, the Frenchman is also greatly aided by inherited taste, as by a capital upon which to base his experiments; furthermore, he lives in an atmosphere from which he absorbs patience

and constancy in labor. Finally, the economic situation prevailing in his older country is well worthy of study, as presenting pitfalls to be avoided and advantages to be sought in the new world.

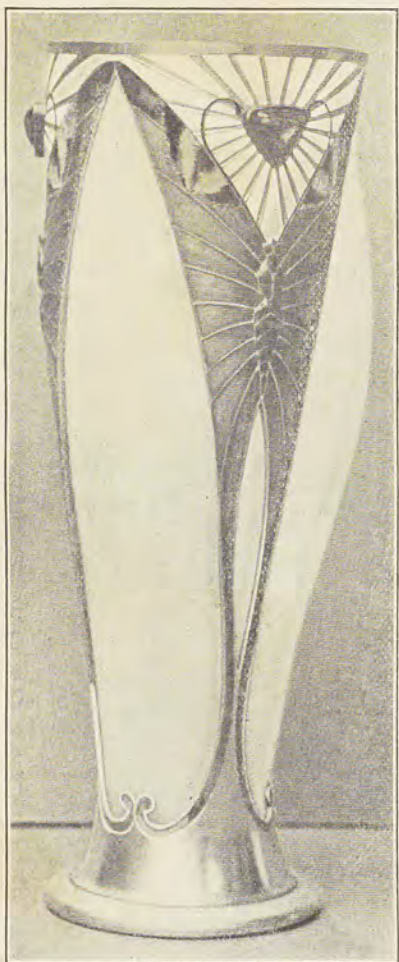
The opportunity for such important and interesting research is best offered in the yearly exhibitions, or *salons*, which are, as it were, landmarks of art-evolution: showing, as they must, every indication of progress, of arrested development, or of decline. But to understand and to interpret such indications there are required a trained mind and an experienced eye, such as are possessed only by those who are at once critics and artists.

This happy combination of judge and technician exists in the French writer, M. Verneuil, well known in the United States, who, in the latest issues of the Parisian review, *Art et Décoration*, estimates, from a careful, impartial survey of the exhibits made in the *salons* of 1905, the actual state of the decorative arts in France.

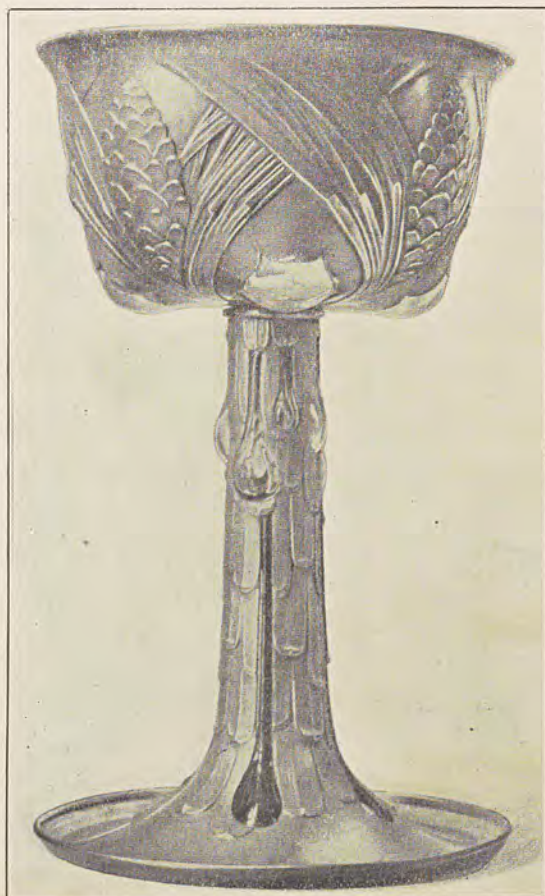
Rapprochement of Art and Industry

M. Verneuil's historical notes upon the modern movement, his schemes for the co-operation of the designer with the manufacturer, his investigation of industrial methods, his denunciation of false economy on the part of the manufacturer, and of false pride on the part of the designer are too valuable to be confined to expression in a single language. In short, his admirable common sense demands that his summary of the situation in France be given to the English-speaking public. And it would seem that no more fitting place than these pages could be chosen to contain this summary; since, owing to the influence of the school of Lalique, the craft of the goldsmith has risen to the first rank among the decorative arts, or, to speak more truly, it has taken its place beside the exclusive fine arts of painting and sculpture.

The summary of M. Verneuil, broad in its scope and references, might be criticized by one devoted to some special craft, as dealing too largely with generalities to be of service to him; but the error of such a critic is apparent in the truth of the axiom that what is true of a class, is also true of any individual belonging to that class. To be

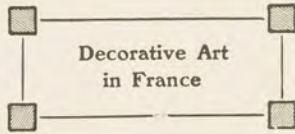


M. Feuillâtre Vase: enamel and crystal



M. Bonvallet

Silver Cup



design may be carried, with small loss in its application, from the textile art to that of the goldsmith. And so we might continue indefinitely to



Paper Knife: Horn and metal, simulating a locust. M. René Lalique

more explicit, we may say that M. Verneuil's illustration of the cost of commercializing a new design may be carried, with small loss in its application, from the textile art to that of the goldsmith. And so we might continue indefinitely to comment upon the argument of the able French writer; but it is better that the reader, until now furnished with bare suggestions, be placed in direct communication with M. Verneuil, who writes as follows:

"Each year, the *Salons* afford us the pretext to discuss the state of decorative art, and to compute artistic production. For this reason, on the present occasion, instead of occupying ourselves at length with the objects exhibited, it may be interesting to cast a more searching glance than is usual upon the progress of the modern decorative movement; furthermore, because, perhaps, we are approaching a turning of the way which may become dangerous, both for our national decorative art and for our artists themselves.

"The regenerative impulse in the decorative arts is yet new in France; counting among us but a few years of life. This impulse had previously awakened among the English and the Belgians. In England, Morris, Walter Crane, Burne-Jones, and others had imparted to this new art characteristics which charmed the public and led it captive. The Belgians succeeded, although less brilliantly, through the pursuit of other methods.

"In France, the movement at first timid, rapidly grew emphatic; artists, fully understanding the importance existing in this development, for themselves as well as for art, devoted themselves to the previously despised crafts. At the instance of Cazin, the noted painter, a section was granted to art industries in the expositions of the National Society of Fine Arts; the advancing public interest

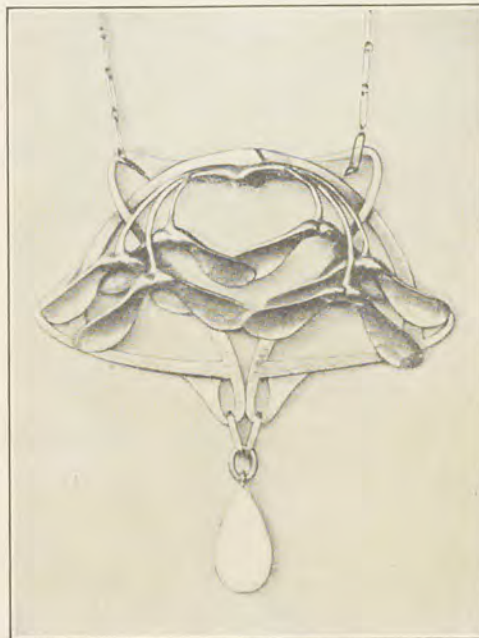
in the section keeping pace with the rapidly increasing number of exhibits. The Society of French Artists was forced to follow the example thus set, and a movement of considerable power was instituted; one, it is necessary to remember, which was created solely by artists. Such action was certainly logical, since the artist is above all else a creator. As a result of this movement, ceramists were developed who still to-day charm us; examples of cabinet-making were produced, which gradually gave us simple, flexible forms released from the current commonplace; goldsmithing, owing to Lalique, revived, and resumed its old importance among the arts; objects in pewter and leather, marquetry, enamels, and embroideries added further testimony to the new spirit of the times by revealing characteristics of freshness and grace.

new spirit of the times by revealing characteristics of freshness and grace.

"As was inevitable, and especially at the beginning of the movement, imperfections were observable in the things produced. Extremists threw themselves forward, who, wishing to annihilate everything old and to begin anew, compromised in the public mind

a movement which although incipient, was yet already instinct with life and strength. But that was only an incident. The greatest wrong to the natural, logical developments of the decorative arts has been effected through the seizure, the monopolization of 'the modern style' by low-class producers. What enormities have been perpetrated under cover of this title! Pieces of carved cabinet-making, fantastic, outrageous, the more closely representing 'the modern style' in that they were unpractical, repellent, and annoying! Paper wall-hangings insipid in coloring, tracked with crawling worm-like designs! Work in other mediums distasteful to an equal degree!

"But what effort did the artists make to correct this unfortunate deviation of the movement? Did they organize among themselves societies for production? Or, by allying themselves with manufacturers, did they seek to ensure a logical production of their work, based upon sound industrial principles? No. Their action was quite to the contrary. Remaining



M. Brandt

Pendant



M. Brandt

Pendant



Paper knife: Horn carved with wheat motif. M. René Lalique

Keeping Aloof from the Manufacturer

aloof and segregated, they appeared to regard the questions which we have indicated as beneath the proper level of their consideration. Thus misconceiving their own dignity, and failing to appreciate things of paramount importance lying outside their own sphere of thought and action, the authors of the movement whose birth was attended with such brilliant hopes, see it to-day writhing in death-agony.

"To create is good, without doubt. But to create and to produce in the industrial sense—that is, to multiply one's creations—is better. The artist congeals, so to speak, his powers by devoting himself to the slow elaboration of single pieces, the price of which is necessarily very high—although the remuneration of the artist is nominal—and for which purchasers are rarely found. For this latter fact the artists hold the public responsible, and unquestionably certain faults exist upon this side of the question. But can we reproach the consumer for refusing to purchase articles—for instance, chairs—of the artist-artisan, when he may easily find excellent, although less unusual and recent, designs, at a much lower price, by making selections from commercially produced objects? We must admit that he must follow the latter course, and, consequently that unless the modern movement shall consent to become *industrialized*, it will die in infancy, or, it were better to say, it is still-born.

Wherein the Manufacturers Erred

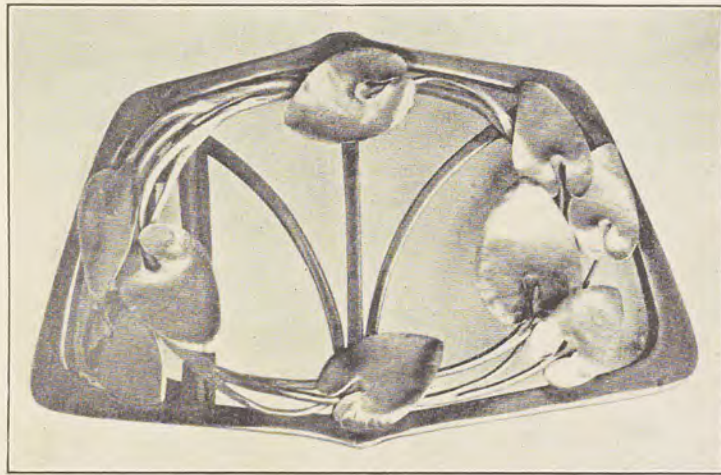
"But we must hasten to add that the artists are not wholly responsible for this threatened danger. For, while they may be criticized for their lack of practical sense, the manufacturers are also gravely in fault, even those who produce honest and legitimate wares; all others being excluded from the present considerations.

"The faults of the latter class may be summarized briefly. First, they long ignored, upon principle, the modern movement. Their methods of production were established upon old designs which had been tested and approved by the public. They therefore saw no reason why they should undertake new things, and follow untried courses. They resisted as best they could, and their opposition was vigorous.

"It would be logical and just that, in causing their new models to be accepted and adopted by the public, the manufacturers should pledge themselves to produce in all possible perfection. But they are far from acceding to such conditions of justice.

"Without taking into consideration the long, laborious study demanded by every work which rises above the current commonplace, manufacturers, as a rule, under the pretext of economy, purchase their models from low-priced designers. Their action in this respect will be best understood by means of information gained from members of their own body.

"If we ask, for instance, the cost of putting upon the market a new design in textiles, we shall receive for answer that heavy expenditure is required to cover



M. Brandt

Belt slide



the price of 'pointing,' (enlarging the original design upon paper 'pointed,' or divided into minute spaces, each representing a single knot of the fabric), and of the cartoons used at the looms. They thus estimate the price paid by them for the first metre of cloth produced, at several thousand francs. They plead, and with truth, that they are forced to practice economy. But they do not exercise judgment in retrenching. Spending freely for the 'pointing,' and the cartoons, for everything which makes for the realization of the idea into material form, they economize in the matter of the design:

the very thing upon which depends the success, or the failure of the new model. To summarize their proceedings: they consent to risk a large sum of money, and, at the beginning of their enterprise, under the pretext of economy, they annihilate all chances of success.

False Economy

"The question now arises as to the extent of the saving thus made. This, upon examination, is found to be quite insignificant. They might purchase the design of a good artist for two, or three hundred francs; while they choose, instead, to pay eighty, or one hundred francs for a work of no merit. The resulting saving thus reaches, at the most, two hundred francs in a total expenditure of five, six, or ten thousand francs, made in placing upon the market a new design in textiles. From these investigations it is plain that such small economies are illogically and ignorantly devised.

"Having proceeded in the manner just described, the manufacturers declare that modern art lies in a hopeless condition. But they are self-deceived; for the new movement will take root and propagate in France. It is impossible for a people or a country willingly to sterilize itself: the general evolution must be followed, and the universal impulse obeyed. England, Holland, Belgium, Germany, Austria, Hungary and Italy are advancing, and France must take the direction indicated by them.

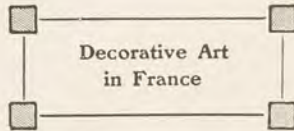
Art Industries in Paris

"But instead of a new French art rising from our soil and developing as we might expect it to do, it is exotic art that will adapt itself to our conditions. Already in Paris the representatives of foreign art-industries multiply and flourish. In cabinet-making we have the houses of Waring and Gillow, and Maple, whose heads are Englishmen; Serrurier, who is Belgian; and Amstelhock, who is a Hollander. To represent the ceramic art, Copenhagen and Rozenburg have established important *dépôts* of their wares; further, there are the beautiful Liberty fabrics, the practical *Kaiserzinn*, and many other industrial products distinguished for their aesthetic value. From the fact of the existence of these establishments there



M. Gaillard

Bronze vases



Decorative Art
in France

follows a result which appears illogical and absurd: namely, that when Parisians wish to purchase tasteful articles, they must select English paper hangings and textile fabrics, German pewter, Danish pottery, and so acknowledge the excellence of foreign products in the very branches of industry which were so long controlled by France throughout the markets of the world.

"If now we investigate the causes of this unhappy result, we shall find no lack of talent among ourselves, but we must acknowledge the absence of the practical sense. The moment has now arrived when the decorative artist must understand that his work will remain sterile, if he does not produce it commercially: that is, in sufficient quantity, and in such a way as to make it purchasable at reasonable prices. And the manufacturer, on his part, must understand that his efforts will be fruitless, if he refuses to introduce into his products that artistic quality which is indispensable as the sign of correspondence with the spirit of the times.

"In a word, the modern movement so promising in its infancy, will speedily perish, if artists and manufacturers do not unite; each side bringing into association its peculiar gifts and qualities: on one hand, creative talent; on the other abundant material resources and the facilities for marketing the things produced. In such association both contracting parties will find advantage, but the time for forming this union must not be delayed.

Individuality of
the Artist

"Against such a consummation, as in every other similar case, objections may be urged. The question of price is not the only one which often divides artists and manufacturers. Beyond this, upon the artists' side, there is also a legitimate question of independence and self-respect. The manufacturer follows the invariable policy of absorbing and suppressing the personality of the artist. The object, or article which we purchase is either anonymous, or else—and very frequently—it bears the name of the manufacturer as that of its creator.

"This fact witnesses injustice. The manufacturer is in reality a publisher, if we may extend the meaning of that term. If, in addition to his primary function, he himself creates designs and models, he can legitimately sign them, but in all other cases his signature is false. He should leave to his fellow-laborers not only the honor, but also the responsibility of their works. If we ask a manufacturer, of whom we wish to purchase some product, the name of the designer of the desired object, he invariably replies: 'It is our own design.' But this is not true. It was not created by the firm. It owes its existence to X, or to Y, from whom the firm bought it, and to whom the artistic profit, at least, should be left, in default of any other. The manufacturer cannot derive any supplementary profit from suppressing the name of the artist; while, on the other hand, he sometimes defeats his own purposes of sale, since the public would be often influenced by the name of the designer, if it were judiciously presented. Thus, for instance, in England, the purchaser of wall-hangings is attracted by the name of Walter Crane, or of Lewis Day, which heightens the value of the design to which either of these signatures is attached.

"Again, if a book-publisher should declare himself the author of all the works which he gives to the public, he would commit no more flagrant injustice than is daily practiced by firms marketing the product of the decorative arts.

"The Biblical command regarding the rendering of Cæsar's dues has to-day lost nothing of its strength, and its principle should be enforced in



M. René Lalique
Pendant: crystal and small diamonds

the case of the artist-designer. Justice and recognition, granted him by the manufacturer, can but encourage him to do his best, and to send out from his workshop nothing except such works as he judges to be complete and perfect.

"As a last word, we insist that our artists must join to their functions as creators the practical qualities of merchants; that, in order to be really successful, they must create, not only to satisfy their own desires and for their own pleasure, but also with the view of selling their products. The practical sense must be cultivated among our decorative artists; for France should satisfy her own aesthetic needs, and we debase her singularly, both in her own self-respect and in the eyes of foreigners, if we permit her to acknowledge her inability to market her own works, as do the nations by which she is surrounded. The moment when she shall evidence the possession of the commercial sense which we have just discussed, will see the beginning among us of a serious and important movement in the decorative arts."

Having thus finished his argument, M. Verneuil proceeds to comment specifically upon certain of the works exhibited in each of the *Salons* of the current year. But as, in most instances, his notes merely record the progress, or the retrogression of some well-known artist, as judged by his exhibits of previous years, these comments have small value and interest for a public other than that of Paris. For this reason, new comments have been attached in this place to a portion of the illustrations which originally accompanied M. Verneuil's article, and these, properly, have been restricted to such as reproduce specimens of the art of the jeweler and of the metalsmith; while others, equally interesting in themselves, have been rejected as irrelevant.

Pre-eminence
of Lalique

In making any reference to modern goldsmithing, we are naturally carried in thought toward the dominant personality of M. Lalique, whose works, as they successively

appear, never fail to prove that his genius is subject to a constant process of renewal, like the productive powers of Nature herself. With the memories of his flower, insect, and animal designs strong in our minds, we approach him to find that he has developed new qualities of the classicist. His most recent tendencies are shown especially in the beautiful corsage piece (on page 1641); composed of crystal and diamonds. Upon studying the design, we observe that it is an old *motif* treated with a new force to the degree that it becomes unique and original. We observe later that, although obviously a new departure, it is closely allied in outline with previous examples of the same artist: notably with his insect-forms reaching out



M. Bouvet: Pendant: mistletoe motif, in pearls, opal, and enamel

long *antennæ*. Yet this resemblance does not detract from either the originality, or the excellence of the work. Indeed, it is doubtful whether what may be called the "vase and growing plant *motif*" has ever been more successfully treated, even by the artist who is said to have transformed the acanthus, overflowing its containing basket, into the ornate Corinthian capital. The vase striking the classic note is a swelling *amphora*, one of the most pleasing of antique forms; equally by its shape and by its associations affording a natural surface for the display of the exquisitely engraved Bacchic figures. Further, the vase and the plant admirably supplement each other, from the point of material, as well as from that of composition: the clear, large crystal strongly accenting the center of the design; while the small

(Continued on page 1641)

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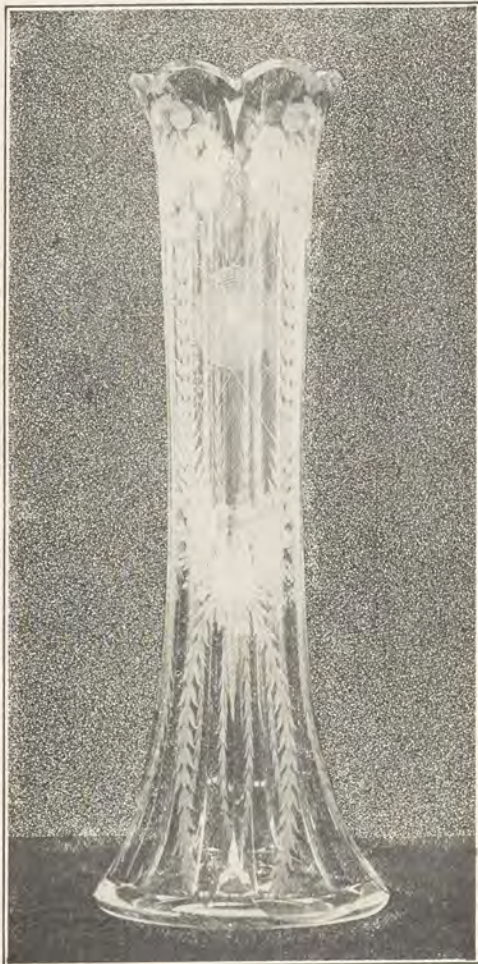
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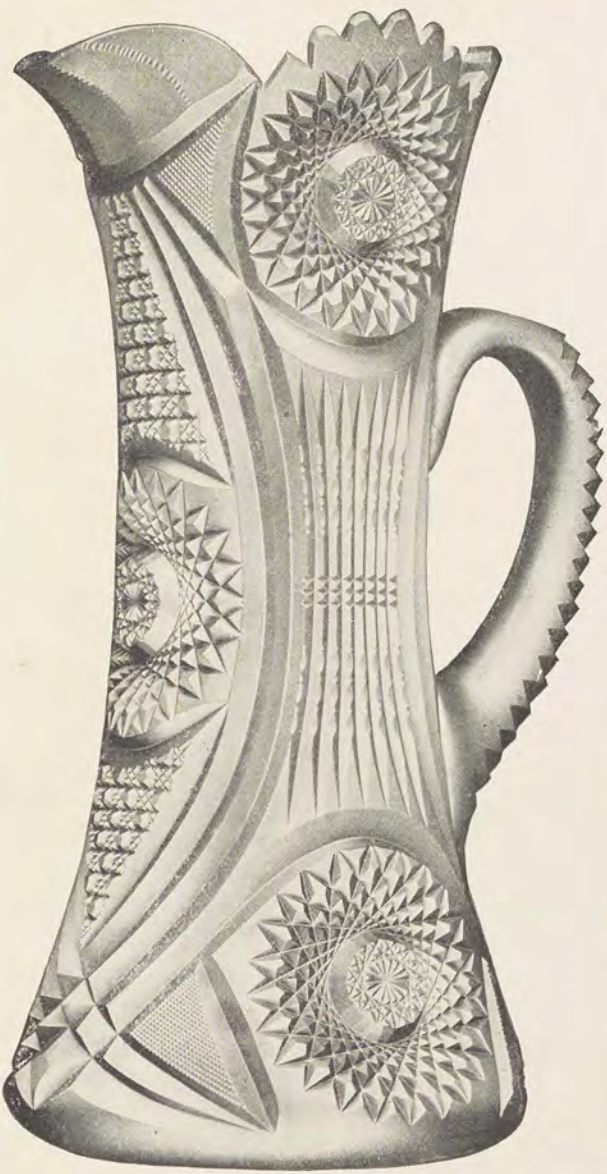
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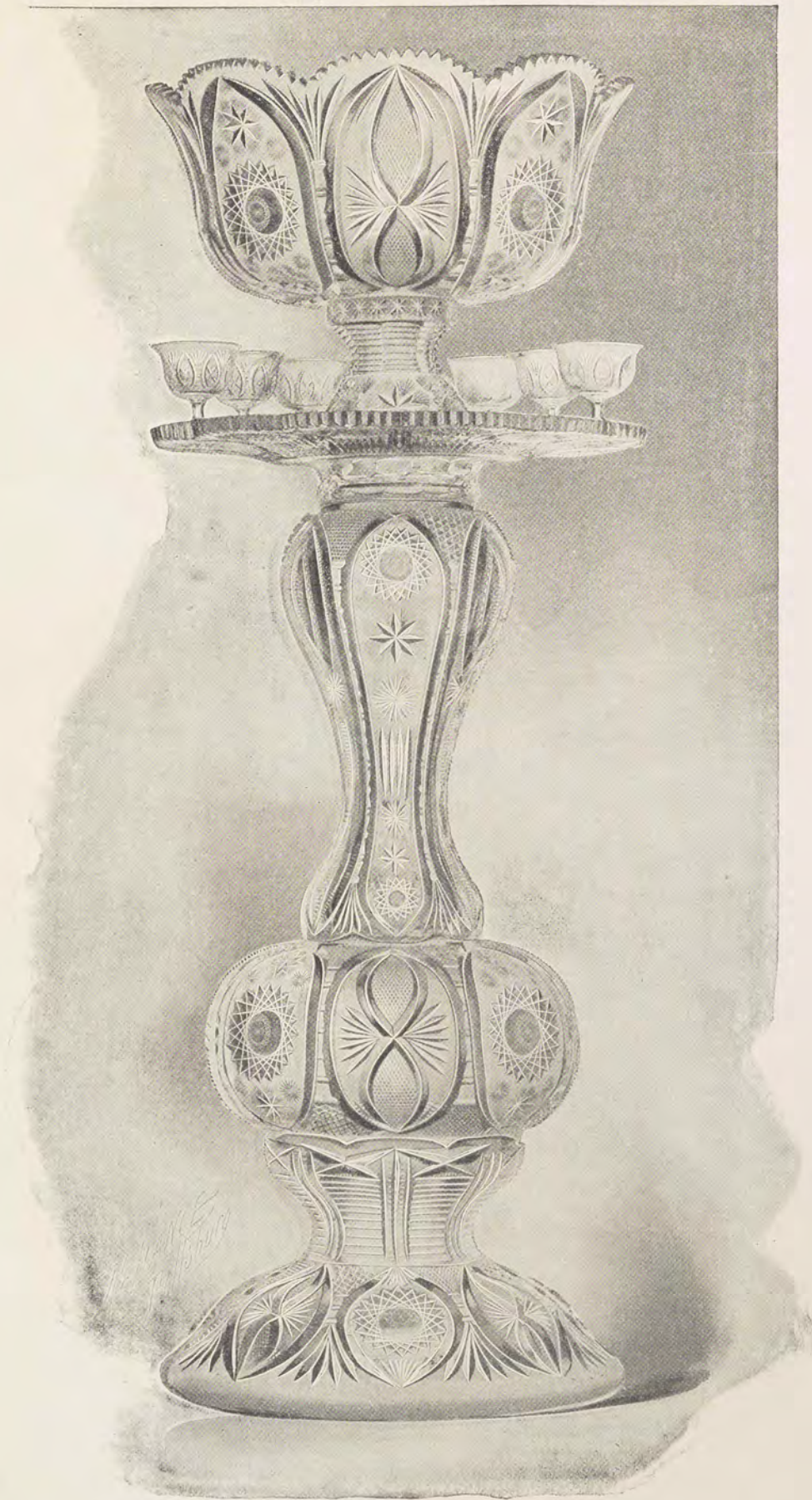
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Deep
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Pure
and
Brilliant
Metal

PORTLAND PUNCH SET (5 ft. high). Price, \$5000. At Lewis and Clark Exposition

Made by

H. C. FRY GLASS CO., Rochester, Pa.

IF IT'S NEW, WE HAVE IT

Imprisoned rainbows in a crystal sea,
Naught can their bonds e'er sever.
A source of joy 'twill always be,
A thing of *beauty* ever.

WRITE FOR OUR PROPOSITION



ONE OF OUR 557 VARIETIES

LOUIS HINSBERGER
CUT GLASS CO.

300 OAKLAND STREET

BROOKLYN, N. Y.

HARRY T. BRODEN, REP.

STOUFFER'S HAND PAINTED CHINA



A Word to the Wise is Sufficient

We **GUARANTEE** our goods superior to all others.

Decorations are new, original and exclusive, having been designed especially for fine jewelry trade.

Unfortunately our salesmen were unable, this season, to visit all the smaller cities. To towns not visited we will continue shipping our popular \$50 assortment which has created so much interest. Be the first to order and secure the exclusive sale in your town of the finest line of hand-painted china on the market. Contains only the **BEST SELLERS**. Twenty or more beautiful decorations in fruit and flowers. Can ship immediately upon receipt of order.

You will have sufficient time to test the selling qualities of our goods and order again for your holiday trade.

Our record is unprecedented.

Not a single complaint from a customer the entire year.

The **J.H. STUFFER CO.**
INCORPORATED 1902
3000 LAKE PARK AVENUE
CHICAGO



"October's child is born for woe,
And life's vicissitudes shall know;
But lay an opal on her breast,
And hope shall lull those woes to rest."

AND many a girl has felt herself lucky when receiving one of the handsome opal brooches or rings we sell. Luck is a matter of opinion. Many of our customers say "We have great luck with your goods," but for ourselves we prefer to think the success was due to the careful selections of patterns, the style, the finish, workmanship, and the price, all of which help to make our lines "Good Sellers."

If you come to New York let us show you—or we send selection packages on request.

Henry Freund & Bro.

Diamonds, Watches and
Jewelry

9 Maiden Lane, New York

Elk goods a specialty



WE have had a good many customers call on us of late, and they all said with one accord, "New York is the Place." So we think. It is the market place of the *Western Hemisphere*, and we are fully alive to everything that goes on in the "Jewelry World" and are therefore in a position to supply your wants efficiently and rapidly. "Special Orders" are one of our specialties.

There is nothing in the line of Diamonds, Watches or Gold Jewelry which we do not carry or cannot obtain. We have many customers to whom the thought comes naturally "Anything Special, write to Freund's." We would like to add your name to the number. Try us once and be convinced.

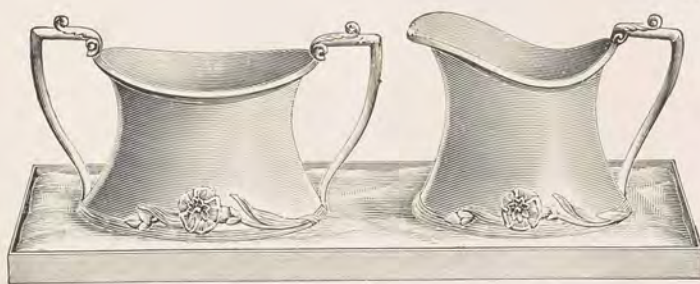
Henry Freund & Bro.

"Sellers of Sellers"

9 Maiden Lane, New York

Elk goods a specialty

1640e



No. 8-97. Sugar and Cream. \$5.40 List
French Gray

This class of goods is selling splendidly just now.

Our variety of designs is extensive. Our French Gray finish is the *peer* of *any*.

Get our Catalogue 7 B.

The Queen City Silver Co.

Cincinnati, Ohio

Makers of Fine Plated

HOLLOWWARE



No. 15-36. Baking Dish. \$10.00 List
Burnished or French Gray

COMMUNITY SILVER

☞ Believing that every dollar spent on magazine advertising means larger sales for the dealer, we are this year getting out the most striking series of silverware advertisements which has ever appeared.

☞ The list of magazines in which we advertise is one of the strongest in the world. Its enormous aggregate circulation brings "Community Silver" advertisements before nearly ten million readers.

☞ The extraordinary sale of "Community Silver" following our fall advertisements last year—in many cases lasting far beyond the holidays—is practical evidence of the tremendous selling power of such advertising.

☞ By ordering "Community Silver" now you can secure the full benefit of all our fall advertisements, and thus increase the sales of your store in a profit-making line.

☞ Remember that your profit on "Community Silver" is unusually large, and stock now. Inquire of your jobber or write us.

ONEIDA COMMUNITY, LTD.
ONEIDA, N.Y.

Founded in 1848

New York Salesroom: 395 Broadway

COMMUNITY SILVER

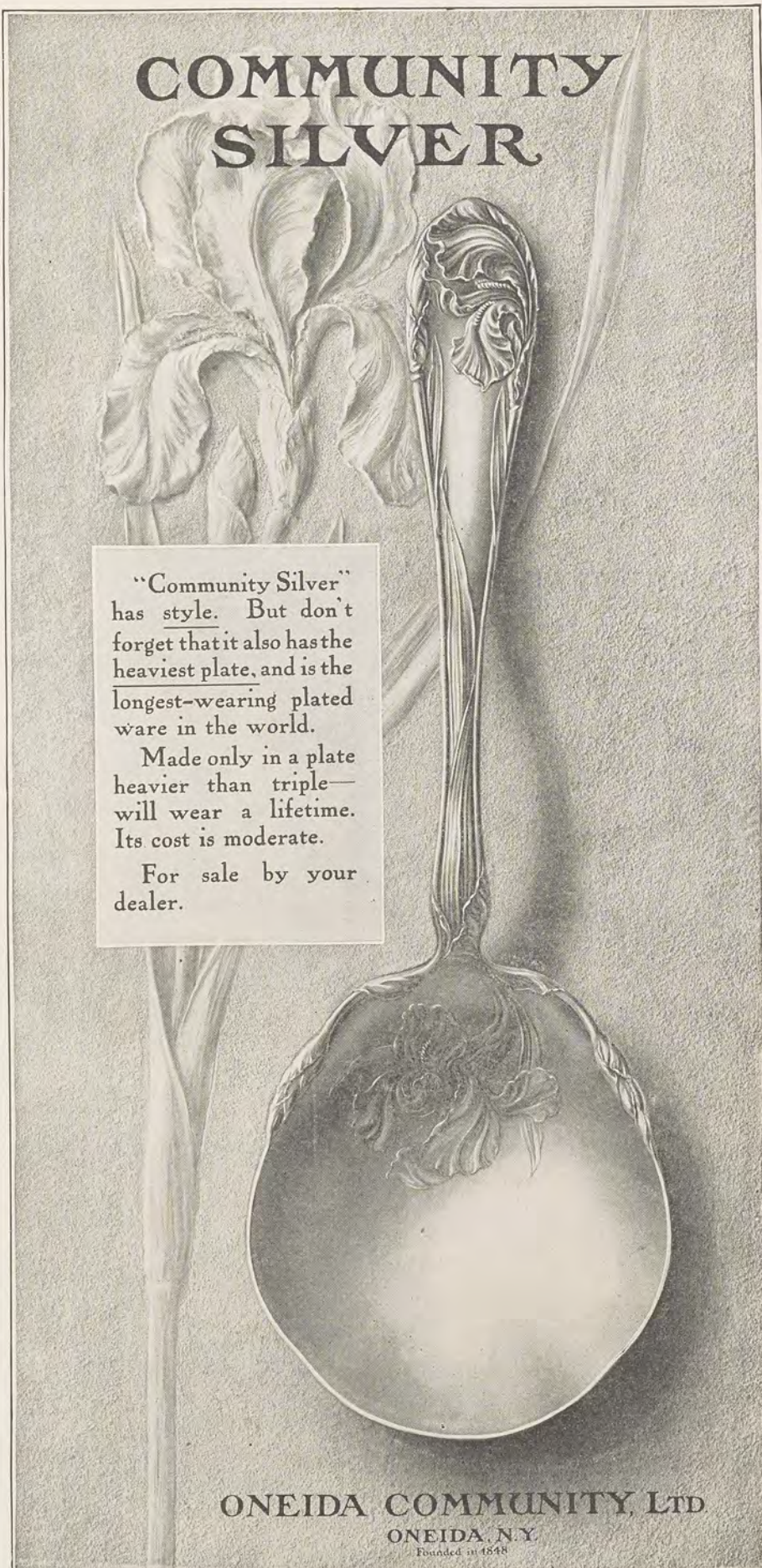
☞ This beautiful two-column "Community Silver" advertisement will appear in the November issue of the

Ladies'
Home Journal
Woman's
Home Companion
Minneapolis
Housekeeper
Ladies' World
Delineator
Good
Housekeeping
Harper's
Century
McClure's

and other leading magazines.

☞ It will be followed in December by an even more effective full page in the same magazines.

ONEIDA COMMUNITY, LTD.
ONEIDA, N.Y.



**COMMUNITY
SILVER**

"Community Silver" has style. But don't forget that it also has the heaviest plate, and is the longest-wearing plated ware in the world.

Made only in a plate heavier than triple—will wear a lifetime. Its cost is moderate.

For sale by your dealer.

ONEIDA COMMUNITY, LTD.
ONEIDA, N.Y.
Founded in 1848

THE INTAGLIO

STERLING TOILET WARE

PATTERN No. 140

A new and beautiful pattern in Sterling Silver, just completed, and now ready in the full line.

Designed to meet the requirements of the best trade at a moderate price.

Already the largest-selling pattern yet produced by us.

Orders should be placed promptly to insure early delivery for the Wedding and Holiday Seasons.

Prices furnished to the Jewelry Trade upon request.

**NO GOODS SOLD TO
DEPARTMENT STORES**



MIRROR
FRONT VIEW
HALF SIZE

REED & BARTON

Silversmiths

Factories, Taunton, Mass.

Established 1824

Chicago Sales Office
103 State Street

San Francisco Sales Office
115 Kearny Street



MIRROR
BACK VIEW
HALF SIZE

TRADE MARK



STERLING

We make also many other designs in both Sterling and High-Grade Silver Plate.

Reed & Barton Productions Bear a Distinct, Artistic Fineness, and their Absolute Reliability Enables the Jeweler to Unquestionably Warrant Them

Grand Prize

St. Louis, 1904

Be sure to see the many new ideas in our fall line of cut glass before placing your orders.

Quaker City Cut Glass sells all over the world.



One of the greatest sellers ever produced. Why? Because price is right and quality first-class. Made in all sizes.

Quaker City Cut Glass Co.

Factory, 60th & Baltimore Avenue, Philadelphia

(Continued from page 1636)

diamonds, studding the eucalyptus leaves, fall away, like bouquets of sparks dying in the air. At the first glance, the casual observer might judge this jewel to be lacking in the peculiar boldness characteristic of Lalique; but if, in this case, the bare theme has been not infrequently used in various arts, the treatment is here intensely original, and the very signature of the artist stands in the masterly lines of the interlacing leaves. A final beauty is added to the ornament by the chaste whiteness of the crystal and of the diamonds, delicately appropriate to the composition based upon a Greek *motif*. Altogether, this piece is a blending of historical learning, of genius in design, of skilful handling of material, such as render it of rare distinction even among the works of the greatest goldsmith of modern times.

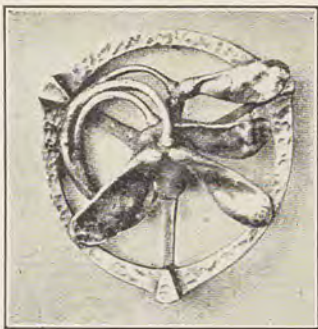
An afterthought—much less happy—of the corsage piece exists in the pendant illustrated on page 1636, showing a variation of the same design and a use of similar materials. But its presence detracts much from the first ornament, as a plain sister detracts from a beauty by revealing ugly possibilities of family features. The vase and the eucalyptus plant are used without that "art which conceals art," and after the manner of a commonplace designer, left to work out a problem with given substances and forms. The crystal is here obviously a weight to hold the pendant in its proper place; the curved leaves are nothing more than the claws of the setting; while the symmetry of the design is almost aggravating: the one point of welcome irregularity occurring in the leaf which curls through the loop, although even that is plainly a device for filling an otherwise too great void in the composition.

Two minor pieces by the same artist, shown on page 1634, are paper-knives, of which one, in translucent horn, is carved with wheat ears, the design lending itself naturally to the necessary shape of the blade, and the rich color of the material adding suggestiveness to the object; while the other, a combination of horn and metal, simulates a locust with folded wings. This little work is really a masterpiece, rendering the insect in all its sinister individuality, and revealing, as by a flash, the unique ability of the artist to interpret life, whether under animal, or plant form.

Between the virile genius of Lalique and the feminine talents of such goldsmiths as Charles Boutet de Monvel, Remané, and Bouvet, there lies a great difference, which is appreciated especially by the wearers of jewels, the majority of whom prefer the latter more conventional artists.

Of these three the noticeable qualities are delicacy of design and excellent workmanship. We observe also that all of them show the modern French tendency to reject the historical styles. In the examples of their work here illustrated, the eye receives keen pleasure from the beautiful arrangement of precious stones and pearls offering fine color and sheen; nor is it wearied by too familiar designs: the pendant of M. Bouvet being attractive by its clever rendering of a mistletoe *motif* in miniature; the necklace of M. Remané showing much historical knowledge of goldsmithing, together with ability in the use of purely conventional forms; while M. Boutet de Monvel's jeweled collar is the work of an accomplished art-student, which, as a drawing liable to be neglected because of its delicacy, reveals, upon close examination, an admirably treated, remote and obscured flower *motif*, based probably upon the Greek honeysuckle.

From these artists the transition is again abrupt to a designer like M. Brandt, specimens of whose work are shown in several pendants and buckles. Without positive knowl-

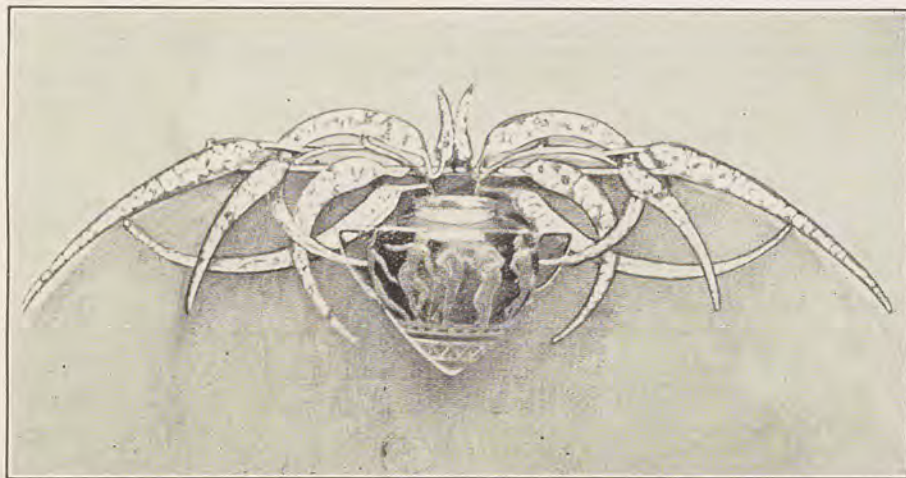


M. Brandt Belt slide

edge of his training, it is safe to place him as a student of the School of the Louvre, if we may judge from his outlining forms, his love for large voids, for certain linear combinations, and for floral treatments. In all these points he resembles the more widely known M. Marcel Bing, although he is clearly the stronger and more skilful draughtsman of the two. It would appear also that he is attracted by certain designers of the modern Munich school of ornament, among whom are Oppenheimer and Friedrich Dunn, although their pencils are much less facile and pliant than his own.

Once more turning to another class of artists, we find certain ones among them so enamored of metalsmithing and of Nature, that they have, this year, almost abandoned the making of personal ornaments, in order more fully to satisfy their desires. From this class we select three individuals for illustration.

The first, M. Feuillâtre, who will be remembered from his exhibits of jewels at Turin in 1902, and his use there shown of *art nouveau* combinations of female heads and insect-wings in translucent enamels, now produces a



M. René Lalique Corsage ornament: crystal and small diamonds



charming vase, in crystal and enamel, composed upon his favorite butterfly theme. The *motif* is admirably developed; the insect being far removed from realism, although it retains its distinguishing characteristics, according to the proper employment of natural forms in design. The chaste, tapering lines of the butterfly wings in their long extension, contrast exquisitely with the softly swelling Greek contour of the crystal jar, for which the metal serves as a frame; while the repetition of the markings of the wings in the enamel bands traversing the triangular spaces at the neck of the vase, offers a very pleasing artistic device.

The second artist, M. Gaillard, of no lower reputation than M. Feuillâtre, is represented by two bronze vases which present simpler problems of form than are usually wrought out by French designers. But the distinction given to the handles of the one, and the beautiful bulb-outline of the other prevent poverty of drawing. A further interest is lent to the objects by the fine *patina*, or surface treatment of the bronze, and, in the instance of the bottle-like vase, by the long-horned insect clinging to the metal stem, as in Nature, he might explore the length of a twig.

A Beautiful Silver Cup

The work of the third designer, M. Bonvallet, of our final group, is a silver cup of rare beauty. Raised upon a high standard, it recalls in its relative proportions of stem and bowl the chalices of the Middle Ages. But its outline is simpler than is found in the majority of those pieces of metalsmithing, and the ornament is here made an integral part of the design. Thus, the stem is built from the scales of a cone, between which the elongated drops of resin are introduced, in order to break the monotony of a simple *motif*; while the plaited foliage and the cones forming the decoration in relief of the bowl, are necessary to complete and enrich the composition. The *motif* here seen is as old as the gods of Greece, and, like them, it is gifted with perennial youth. The pine-cone, used in antiquity to give flavor to wine, became, for this reason the symbol of Bacchus. Then, its decorative qualities having been acknowledged, it persisted in art, independently of its symbolism. To-day it is greatly favored by the new French school, and its most notable recent employ-

ment occurs in the iron-work and the low relief sculptures of M. Lalique's residence on the Cours-la-Reine, Paris.



Charles Boutet de Monvel Jeweled Collar

PLAIN GOLD RINGS



A



B



C



D



E



Made by special machinery producing a seamless ring of absolutely uniform shape, and from gold, guaranteed to assay as well or better than stamped, the Wheeler rings afford the very best value for the money. In shape and finish they embody the newest ideas and the finest workmanship.

Every ring guaranteed by the registered trade-mark stamped in it

Prices and Ring Blanks on request



HAYDEN W. WHEELER & CO.
RING MAKERS
TWO MAIDEN LANE, NEW YORK

THE CORNING CUT GLASS CO.



Highest Quality
of Finish and Workmanship

Our line gives your customers satisfaction and you increase your trade by handling it. Ask for catalogue.

The Corning Cut Glass Co.
Corning, N. Y.

New York Office, 24 Murray Street

Chicago Office, Republic Bldg., Room 1216

We have no connection with Corning Glass Works and do not use their blanks



No. 133. 3-pt. Jug, "Roman"

**BEAUTIFUL and
ARTISTIC**

We do not use the figured blank. Our designs are cut on smooth or plain blanks, thereby securing a better finish than can otherwise be obtained.

Write for prices and we will surprise you.

KELLY & STEINMAN
Honesdale, Pa.



New York Letter

Diamond Imports for August

August proved an exception to the long series of record-breaking months in the volume of pearl and precious-stone imports, the figures for that month being \$2,275,873.59, or \$53,632.37 less than those for the same month of 1903, so far the highest month on record. They were greater, however, by \$254,578.17 than the total for August, 1904, an increase over that period being recorded in both cut and uncut varieties. On the other hand, the decrease from August, 1903, was confined to imports of cut stones, as there was an increase of \$71,797.04 in the uncut kind. On the whole, however, the imports for the recent month of August reached a comparatively high standard, so that the slight shrinkage from those of the same month of 1903 can in no way be regarded as indicating an appreciable falling off in general demand. The returns of Gen. G. W. Mindil, jewelry examiner at the public stores, show that for the month of August of the past four years the classified imports are as follows:

Aug.	Cut.	Uncut.	Total.
1905 . . .	\$1,815,718.61	\$460,154.98	\$2,275,873.59
1904 . . .	1,632,337.48	388,357.94	2,021,295.42
1903 . . .	1,905,995.19	377,653.02	2,283,648.21
1902 . . .	2,124,078.42	205,427.54	2,329,505.96

Hat Pins and the Tariff

The Board of General Appraisers recently rendered a decision regarding the classification under the tariff act of ornamental hat pins and millinery articles, which will be read with interest by importers. The board's finding disposes of a vast number of protests under this head, but was evoked specifically by that of Dieckerhoff, Raffloer & Co., who appealed from the assessment of the collector of customs at New York. In addition to certain ordinary glass-head hat pins, belt pins and millinery ornaments which by judicial determination are not jewelry, these protests related to the rate of duty assessable on ornamental hat pins composed entirely of base metal made to imitate gold or silver or of such metal, set with imitations of precious stones, upon which duty was assessed by the collector at the rate of 60 per cent. ad valorem under Par. 434, and which were claimed to be dutiable at 45 per cent. ad valorem under par. 112 or 193. The decision sustains the collector in some particulars and reverses him in others. It reads: "Hat pins, unlike millinery ornaments, are substantially constructed, and although serving a useful as well as a decorative purpose, they do not differ in this respect from shirt studs, shirt buttons and watch chains, which, under proper conditions, are typical articles of jewelry. Nor does the common meaning of the term 'jewelry' limit articles included thereunder to those made of precious metals. On this point, turning to accepted authorities, we find, among other definitions, the following:

"Century: 'Jewelry.—* * * * Berlin jewelry, delicate trinkets of cast-iron introduced in Prussia during the domination of Napoleon. The

manufacture of such jewelry has continued to the present time, and its products have been fashionable.

"Temple Jewelry.—Jewelry of *inexpensive material*, made at the Temple in Paris.'

"Standard: 'Jewelry.—* * * * Berlin jewelry, personal ornaments made of iron, as at Berlin.'

"Electric Jewelry.—Articles of jewelry having tiny incandescent lamps instead of gems, the lamps being lighted by small storage batteries carried on the person.'

"Electric jewelry is made of base metal set with imitations of precious stones. See G. A. 5549 (T. D. 24935)."

The board found that the requirements necessary to bring the disputed pins in question within the term "jewelry," as defined by lexicographers, viz., article of personal adornment, the handiwork of a jeweler, was complied with.

Further the board found: "1. That such of the hat, bonnet, or shawl pins as are made entirely of metal in imitation of gold or silver, having enameled or other ornamented heads, or of metal set with imitations of precious stones faceted, or set with pearl, ivory, paste or other materials, the mountings ornamented with metal bands, scroll work or other ornamental designs, are commonly known as jewelry.

"2. That the hat, shawl, belt, toilet or lace pins with black heads, faceted or otherwise, or with so-called plain wax paste or glass heads of various colors, intended to harmonize with the drapery of the apparel to which attached, or with heads imitating round and baroque pearls, all of the foregoing, if not adorned with metal work, are not commonly known as jewelry are similar to the pins held by the Circuit Court of Appeals in the case of the United States vs. Schiff (reported in T. D. 26492) to be dutiable at 45 per cent. ad valorem.

"3. That the millinery ornaments are similar to those passed upon by the Circuit Court of Appeals in the Schiff case (*supra*).

"Based upon these findings and upon the authority of the decision of the United States Circuit Court in Bader vs. United States (116 Fed. Rep., 541), wherein Judge Cox held that ornamental pins similar to those now on appeal were commonly known as jewelry, and of the decision of the Circuit Court of Appeals in the Schiff case (*supra*), we overrule the protests and affirm the collector's decision relating to the first class of goods, and sustain the importer's contention that the merchandise included in Classes 2 and 3, respectively, is dutiable at 45 per cent. ad valorem under Par. 112 or 193 of the present tariff act. To this extent the collector's decision is reversed in each case."

Mary Drennan, her nephew Michael J. Ryan, and a pawnbroker, named Morris Lippman, are involved, according to the daily press, in thefts from the pawnshop of A. J. Heany & Co., 214 Atlantic Avenue, amounting in the aggregate, it is said, to \$15,000. The female member of the trio was employed as a scrubwoman in the establishment, and she and Ryan lived at the same address in Congress Street, Brooklyn. Recently a

man called at the Heany establishment to redeem a ring worth \$350. When it was not found after some search, an investigation was started, and the firm learned that goods valued at \$15,000 were missing. The police authorities immediately went to work on the case, and learned from the Drennan woman that Ryan had told her to take advantage of being near the open safe each morning and steal one or more of the little packets that were within sight. She did this, she says, turning over the booty each night to her nephew. She says she got only about \$25 from Ryan for what she did. Ryan was traced from her home to Loch Sheldrake, a summer resort, where he was sojourning with a female friend. He is said to have told the police that he had disposed of some of the stuff that his aunt had taken for him to Morris Lippman, a pawnbroker, and the latter was also arrested. A \$1500 brooch had been sold for \$300 and the \$350 ring went for \$80. In the Butler Street police court, Brooklyn, Mrs. Drennan was held in \$3000 bail to await the action of the grand jury, and Ryan was held in the same amount. Lippman, who denied that he had any knowledge of the fact that the goods were stolen, was held in \$1500 bail.

Midnight Silver Robbery

A window of George W. Shiebler & Co.'s silverware store at 5 Maiden Lane was broken about midnight on Thursday, September 7th, and silver valued at \$450 was stolen. In this store, as in many others in the block, it is the custom to leave bulky articles, such as larger pieces of silverware, in the show windows overnight. In fact, few of the jewelers would have hesitated much to leave jewels exposed to view, for there are five night watchmen employed especially to guard property on the block between Broadway and Nassau Street, and they have the help of a policeman whose beat is from Broadway to Pearl Street. The block is only about 350 feet long. The Shiebler store adjoins that of W. R. Phelps & Co., dealers in diamonds and watches at 3 Maiden Lane. There are two large pillars in the front of the Phelps shop, and the entrance is back from the street. A window ten inches wide in the Shiebler store fronts upon the alcove. It is partly shielded from view by one of the pillars. At the bottom of this window a strip of glass eight inches wide and a foot long had been cut, evidently by a diamond. It had then been driven in, the noise being deadened by that made by workmen doing street repairing in Broadway. Using probably a hook attached to a stick, the burglar had then fished in the window and abstracted without trouble the pieces it contained. The pieces taken, it is said, consisted of cups and saucers, teapots and finger bowls. Besides these there were three pieces of a colonial service. The silverware was displayed on silk and plush mounts, which the thieves pulled toward the window. Policeman Degenhardt, who went on the beat at midnight, thinks that the robbery was committed between that time and 12.15, while he was toward the Pearl Street end of his beat. The watchmen are inclined to accept this time as correct. The burglars have not been apprehended at this writing.

Every Good Jeweler

CHART FOR THE GRADING OF DIAMONDS

- A. Blue white and perfect
- B. Blue white and very slightly imperfect, commercially perfect
- B1. Blue white and slightly imperfect
- BX. Blue white and imperfect
- C. Extra white and perfect
- D. Extra white and very slightly imperfect, commercially perfect
- E. Extra white and slightly imperfect
- EX. Extra white and imperfect
- 1. White and perfect
- 2. White and very slightly imperfect, commercially perfect
- 3. White and slightly imperfect
- 3X. White and imperfect
- 4. Commercial white and perfect
- 5. Commercial white and very slightly imperfect, commercially perfect
- 6. Commercial white and slightly imperfect
- 6X. Commercial white and imperfect
- 7. Good color and perfect
- 8. Good color and very slightly imperfect, commercially perfect
- 9. Good color and slightly imperfect
- 9X. Good color and imperfect

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will, of course, make good to a purchaser who has purchased a Diamond, which has been misrepresented, however innocent the misrepresentation. If a man has bought an imperfect stone under the impression that it is a perfect stone, no jeweler can afford to compel him to stand by his bargain. Still, it is humiliating and hurts your business if you make such mistakes.

Why not buy Diamonds of us, where their grading is guaranteed by our guarantee certificate, and where you can get a large assortment of beautiful stones bought at cash prices and sold at special concessions?

We can suit you in any size or quality. Try us with your next sale.

HENRY GINNEL & COMPANY

DIAMONDS and WATCHES

31 Maiden Lane, NEW YORK

Established 1835

HAVE YOU TAKEN OUR TIP TO BUY COPPER?



WE ILLUSTRATE A FEW PIECES OF OUR

"GREEN COPPER" (VERD ANTIQUE)

MADE IN THE "APOLLO STUDIOS," OF GREEN OPALESCENT GLASS COVERED WITH METAL IN VERD ANTIQUE FINISH

A DESIRABLE LINE FOR YOUR HOLIDAY TRADE

WRITE FOR ILLUSTRATED SHEETS OF "REAL COPPER" AND "GLASS AND METAL"

APOLLO SILVER Co.

BERNARD RICE'S SONS
PROPRIETORS

MAKERS OF

FINE SILVER-PLATED WARE
REAL COPPER AND VERD ANTIQUE

542 BROADWAY

NEW YORK

FACTORY { 4-6 MARION ST. } NEW YORK
 { 187-189 ELM ST. }

New York Letter

(Continued from page 1643)

New Store of Tiffany & Co.

Tiffany & Co. are now located in their palatial new home, at Fifth Avenue and Thirty-seventh Street. The building, as shown in our illustration, is modeled after the celebrated Palazzo Grimani, of Venice, designed by the famous architect, San Michele. Crowning Murray Hill, the shining facades of marble occupy one of the finest sites in the city. The Fifth Avenue front is 117 feet long; that on Thirty-seventh Street, 152. The building is a noble example of the second period of early Venetian architecture. The shell of the entire building is fireproof, being constructed of marble, iron and terra cotta. Although externally the building gives one the impression of but three stories, it is internally subdivided into seven stories, basement and cellar. The color scheme of the principal floor has been studied and executed by an artist who has not only produced beautifully harmonizing tones and values in all the effects, but has thoroughly understood the possibilities of the materials employed. The result has been that the interior is without question the most beautiful commercial interior in our country. The portion of the second floor facing Fifth Avenue, devoted to the exhibition of bronzes, is subdivided by columns of the Pompeian Ionic character. The president's room and the board room are both executed in mahogany. The remainder of the second floor is devoted to the counting rooms, correspondence and mail-order departments. The larger part of the third floor is given over to the pottery and glass departments. On this floor are also the registry offices and order departments. On the fourth floor are the library, heraldic, designing, engraving and photographic departments; also the watch shop. The fifth floor has the goldsmiths' shops and the diamond-cutting and polishing departments. The sixth floor contains the clock, case goods and leather workshops, store-rooms, etc. The seventh, or top floor, did not exist on the original plans. The architect, finding how much available room remained, decided to vault up under the outer iron framing, and so constructed a magnificent hall of 15,000 square feet. The safe deposit vaults and storage for valuables are in the sub-basement. One tie binds, architecturally, Tiffany & Co.'s old building to the new, for the old Herculean Atlas, supporting a clock, still stands in front of the building.

Diamond Club Annulled

Attorney-General Mayer has brought an action against the Preferred Mercantile Company, of New York, to procure a judgment vacating its charter and annulling its existence, on the ground that it has abused its powers and forfeited its charter, incidentally mulcting customers out of thousands of dollars. The press reports

of the matter state that the corporation was organized in June last. The business of the corporation consisted in issuing contracts, under the terms of which the holders thereof agreed to pay \$1 a week for 110 weeks, when the contract was deemed mature. Of this sum the corporation was to retain 20 cents as an expense fund and carry to the redemption fund 80 cents. The company agreed to redeem these matured contracts in the order of their seniority by delivering to the holder thereof a diamond of the commercial value of \$200, or, at the option of the holder, to redeem by payment of \$160. The fraudulent character of the contract is apparent from the fact that when \$110 had been paid in \$22 constituted its expense fund and \$88

common jail of Suffolk County, Massachusetts. Immediately after the dissolution of the corporation in Massachusetts, the same officers organized in this State the Preferred Mercantile Company of New York, and commenced issuing certificates underwriting or taking over all contracts they could secure issued by the Boston corporation. Upon having his attention called to this corporation, Attorney-General Mayer got into communication with the attorney-general of Massachusetts and brought proceedings for a dissolution of the corporation in this State. The papers were served on Saturday, September 2d, and Robert Ten Eyck, of New York City, was appointed receiver of the corporation in this State.



The Palatial New Store of Tiffany & Co.

was carried to the redemption fund, so that every time the company redeemed a contract paying \$160 it suffered a loss of \$72. Occasionally a contract would be redeemed, but the other holders had no means of knowing whether it was redeemed in the order of its seniority or not. The corporation was driven out of the State of Missouri in 1903. The proprietors immediately organized another corporation under the name of the Preferred Mercantile Company of Boston, with its home office in Boston. The government forbade this corporation the use of the mails, whereupon it did its business by express. The attorney-general of Massachusetts brought an action last year to annul the corporation and forfeit its franchises. This action was successful and the officers of the corporation in that State were directed to transfer all its assets to a receiver of the corporation appointed in that action. The receiver was able to secure but \$14.06. The attorney-general of Massachusetts then began proceedings to punish the officers for contempt, and the president and secretary of the corporation are now serving a year's imprisonment in the

at 48 W. Twenty-second Street, for the production of artistic jewelry to special order for the high-class trade. The members of the firm are Alfred Heineke, hitherto designer for Wm. Scheer, 453 Fifth Avenue; Charles Appeldorn, formerly with Tiffany & Co., and later with Wm. Scheer; and Hans Brassler, hitherto designer with McTeigue, Manz & Co., 31 West Thirty-first Street.

In the window of a West Side pawnshop is what appears to be a diamond ring. The pawnbroker, with a creditable amount of humor and truthfulness, has the following sign attached to it: "Almost a diamond. Price \$3.50."

Scofield & De Wyngaert, the Newark, N. J., jewelry manufacturers, have issued a catalogue and price-list, printed in green ink on enameled paper and copiously illustrated with half-tones. Save for the greeting and foreword on the first page, there is no reading matter proper. The goods are carefully listed, numbered and priced, so that the book is valuable as a reference and an aid to stock selection, especially at this time, when all manner of new goods call for special attention.

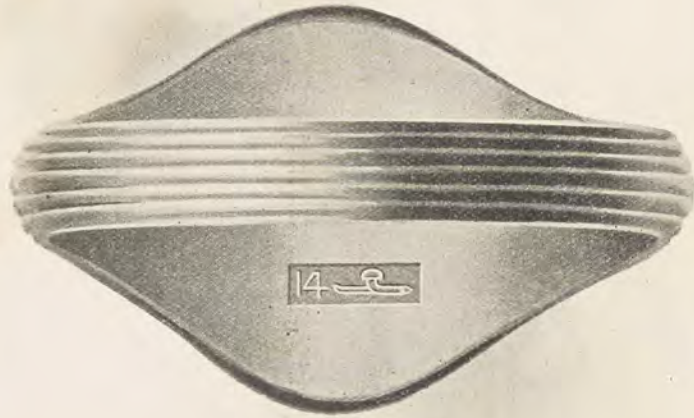
Dr. Geo. F. Kunz, gem expert of Tiffany & Co., whose mineralogical lore has won him so much recognition in the past, represented the United States, by special appointment of the State Department, at the International Congress for the study of radiology and ionization, held last month at Liege, Belgium. Almost simultaneously Dr. Kunz received from the United States Government Board, Louisiana Purchase Exposition, a handsome diploma in acknowledgment of his services and co-operation in the Interior Department's exhibit in radio-activity.

The partnership hitherto existing in the firm of Bent & Kohl, diamond cutters and polishers, 16 John Street, has been dissolved, Daniel Kohl having retired. Chas H. Bent, senior partner, will continue the business at the same address.

Louis Nordlinger, with L. & M. Kahn & Co., diamond dealers, 170 Broadway, has the sympathy of his numerous friends on the loss of his mother, who died recently. The deceased lady had been ailing for the past six months.

Heineke & Co., is the name of a new firm which has opened

(Continued on page 1647)



THE STAMPING

of a Trade-Mark in our rings is as important with us as the pattern or finish. We know there can be no question as to the quality or workmanship, therefore we confidently stamp each ring like above picture, thus guaranteeing them to the Retail Jeweler.

If you want rings for Man, Woman or Child that you can honestly recommend, buy rings with the above Trade-Mark, for back of this Trade-Mark stands over forty years of honest manufacturing.

4
over
40
years
Ring Makers

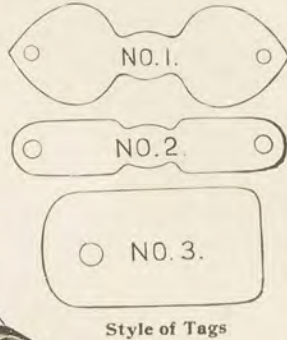
Larter & Sons

21-23 Maiden Lane
NEW YORK

"THE" Machine for Tagging Rings, etc.

Complete Outfit consists of { Our Eyelet Machine, 1000 Celluloid Tags, 1 Bottle Ink

Price complete,
\$5.00 net



Style of Tags



Hand Pliers are Useless for Tagging Rings

The HOLD-ON CLUTCH

Best
Safest
Simplest

YOU slide the Clutch on—
IT does the rest



Pat. May 20, '02

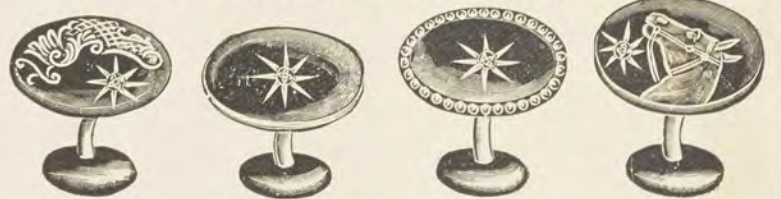
A Splendid Seller
Retailing at 50c.

Scarf Pin Insurance

Ask your Jobber or write to

Hold-On Clutch Co., 33 Gold St., NEW YORK

10 K. SOLID GOLD LINK BUTTONS



356. \$6.60 358. \$6.60 352. \$6.70 357. \$6.70

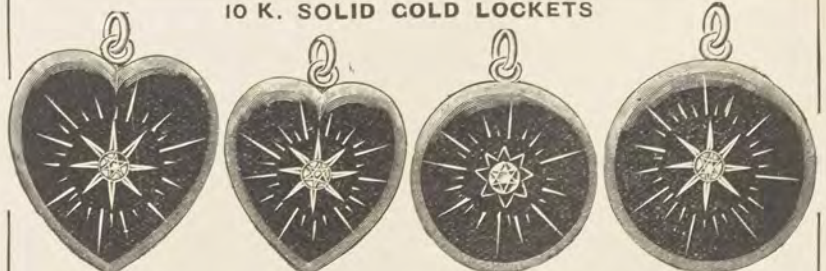
The above buttons are set with nice, white, snappy diamonds, weighing 1/16 ct. per pair. Without diamonds, \$4.50 less for each pair.



362. \$3.50 354. \$3.50 360. \$3.50 355. \$3.67 361. \$3.50

The above buttons are set with nice, white, snappy diamonds, weighing 1/32 ct. per pair. Without diamonds, \$2.25 less for each pair.

10 K. SOLID GOLD LOCKETS



311. \$7.40 312. \$6.50 307. \$5.50 308. \$6.31

The above lockets are set with nice, white, snappy diamonds, weighing 1/32 ct. each. Without diamond, \$2.25 less for each locket.

We manufacture a complete line of gold and diamond Jewelry and sell direct to the retail trade by mail. "Our gold always stands the test."

S. FRACKMAN, Manufacturing Jeweler

We are pleased to send selection packages to responsible jewelers. **51-53 Maiden Lane, NEW YORK**
Write for our new fall catalogue

New York Letter

(Continued from page 1645)

The Jewelers' Bowling League

The 1905-1906 tournament of the Jewelers' Bowling League, of New York, was inaugurated under happy auspices at Herman Ehler's Universal Bowling Academy, 271-277 Washington Street, Brooklyn, on Tuesday, September 12th, and will continue, according to the schedule, until March 23d, 1906. As will be remembered, last season's games proved a fruitful source of interest and pleasure for numerous friends of the participating clubs and patrons of the alley, and provided a most beneficial relaxation for the strenuous votaries of the jewelry trade in the metropolis. The manner in which interest in the successive contests continued to grow and ripen, until the playing of the final game, was likewise most gratifying to the promoters of the pastime, and it goes without saying, therefore, that the new series will be followed with a pleasure no less keen and an enthusiasm no less enduring. There are the same number of competing teams this year as there were last, namely, fifteen, but the withdrawal of three of the teams, who figured in the 1904-1905 tourney, is responsible for the infusion of some new blood into those now competing, to-wit, the representatives, respectively, of Cross & Beguelin, and N. H. White & Co., New York, and of A. A. Webster & Co., Brooklyn. The participating clubs represented are as follows: Aikin-Lambert Co., Avery & Brown, Cross & Beguelin, Dennison Mfg. Co., Elgin National Watch Co., Joseph Fahys & Co., Gorham Mfg. Co., Julius King Optical Co., Alfred H. Smith & Co., Tiffany & Co., Udall & Ballou, L. E. Waterman Co., A. A. Webster & Co., N. H. White & Co., C. F. Wood & Co. The officers of the league are: J. B. Wood, 1 Maiden Lane, president; F. P. Seymour, 15 John Street, vice-president; E. H. Dean, 19 Maiden Lane, treasurer, and J. F. Schierloh, 21 Maiden Lane, secretary. Mr. Dean is the only one of last season's executive who continues in office. Appended are the results of the initial games:

September 12th.—Cross & Beguelin, 690, 656, 753, vs. Gorham Mfg. Co., 561, 653, 616.
 September 13th.—Dennison Mfg. Co., 732, 779, 737, vs. N. H. White & Co., 775, 637, 772.
 September 14th.—Tiffany & Co., 714, 784, 807, vs. A. H. Smith & Co., 792, 782, 780.
 September 15th.—Aikin, Lambert & Co., 653, 669, 621, vs. Joseph Fahys & Co., 746, 697, 677.
 September 19th.—King Optical Co., 754, 723, 707, vs. L. E. Waterman & Co., 737, 774, 711.
 September 20th.—Avery & Brown, 699, 670, 761, vs. Elgin National Watch Co., 679, 656, 611.
 September 21st.—C. F. Wood & Co., 789, 796, 808, vs. A. A. Webster & Co., 623, 697, 742.
 September 22d.—Udall & Ballou, 674, 663, 675, vs. Cross & Beguelin, 772, 719, 721.

Following are the standings of the teams to date:

	Won.	Lost.	Per cent.	High score
Cross & Beguelin	6	0	1.000	772
C. F. Wood & Co.	3	0	1.000	808
Avery & Brown	3	0	1.000	761
Joseph Fahys & Co.	3	0	1.000	746
Tiffany & Co.	2	1	.667	807
N. H. White & Co.	2	1	.667	775
L. E. Waterman & Co.	2	1	.667	774
A. H. Smith & Co.	1	2	.333	792
Dennison Mfg. Co.	1	2	.333	779
Julius King Optical Co.	1	2	.333	754
A. A. Webster & Co.	0	3	0	742
Elgin National Watch Co.	0	3	0	679
Udall & Ballou	0	3	0	675
Aikin, Lambert & Co.	0	3	0	669
Gorham Mfg. Co.	0	3	0	653

The American Waltham Watch Medal for Waltham Exhibit Co. has been advised by W. H. Tolman, director of the United States section of social economy, at the Liege, Belgium, Exposition, that its

exhibit of industrial betterment installed thereat, has received the award of a gold medal from the international jury in social economy.

Miss Hettie Oldden, for several years past chief clerk for the Keller Jewelry Co., resigned her position last month. We understand that she is interested in a wedding ceremony that is to be performed in the near future. Miss Morrison, who has been connected with the company for several years, takes Miss Oldden's place.

Max J. Lissauer, senior member of the firm of Lissauer & Co., of this city, recently returned from a four-months' trip to London and the continent. Mr. Lissauer was accompanied by his wife, and after a two-months' stay in the diamond markets of Amsterdam and Antwerp, the balance of the time was spent at Carlsbad and other well-known resorts. Mr. Lissauer reports that good stones are rather scarce and high, but after considerable skimming around he fortunately secured a sufficient quantity for his needs, at reasonable rates. Most of the stock was bought in the rough, and then cut specially to his order to suit this market.

The Frank Netschert Co., manufacturers of artificial flowers and grasses, supplied the artificial flowers and grasses that were used to decorate the floats of the Coney Island Mardi Gras, which lasted for several days.

Jewelers' Security Alliance

The regular monthly meeting of the executive committee of the Jewelers' Security Alliance was held on Friday, September 8th, the following members being present: Chairman Butts, President Sloan, Vice-Presidents Wood and Champenois, Treasurer Karsch, Secretary Noyes and Messrs. Alford, Bowden and Stern, of the committee. The following new members were admitted:

- J. C. Ertel, Indianapolis, Ind.
- Jacob Garber, Philadelphia, Pa.
- Krauss & Sectors, Indianapolis, Ind.
- L. C. Pedersen, Walnut, Iowa.
- C. A. Radde, Cleveland, Ohio.
- Jos. L. Schopp, Cincinnati, Ohio.
- Wilson Bros. Co., Boston, Mass.
- Eckart Jewelry and Mfg. Co., New Iberia, La.
- Forteson Jewly Co., Sawyer, Wis.
- C. W. Goodwin, Milford, Conn.
- The Leonard Jewelry Co., Kinsley, Kans.
- Gus. F. Rose, Cleveland, Ohio.
- New York Silver Co., New York City.
- M. H. Richardson, San Francisco, Cal.
- Geo. W. Reichard, Cleveland, Ohio.
- Reineman Bros., Allegheny, Pa.
- F. P. Robey, Danville, Ill.
- N. Rosenthal & Co., Hartford, Conn.
- Sansbury & Nellis, Newark, N. J.
- Frank Schario, Danville, Ill.
- L. E. Schario, Danville, Ill.
- Witt & Shork, Genoa, Ill.
- Burns & Gosser, Coshocton, Ohio.
- O. F. Ericson & Co., Pittsfield, Ill.
- Jos. Gumpert, Philadelphia, Pa.
- L. Heller & Son, Providence, R. I.
- Adolph Kahn, Washington, D. C.
- W. C. Pfaeffle, Enid, Oklahoma Ter.
- Geo. Rickman, Kalamazoo, Mich.
- Saks Optical Co., Washington, D. C.
- H. J. Sevy, Battle Creek, Mich.
- Wm. J. Burkhardt, Dayton, Ohio.
- D. C. Griswold, Clinton, Wis.
- Kleiner & Hein, Chicago, Ill.
- E. A. McIntire, Chicago, Ill.
- J. T. Stalford, Athens, Pa.
- M. S. Fleishman Co., Chicago, Ill.
- Walter C. Dean, Ardmore, Ind. Ter.
- William J. Miller, Baltimore, Md.
- William Preuer, Cincinnati, Ohio.
- E. Strassburger, Chicago, Ill.
- Chas. H. Allen, Turtle Creek, Pa.
- Bair Bros., Harrisburg, Ill.
- Carl V. Bergstrom, Chicago, Ill.
- J. N. Comegys, Ash Grove, Mo.
- R. W. Edwards, Oakland, Cal.
- Geo. Fake, Oakland, Cal.
- Chas. A. Joneson, Chicago, Ill.
- J. N. Kunkel, New Rockford, N. Dak.
- Frank E. Lister, Carnegie, Pa.
- The Little Long Co., Charlotte, N. C.
- W. Otto, Crawfordsville, Ind.
- Henry Rhein, Chicago, Ill.
- I. Schwartz, Chicago, Ill.
- Thos. H. Smedley & Son, Camden, N. J.
- Thompson-Brannon Co., Asheville, N. C.
- Claude M. Wall, Gallipolis, Ohio.
- S. Wechter & Co., Chicago, Ill.
- Millard F. Wood, Lowell, Mass.
- Nathan Traut, Yonkers, N. Y.
- A. Thalhofer & Son, Chicago, Ill.
- David Samuels, Jersey Shore, Pa.
- Milton Reed, Doylestown, Pa.
- Wm. F. Mueller Jewly Co., St. Louis, Mo.
- G. A. Camp, Chicago, Ill.
- F. S. Shepard, Clarence, Mo.
- Krebs Bros., Hartley, Iowa.
- Ike Samuels, Sayre, Pa.
- Burnett Bros., Seattle, Wash.
- Capo-Hobusen Jewelry Co., Tucson, Ariz.
- Allen H. Wentz, Baltimore, Md.
- V. E. Blake, Fort Collins, Colo.
- Owen-Cotter Jewly Co., Tampa, Fla.
- Vanderbilt & Donnelly, Winsted, Conn.
- Burtiss & O'Connor, Utica, N. Y.
- J. E. Honrighous, Tuscola, Ill.

(Continued on page 1656)

Fall Tonics

Don't
you feel the
need of an

**Invi-
gorator?**

Our
showrooms
are filled
with new

Stimulants

In the shape of

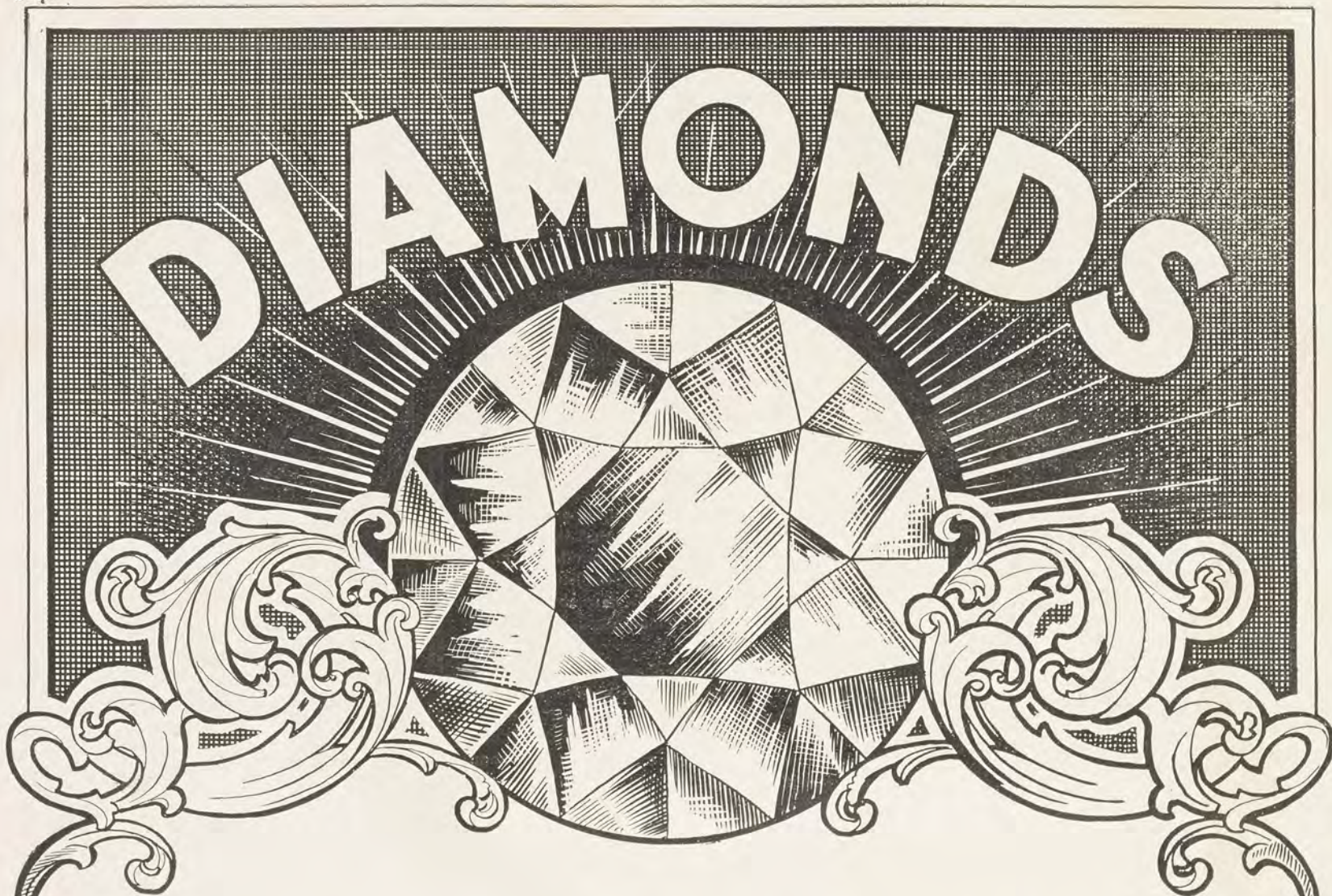
DIAMOND-SET
Gold and Filled
BROOCHES
Hat Pins, Scarf Pins
LINKS
Fobs, Rings
CROSSES
Chains, Charms
BRACELETS
14 K.—COMBS—10 K.

Silver and Ebony Toilet
Articles

Silver and Gun Metal
Novelties

Chas. L. Trout & Co.
MANUFACTURERS

Fifteen Maiden Lane
New York



Our very-much-awake diamond business is constantly increasing, because our stock is large, and long experience gives us the ability to fill orders in the right way and at right prices.

The diamond pages in the 840-page 1906 B.A. & Co. Catalogue, just published, are good pages to be familiar with. If the book should not fulfill some special want, a letter from you will receive prompt attention.

BENJ. ALLEN & CO.
CHICAGO.



WESTERN BUREAU OF THE KEYSTONE
ROOM 1.01 HEYWORTH BUILDING
CHICAGO, September 26, 1905

The State of Trade and Outlook

The West, Northwest and Southwest have now settled down to the long pull that will reach its climax about midnight on the 23d of December. Here in Chicago business is good in all directions. The outlook for the future is very promising. The corn crop is now assured, and the harvest of other grains is all in. Seldom, if ever, have they been more bountiful. A very large quantity of both small and large grains will be marketed before December, and it is expected that this important feature will create a season of business activity that will last all the late fall and through the winter. Upon the whole the outlook is most favorable, and a fine fall trade is expected.

Good Work of the Chicago Commercial Association

The last week in October and the first week in November practically close the season of merchants' fall excursions under the auspices of the Chicago Commercial Association. In the Western Passenger Association territory the dates for sale of reduced rate tickets to the last meeting of this year are October 28th and November 4th, inclusive. In the Central Passenger Association territory the dates for the same privileges to the last meeting of the Association are October 28th and November 3d, inclusive. In Illinois Central Territory points south of the Ohio river, from September 30th to October 31st, inclusive, reduced rates to the Chicago market will prevail. The four meetings already held, beginning with July, have been very successful. These "meetings" have been instrumental in bringing 10,000 country dealers to the great central market of Chicago. There can be no doubt but that the work of this Association has given a tremendous impetus to Chicago's trade. In nearly every line the trade has been double that of last year, and 1904 was not considered a bad year by Chicago wholesalers and manufacturers. The founders of the Association no longer consider the enterprise in the light of an experiment. The results of the work accomplished by its aid have assured its permanence. It is now considered an important adjunct in the work of making Chicago commercially and industriously preëminent among the great cities of the nation. In speaking of the prosperity now abroad in the Chicago market, John H. Hardin, secretary of the Association and a member of the firm of F. A. Hardy & Company, said: "Wholesale trade conditions in Chicago never have been better than at the present time. I make this as a general statement, as there may be some lines that the prosperity wave has not fully reached as yet. It is also true, however, that there has not yet been any great influx of out-of-town jewelers and opticians in this market thus far this fall. But this is a matter that is easily explained when I state that these people seldom do much of their holiday buying until October, and they do not as a rule come to market until they are ready to select their holiday lines. Our

next and last meeting will just about catch the jewelers, and I anticipate seeing a great number of them in the great central market the last week in October and the first week in November."

Benjamin Chauncey Allen, John A. Cox and Benjamin Allen, of Benj. Allen & Company, returned last week from an enjoyable automobile jaunt through Indiana and Michigan to Detroit and then over into Canada for a few days. The trip, though a new experience to most of the party, was made without accident, and proved thoroughly enjoyable. They returned home by way of Toledo.

Samuel Swartzchild, head of the house of Swartzchild & Company, and Mrs. Swartzchild, left London September 20th and sailed that day on the *Kaiser Wilhelm der Grosse* for home. They expect to reach Chicago by October 1st. Mr. Swartzchild writes from London under late date that Mrs. Swartzchild and himself have enjoyed their travels in England and the Continent very much, and that they have had a most pleasant summer. He also states that he has spent a great deal of his time in his four months' journeying through Germany, Austria, Switzerland, France and England in the interests of the watchmakers and jewelers of the United States, on the lookout for new and desirable novelties in tools and other articles that will interest them. He further states that he has found quite a number of new and useful articles that he will spring on the trade through THE KEYSTONE very shortly.

Walter S. Campbell, of the general office force of the Elgin National Watch Company, was married August 23d to Miss Madge D. Burdick, of Elgin, Ill. The wedding occurred at the home of the bride's parents in Elgin, and a throng of friends and relatives were on hand to wish the young couple great joy in their new relation. Mr. Campbell is a bright and worthy young man with a future, and THE KEYSTONE joins with his many friends in the trade in extending congratulations.

Louis Manheimer, Mrs. Manheimer and Miss Manheimer returned last week from a four months' trip abroad. While away they traveled at easy stages through England, Scotland and the Continent, spending a larger part of their time among the pleasure resorts of Germany. Mr. Manheimer is looking well, and says he never felt better and that they enjoyed their trip, but that they all were mighty glad to get back to grand and glorious America.

O. D. Richardson has been chosen secretary of the Chicago Jewelers' Club to fill the vacancy caused by the death of Geo. H. Hazlett. Mr. Richardson's election dates from September 1st, and the club is to be congratulated upon the choice of its board of directors. From what we have long known of Mr. Richardson we believe he is the right man in the right place.

We are glad to note that Max Noel, of Despres, Bridges & Noel, is again able to be about business. In our last issue we stated that he had undergone a severe surgical operation and was in the hospital recovering from it. Mr. Noel is getting on nicely, though he is not able to do a full day's work. He does not expect to get out

on the road again much before the middle of October.

Conover Fitch, son of President Fitch, of the American Waltham Watch Company, spent a few days in town recently.

John H. Hardin, of F. A. Hardy & Company, has only recently returned from a three weeks' fishing excursion up among the wilds of the Lake Superior country. Mr. Hardin has long been noted as a good fisherman, and he has only added to his laurels on this trip.

The family of Fred G. Thearle, of C. H. Knights & Company, have returned to town for the season from their summer home at Lake Geneva.

Ed. Swartzchild, of Swartzchild & Company, is at his desk again after a six weeks' illness.

C. P. Dungan, of the International Silver Company, returned the first of the month from a three weeks' Western trip, going as far as Salt Lake City. Mr. Dungan's trip was mostly as a vacation, and he tells us that he enjoyed a delightful outing among the wilds of Wyoming.

A. L. Wiffin, with Benj. Allen & Company, returned last week from a most enjoyable vacation spent in Colorado. He was accompanied by Mrs. Wiffin and the children.

President Ellbogen, of the Stein & Ellbogen Company, is now in the European diamond marts. This is Mr. Ellbogen's third visit so far this year to Europe, each trip being a buying trip. This firm's business in diamonds has been good this year, and the demands of the trade have made it necessary for Mr. Ellbogen's third trip to the world's chief diamond marts.

H. A. Bredel, manager of the watch department of A. C. Becken's, returned from a four weeks' trip to the Pacific Coast the early part of the month. Mr. Bredel journeyed west over the Southern route through California, and returned home by the Northern route, taking in the Portland Fair.

J. B. Hoecker, of the Hunter-Hoecker Company, a well-known optical house of New York and Brooklyn, spent several days in this market last week.

A. L. Sercomb, Chicago manager for the International Silver Company, left the 1st of September for a month's outing in the Pacific Northwest. Mr. Sercomb expected to spend a week looking over the Lewis and Clark Exposition at Portland and to make a side trip up into British Columbia.

F. A. Hardy, of F. A. Hardy & Company, and family have returned to their Evanston home after a pleasant summer spent at their summer home on the Macanac Islands.

Theo. H. Purple, formerly well-known in the Chicago trade from his long connection with the Holmes & Edwards Silver Plate Company as their Chicago manager, but of late engaged in other lines, has returned to his old love as Chicago and Western representative for the Middletown Silver Company, Middletown, Conn., and the cut glass line of Taylor Bros. & Company, of Philadelphia. Mr. Purple has opened an office in Room 1103 Heyworth Building.

E. M. Lunt, Chicago manager for the Towle Manufacturing Company, has just returned from a ten days' trip to the company's factory at Newburyport, Mass.

Gossip Among the Trade

The Northern Illinois College, of Chicago, draws students from all over the world. F. W. Howson, of Canterbury, England, has just registered for a course in optics at this widely-known school.

The M. S. Benedict Manufacturing Company have removed their Chicago salesrooms to the sixth floor of the Silversmiths' Building.

The Geo. H. Fuller & Son Company will remove October 1st from the seventh floor of the Columbus Memorial Building to enlarged quarters on the tenth floor of the new Heyworth Building, at Madison street and Wabash avenue, where they will have a considerably larger space than in their old quarters. The new office will be fitted up in first-class style with modern conveniences. The removal is fully warranted by the increasing business of the firm. Mr. Mather, the Chicago and Western manager, tells us that they have long felt the need of more room.

(Continued on page 1651)



Your Share of Diamond Sales

will depend on the adaptability of your stock to the wants of your patrons. Our big cutting plant, our large supplies and accurate knowledge of trade requirements, enable us to supply the diamond stock that best fits your needs, and at prices that will mean quick and profitable sales.

We can help you to a greater extent than any other to take advantage of the unusual diamond-selling possibilities of this prosperous season. Prompt attention given to all mail orders.

Stein & Ellbogen Company

Wholesale Jewelers and Diamond Cutters

Columbus Memorial Building, Chicago



Chicago Letter

(Continued from page 1649)

The following students have just recently graduated in optics from the Northern Illinois College of this city: L. Leubrie, Winnetka, Ill.; A. G. Kirmse, Dubuque, Iowa; John B. Clopton, Arlington, Texas; M. R. Held, Chicago, and Howard E. Whitney, M.D., Otsego, Mich.

Benj. Allen & Co. have issued their annual catalogue to the trade. This is an 840-page book, copiously illustrated with handsome half-tones and abounding in information of everyday interest and usefulness to the dealer. The scope of this catalogue embraces practically everything sold by the jeweler, and in typography and general arrangement it is a very fine specimen of advertising literature, and one which the trade will find valuable as a means of reference.

A. C. Becken has issued his thirteenth annual catalogue and price-list. This is a very voluminous compilation, containing over 700 pages, handsomely printed and profusely illustrated. The book is methodically arranged, and embraces within its scope not only all varieties of jewelry and kindred goods but tools and materials as well.

News from the Trade

J. B. Ingalls is a new jeweler who has recently embarked in business in Rock Island, Ill. Mr. Ingalls bought his opening stock in this market.

L. W. Bruns, the lively Western representative of the Juergens & Andersen Company, with headquarters at Denver, is spending a few days in Chicago after a prosperous trip of ten weeks. Mr. Bruns says that trade is quite good in the West at present and that the outlook for fall business was never better.

Phil. Noel, house man with Despres, Bridges & Noel, and brother of the genial Max, has been covering his brother's territory since the latter's illness, and "making good" right along. The Noel brothers—Max, Rudolph and Philip—are the kind of salesmen that are born, not made.

The retail optical house of T. J. Howe & Company, Louisville, Ky., were represented in this market last week by Mr. Sackstedder, who was here for several days, combining business with pleasure.

Cards have been received at this office announcing the wedding of Jeweler Robert N. Phipps, of Fulton, Ky., and Miss Irene Cason. The ceremony will occur at the home of the bride's parents in Jackson, Tenn., on the evening of October 4th. THE KEYSTONE takes pleasure in extending congratulations.

George Robb, city salesman for F. A. Hardy & Company, is being congratulated by his friends upon his recent marriage to a Chicago lady.

The Boyd Park Jewelry Company, of Denver, Colo., have been represented in this market the past week by Mr. Knox, who has charge of their manufacturing department.

J. M. Gandere, with Bitterman Brothers, Evansville, Ind., was a trade caller in this market recently.

C. M. Perkins, of the St. Louis Silver Company, spent a week in town the early part of the month calling on the Chicago trade in the interests of his firm.

C. E. Roy, Western traveler for A. C. Becken, left headquarters the early part of the month for an extended trip over his territory. He will go as far as the Pacific Coast before returning home.

Wade Williams, of Warren & Williams, ring makers of Providence, is spending this week among the Chicago trade in the interests of his house.

George M. Landon, Chicago and Western agent for the Homan Manufacturing Company, which has only recently succeeded to the business of the Homan Silver Plate Company at Cincinnati, returned last week from a successful trip over the "Western Circuit," touching the larger cities only. Mr. Landon says that fall business is opening up fine all around the "Circuit," and that he expects to see the boom keep on right up to the holidays.

Dave Axman, Chicago and Western repre-

sentative of the J. D. Bergen Manufacturing Company, is out on the road on the lookout for cut glass orders.

C. L. Glines, jeweler-optician of Harrison, Ark., spent several weeks recently in Chicago, where he was pursuing a post-graduate course in optics at the Northern Illinois College.

W. F. Laraway, the well-known and successful jeweler at Glenwood, Iowa, has recently established a branch store at Hood River, Oregon.

J. W. Neasham, of Ottumwa, Iowa, is about to make extensive improvements in his store by rearranging it and putting in modern fixtures for the main part of his store. The new fixtures will be of mahogany, richly finished, and when the improvements are completed Mr. Neasham expects to show his customers and friends one of the really handsome jewelry establishments of the Hawkeye State and the Western country as well. The work is being done by F. C. Jorgeson & Company, of this city.

C. A. Kiger, the well-known Kansas City jobber, was in town for a day early in the month calling on the manufacturing trade.

Following is a list of students who have recently taken up a course in optics at the Northern Illinois College of this city: Thomas B. Sanders, of Texas; Clark A. Beswick, Libertyville, Ill.; Ella B. Dimond, of Oregon; B. H. Goll, Chicago; Charles Mantor, of Colorado; John A. Weeks, Arensville, Ill.; William J. Krueger, of Minnesota; Charles Tribe, Milwaukee, Wis.; P. S. Dougherty, M.D., of California; M. L. Rooney, Coalport, Pa.; Eugene G. Wiseman, Harrodsburg, Ky.; Edward A. Mack, Oakland, Cal.; Alton D. Guion, Chicago, and Edward S. Kernan, Battle Creek, Mich.

John Hillinger, of R. J. Hillinger & Company, is on an extended Western trip, which includes the Pacific Coast country and the Rocky Mountain territory. He reports trade as excellent in that section of the country.

A. N. Dennes, of Fred. Fuchs & Brothers, the well-known New York silversmiths, is spending a few days among the Chicago trade in the interests of his house.

L. M. Ratliff, formerly of Francisville, Ind., is now with Jeweler L. M. Lauterman, of Colorado Springs, Colo.

Jeweler H. E. Fox, of Albuquerque, New Mexico, has recently returned from a trip to British Columbia and the Portland Fair. Mr. Cox reports a delightful outing.

H. Harrison, of Sault Ste. Marie, Michigan, has just recently returned from a trip to the West, where he was visiting his parents.

L. W. Williams, who travels in Texas, Oklahoma and Kansas territory for Norris, Alister & Company, left headquarters last week for his second fall trip. Mr. Williams is expecting to find trade quite prosperous in the Southwestern country, as his July and August trip gave every indication for a brisk demand for goods as the holiday season approached.

Claude E. Range, of Trenton, Mo., has just been appointed local watch inspector for the Quincy, Omaha & Kansas City Railroad. Mr. Range has for several years past been watch inspector for the Rock Island system. With his new road he now has to inspect the watches of over three hundred railroad men every fortnight, and regulate their watches at least four times a year.

Hugo F. Gruschow, buyer and catalogue man for Noack & Gorenflo, Detroit, was in town for a day recently, calling on his friends in the trade. Mr. Gruschow is an old Chicago boy, and for a number of years was connected with Otto Young & Company and always enjoys visiting here.

Jeweler Vernier, of Toledo, Ohio, is a lover of outdoor sport and always improves his opportunities for hunting and fishing. He spent the early part of this month in the woods, enjoying some rare sport in hunting.

L. Cook, of Cook & Shepner, Flint, Mich., spent the early part of September in the northern part of that State on a fishing excursion which he enjoyed very much.

Jeweler Bowley, of Belvidere, Ill., is spending a few weeks up among the wilds of Northern Minnesota, enjoying some rare sport in hunting and fishing.

Al. E. Henry, the well-known jeweler of Rockford, Ill., had his show window shattered and broken into Sunday night, September 17th. The thieves got away with something like \$300 worth of goods, and up to this writing have not been apprehended.

W. H. Rankin, in charge of the material department for the Lewis Jewelers' Supply Company, wholesale, Denver, Colo., was in the city for several days last week, enjoying life in the Western metropolis and calling on the manufacturing trade.

Fred. R. Sheridan, of Arnold & Steere, and W. A. Fay, Western man for the John T. Mauran Manufacturing Company, left Chicago headquarters the middle of September for their second fall trip to the Pacific Coast. These gentlemen expect to return to Chicago by October 15th.

Jeweler S. J. Gilger, of Norwalk, Ohio, is fitting up and will soon have completed one of the really swell stores of the Buckeye State.

G. A. Clark & Son, the well-known jewelers of Lorain, Ohio, are making extensive improvements in their store and adding new fixtures in order to keep up with the demands of their growing business.

G. G. Case, of Jackson, Michigan, has only recently returned to business looking much improved, after a delightful outing spent at his summer home in the northern part of his State.

J. A. Schoenthaler will enlarge his premises on the sixth floor of the Columbus Memorial Building by taking in the adjoining room on the south. This enlargement of his quarters is made necessary by increasing business. Mr. Schoenthaler expects to occupy his enlarged quarters about October 15th.

S. H. Clausin, head of the house of S. H. Clausin & Company, wholesale, Minneapolis, Minn., spent a day in town this week, calling on the manufacturing trade.

Jeweler J. Murbach, of Elyria, Ohio, has just returned from a several months' stay on the Pacific Coast looking well and hearty. Mr. Murbach enjoyed a delightful trip and was greatly pleased with the prosperity and progress he met with in the great and growing West.

McCoy & Company, of Minot, North Dakota, have just recently been making improvements in their store by putting in some new fixtures. This enterprising firm now has one of the really swell stores of that section of the country, so travelers tell us who have recently called on them.

C. T. E. Smith, who covers the Central West for Reed & Barton, will have the sympathy of his many friends in the trade upon the loss of his mother, whose death occurred at their home in this city early in September.

R. N. Blair, the well-known road salesman, has succeeded F. E. Blackburn as manager of the Colonial Jewelry Company, located in the Atwood Building.

A. C. Smith, general time inspector for the Mexican Central Railway and other Mexican railroad lines, with headquarters at the City of Mexico, is in town this week, calling on his old friends in the trade. He is accompanied by his family.

S. Swart, the veteran jeweler of West Bay City, Mich., is dead. His death occurred at the family home in that city the first week in September.

H. E. Scattergood has recently opened a first-class jewelry store in Hinsdale, Mich.

B. H. Broer, of Toledo, Ohio, is fitting up a modern store, having outgrown his present location.

Norris, Alister & Co. will have ready for distribution about October 15th their thirty-eighth annual catalogue. This compilation will contain 500 pages, attractively printed and abundantly illustrated with rich half-tones. An unusual amount of care has been exercised in the preparation of this catalogue, which as a result is replete with useful information on the vast lines carried by this firm. The book will be sent to regular jewelers on request.

Otto Young & Company have issued their 1906 catalogue, which is a very comprehensive book, containing fine illustrations and full descriptions of the extensive lines carried by this well-known firm. This catalogue marks an ad-

(Continued on page 1653)

Our 1906 Catalogue

Was sent about October 1st to all legitimate jewelers with whom we have had the pleasure of doing business. Are you on our list, and have you received our book? If not, advise us, and if there is a possibility of doing business with you, and you are a legitimate jeweler, we will be pleased to send it to you, all charges prepaid.

It is the most complete book of the kind ever published, containing 616 pages of illustrations, showing all desirable staples and novelties in Watches, Diamonds, Rings, Charms, Jewelry, Pens, Canes, Umbrellas, Novelties, Toilet Goods, Clocks and Optical Goods; in fact everything needed by Watchmakers, Jewelers and Opticians, excepting Tools, Material and Findings. These goods are shown in a separate book. If you have not received same, advise us, and we will forward it to you, free of charge.

We have moved into larger quarters in the new, modern, fire-proof

HEYWORTH BUILDING

34 to 48 Madison St. and 125 to 129 Wabash Ave., CHICAGO

Our store-room contains 14,400 square feet, and is the largest exclusively wholesale jewelry establishment in the world. We have added new lines to our stock, and increased the variety in every department, but have made no change in our prices, which remain as heretofore, uniformly low. We invite comparison of goods and prices, as it will help us, and make you our customer.

All orders filled promptly and accurately.

Call and see us when you come to Chicago.

Send us your orders and we will guarantee to please you.

Wishing you prosperity, we remain,

Respectfully,

OTTO YOUNG & CO.

Chicago Letter

(Continued from page 1651)

vance on all previous advertising productions gotten out by the firm in matter, typography and systematic arrangement. It should prove a very useful addition to the jeweler's collection of advertising literature as a ready means of reference. It is distributed free to the retail jewelry trade, and dealers who will not have received a copy by October 15th should notify the firm.

Out of Town Visitors

C. Pieper, of Zeeland, Michigan, spent a day in town last week on the lookout for late fall novelties.

E. J. Price & Company, of Reinbeck, Iowa, was represented in this market last week by the head of the firm, who was here selecting his fall bills.

H. J. Dale, of Linton, Ind., was met in one of our wholesale offices last week. Mr. Dale was spending a week in Chicago, visiting his relatives and doing some fall buying.

F. D. Day & Company, the well-known jewelers of Duluth, Minn., were represented in this market last week by C. W. Bagley, the managing partner of the firm, who was here on a fall buying trip.

W. N. Boynton, the pioneer and well-known jeweler of Manchester, Iowa, was in the Chicago market for a few days last week, selecting his fall bills.

Martin & Hoerr, of Mankato, Minn., were represented in this market last week by Frank Hoerr, who was selecting their fall lines.

C. R. Smith, of Huntington, Indiana, paid the Chicago market a visit last week, and was a liberal buyer in fall lines.

S. B. Holley, of Continental, Ohio, spent a few days in Chicago recently, combining business with pleasure.

O. H. Weedman is a new jeweler in Monticello, Ill. Mr. Weedman spent several days in Chicago last week, purchasing his open stock. When seen in one of our wholesale houses he said he was buying rather liberally as he had a good town and expected a fairly good business from the start.

S. Jacobs, head of the well-known jewelry house of S. Jacobs & Son, Des Moines, Iowa, was a welcome visitor in this market last week. Mr. Jacobs is one of the pioneer jewelers of the Hawkeye State, and has been quite successful in building up a nice business.

C. F. Baldwin, of Berran Springs, Michigan, was among the many visiting buyers in this market recently.

W. P. Reichert, of Canton, Ill., accompanied by Mrs. Reichert, was in Chicago last week, combining his fall buying with pleasure and sight-seeing.

John Schmelzer, of Centralia, Ill., was in town recently selecting his fall bills.

F. E. Shortiss, of Traer, Iowa, the well-known and always welcome buyer in this market, was here for several days recently, selecting his fall bills. He was a liberal buyer, as he thinks Iowa is all right this year for a prosperous fall and holiday business.

C. A. Church, of Belle Plaine, Iowa, was among the many Western jewelers in this market recently, selecting his fall and holiday bills.

Albert Opbendyk, of Grand Rapids, Michigan, spent a day or two recently in this market, on the lookout for late fall novelties.

H. E. Taylor, of Bloomington, Wis., was a visiting buyer in this market last week, selecting his fall bills.

R. Herrick, of Edmore, Michigan, spent a day in Chicago recently, selecting goods for his home store.

Frank Mayr, the head of the well-known retail house of Frank Mayr & Son, South Bend, Ind., was a welcome visiting buyer in this market last week. He was accompanied by Mrs. Mayr.

C. D. Gardner, of Manistee, Michigan, who has bought goods in this market for over thirty years, was a welcome visiting buyer here last week.

F. A. Vogt, of Mishawaka, Indiana, spent a

few days in this market last week, laying in a supply of fall goods for the home store.

Otto Eggers, of Atlantic, Iowa, was a trade caller in this market last week, on the lookout for late fall novelties.

J. C. Hoagland, of Sheldon, Ill., spent a day in town recently on a purchasing trip.

Lochman Brothers, the well-known jewelers of Springfield, Ill., were represented in this market recently by G. Lochman, of the firm, who was here on a buying trip.

J. D. Taylor, of Logansport, Ind., was a recent buyer in this market, selecting goods for the home store.

W. C. Alexander, of Salida, Colo., spent several days in Chicago market recently, doing some fall buying and enjoying life in the Western metropolis.

J. M. Scribner & Son, of Attica, Ind., were represented in this market recently by Mr. Scribner, Jr., who was here attending to the firm's fall buying, accompanied by Mrs. Scribner.

J. H. Smyth, of Fort Smith, Arkansas, spent several days in Chicago recently, doing some fall buying and enjoying our fine summer resort weather.

Ernest Starkey, of Waterford, Wis., was among the many fall buyers in this market recently.

A. D. Lemon, of Attica, Ind., was in town recently, on the lookout for late fall novelties.

A. B. Macdonald, of Chillicothe, Mo., was a welcome buyer in this market for a few days last week.

Robert D. Worrell, the well-known and successful jeweler of Mexico, Mo., was in Chicago for several days last week, doing his fall buying and enjoying life in a great city. Mr. Worrell brought the news that he was making extensive improvements in his store, in expectation of a fine business this fall and holiday season. He says that grand old Missouri is in mighty good shape this year, and that trade conditions and prospects were never better.

W. A. Grant, Harrisburg, Ill., was a visiting buyer in this market recently.

T. G. Studel, of Chilton, Wisconsin, was in Chicago on a purchasing trip recently.

George A. Young, of Moberly, Mo., spent a few days here recently, combining business with pleasure.

E. L. Thayer, of Rockford, Ill., was among the many buyers who visited this market recently on a fall purchasing trip.

F. B. Crane, of Mount Pleasant, Iowa, was in the city for a few days recently, looking over the market for the newest things in fall novelties.

W. T. Hixson, of the Wm. T. Hixson Company, the widely-known jewelers of El Paso, Texas, is spending a fortnight in Chicago, visiting relatives and attending to the firm's fall buying.

C. E. Prouty, of Bradford, Ill., spent a day in Chicago recently on a purchasing trip.

Andrew Rovelstad, of Rovelstad Brothers, Elgin, Ill., was seen in one of our jobbing houses this week, where he was doing some buying for the home market. Mr. Rovelstad was of the opinion that trade would be excellent this fall and winter, and said that he could see nothing to hinder an unusually prosperous holiday business this season.

Joseph F. Higginbotham, of Brandon, Canada, spent several days in Chicago, combining his fall buying with seeing the sights of a great city.

The Cook Jewelry Company, of Fayetteville, Ark., was represented in this market last week by the head of the firm, who was here on a fall purchasing trip.

S. R. Mace, for over thirty years a jeweler at Moulton, Iowa, was a visiting buyer in this market last week, selecting his fall bills.

E. F. Schmermund, of Greenville, Ohio, was a liberal buyer in this market last week. He is expecting a good trade this fall and was buying accordingly.

J. Crossno, of Sallsaw, Indian Territory, was among the many Western buyers selecting their fall bills in this market last week.

P. S. Schander, of Missoula, Montana, spent several days in Chicago recently, selecting his fall and holiday bills.

Gardner & Pennington, of Longmont, Colo.,

were represented in this market recently by Mr. B. Gardner, the senior member of the firm, who was here for a few days, seeing the sights and attending to the firm's fall buying.

Fred A. Klass, of Hebbing, Minn., spent a few days in this market recently, on the lookout for late fall novelties.

F. A. Averbek, of Madison, Wis., spent a day in this market recently, on the lookout for the late things in fall novelties.

A. Elbe, of Bloomington, Ill., accompanied by Mrs. Elbe, was here for a day early in this week, combining their fall buying with pleasure.

M. E. Leavens, of Fulton, Mo., spent a few days recently in the Chicago market, selecting his fall and holiday lines.

H. G. Reid, of Liberal, Kans., and Mrs. Ried, spent several days in Chicago last week, doing some fall buying and enjoying the sights of a great city.

O. C. Cobb, of Iowa Falls, Iowa, a familiar and welcome buyer in this market, was here for a few days recently, selecting his fall bills.

Ray E. Stuart, of South Wayne, Wis., spent a day or two in the great central market of Chicago recently, selecting goods for his fall trade.

A. Krauthelm, the well-known and successful jeweler of Muskegon, Mich., was here for a few days recently, looking over the market and selecting his fall bills.

U. S. Bond, of Osceola, Iowa, spent a few days in the Chicago market the early part of the month, selecting his fall bills. Mr. Bond reports Iowa as in good condition for a prosperous fall and holiday business. The crop and the general trade outlook in the Hawkeye State never were better.

A. H. Pike, the well-known jeweler of Rockford, Ill., was in the market recently on a fall purchasing trip.

W. A. Pfister, of Sheboygan, Wis., was a welcome visiting buyer in the Chicago market recently.

H. F. Witt, of Monticello, Iowa, was in town for a day or two the early part of the month, attending to his fall buying.

J. C. Peers, of Rockford, Ill., spent a day in this market recently, on the lookout for late fall novelties.

F. D. Harris, of Lincoln, Neb., and his little son spent several days in Chicago last week, selecting his fall and holiday goods.

Jeweler H. S. Miller, of Milwaukee, was in the city recently on a fall purchasing trip.

W. H. Carew, of Streator, Ill., spent a few days in town early in the month, attending to his fall buying.

J. L. Mahon, of Aurora, Ill., was in this market recently on a purchasing trip.

A. F. Hall, of Janesville, Wis., was in Chicago recently on his return home from a two months' trip in Europe. Mr. Hall was looking well and said that he never felt better. He reports a most delightful outing.

Frank Ricketts, of Charleston, Ill., was in Chicago for several days recently, looking over the market for early fall novelties.

Dan. Robinson, the well-known retail optician of Galveston, Texas, spent several days in this market the early part of the month, doing some buying and enjoying our delightful fall weather.

A. H. Fraudsens, of Monmouth, Ill., was here for a few days recently, selecting his fall bills.

C. L. Glines, of Harrison, Arkansas, spent the last month in Chicago, pursuing a course of optics at the Northern Illinois College.

P. H. Spohn, the well-known jeweler of Greensburg, Ind., spent several days in this market recently, combining business with pleasure.

E. C. Pike, of Kankakee, Ill., a familiar figure in this market, spent a day in town recently on a buying trip.

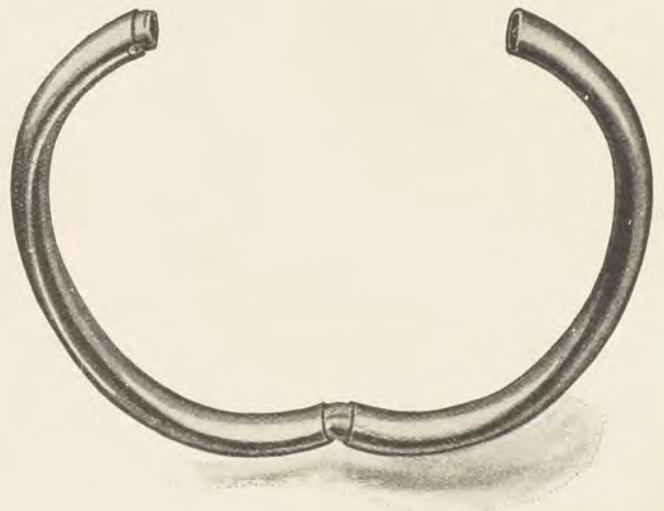
L. Ratzesberger, of Milford, Ill., was a visiting buyer in this market last week.

H. S. Lilius, of Hattiesburg, Miss., is in Chicago to-day en route home from a six weeks' stay at the Battle Creek Sanitarium. Mr. Lilius says that they have not as yet had any yellow fever cases in their town, though situated only about 100 miles north of New Orleans, but that the fever scare has hurt their business seriously for this season. Mr. Lilius was a congenial caller at KEYSTONE headquarters while here.

1654



The Greatest Seller of the Season



The "Sturdy" Bracelet

Patented Feb. 28, 1905
" July 4, 1905

Bracelets are having a greater sale this season than for many years. The new Sturdy bracelet has made a distinct hit, being the most perfect and complete bracelet ever produced. It is made of gold filled stock, also in 10 K. or 14 K. solid gold, in plain finishes, hand-chased designs and stone sets. The joints are invisible, and when closed the bracelet presents the appearance of a solid circle.

We shall have one more size ready for the trade by Sept. 1st. Jewelers who have not been supplied can obtain samples from any representative jobber.

Made only by

J. F. STURDY'S SONS

Makers of

The Sturdy Line of Standard Watch Chains

Main Office and Works

ATTLEBORO FALLS, MASS.

Salesrooms: 7 Maiden Lane, New York, and 713 Market St., San Francisco



Established 1865



Trade Conditions Satisfactory

We are very glad to state that trade conditions are fairly satisfactory in St. Louis, and that since our last report general business conditions in the South have improved considerably. While the yellow fever is still in existence in some sections, and probably will be for some weeks to come, the authorities seem to have it in pretty thorough control. The people are becoming used to the situation and are not allowing the pestilence to interfere so much with business as they did a few weeks ago. Letters from jewelers in Louisiana state that the most serious inconvenience from the plague is the delay in their mails. Nearly all the traveling men who abandoned their territories on account of the fever are now on the road again, in territory where there is no quarantine, giving a good account of themselves. A rush is expected, however, when the yellow fever quarantine is raised, and jobbers hope to regain most of the business lost.

St. Louis Trade Conquests

St. Louis has enjoyed a great influx of out-of-town dealers thus far this fall, through the efforts of the Inter-State Merchants' Association. Kansas, Arkansas, Oklahoma and the Indian Territory, Texas, Arizona and New Mexico have been especially well represented, the number of buyers being fully as great this season as it was a year ago. For at least two reasons this is a remarkable fact. Last year many new buyers were attracted here by the World's Fair. This year the yellow fever in the gulf tier of States was expected to diminish trade in this center, for the reason that the St. Louis market has always enjoyed much good fall trade from Louisiana and Mississippi, which will be largely shut out in 1905. The pestilence has cut down the demands for merchandise in those States, and consequently they will not be such a factor in our trade as they are in the average years. But from Texas, Oklahoma, the Indian Territory and Arkansas the flood of buyers is as large as it was one year ago. From Kansas, New Mexico, Arizona and Colorado the volume is larger than it was in August and September, 1904. This is a tribute to St. Louis' advantages as a purchasing center for the country immediately surrounding us. We get many buyers from Illinois, notwithstanding Chicago's efforts to catch all of that State's trade. Many buyers are coming to us from Iowa, Minnesota, and the Dakotas. For their trade we have to compete with Chicago, which makes special endeavors to attract the favors of the whole of that big district. In many lines of goods, however, buyers from that field can deal to advantage in St. Louis as compared with the city at the south end of Lake Michigan. St. Louis is boldly extending the scope of its commercial relations every year. Our wholesalers in all lines are reaching out farther and farther and making conquests in new fields. In the Northwest we are steadily and rapidly extending our sway. From Minnesota to Montana we are making gains in sales of all sorts of merchandise every year, despite the competition which is being offered by Chicago and New York.

The Great and Growing Southwest

It is in the Southwest, however, that St. Louis is making her largest conquests. The region from Missouri down to the Mexico line is growing with greater rapidity than any other part of the United States. That vast stretch of country naturally looks to St. Louis as a distributing center. More homeseekers are going into the Indian Territory and Texas than into any other section of the country. The Uintah and other reservations which are being thrown open to settlement are not attracting so many immigrants as are moving into Texas and the two territories between that State and the Kansas and Missouri line. Texas has just got ahead of Illinois in the extent of railway main track, thus depriving Illinois of a preponderance

which she has held since 1870. More of the new railway mileage of the country for the past five years has gone into the Southwest than into any other locality in the country of the same population. The prosperity which the entire country has in particularly large measure in 1905 is especially conspicuous in the territory commercially tributary to this city. To the great Southwest and its commercial capital, St. Louis, this season is notably lavish in fortune's favors.

W. B. Elliott & Brother, of Camden, Ark., were represented in this market last month by W. B. Elliott, the head of the firm, who was here selecting the firm's fall bills.

A. Guyot, of Jefferson City, Mo., was among the many visiting buyers in this market last month, selecting his fall bills.

A. Stortz, of Little Rock, Ark., visited St. Louis last month for the purpose of stocking up for the fall trade.

To encourage commercial immigration to the Southwest and Middle West the Business Men's League of St. Louis has adopted a novel system of furnishing information of business openings to all who desire such information.

The St. Louis Clock & Silverware Company are sending out to the trade this month their handsome new fall catalogue. It is larger, handsomer and more interesting than its predecessors. The front cover is quite attractive and the printing of the book is in excellent taste. It is, of course, profusely illustrated, and the engravings are of the highest class, among them being numerous half-tone phototype plates especially illustrative of silverware and cut glass effects, leather and art goods effects. Every department of this business—clocks, silverware, cut glass, art goods, lamps, leather goods and all the late novelties—is represented in its pages. Not the least attractive feature of this new catalogue are the prices attached. It will be sent free to any reader of THE KEYSTONE who is a regular jeweler in the trade territory covered by the above firm. If you have not received the new book when you read this item, send for it.

President Goodman King, of the Mermod, Jaccard & King Jewelry Company, has just returned from his second European buying trip this year.

Morris Eisenstadt, president of the Eisenstadt Company, has recently purchased a handsome auto machine, and is getting no little enjoyment each day speeding over our streets at a lively gait. He has already become skilled in the management of the machine, and says he enjoys the sport greatly. Mr. Eisenstadt also thinks that the automobile is a great invention for the busy business man, especially as a health-giving power.

Sam Lowenstein, who travels in Missouri and Illinois territory for the Bauman-Massa Company, was at headquarters for a week the early part of September, stocking up for his second fall trip over his territory. He reports good business.

Joseph W. Cary, head of the wholesale tool and material firm that bears his name, returned last month from his summer outing spent at Harbor Beach, Northern Michigan. While away he and a friend encountered a severe storm while voyaging in a sailboat from Charlevoix to Harbor Beach. They started in a sailboat, the property of Mr. Cary, and encountered rough weather, making the voyage a very perilous and trying one. They arrived safely at Harbor Beach, completely exhausted by the trip. During the entire voyage the boat was kept under full sail, which was necessary as a safeguard on account of the heavy sea running. Mr. Cary, who is said to be one of the most experienced sailing masters in the Mississippi valley, was mighty glad to escape from this experience with his life.

Louis M. Fev, of Chamois, Mo., visited this market last month on his fall purchasing trip.

C. C. Stevenson, of Pittsburg, Kansas, was seen among our wholesale houses last month, buying fall goods.

M. T. Graham, of Fort Smith, Ark., spent several days in this market last month, selecting his fall bills.

H. E. Kay, Cape Girardeau, Mo., was seen among our wholesalers last month, selecting his fall lines.

Altenmueller & Bea, of Washington, Mo., were represented in this market last month by H.

Altenmueller, who was here on a fall purchasing trip.

Jeweler O. L. Davis and Mrs. Davis, of New Madrid, Mo., were trade callers in this market last month. Mr. Davis reports a bright outlook for fall and holiday business, and was selecting his fall lines accordingly.

Jeweler A. M. Zerweck and Mrs. Zerweck, of East St. Louis, returned last month from a delightful outing spent among Northern Michigan resorts.

O. C. Stegmaier has succeeded to the retail jewelry business of R. Reichard at Washington, Mo.

The announcement of the death of Mrs. Robert E. McMath, née Trent, wife of the president of the St. Louis Board of Public Works, at her home in this city, September 7th, cast a gloom over the trade. For ten years previous to her marriage to Mr. McMath, about five years ago, she was the faithful and efficient cashier of the Eisenstadt Company. Eight years previous to her connection with this house she held a similar position with the old Providence Jewelry Company, so that her acquaintance with the trade was quite extensive. Mrs. McMath, whom everybody knew as "Miss Trent," was a woman of rare business ability and high character. She had many friends in the trade who will read this item with sadness and will remember her as a true lady of the old-fashioned type.

Ed. Massa, of the Bauman-Massa Company, returned the middle of the last month from a most successful two weeks' trip through Oklahoma, Kansas and Nebraska. He reports trade conditions in that territory as most promising. In fact, he never found the outlook for a good fall and holiday trade better in this territory than he did on this trip.

August Kurtzeborn, head of the retail house of A. Kurtzeborn & Sons, returned early last month from a nine weeks' outing spent among the Northern lakes.

George R. Stumpf has recently returned from a six weeks' trip to California and the Portland Fair. He was accompanied by his wife and mother and reports a delightful outing.

John Bolland, head of the John Bolland Jewelry Company, returned early in the month from an extended Eastern trip.

W. T. Kemper, of the Franklin Avenue retailer, has just returned from a delightful outing spent in Colorado.

Meyer Bauman, of the L. Bauman Company, returned early last month from a three months' stay in Europe, accompanied by his daughter. Mr. Bauman reports a delightful summer spent abroad.

A. Swink was a visiting buyer in this market last month.

M. Roberts, of Troy, Ill., spent a day here recently, selecting his fall bills.

V. L. Prevaillet, of Perryville, Mo., spent a day in the St. Louis market last month, replenishing his home stock.

G. H. Geer, of Jackson, Tenn., was a welcome buyer in this market last month.

W. R. Haselwood, of Bardwell, Ky., was in St. Louis last month, selecting his fall bills.

J. Jones is a new jeweler at Casa, Ark. Mr. Jones was formerly with Jeweler J. E. Ketchum, of Morrilton, Arkansas. He bought his open stock in this market last month.

Fred. Herrold, of Jerseyville, Ill., paid the St. Louis market a visit last month for the purpose of stocking up for the fall trade.

B. Gottlieb, of Pine Bluff, Ark., spent a few days in town last month, combining business with pleasure.

J. Schmelzer, of Centralia, Ill., was among the large number of visiting buyers in this market last month.

Fred. Studer, the well-known jeweler of Waco, Texas, spent a few days in town last month, combining some fall buying with the pleasures of life in the great Southwestern metropolis.

C. B. Cook, of West Point, Ark., visited the St. Louis market last month on his fall buying trip.

Geo. P. Vogt, of Montgomery, Mo., paid this market a visit last month, on the lookout for fall novelties.

S. G. Parker, of Newport, Ark., was a visiting buyer in this market last month.

New York Letter

(Continued from page 1647)

The New Gorham Building

The opening, last month, of the new store of the Gorham Mfg. Co., situated at Fifth Avenue and Thirty-sixth Street, was a noteworthy event in the commercial progress of this city, and one of which the jewelry trade has special reason to be proud. In size, architecture and general appointments this establishment ranks with the greatest of its kind in the world. It has the unique distinction of being the first store of such magnitude and beauty to be exclusively devoted to the sale of one manufacturing company's product. It belongs to a Florentine renaissance style, rises to the liberal height of eight stories and occupies sixty-seven feet on Fifth Avenue and one hundred and sixty-seven feet on Thirty sixth Street. To the casual observer it does not appear so high, owing to the architectural characteristics of the facade, which latter is horizontally divided into three sections, one above another; first an arcaded story, then a section of plain masonry and over this a handsomely colonnaded loggia surrounded by a deep cornice. The lower story consists of three bays divided by round arches and supported by Ionic columns of polished granite. Among the chief ornamental features are the bas-reliefs, executed by Andrew O'Connor, representing art and industry; a bronze frieze, made by the company, which compasses the building between the first and second stories and the handsome metalwork and gilding of the cornice. The entire first floor is used as the principal show room. It contains ten thousand square feet; the second floor, of similar area, is also used for display; the third is given over to ecclesiastical art; the fourth to wholesale interests; the fifth, the executive offices, and the others to stock, repair and sundry departments. The basement contains ample vaults for special storage purposes. The ceilings are all pretty, that of the first floor markedly so; the show cases are of richly carved mahogany, and the gilded bronze-work of cage, balustrade and elevator door exemplify the fine work in this way, done by the firm itself.

F. F. Fulcher, jeweler, of Great Barrington, Mass., was a buyer in this city recently. Although he has not been in business a very great while, Mr. Fulcher reports a very satisfactory trade, with

prospects for a good business this fall and during the coming holiday season.

Robbers' Perennial Activity

The frequency with which jewelry robberies have been committed or attempted in this city for the past few months suggests anew the need of constant and unremitting vigilance on the part of store attendants. Every

pressed a desire to see some diamond rings. Several \$5 rings were submitted, but he wanted some of a better quality. One worth \$50 was shown, but after he had inspected it he decided he would take one of the \$5 variety, and requesting the jeweler to lay one of these aside for him, he essayed to leave, saying he would return for it in the evening. To his consternation, however, he was seized

by Mrs. Berkowitz, the muscular and plucky wife of the dealer, and charged with having slipped on his finger and retained the \$50 ring. The lady's husband came to her assistance, a policeman was soon on the scene and the fellow placed under arrest. To the magistrate he said he had not intended to steal the ring, as he had paid a deposit of \$5 on it. He was ordered to return the article to the jeweler, and if he spoke the truth regarding the payment of \$5, to sue the jeweler in case the latter failed voluntarily to refund it. Thus far there have been no subsequent developments. A dapper young man who twirled a cane carelessly, walked into Henry Marronstein's jewelry store, at 523 Amsterdam Avenue, on the evening of September 13th, at 6 o'clock, and told the jeweler that he wanted to look at rings and diamond pins. The jeweler spread trayfuls on the counter, which the young man inspected carefully. A fine gold watch worth \$600, the property of a local hotel manager, lay on the counter. Jeweler Marronstein turned his back a moment, and the young man grabbed the watch and ran out of the store. The dealer followed, yelling at the top of his voice. Detectives Coleman and Cummings, of the West Sixty-eighth Street station, who were on the other side of the avenue, heard the commotion and ran across. Two men who had been waiting, apparently, for the thief, sprang toward him as he sprinted out of the store. He threw the watch away and it fell behind two



The Gorham Mfg. Co.'s New Building

strange visitor, especially those of the male sex, must nowadays be searchingly scrutinized and the scrutiny must be unrelaxed if it is to be always effective, for the wily sneak thief, the skillful substitute and their more desperate brother, who grabs and runs, are ever on the watch for an unguarded moment. The thief, of course, we shall always have with us, but this makes the need of caution all the more imperative. An example of the saving value of quiet precaution would seem to be afforded by the attempts recently made to rob the store of Bernard Berkowitz, 15 Cooper Square. A young man visited the place and ex-

pressed a desire to see some diamond rings. Several \$5 rings were submitted, but he wanted some of a better quality. One worth \$50 was shown, but after he had inspected it he decided he would take one of the \$5 variety, and requesting the jeweler to lay one of these aside for him, he essayed to leave, saying he would return for it in the evening. To his consternation, however, he was seized by Mrs. Berkowitz, the muscular and plucky wife of the dealer, and charged with having slipped on his finger and retained the \$50 ring. The lady's husband came to her assistance, a policeman was soon on the scene and the fellow placed under arrest. To the magistrate he said he had not intended to steal the ring, as he had paid a deposit of \$5 on it. He was ordered to return the article to the jeweler, and if he spoke the truth regarding the payment of \$5, to sue the jeweler in case the latter failed voluntarily to refund it. Thus far there have been no subsequent developments. A dapper young man who twirled a cane carelessly, walked into Henry Marronstein's jewelry store, at 523 Amsterdam Avenue, on the evening of September 13th, at 6 o'clock, and told the jeweler that he wanted to look at rings and diamond pins. The jeweler spread trayfuls on the counter, which the young man inspected carefully. A fine gold watch worth \$600, the property of a local hotel manager, lay on the counter. Jeweler Marronstein turned his back a moment, and the young man grabbed the watch and ran out of the store. The dealer followed, yelling at the top of his voice. Detectives Coleman and Cummings, of the West Sixty-eighth Street station, who were on the other side of the avenue, heard the commotion and ran across. Two men who had been waiting, apparently, for the thief, sprang toward him as he sprinted out of the store. He threw the watch away and it fell behind two ash barrels. The confederates saw the detectives and took to their heels. Coleman and Cummings grabbed both jeweler and thief, letting the confederates get away. At the police station the prisoner said he was Frederick Johnson, of 323 East One Hundred and Twenty-third Street. He said that he had an appointment to take a girl to dinner and the theater, and he hadn't enough money to make good. He thought he would take a chance at Marronstein's store, he said. He didn't explain about the confederates. Several other attempts have been made to victimize the trade during the past month with varying success.

*An Extensive Line of Gold
Jewelry at Popular Prices*

THE "stamp of excellence" covering the extensive line of Jewelry we offer to the Jobber gives him confidence to buy without hesitation, well knowing the "selling quality" of our goods. The attention of the trade is called to our line of

COLLAR SUPPORTERS

An unusual assortment, artistic in design, color and finish. Special attention is called to our patent adjustable clasp. It is possible to use this Supporter on collars of different heights.

CROSSES

New suggestions in the various finishes—plain, chased, Art Nouveau and artistic effects set with stones.

BRACELETS

While our bracelet line is a comparatively new acquisition, we are carrying a complete assortment in plain and ornamental designs.

33-43 GOLD STREET, NEW YORK

STERN BROS. & CO.

Salesroom and Offices
Diamond Department, 68 Nassau Street, New York
Diamond Cutting Works
142 West 14th Street, New York

Branch Offices: 103 State Street, Chicago, Ill.
29 Ely Place, London
12 Tulp Straat, Amsterdam

Patent Applied For

Manning, Bowman & Company, Meriden Connecticut

New York
Chicago
San Francisco

Nickel and Silver Plate



No. 269. CHAFING DISH OUTFIT

All Chafing Dishes furnished with patent Seamless "Ivory" Enameled Food Pans if mentioned on orders.

"M. & B." CHAFING DISH ALCOHOL

This "Alcohol" is especially prepared for use in Alcohol Lamps. Unequaled for use under Chafing Dishes, Coffee Percolators, etc. It should be in the stock of all first-class dealers.

Chafing Dishes
"Meteor"
Coffee Percolators
Tea Ware
Baking Dishes, Etc.

Prize Trophies

Solid Copper with English Pewter Mountings, and English Pewter Throughout



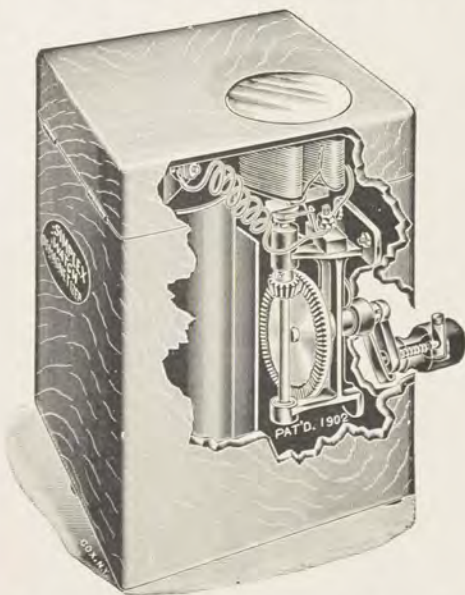
Sectional View

"METEOR"
CIRCULATING COFFEE PERCOLATOR

ALWAYS insures Delicious Coffee and SAVES ONE-THIRD

Send for Catalogue No. 40 K, illustrating complete line

THE SIMPLEX WATCH DEMAGNETIZER



Self-contained—requires no outside current.
Automatic—switch prevents batteries from burning out.
Portable—can be used anywhere.
Compact—size, 6 x 6 x 8; weight, 9 lbs.
Send for descriptive circular.

Price, \$12 net. May be purchased through your jobber.

THIMBLES Gold and Silver



144



143

ESTABLISHED 1832
KETCHAM & MCDUGALL
MANUFACTURERS
GOLD & STERLING SILVER THIMBLES
AUTOMATIC EYEGGLASS HOLDERS
37 AND 39 MAIDEN LANE, N. Y.
SEND FOR CATALOGUE "E"



149



163

The Automatic Eyeglass or Pencil Holder



Made in Gold, Silver, Rolled-Plate, Gun Metal, Royal Copper and Black Enamel. Samples sent upon request



No. 2527. Cake Basket

Combination French Gray-Burnished Finish \$3 75 List

Rich clusters of grapes beautifully embossed constitute the border. The center is highly burnished and shades imperceptibly into the dark gray of the leaves. The grapes are finished in a manner suggestive of color. A platted vine with smaller grape ornamentation forms the handle and feet

A Fragment of Lincoln's Philosophy

- ☛ The truth of Abraham Lincoln's homely maxim "You can't fool all the people all the time" has always impressed us. It is the governing principle of our departments for the manufacture of popular-priced goods.
- ☛ We have consequently never attempted to thrust upon the people, by mere virtue of cheapness, productions devoid of merit.
- ☛ The artistic unity of the design here illustrated is characteristic.
- ☛ Patterns conforming to the demand for popular prices are not less beautiful than those of a more exclusive character. They are distinguished only by adaptation to modern cost-reducing methods of manufacture.
- ☛ We have devoted energy and initiative to the origination and perfecting of those methods, and our assortments of such designs are more distinctive, more varied and of a higher excellence than those of any other maker.

*Remember that almost sixty years of popular acceptance
attest the integrity of Homan Plate*

THE HOMAN MANUFACTURING COMPANY

Office, Factory and Salesroom

Cincinnati, Ohio

New York Salesroom, 32 Park Place
Chicago Salesroom, Silversmiths' Building
Boston Salesroom, Jewelers' Building

SILVERWARE THAT SELLS

"THE VIOLET"

Latest design in the French Gray Finish



New York
Office
Room 43
Number 14
Maiden Lane

Chicago Office
Room 212
Silversmiths'
Building
131 Wabash Ave.

Twenty-five pieces now ready

Send for new Catalogue No. 10

WE ARE NOT IN THE TRUST

HIGHEST QUALITY SILVER-PLATED WARE

Manufactured by

Simeon L. and George H. Rogers Company

Factories—Hartford and Wallingford, Conn.

Hartford, Conn.



Rockford Silver Plate Co.



ROSEMARY FOR REMEMBRANCE

FULL LINE of this CHARMING PATTERN now ready for delivery

Send for price-list if you have not received our salesman's advance card

**Only Jewelers Can Buy
Rockford Goods**

Order early and you will have to order often to supply trade

Rockford Silver Plate Co., Rockford, Ill.

KEYSTONE

SOLID GOLD CASES

Guaranteed 14 K. 585 thousandths fine



Bascine—The relief work on the back and center of the case carved out of massive stock. O size hunting.



Bascine—Art nouveau design carved out of massive stock, the relief work in the design beautifully modeled. O size hunting.



Bascine—Relief work carved out of massive stock, leaves beautifully modeled, background of vermicelli and moire. O size hunting.



Bascine—A very rich design. The relief work is carved out of massive stock. The background is moire in rich tones. O size hunting.



Bascine—Very bold design. Relief work carved out of massive stock. Background of fine quality of vermicelli. O size hunting.

Home or abroad, Keystone Solid Gold Cases are the best that money can buy or that brains and skill can make. These five O size cases show the new carved-engraved effects, the very newest things from the engravers' blocks, inexpensive for work of this class. The relief work is cut out of massive backs, *not soldered on*. Get your share early; everybody looks here for the good things, and there may be another famine in O size cases. Surely the supply will be hard to keep up on these remarkable designs. Sixteen size shown in *Jewelers' Circular* of September 27th.

THE KEYSTONE WATCH CASE CO.

New York
Chicago

Philadelphia

Cincinnati
San Francisco



Compare the Boss 25-Year Cases with Solid Gold Cases

There is no marked difference except in weight. Fitting, finish, design is all that you can wish. Very highest class of work possible to put on a watch case. Ornamentation fully up to the standard of solid gold work. Modeled like solid gold cases. Look at these new O-size cases—this daintiness of contour and delicacy of treatment is exclusive to the Boss Cases; sure to create a great demand. *Your* jobber has them now.

The Keystone Watch Case Co.

New York
Chicago

Philadelphia

Cincinnati
San Francisco

HOWARD

COMPLETE WATCHES



Made in 16 size only in the following grades:

23 ruby and sapphire jewels (raised gold settings); adjusted to 5 positions, temperature and isochronism; breguet hairspring; micrometric regulator; gold train wheels; double roller; steel escape wheel; sapphire pallet stones; all steel parts highly finished; extra fine, hand-made, double-sunk dial; **timed in the case and certificate of rating furnished with each watch.**

19 ruby and sapphire jewels (gold settings); adjusted to 3 positions, temperature and isochronism; breguet hairspring; micrometric regulator; gold center wheel; double roller; steel escape wheel; sapphire pallet stones; all steel parts highly finished; extra fine, hand-made, double-sunk dial; **timed in the case and certificate of rating furnished with each watch.**

17 ruby and sapphire jewels (gold settings); adjusted to 3 positions and temperature; breguet hairspring; micrometric regulator; gold center wheel; double roller; steel escape wheel; sapphire pallet stones; all steel parts highly finished; extra fine, hand-made, double-sunk dial; **timed in case.**

17 ruby and sapphire jewels (gold settings); adjusted to temperature; breguet hairspring; micrometric regulator; gold center wheel; steel escape wheel; sapphire pallet stones; all steel parts highly finished; extra fine, hand-made dial; **timed in case.**

ADJUSTMENT

It is impossible to emphasize too strongly the importance of **adjustment**. Perfection

of mechanical construction is labor lost without adjustment, just as adjustment would be worthless in a watch of faulty construction. Adjustment makes the watch, although it is not a visible feature. Adjustment is the one thing that cannot be added or aided by machinery; the timekeeping quality that may be imparted only by the skill of the human hand, directed by a scientific knowledge of the subject supported by years of practical experience. **It is all handwork based on precise calculations, done by men whose services are invaluable and who are rarely to be had.** It is the costly part of a fine watch.

In the feature of **adjustment** Howard Watches excel. The effort and care put into the adjustment of Howard Watches we believe to be the limit of useful endeavor in watch manufacture: We **know** there is no other watch of such real worth and value at the price we put on it. The time card sent with each 19 and 23-jewel Howard Watch indicates the faithful work of our adjusters and as well forecasts the good such a sale will do in building your reputation. Write to us for book giving full descriptions and prices at which the Howard Complete Watches are sold to the public; also list of jobbers from whom they may be obtained.

E. HOWARD WATCH CO., Waltham, Mass.

PROVIDENCE and ATTLEBORO

President Holbrook Honored

An unique evidence of the happy relations which exist between the Gorham Mfg. Co. and its employees was furnished last month upon the occasion of a visit paid to the company's factory, at Providence, by its president, Edward Holbrook. A singularly-pleasant surprise awaited Mr. Holbrook in the form of a testimonial, artistically conceived, beautifully illuminated and cordially expressive of the honor and esteem in which the recipient is held by the fifteen subscribers, to wit, William C. Codman, head of the designing department, his ingenious subordinates and J. F. P. Lawton, who has achieved many triumphs in connection with the printing and publishing of the company's books and other compilations. The testimonial was designed and executed by Mr. Codman, with Messrs. Kingman and Barrett as collaborators. It is an art work of its kind, both in outline and embellishment. Its pleasing color tones, impossible of photographic reproduction, and handsome ornamentation recall the glories of the ancient manuscripts. The top left-hand building on the document is the establishment of the company at Nineteenth Street and Broadway, New York; the structure to the right of this is the palatial edifice recently opened by the firm at Fifth Avenue and Thirty-sixth Street, in the last-named city, while the Providence factory occupies the lower portion. The center base contains the cross of the Legion of Honor awarded by the French Republic to Mr. Holbrook in 1900. The sunflower which dominates the decoration was chosen as symbolizing happiness, and the clover leaf and blossom as typifying prosperity. The figure on the upper left-hand corner panel represents the process of die-sinking, that on the parallel panel designing, while the left-hand bottom panel represents the chasing process, and that on the right, silversmithing. Subdued green, yellow, rose and gold are harmoniously blended in the color scheme.

A quiet boom is reported in the jewelry business of North Attleboro. A constant stream of orders, it is said, has been coming in from the West for the past few weeks, with the result that manufacturers have been enlarging their productive forces. The Attleboro Sun cites an instance illustrating the pressing need for operatives at this time. E. Ira Richards & Co., North Attleboro, hired an old-time jewelry worker named Thomas F. Lynch, who, according to the paper mentioned, is no less than seventy-eight years old. He has been out of the business for some years, but he volunteered to go back for a few months in order to assist in taking care of this almost unprecedented trade. Mr. Lynch is employed as a scratch-brusher, and despite his age, is able to do a good day's work. The Sun adds: "It looks more like the old days to see so much jewelry business. At the present time several factories are running until 7 and 9 o'clock even-

ings in order to keep up with the orders, and it will not be long before others will be forced to swing into line. This excellent jewelry business has its effect in all branches of trade, and the merchants report a substantial increase in their revenues."

Roswell C. Smith, well known in the Providence trade, and chairman of the executive committee of the New England Manufacturing Jewelers' and Silversmiths' Association, despite the protests of his constituents and many friends, has withdrawn, at least temporarily, from active participation in politics, and, therefore, will not be a candidate for re-election to the Providence Com-



Testimonial presented to Pres. Edward Holbrook, of the Gorham Mfg. Co.

mon Council. Last year Mr. Smith had determined upon a like course, but in due deference to the wishes of his political admirers, he altered his purpose. Now, however, he is firm in his decision to exclusively devote himself to his business interests, the demands of which are constantly increasing.

New Bank Officials

The directors of the First National Bank met on September 18th, and elected Clarence L. Watson as president to fill the vacancy caused by the death of J. M. Bates. Charles-R. Bates, elder son of the late president, was elected a director to fill the vacancy on the board of directors caused by the death of his father. No other business of public interest was transacted at the meeting. The directors present were: C. L. Watson, Albert A. Bushee, John W. Wolfenden, James E. Blake, Harvey Clap, David Makepeace, R. M. Horton, E. A. Sweeney and C. H. Tappan.

The Providence Jewelry Co. is the name of a concern that has recently been incorporated under the laws of the State of Rhode Island. The company's object is to manufacture jewelry, the capital stock is \$50,000, and the incorporators are: J. L. Records, Harry Cutler and Theodore Loveland.

A Forthcoming Anniversary

The Wightman & Hough Co., Providence, is now rounding out its fiftieth year of existence, and already preparations are being made to fittingly commemorate the establishment of the firm. In a review of the company's history the Providence Journal states that in 1856 it had a shop in the top of the Richardson & Hicks Building, on Friendship Street, between Richmond and Page, and the partners were A. Augustus Wightman and Walter S. Hough. Before the war a general line of jewelry was manufactured in addition to lockets. The business was profitable until 1861, when the jewelry trade was demoralized by the war. Mr. Wightman went to the battleground and Mr. Hough became foreman of the Burnside Rifle Works. The jewelry, tools and machinery were stored for a time till Mr. Wightman returned to Providence, and business was resumed in the old quarters. In 1873 the business was removed to the G. & S. Owen Building, at the corner of Snow and Chapel Streets. In 1875 the product was limited to lockets. In January, 1893, Mr. Wightman died, and his interest was purchased by Mr. Hough, who, with his son, Edward B. Hough, applied for a Rhode Island charter for the incorporation of the Wightman & Hough Co. In 1896 the increase of business necessitated larger quarters, and the company removed to the fourth floor of the Manufacturers' Building, on Beverly Street, where two shops cover 9000 feet of floor space. The firm is considered the largest in the country making a specialty of lockets.

R. F. Simmons Company, the well-known chain manufacturers, of Attleboro, will mail to the retail trade, postage free, upon request, an attractive advertisement for the Simmons product in the form of a "posterette," bearing an appropriate illustration entitled, "The Ideal Gift." It measures 11 1/2 x 15 inches, is handsomely colored, and is mounted on a tinted and pebbled mat. Its special function is to attract admiration in the show window, and this it has all the necessary qualities to fulfill. It is much of an improvement even on the beautiful posters this company prepared some time ago.

The Irons & Russell Relief Association, a philanthropic and mutually beneficial body, composed of the employees of the firm named, held their annual outing on Saturday, September 16th, on the pleasant grounds of the Warwick Club. Thither they journeyed on a special car, and upon arrival partook of a delicious dinner, after which they held a formal business meeting, with Alfred Williams in the chair. Reports were submitted by the officers which showed the association to be in a satisfactory condition both as to membership and finances. At the conclusion of the meeting a series of athletic contests were held, the most interesting being a baseball game between the bachelors and the married men. The single men were victorious, but despite the advantages of bachelorhood they were only one point to the good, the score being 6 to 5.

GEO. B. BARRETT CO.

NEW STOCK FOR FALL AND HOLIDAY TRADE

Accurately informed as to the requirements of the trade for the coming Fall and Holiday Season, we have now ready for inspection the largest and most carefully selected stocks ever placed at the disposal of our patrons.

These stocks include the latest ideas—models, styles and patterns—in all the standard lines of goods:

DIAMONDS

WATCHES, CLOCKS, MATERIALS, JEWELRY,
SILVERWARE, NOVELTIES, Etc.

Whatever the character or extent of your needs in these lines, we are in a position to furnish same promptly and to greatest advantage.

Orders sent by mail will be carefully filled and shipped same day as received.

GEO. B. BARRETT CO.

WHOLESALE JEWELERS
AND DIAMOND IMPORTERS

347 FIFTH AVENUE
PITTSBURG, PA.

PITTSBURG LETTER

Trade conditions among the jewelers of the Pittsburgh district promise a very satisfactory fall and winter season. The reports from salesmen in the vicinity of the city and throughout the neighboring States, indicate a strong tendency among the retailers to buy quite freely, and while stocks are probably small compared with what has been customary in the past few years, the very conservatism shown indicates a healthy condition. The jewelry business is nothing if not sympathetic with the financial and stock markets. The industrial situation is bright. The employment of all grades of labor is on a large scale and wages have improved materially. Skilled mechanics are being sought for in many of the larger establishments, and bankers report a fairly easy money market. The opening of the annual exposition, which draws so many thousands to the old point district of Pittsburgh, has brought strangers to the city in vast numbers. Heeren Brothers & Company have on exhibition there this season a somewhat different collection of art ware than heretofore. Last season the bronzes displayed took up all of the space. This season other art goods are shown, all the imported kind and some of rare beauty of form and finish.

Among the Local Trade

Manager J. F. Montgomery, of M. A. Mead & Co., and his office staff are already feeling at home in Pittsburgh. They find the jewelry trade in this city somewhat different from that in Chicago, but the difference is pleasing in many respects. In spite of the fact that the company's offices here have been opened but a short time, they are well satisfied with the progress made. The watch trade, of the Pittsburgh district has, like the general run of jewelry, been a little quiet during the summer months. The falling off has been mainly due, it is believed, to the somewhat slow recovery of the buying public, after the depressed conditions, and possibly to the further fact that the high cost of living is taking up much of the surplus cash of the people.

Rich Displays of Stock

The usual fall display of stock in the show windows is being made in a refreshing manner. Cut glass has been pushed forward in this manner, and some fine displays have been shown. In silverware, new designs of standard articles are abundant, while china and decorated ware are playing a most important part in the stocks of the dealers. A good many of the stores are still endeavoring to attract attention to the mission clocks of various sizes and designs, and find this profitable. Leather goods are conspicuous, and the finer electroliers are being shown to good advantage. The theatrical season has just fairly opened, and with the additional element of the Belasco syndicate in the field, has made the outlook more interesting from a social standpoint, for it gives Pittsburgh another first-class play house.

Social Season Favors the Jeweler

The social season has opened with brilliant promises. At least this is the prediction of social sages and those watching events closely. All these things have a bearing on the jewelry trade, and are watched with

more or less interest. The Pittsburgh orchestra season is to be lengthened somewhat, and so is the grand opera season. Golf and tennis are nearing an end for the present year, and both have taken up much time among the social set. The only dull spot on the commercial horizon is in the mining fields. The coal trade has had a burden all year, and no special activity has marked that branch of Pittsburgh industries. The miners are not as prosperous owing to the intermittent operation of the mines and the severe competition in the Northwest trade. Just what relation this industry has to the jewelry trade is perhaps best indicated by the fact that during the past month, a miner's home was robbed by burglars near Pittsburgh, and three articles of jewelry taken valued at nearly \$400. Such families may not be numerous, but neither are they rare.

New Installment House

Interest is centered at this time in the rapid development of the installment trade among the jewelers. The Pittsburgh district has only recently developed along this line to any serious extent, and the latest addition to the installment dealers is Loftus Jewelry Company of Chicago, which has opened a branch in Pittsburgh. By a coincidence, in searching for a suitable location, the company came upon the handsome store that had just been fitted up for the Prosser Optical Company, on Sixth Street, and had only been occupied for a few weeks before a disruption occurred in the company and the place was closed out. The Loftus Company took over the store and its fine optical equipment, and retained Mr. Prosser as manager of the optical department which has been added to the business. Jewelers who have been through the establishment, regard the new place as one of the best appointed stores both as to fixtures and arrangement in the country. The arrangement of the interior is out of the ordinary, lacking the usual stiffness of the jewelry shops, and with easy seats and center tables for the examination of stock.

Suggestive Improvements

Active plans are being prepared by Gillespie Brothers for further improvements in their handsome store in the Park Building. In addition to a new diamond room, which had been planned earlier but not installed during the summer, the house is adding much more shelf room and many handsome cases, some of which will surround large columns in the center of the sales-room. The cut glass department is to be enlarged and a much larger stock of this line is to be carried this year than ever before. Regarding the trade conditions for the past season, the firm views the summer as one of the most satisfactory it has experienced. Business has held up well and the fall is brighter. Buying for the holiday trade has been generous, and estimates place the stock to be carried at fully double former years. Of course the store is larger, but the general tone of business seems to warrant the expansion.

Optical Trade Satisfactory

The optical trade has been enjoying improved conditions with the approach of the fall season. Aside from the usual demand for opticians' regular lines, the popular call for improved forms of frames has given an added interest to the business, and has given also a basis for considerable advertising. There has been much competition in some of the optical specialties by the extension of stocks in department stores, and as a rule the trade is avoiding the cheaper stocks and carrying only the standard lines.

A. A. Gillespie has returned from his European trip, which was both for business and pleasure. The stock of imported ware that Mr. Gillespie has brought back with him has not reached Pittsburgh yet, but will be opened during the month. As to fads and fancies for the season, interest is apparently awakening in the new lamp globes for chandeliers and electroliers, some of the newer designs having been quickly crowded into popular favor. C. B. F. Gillespie is on a trip to the Pacific Coast, and has written home with numerous souvenirs of his journey, one being a little bag of gold ore from Colorado. P. C. Gillespie is in New York on a buying trip. F. F. Lang, of the same house, is congratulating himself on the completion of his new home, which he has been building all summer.

Traveling men are thick in Pittsburgh this season, and they come from all directions. Among these men on the road, there is a cheery disposition, in discussing the outlook for the coming season. They are pretty good judges, too, and measure up conditions pretty closely.

Tampering With Credit

Credit is cheap. This is proverbial, but has it occurred to the average merchant that the principle on which credit is based—confidence—may be so abused that credit is seriously weakened if not entirely destroyed? To obtain credit integrity of purpose is the first essential. However efficient the merchant, without integrity of purpose his credit can not be A 1. He who contracts an indebtedness and makes no provision or effort to meet his obligation when due, but relies on excuses and begs for extensions, has no real integrity of purpose. When a bill of goods is purchased on a specified time it is expected that the obligation will be met when due. If through some good cause it cannot be met, the contracting party is under obligation to notify his creditors of the necessity of an extension, naming a reasonable time when he can and will meet the obligation.

How often do we find, however, that the merchant, instead of so doing, allows his bills to mature with no explanation why payment is withheld, paying no attention to notices of draft to be drawn on some future dates, never writing or requesting that draft be withheld or setting forth reasons why, but allowing draft to be drawn, presented and returned without comment. Such action will surely weaken if not ultimately undermine the credit of the merchant. Credit to a man of business is what chastity is to a woman: Neither can afford to be fooled with.

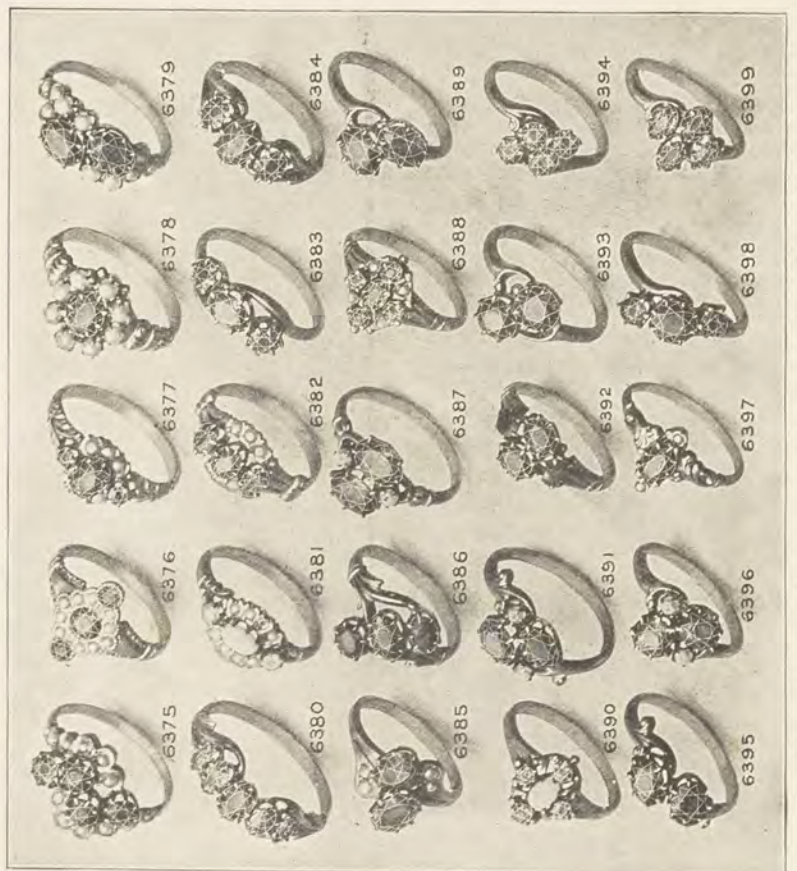
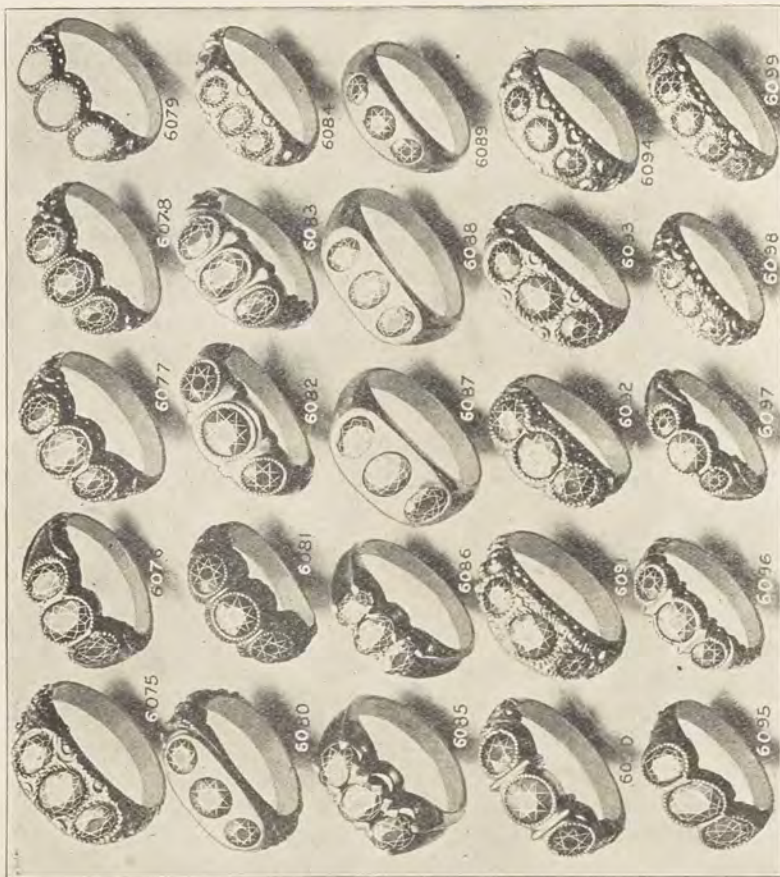
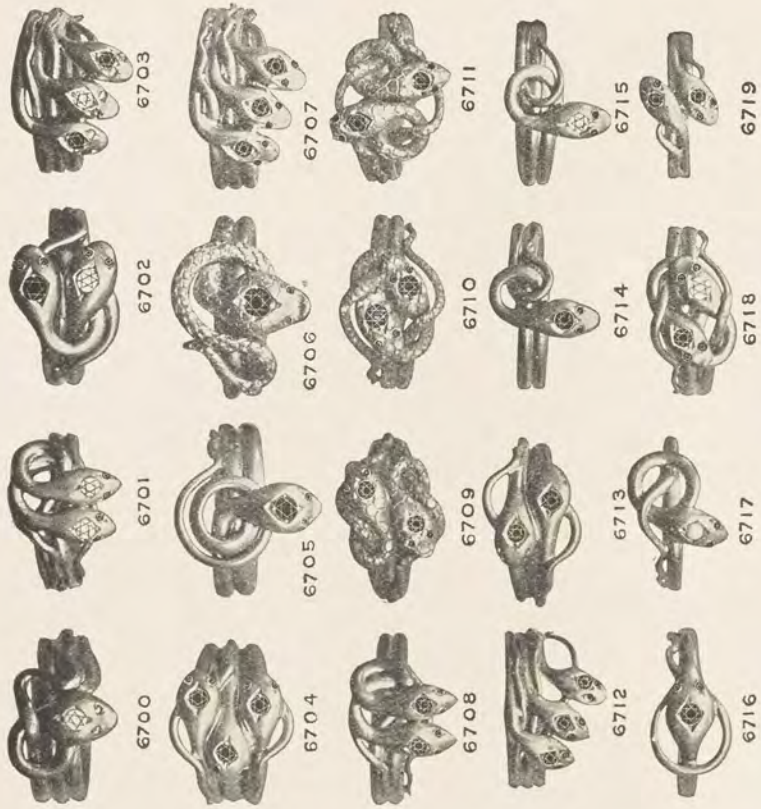
A Remarkable Metal

Although the existence of tantalum, the new material employed for incandescent lamp filaments, has been known for a hundred years, it is only very recently that the metal has been prepared in a pure state. This is effected with the aid of the electric furnace. Tantalum combines extreme ductility with extraordinary hardness. When red-hot it is easily rolled into sheets or drawn into wire, but upon being heated a second time and then hammered it becomes so hard that it has been impossible, with a diamond drill, to bore a hole through a sheet only one millimeter thick. Such a drill, working day and night for three days, at five thousand revolutions per minute, made a depression only a quarter of a millimeter deep, and the diamond point was badly worn.

R., L. & M. FRIEDLANDER

Wholesale Jewelers
Importers of Diamonds
Jobbers in American Watches

30 Maiden Lane, New York City



Do not make your holiday purchases until you see one of our representatives or our Complete Watch, Diamond and Jewelry Monarch Catalogue No. 60. If in New York City, call upon us and we will gladly show you the finest line of WATCHES, DIAMONDS and JEWELRY carried by any wholesale house. Please note that our name does not appear in any of the catalogues we publish.

These are specimen pages from our New Ring Catalogue, known as the Monarch Catalogue No. 61, which will be ready shortly.
R., L. & M. FRIEDLANDER, 30 Maiden Lane, New York

Send business card for same.



SAN FRANCISCO
LETTER

The fall business began unusually early in this city this year, and the outlook for the holiday season is of the brightest. In fact a general belief prevails that the jewelers will enjoy during the next six or seven weeks the greatest business in the history of the trade. Preparations on an unusually large scale are being made, and high-grade goods are in special favor.

A. Dobrowsky, of Redding, Cal., found it necessary to come to town to replenish his stock, as he had an unusual rush in the last two months. The large line of goods that he purchased while in this market will make an attractive exhibit in his show cases, and will find a ready market between now and the holidays.

H. A. Minnasian, retail jeweler, of Sutter Creek, Cal., spent a few days calling upon his friends in town recently, and purchased a line of jewelry suitable to the tastes of his customers in this old mining section.

Mr. Smith, buyer for Smith Bros., the Visalia retailer jewelers, was among the out-of-town buyers here last month, and returned home greatly benefited, as the cool climate of our invigorating city is quite a relief to the heat of Mr. Smith's section.

Alphonse Judis Co. have added another clerk to their office force, having accepted the services of Louis Cahn, formerly in the employ of the late Emile Hirschfeld and Wolff Bros., in this city. Mr. Cahn will be employed in the stock department and will look after the interests of the visiting retailers.

J. M. McGee, formerly in business in Cherokee, Iowa, was in town last month with his family. Mr. McGee spent a few days visiting the wholesale trade, and incidentally looked over this territory with the purpose of settling somewhere on the Pacific Coast, in a jewelry and optical establishment.

Mr. Boss, who has looked after the city trade of A. I. Hall & Son for the last two years, is now making his initial trip out of town, and it is needless to say that he is meeting with success, as his city experience is of the best. While his many friends among the retailers in town are sorry to part with him, they are pleased with his advancement. J. Valentine is filling Mr. Boss' old position, and is next in line for an out-of-town position. This wholesale house has graduated quite a few successful traveling representatives from their city salesmen in the past, having advanced five of their city men to the road in the last few years.

Mr. Dana, manager of the watch department of Shreve & Co., of this city, is visiting friends in his old home city, Brooklyn, N. Y., and will look over the Eastern market for high-class novelties suitable for the holidays. Mr. Dana expects to be back in about a month or six weeks.

R. F. Allen, of Morgan & Allen, of 134 Sutter Street, is now visiting the Eastern manufacturing concerns that he represents on the Pacific Coast, and will be away from his usual haunts for two months, as he contemplates calling on his friends, the retailers, in his territory before returning to San Francisco. He will show them a large assortment of goods suitable for the holiday trade.

S. Conradi, president of the Conradi Co., located at Second and South Spring Streets, Los Angeles, Cal., spent a few days recently visiting the first-class jewelry stores in this city, looking for

new ideas in up-to-date furnishings, as he is about to increase the size of his store, by taking in another store adjoining his original location. After the intervening wall is removed, Mr. Conradi will fit up the interior in a first-class manner, and we feel safe in saying it will compare favorably with any of the jewelry stores, in this city of palatial jewelry establishments.

Harry Frutig, one of the leading retail jewelers, of Gilroy, Cal., was among the out-of-town tradesmen in this market recently, and purchased a nice line of ready sellers for his fall trade.

O. M. Howard, watch inspector, Southern Pacific Railroad, located at 308 Hayes Street, is receiving the congratulations of his friends in the trade, upon the recent addition to his family. The stork visited his home on August 30th, and we are pleased to report that the young lady and her mother are doing nicely.

M. Saier, one of the old retail jewelers, of Fresno, called upon his friends in the trade in this city recently, and posted himself upon the newest things in the market, gathering up a large line of staples for his patrons' future wants.

Eugene Wachhorst, of the H. Wachhorst Co., the oldest retail jewelers in Sacramento, was in town on a fall-buying trip recently, accompanied by his wife and family. Eugene reports business in the capital city as being in a first-class condition, and predicts a holiday season second to none.

M. Schussler & Co. have accepted the services of Arthur J. Prouty, as traveling representative, making a total of five trade producers traveling for this house. Mr. Prouty has started upon his initial trip for his new house, and the boys in the office are kept busy filling his orders.

Ed. Fano, the hustling retail jeweler, of San Diego, was among the tradesmen in this market last month on a holiday-buying trip.

J. G. Donovan, buyer of the Donovan Co., one of the leading retail jewelry establishments on South Spring Street, Los Angeles, called upon his friends in the wholesale jewelry district last month and selected a large line of novelties for his fall trade. Mr. Donovan reports business in the southern section of the Pacific Coast as the best in its history, and looks forward to a very large trade during the Christmas holidays.

E. Haas, of Stockton, called upon his friends in the wholesale jewelry trade in San Francisco recently, and purchased a full line of jewelry for his holiday trade.

Frederick H. Satterwhite, who is connected with the new firm of Manson & Ray, San Bernardino, Cal., returned from an Eastern sight-seeing trip recently, and called upon the wholesale jewelers in this city while en route for the South.

Geo. F. Blakeslee, of Goldfield and Tonopah, Nev., was among the visiting tradesmen in this market last month, and spent a very pleasant time calling upon his many friends among the wholesale jewelers.

Chas. Noack, who conducts one of the leading retail stores in Sacramento, found it necessary to come to town to replenish his stock last month, as the Native Son celebration held in the capital city on admission day was very profitable for Charles, the visiting purchasers depleting his stock of staples considerably.

J. B. Williams, the Susanville retailer, is up and around again, after an eight-weeks' attack of typhoid fever. Mr. Williams recuperated in this city and returned home greatly benefited by our bracing climate. This gentleman while in this market purchased a new line of holiday novelties for his fall season.

Harry B. Oberlin, of Fresno, was in town on a buying tour last month, and his new show cases will show the results of his selections, as he has purchased a large line of new, up-to-date, salable novelties for his holiday trade.

Geo. H. Cook, of the firm of that name, who conducts two stores in Prescott and Phoenix, Arizona, paid this market a visit last month, and incidentally looked over the wholesale jewelers' stocks, for money producers for the holiday season.

E. M. Ackley, manager of the Chinn-Beretta Optical Co.'s, Stockton, Cal., establishment, was in San Francisco with his family recently, spending a well-earned vacation, and incidentally called upon his many friends in the jewelry and optical trade while here.

James Montgomery, of Montgomery Bros., retail jewelers, of South Spring Street, Los Angeles, Cal., is soon expected home, after making his annual purchasing trip to the wholesale jewelry centers in the East, where he gathered a fine new line of novelties for his holiday season.

H. Richard Condy, the retail jeweler, of Grass Valley, Cal., has improved his establishment by installing an entire new set of show cases and wall fixtures, which gives his store a fine appearance, and enables him to give more floor space to his customers. Mr. Condy is building up a fine business in his thriving mining section, and looks forward to a banner holiday trade.

Herman H. Hadenfeldt, of the wholesale firm of Rothschild & Hadenfeldt, after many delays, due to scarcity of labor, has moved into his new domicile on the hills of Piedmont. Herman will be greatly missed hereafter around his old haunts in San Francisco.

A. Eisenberg, the wholesale jeweler, of 126 Sutter Street, has purchased a new palatial residence in the coming section of the city, with a fine marine view overlooking the world-famed Golden Gate. His friends are singing the praises of the house and congratulating Mr. Eisenberg upon his good judgment in this last real estate deal.

How Courtesy Pays

"Courtesy pays," said a merchant who employs many clerks. "I am almost inclined to place it at the head of the list of virtues in an employee of mine. I have known men of what you would term 'ordinary' capacity to succeed because they observed the rule of uniform politeness and deferential regard for other people's feelings, when their fellow-workmen, depending on their 'genius' and appropriating the license of genius themselves, fairly did themselves out of good opportunities by surly mannerisms.

"I don't think it occurs to the average man that a word on this topic is necessary in what we are often pleased to call 'this enlightened age.' Yet, if you will take account of your next hundred transactions with the minor employees with whom you come in contact, you'll find that may be seventy-five of them have room for improvement in this one particular. You meet the manager of a store; you find him, most times, everything you could desire. And as you go down the line the difference is marked. The 'fresh' clerk in the cigar store is ten times as touchy and as fearful that his dignity will be injured by unbending as the man who makes it possible for him to hold a job. The jewelry salesman who puts on a patronizing way when he learns that you have only \$50 to spend with the firm will probably never wear many diamonds, to say nothing of importing them."



Do Not Miss

the opportunity of looking over my lines of JEWELRY, put out this season for the Fall Trade

The Most Exclusive and Varied Assortment in Roll Plate

10 and 14 karat

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Give me a trial order for **material**. I carry a complete line of all kinds of watchmakers' and jewelers' supplies.

JOSEPH COWAN

Manufacturing Jeweler

351 Washington St. BOSTON, MASS.

10 K. Scarf Pins

Designs and Prices Right



Our New Catalogue will assist you in Fall Selections

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NEW YORK OFFICE, 9-11 Maiden Lane

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185 Summer St., Boston, Mass.
The only Optical School in the world where students serve a regular apprenticeship on bench and in office. All instructions are practical. Fees, \$75.00 for whole course. No correspondent courses. Address,

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NOTICE OF REMOVAL

The Emblem Jewelry Manufacturing Co.
D. GOLDWASSER
Jewelry Manufacturers, Diamond Mounting and Gem Setting, has removed to
Room 87, Jewelers' Building
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Fine Repairing, Medals, Jewels, Badges, School and Class Pins and Rings.

August F. Scherer

ENGRAVER

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JEWELERS BLDG

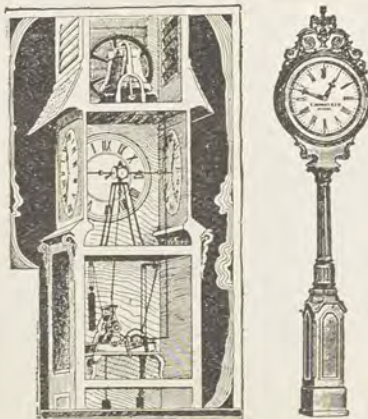
I employ six engravers the year round. Can give prompt attention to mail and express packages.

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Promptness and Accuracy

Don't forget that there is more than one place in New England where they do Standard R Work. Our shop is up to date. Try us.

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Watchmaker to the Trade

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Watches Demagnetized
Repairing of all kinds

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373 Washington Street

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Manufacturer of

DIAMOND MOUNTINGS and JEWELRY

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FIRST-CLASS JEWELRY REPAIRING FOR THE TRADE

DIAMOND SETTING
SPECIAL ORDERS PROMPTLY FILLED
MASONIC JEWELS
FINE HAND CARVING

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Watch Case Repairers

Gold Plating and Watch Case Coloring Materials

Especial attention given to Watch Case Repairing, Springing, Re-Engine Turning, Engraving, Polishing, etc. Particular attention paid to Orders by Express.

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Room 508

WE DON'T CLAIM TO COVER THE EARTH

but our New England customers know that there is no other house that fills their R work with more promptness or accuracy. A trial will convince YOU.

C. A. L. LANGTON, Manufacturing Optician

Write or phone.

419 Boylston Street, BOSTON



From the manufacturers in Providence and the Attleboros come the most encouraging reports in regard to fall trade. Many of the factories are working nights to catch up with their orders, while nearly all are working some extra time. In fact, the whole manufacturing district seems imbued with new courage, and with the present prospects of large western crops all are looking forward to a record-breaking fall business. Manufacturers are badly handicapped this year by a shortage of capable and efficient workmen; almost all are advertising for help. The manufacturers cannot offer all of the help employment the whole year round, and as a result the workmen find themselves for a good part of the year obliged to seek other employment. This condition has existed for some years past, but continuous expansion in the cost of living has necessitated a change by many. Although while working they receive very fair salaries, many saw the advisability of entering some trade which gave them work the year round. It is to these causes that many manufacturers attribute the present dearth of efficient workmen. The retail jewelers evidently incline toward the opinions of the manufacturers, as it is due to their heavy fall purchases that the manufacturers are so rushed. The return of the vacationists has increased sales to a considerable extent, in fact, to a greater extent than was generally anticipated. The jobbing houses report fine business in all their different lines, the diamond business particularly showing new life and increased sales.

Again crooks are creating havoc in Boston among the jewelers. This time it is a man described as being of about medium height, light complexioned, with a crooked nose and a scar below his left eye, plainly but neatly dressed. He does not answer the descriptions given by any of the victims of the gang of crooks who infested the jewelry section last month. His especial prey seemed to be the Cowans, all three of whom were visited. After some clever exhibitions of his art, he came out successful in but one case. It seems almost impossible to realize that a sneak thief can enter a jewelry establishment, be caught at his game, yet continue in his work at another place, after being allowed to escape; yet such was the case. When seven jewelers in the Washington and Jewelers' Buildings have had to cope with thieves in one month, it certainly seems time that some decisive action should be taken by the jewelers, the lessees of the buildings or the police, to give them the protection which they should have as tenants, or the protection which any body of merchants controlling the amount of stock contained in these two buildings should rightfully have from the city. The police are at last thoroughly aroused and exerting all their power to capture the thieves. Some jewelers, however, will feel that their awakening is tardy, for the losses have been keenly felt by some.

A reward of \$1000 has been offered by Myer Slotopolsky, of Boston, for the return of a wallet of diamonds containing 28 papers and valued at about \$12,000, which he claims to have lost on Tuesday, September 5th. Mr. Slotopolsky is a diamond dealer, of Boston, and was recently before the public eye in a failure which ended rather disastrously for his creditors.

A. A. Robert, formerly of Robert & Foster, casemakers, of Boston, has returned from his European trip, much benefited in health by the pleasant and enjoyable trip of three and one-half months, which were spent journeying through Germany, Switzerland and Italy. His family accompanied him on the trip.

Extensive alterations have recently been made by W. S. Brown, of Bangor, Me., who has converted his building into an up-to-date jewelry establishment. He will, undoubtedly, reap the benefits of his progressiveness by the increase in his Christmas trade.

Another jewelry concern, Vaughn & Burnett, of Brandon, Vt., has recently added to the attractiveness of their store by installing a handsome new wallcase of quartered oak for the display of novelties.

D. W. Coffey, who was formerly employed by C. L. M. Bugbee, of Newport, Vt., has left that city, where he was well spoken of, to enter the employ of Whitcomb Bros., of Berlin, N. H.

W. F. Newhall, with his wife and son Roland, of Lynn, have returned from a vacation of a week spent in the White Mountains.

F. H. Moulton, employed by Harriman, the jeweler, of Augusta, Me., spent his vacation of two weeks at Stockton Springs.

James Mahoney, with the Gaffney Jewelry Company, of Waterbury, Conn., had a very enjoyable time on his vacation, which he spent at Coney Island and other New York shore resorts. He made most of the journey home by trolley.

J. E. Wiggins, with W. F. Newhall, of Lynn, has returned from a three-weeks' sojourn in the wilds of Maine. He diverted himself by hunting and fishing.

C. W. Clifford, of Bath, Me., with his wife and daughter, has been spending a week in Boston, where they have many friends.

Samuel M. Shore, who has traveled for I. Alberts & Co., for the last six or seven years, has started in the wholesale jobbing business himself. He is now located in the Jewelers' Building.

Herbert F. Guilford, of Fitchburg, for several years clerk for F. S. Hall, of that city, has severed his connections with Mr. Hall, that he may take a course at the Klein School of Optics, of Boston.

The Providence Watch and Jewelry Company has opened a store in J. W. Hart's building, at the junction of Main and Mill Streets, in Fitchburg, Mass.

We are pleased to note the recovery of George A. Bartlett, of Holliston, Mass., after a serious illness of over six weeks. While suffering from nervous prostration, he could not successfully combat the complications which set in and, as a result, although able to be about, he is still in quite a weak condition.

The former manager, W. L. Persons, of the jewelry department, in the store of the Vermont Marble Company, has returned to his home in Hudson, Mass. In the near future he may open a store of his own in some of the New England cities.

Elmer Tyler, with F. A. Lovejoy, of Augusta, Me., has been confined to his home for some time, because of illness.

Herbert L. Gruber, of Boston, who, for some time past has been located on State Street, has started on an extensive trip through the United States and Canada, reaching as far West as California. He will combine business with pleasure, and, being a hustler, will make the trip pay for itself.

Many are the jewelers who will be pleased to hear of the complete recovery of Charles Findley, of A. Paul & Co., and to know that he is around once more. A serious operation, one which re-

quired about an hour and a half to perform, was undergone about three months ago. The operation was in every way successful, although he suffered considerable from the effects of it. When he fully recovers his strength, he will be in far better condition than before his illness. He claims to feel about ten years younger, and his many friends assert that he appears so.

Fred. H. Woodman, formerly of Woodman-Cook Co., on Washington Street, Boston, who, since leaving the above-mentioned concern has been located in the Jewelers' Building, has recently changed his address to 352 Washington Street.

We are pleased to hear that J. C. Donnell, with the Ripley Howland Mfg. Co., is soon to be about and covering his regular territory.

A. B. Leighton, of Everett, who announced some time ago that he would close out his business and go to Maine to live, has just succeeded in settling up all of his affairs.

Eben Hardy, a prominent Boston optician, has returned from a trip to Montreal.

Alvah Skinner, for many years located on the corner of Winter and Washington Streets, Boston, has established himself in his new headquarters on Milk Street, in the Old South Building. Mr. Bullard, the optician, who has been in the same office with Mr. Skinner for a number of years, is also located in the new office.

Washington Street, in the jewelry section is, as it has been for some months past, obstructed by stationary engines, mortar-beds and dump-carts, with numberless openings in the street, through which the material is passed, to further the construction of the subway below. The whole street is dug away in many places and nothing remains to support the passing traffic but heavy planks, which, due, fortunately to careful engineering, have not as yet given away with any serious results. So far, Boston is congratulating herself on the scarcity of accidents during the construction of the Washington Street subway, and it is to be hoped that no such accidents as occurred during the construction of the subway on Tremont Street near the Touraine, causing so many deaths, will occur.

Geo. E. Homer, 45 Winter Street, Boston, has installed an excellently equipped optical department in his jewelry store, and has secured for it the services of Frederic W. Stone, a graduate optician, of many years' experience, and, till recently, in the employ of the Davis Optical Co., of Boston.

The following jewelers have been in town: George A. Bartlett, Holliston, Mass.; F. H. Jessup, Wareham, Mass.; C. A. Trefethen, Manchester, N. H.; Chas. Sinclair, Concord, N. H.; H. E. Bellows and Geo. E. Bellows, Stoneham, Mass.; H. S. Tanner, Providence, R. I.; C. W. Clifford, Bath, Me.; M. F. Charles, Reading, Mass.; J. E. Whiting, E. J. Hodgdon, Haverhill, Mass.; Hollis S. Howe, Concord, Mass.

Points

- Be dignified.
- Be firm in your convictions.
- Listen to others, but depend on yourself.
- Remember wit is a great weapon, but don't mix sense with nonsense.
- Don't talk too much—think a good deal.
- Prove your ability and you won't have to preach it.
- A man of the right stamp enjoys the best night's rest after a good day's work.
- Don't give up. Drive away despair by keeping up your spirits.

—Harry C. Lyon.

WM. F. BLUME
Dealer in
Diamonds, Watches and Jewelry

Detroit, Mich., Sept 20/1908

Dear Messrs. Lindenberg, Strauss & Co

containing Diamonds in your package
We put them in our plaid windows
and they have proven good pellets.
Please send us some more of these
goods and add a selection of
Ladies and Gents gold and filled
Cases.
as soon as we can see our
customer, we will make returns
on Diamonds sent us on memorandum

Very Respectfully,
Wm F Blume.



25-29 CAREW BUILDING,

CINCINNATI, O.



Favorable Trade Conditions

Trade in all lines has been exceptionally brisk during the past month, the jobbers, manufacturing jewelers and retailers all generally reporting business of a satisfactory nature. The reports from the Southern States are also of a nature which indicate an active and prosperous winter, which means much for Cincinnati as the distributing point.

To Advertise the City

The Advertisers' Club, of this city, has started a movement for the creation of a fund of a half million dollars, to be used for purposes of advertising the city. A number of innovations are being talked of as good advertising mediums, among which is the suggestion that a brass band under the leadership of Herman Bellstedt, the famous cornetist, be toured under the name of Bellstedt's Cincinnati Band. The movement for the creation of the advertising fund is receiving considerable support from the business interests.

The Homan Manufacturing Company a short time ago shipped 200 pieces of high-grade silverware to the Philippine Islands. The plate is intended for a new hotel which was recently completed in Manila. The same firm some time ago sent out a complete set of silver plate for a military club.

The retail firm of Loose & Loose, of Columbus, have arranged to open a new store at the State capitol, at 180 East Fourth Street, under the name of the Hub Jewelry Company. Both members of the firm were recently in the city to purchase fixtures and supplies for the new place.

Daring Attempted Hold-up

Leonard Fox, of the firm of Gustave Fox & Co., was recently the victim of a bold attempt at hold-up, while he was returning from a visit to friends at College Hill. At a late hour at night he was making his way along the North Bend pike toward a trolley line when he was approached by a colored man, who flashed a badge and declared that he was the marshal of the community and demanded an explanation of Fox's late appearance on the road. The pseudo officer professed to be very suspicious of the young man, and declared that he would be obliged to arrest him and take him to the village until his identity could be proven. He gave out a statement that a number of burglaries had been committed in the neighborhood recently, and would listen to nothing but that Fox accompany him to the town hall. The latter did not suspect that all was not right until they reached a village and he was being led down a side street. He then noticed that his custodian was a colored man and at once demanded to see his badge again. As soon as the stranger drew aside his coat Fox saw that the badge was but a piece of plate, and with one lunge he floored the negro and then fled. The fellow gave pursuit for a short time, but when Fox's voice began to break the stillness of the night he disappeared in the brush.

The Harberger Jewelry Company is the name of a new stock company which filed articles of incorporation with the secretary of state, at Columbus, some weeks ago. The new concern starts out with a capital stock of \$20,000, the incorporators

given in the charter being: Bernard Harberger, M. J. Schroder, Anna L. Dwyer, H. S. Valin and Stanley Stoms. An extensive jobbing and wholesale business will be established in the vicinity of the Fountain Square.

A. Schemel, the well-known retail jeweler, at Mohawk Place, spent a vacation of several weeks, during the past month, at Mackinack.

J. H. Wahrlub, Jr., jeweler, at Dayton, Ohio, was in the city several days during the middle of September, inspecting the show windows of some of the big house furnishers, and announced to his friends that he expected to embark in a matrimonial venture within a short time. The young lady is a resident of Dayton.

A negro giving the name of Sumter Jackson, and claiming to live at Los Angeles, Cal., made a daring attempt to get away with a tray of valuable rings from the store of Henry Korf, at 625 Main Street, some weeks ago, but failed and fell into the hands of the police.

Jackson entered the store and asked to see some diamond rings, which were shown to him by one of the clerks, who set a filled tray before him, but kept a close watch. Jackson picked out two expensive solitaires, and while apparently deliberating as to which he would choose, he snatched the tray and started for the door and down the street. Mr. Korf and two clerks gave hot pursuit, yelling for his apprehension. Near the Fountain Square, Jackson ran into the arms of two detectives, and for a moment attempted to offer resistance, but changed his mind. He was locked up on a charge of robbery, and at a subsequent preliminary hearing was bound over to the county grand jury to answer to the charge. The police believe is wanted in other cities and desire information concerning colored tray snatchers.

The Homan Manufacturing Company recently filed amended articles of incorporation with the secretary of state, changing the stock to 2500 shares of common and 1500 shares of 6 per cent. cumulative preferred stock, each with a par value of \$100. The company is making extensive improvements in its new plant.

George Newstedt has moved to his handsome new quarters in the Neave Building, and had his formal opening early in the month. Mr. Newstedt has been obliged to move several times in the past few years, because of the march of progress which is on in Cincinnati. Three years ago he was forced from his store at Fifth and Walnut Streets, to make room for the new Traction Building. He moved farther down the same block and a short time later it looked as if he would be obliged to move again, to make way for the Mercantile Library Building. His last move was occasioned by inability to get a renewal of his lease.

Edward Swigart, of the jobbing firm of E. & J. Swigart, is home from a ten-days' fishing trip spent among the lakes of Wisconsin.

Expert Pottery Decorators

Albert Valentien and his wife, Anna M. Valentien, two of the oldest and foremost decorators of china and pottery connected with Rookwood Pottery and the Art Museum, have resigned with the avowed desire of pursuing individually the work which they have been doing for the institutions for a quarter of a century, and which has assisted in making Rookwood work famous. Valentien developed many of the famous glazes of the institution, while his wife studied modeling under the ablest Paris preceptors, with a view to introducing a new style into Rookwood work. On her return she began the modeling of figures in intaglio and relief upon the vases, which departure at once became a pronounced success and is considered one of the most valuable of Rookwood's adjuncts.

Mr. Andrea, connected with the firm of Hutchinson Brothers, at Shreveport, La., passed through the city early in the month, en route to Battle Creek, Mich., where he expected to rest up a few weeks. Mr. Andrea reports indications for business in the Southern and Gulf States to be very promising for the coming winter season, provided that the yellow fever scare can be gotten rid of by that time. He remained over in the city a day to take in the sights.

William Fink, the Main Street jeweler, has returned from an extended Western vacation tour, and expects to make another some time during the next year.

Visiting Jewelers Entertained

A number of jewelers from Frankfort and central Kentucky cities were in Cincinnati, September 14th, as the guests of the Cincinnati Business Men's Club. The occasion was the invasion of this city by the Commercial Club of Frankfort, the members of which came at the solicitation of the local organization. A delegation of 150 persons composed the party, among them several of the retail jewelers of the section represented. All were pleased with their reception at the hands of the Cincinnati commercial interests. In order to promote closer commercial relations between the two sections, Cincinnati business men are also discussing the proposition of building a boat to ply in the Kentucky river trade and have Cincinnati as its destination.

The police believe that a man and a woman arrested by the authorities at Albany, N. Y., are the same couple who visited a number of the larger wholesale houses in Cincinnati some months ago and got away with a number of valuable rings and diamonds. The hauls which the pair made here aggregated more than a thousand dollars' worth of diamonds. They were handsomely dressed, and were aided in carrying out their game by dashing up to the various business houses in an automobile. The Jewelers' Security Alliance has turned the case over to the Pinkertons, who are supposed to have assisted in rounding up the Albany pair.

Mrs. Janette Plaut, related to a number of the Plaut family of well-known local jewelers, died at her home in the Stansifer Flats, Avondale, some weeks ago, after a brief illness.

Edward Kaelin, the upper Vine Street retailer, spent some weeks in Chicago during the early part of September.

Local Railroad Development

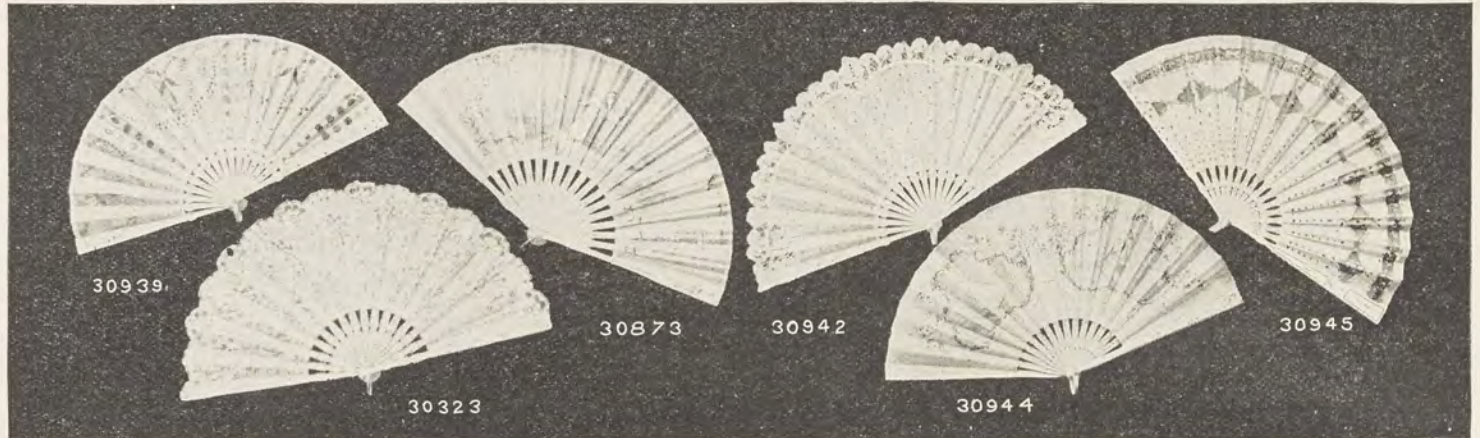
The change in the ownership of the C. H. & D. Railroad, which has been turned over to J. P. Morgan, the Wall Street operator, and his associates, is expected to have a considerable effect upon the future development of Cincinnati. With the acquisition of control of the C. H. & D. and its allies in the Great Central system, Morgan is accredited with now controlling every line entering the city. Two plans for developing the city's railroad facilities are well under way, and are expected to meet the approval of the new powers. These are the construction of a new \$10,000,000 union depot, the site for which has been selected along the canal, and the completion of a belt road which will enable freight from the North and East to be conveyed to the Southern lines without having to be dragged through the city. All that is necessary to complete the belt road is the building of a bridge across the Ohio River at Columbia, so as to connect the Pennsylvania and the C. & O. near Dayton, Ky. The rest of the belt road will then be over the C. & O. to Newport, to the L. & N. tracks, and from these to the Kentucky Central at Milldale, the Cincinnati Southern at Walton, and the Short line, over L. & N. tracks.

Traveling men for a number of the local houses have returned from Southern and Western trips and report business flourishing, and indications over the cotton States as better than for a number of years.

The following were among the latest of the visiting jewelers who were here last month: H. A. Rohs, Cynthiana, Ky.; R. J. T. Timmerman, Batesville, Ind.; Edward Dannacher, with C. H. Thompson & Co., Greensburg, Ind.; G. H. Hansen, Bethel, Ohio; Charles Sederberg, Milford, Ohio; Walter Eisensmith, Charleston, W. Va.; A. T. Maupin, Athens, W. Va.; George Kreche, with D. Adler & Son, Lexington, Ky.; G. W. Meyer & Son, Chattanooga, Tenn.; Fred. Hentz, Lexington, Ky.; William Loose, of Loose & Loose, Columbus, Ohio; Mr. Douglas, of Watkins & Douglas, Elizabethtown, Ky.; A. J. Wahrlub, Jr., Dayton, Ohio; Mr. Andrea, Shreveport, La.; D. A. Lamb, Wilmington, Ohio; J. D. Ward, Rising Sun, Ind.; E. S. Clifton, Rogersville, Tenn.; J. W. Roop, Greenville, Ohio; Charles Keller, Frankfort, Ky.; E. O. Collins, Franklin, Ind.; Frank C. Taylor, Carlisle, Ky.; E. G. Masiman, of Masiman & Co., Frankfort, Ky.

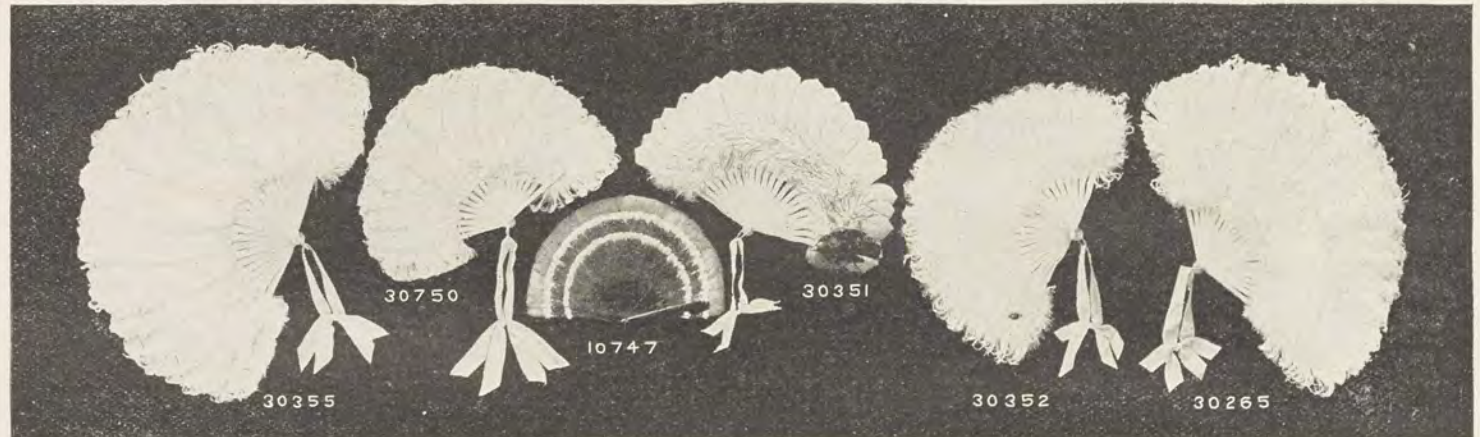
A FEW ADVANCED STYLES IN FANS

from a large line purchased in Europe this summer. Every lady enjoys a pretty fan, and they are always acceptable, whether for a Birthday, Wedding or Holiday Gift. **Write for samples**



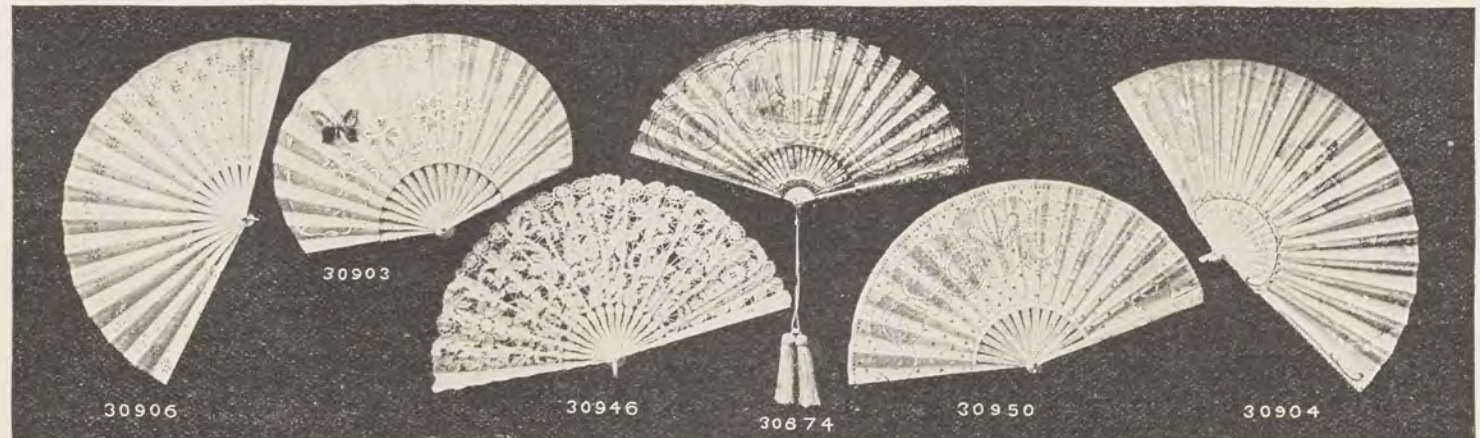
K 30939—Empire shape fan, double-faced silk gauze, heavy fancy spangles, silk embroidered designs, inlaid bone sticks . . . \$2.25 each
 K 30323—Beautiful full spangled, raised embroidered and ettomine center and edge, carved and inlaid bone sticks . . . \$3.50 each
 K 30873—Double-faced silk gauze, hand painted in three subjects with flowers, gold inlaid bone sticks . . . \$2.50 each

K 30942—Double-faced silk gauze, full spangled, real Duchess lace top, bone sticks, \$3.00 each
 K 30944—Double-faced silk gauze, hand painted, two subjects and flowers, gold and hand painted inlaid bone sticks . . . \$4.00 each
 K 30945—Cream colored double-faced gauze, beautiful insertion, gold tinsel ettomine, gilt spangles, gilt and flowered inlaid bone sticks . . . \$4.50 each



K 30355—Real large fine quality white ostrich feathers, gold inlaid bone sticks . . . \$7.50 each
 K 30750—Genuine white ostrich feathers, with real pearl sticks . . . \$4.50 each
 K 30356—Same as 30750, larger and finer feathers . . . \$10.00 each
 K 10747—Peacock feathers, handsome green and brown combination, with celluloid shell colored sticks . . . \$2.25 each

K 30351—White Maribou and ostrich feather fan with real brown bird raised ornaments, serpentine silver inlaid bone sticks . . . \$1.50 each
 K 30352—Maribou and ostrich raised feathers, in two color effect, white and pink and white and heliotrope, inlaid serpentine wood sticks . . . \$2.00 each
 K 30265—Fine quality large white ostrich feather fan, plain bone sticks . . . \$3.50 each



K 30906—Full size, double-faced silk gauze, full spangled, real white pearl sticks . . . \$5.00 each
 K 30903—Empire shape, double-faced silk gauze, Swiss butterfly embroidery, and white lace insertion, flower paintings, carved, gilt and colored feather shape bone sticks . . . \$5.00 each
 K 30946—Empire shape, real Duchess lace, handsome carved bone sticks . . . \$6.00 each

K 30874—Magnificent, antique and full hand paintings in old master colors on gauze and sticks. A beautiful gift . . . \$10.00 each
 K 30950—Full size, double-faced gauze and ettomine, full spangled, silver inlaid real pearl sticks . . . \$9.00 each
 K 30904—Beautiful artistic hand painted fan in high colors, with gold and colored bone sticks, subjects painted by popular artists . . . \$6.75 each

Subject to 2 per cent. only

Kunstadter Brothers, Manufacturers and Importers { Jewelry, Fans, Leather Goods, Hair Ornaments, Belts, Gold Purses, etc.

238=240=242=244=246=248 Adams Street, corner Market Street, **CHICAGO, ILL.**

P. S.—Always Something New



INDIANAPOLIS LETTER

Trade Outlook Flattering

The outlook for trade from this section of the country is most flattering. Crops have been bounteous, prices good and as a result the farmers have prospered greatly. Manufacturers are working full forces and collections are satisfactory. The city merchants have successfully tided over the to-be-expected summer quiet, and are well prepared to meet the natural increase that comes with cooler weather. The past few weeks have seen an increased volume of trade that can reasonably be expected to continue.

Five Million Dollar Banks

In a list of one hundred and forty-six "Five Million Dollar National Banks" the *Financier* (New York), named four in Indianapolis that have deposits of that amount. Fletchers', \$8,867,742; Indiana National, \$7,019,347; American National, \$5,592,572 and Merchants' National, \$5,549,766.

On October 1st, the Indianapolis Clock Co., O. F. Bell, manager, moved from 932 Fort Wayne Avenue, to 304 Hanson Avenue, where more commodious quarters were secured for the growing business.

A delay in receiving their full stock has necessitated the postponement of the opening of the beautiful new jewelry store of H. Cohen & Sons, at 50 North Pennsylvania Street. The handsome solid mahogany wall fixtures of colonial design, the show cases of American beauty design and the highly hand-painted wall decorations, make a background of unusual beauty for the attractive line of watches, diamonds and jewelry that has been purchased by the firm.

An Old and Esteemed Firm

On September 1st, L. F. Kiefer & Son moved into temporary quarters at 114 East Ohio Street. When the handsome new Knights of Pythias Building is erected on the site of their former location, on Massachusetts Avenue, the firm will have the choice of one of best store rooms on the ground floor. The firm of L. F. Kiefer & Son is one of the oldest and best known watchmaker and jewelry firms in the city. Louis F. Kiefer, founder of the business, learned his trade in Rhenish, Bavaria. He came to this country in 1837, and in 1867 settled in Indianapolis. The following year he opened a jewelry store in the Odd Fellows Building on Washington and Pennsylvania Streets. The oldest son, Louis, was taken in the business, and the style of the firm became L. F. Kiefer & Son. Upon the death, several years ago of the senior Mr. Kiefer, his two sons Louis and Charles continued to conduct the business under the same name, a name that continues to merit the confidence and trust won by its founder.

C. A. Slinger, watchmaker for Ikko Matsumoto, is erecting a pretty little home on Morris Street, where he hopes to eat his next Thanksgiving day dinner.

Rudolph Boemker, who very recently arrived in this country from Germany, is doing watch work for Carl L. Rost.

S. R. Saylor, who has been with Fletcher M. Noe, on North Illinois Street, has returned to his old home at Rossville, Ind., where he will resume the jewelry business.

Horace A. Comstock is a member of the Columbia Club team, which is one of the clubs that compose the Indianapolis Bowling League.

Charles Lauer, senior member of the wholesale firm of C. W. Lauer & Co., has just returned from a visit to his daughter in California.

Allen Pickett, watchmaker with George W. Kern in the State Life Building, spent his vacation with his father, J. A. Fickett, jeweler, in New Castle, Ind.

A New Installment Firm

The Hoosier Jewelry Company was incorporated with a capital stock of \$15,000. The directors are: S. J. Burford, L. F. Hurt and S. F. Rutherford. The company will do an extensive installment business in this city. Mr. Burford is president of the Rhodes-Burford furniture house with stores in Indianapolis, Louisville and several other cities. Mr. Rutherford was formerly with M. F. Smith, installment jeweler on West Washington Street, and Mr. Hurt is a practical jeweler of experience.

James Baker, representing Frank M. Whiting, North Attleboro, Mass., was the genial host at a dinner given at the Claypool Hotel in this city August 22d. The following well-known jewelers were his guests: C. W. Bernloehr, John A. Bernloehr, Indianapolis; E. O. Collins, Franklin; George Greyer, Anderson; Harry Greyer, Muncie, and R. C. Eisenbach, Lafayette, Ind.

Chris. Bernhoefer, who spent the summer traveling in Germany and Switzerland has returned, delighted with the beauty and life of the foreign cities. He found much to interest him in his own line of trade, and is already planning to repeat the trip in 1906.

Charles Moore, manager for the diamond and jewelry house of S. F. Sipe, at Pittsburg, Pa., visited in the city last month. J. C. Sipe spent several weeks recently in Adams, New York. Upon his way home, he visited his brothers A. E. Sipe in Buffalo and S. F. Sipe in Pittsburg.

Carl F. Walk left on October 1st, to select holiday novelties in the New York market for the firm of J. C. Walk & Son.

Edward G. Gardner, manufacturing jeweler in the Cordova Block, recently turned out several handsome badges. He has increased his working force and reports business on the up-grade.

Novelties from Holland

A most attractive line of solid silver ware from Holland was purchased by Ferd Mayer for Charles Mayer & Company during his recent trip abroad. All the decorations are of Dutch designs—wind mills, storks and sailing vessels. One of the most unique pieces is a glass liquor bottle blown in three separate divisions (three bottles in one) so that the same bottle can contain three liquors. The top and stopper are of silver in an artistic design.

A. B. Wahl, who conducts a jewelry store at Lafayette, Ind., and has the State agency for the Edison phonograph in Indiana and Ohio, with stores in Cincinnati and this State, has recently added a jewelry stock to his store in this city, located on South Illinois Street.

Roy Neighbors, with A. P. Craft & Co., has been confined to his home for several weeks, the result of a sprained back.

M. M. Johnson, watchmaker for H. P. W. English, Hartford City, Ind., and Mr. Koerber, Fort Wayne, Ind., were buyers in the Cincinnati markets early last month.

Charles Lauer, of C. W. Lauer & Co., spent the week of September 11th to 17th, in town entertaining his State fair week visitors.

Of course it was a Hoosier jeweler who loved the poems of James Whitcomb Riley, who walked into a local material house and asked for a Whitcomb-Riley lathe, but the clerk understood and gave him a Webster-Whitcomb lathe.

A Travelers' Rosy View

L. L. Norton, traveling representative of S. T. Nichols & Co., was on his recent return "off the road." He said business was very good both in the material and optical line. He considered fall prospects fine, as the confidence in the jewelry trade is better than for some years. A better quality of goods is called for. Retail merchants are prepared to handle more diamonds this season than for many years past.

George S. Kern and A. B. Swift, both trade watchmakers in the State Life Building, report an unusual amount of repair work for the past few weeks. Out-of-town dealers are sending in watch work in large quantities.

"The Brooks Store," at Madison, Ind., conducted a special low-priced sale during September in order to make room for a large and early purchased holiday stock. The advertisement read "Madison will be proud of the Brooks store this fall." F. O. Brooks is one of the oldest and best-known merchants in that city. He was formerly a partner of Godfrey Dold, the firm-name being Brooks & Dold. Later they dissolved partnership, each opening a jewelry store of his own. Recently Mr. Brooks admitted his son-in-law, John Chapman, who was manager, into the firm, which is now styled Brooks & Chapman.

L. R. Ratliff has sold his stock at Francesville, Ind., and taken a position with a large jewelry house in Colorado Springs, Colo.

Successful Fair in Cicero

Alfred J. Meissen, of the jewelry firm of A. J. Meissen & Son, Cicero, Ind., was in the city recently. He reported his town as one of the liveliest in the State during the week of September 4th, when a highly successful horse show and street fair was conducted by the hustling business men of that pretty little city. The fair was not intended to be a money-making institution, but was gotten up by the merchants to advertise the town; by giving the home people and visitors from the surrounding country and near-by town lots of enjoyment, good music and free shows. The firm of A. J. Meissen & Son did their part to make the enterprise such a marked success.

Death of a Well- Known Jeweler

Henry Rossier, one of the best known residents of Martinsville, Ind., died at his home in that city, August 26th, after a lingering illness. He leaves a wife, one daughter and three sons. Mr. Rossier was born in the Canton of Vand, Switzerland, in 1839, where he learned the watchmaker's trade. When twenty-one years old he came to this country and settled in Indianapolis for a short time, then went to Terre Haute, Ind., where he married Emily Drotz, in 1865. In 1867 he removed from Terre Haute to Mooresville, and in 1886 moved to Martinsville, where he conducted a very successful jewelry business and became prominent in the business life of the town. His first wife died in 1893, and he afterwards married his present wife, who was the widow of Harrison Olds, one of Martinsville's prosperous citizens. Mr. Rossier was an active member of the Methodist Episcopal Church, Odd Fellows and Masonic orders. His frequent and ever welcome presence in the wholesale market of Indianapolis will be greatly missed. To his family the local trade extends sympathy.

(Continued on page 1677)

The Giant } in Quality of } in Sales Collar Buttons



The Standard Collar Button

Millions of Krementz
One-Piece Collar Buttons
made, and are sold
all over the world

WHY?

Because of their HIGHEST QUALITY, BEST CONSTRUCTION, GIVING THE MOST WEAR, AND GREATEST COMFORT and their IRON-CLAD GUARANTEE.

To verify this we invite the trade to read "The Story of a Collar Button, with Illustrations," which may be had FREE for the asking, and to try the experiment suggested on page 5 of that booklet, by which all may easily determine the exact amount of 14 K. gold in Krementz plate.

Extract from "Printers' Ink,"
Nov. 23, 1898.

The Little Schoolmaster now suggests, to every pupil in his class, to send a two-cent stamp to Krementz & Co., 49 Chestnut Street, Newark, N. J., and ask to be favored with a copy of their leaflet, "The Story of a Collar Button." Afterward, if any pupil will send to *Printers' Ink* another leaflet, new or old, that is half as good as this one, or that approaches it in excellence, the deserving student will be rewarded with one of *Printers' Ink's* souvenir spoons as an acknowledgment of his discovery and contribution. "The Story of a Collar Button" is the best piece of advertisement construction that has come to *Printers' Ink's* attention in the year of our Lord 1898.

Should you wish to utilize this booklet to increase your collar button business, we will, on receipt of your order, print your card upon and send you a quantity of them.

The several qualities of
Krementz One-Piece Collar Buttons are stamped
as follows, ON BACK:



Patent Sustained by United States Supreme Court

Quality and Construction have made Its Reputation

All Krementz Collar Buttons—of every quality—
are Manufactured by

KREMENTZ & CO.

in their Factory

49 Chestnut Street
NEWARK, N.J.

PARKS BROS. & ROGERS
20 Maiden Lane, New York
Selling Agents to Jobbing Trade

Jewelers

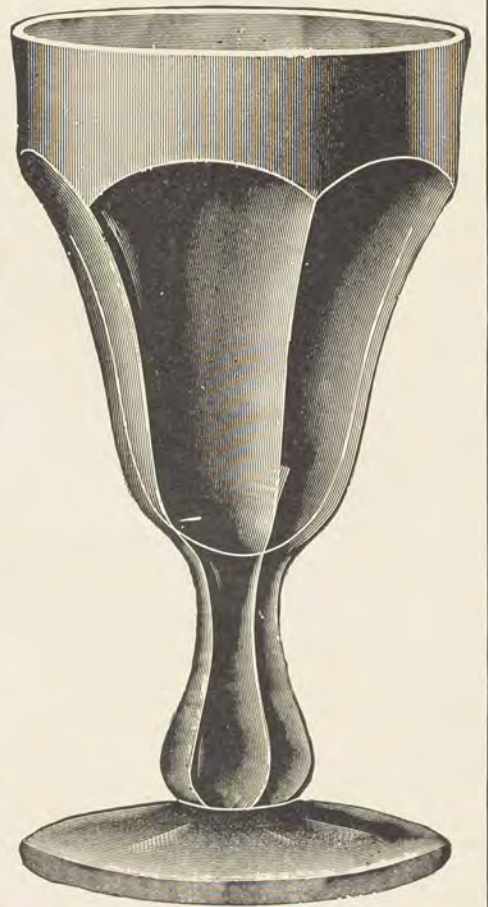
Get the people in your store—have a Colonial Glass Tumbler Sale

We positively will refund the money for our glasses if they do not sell.

Try this proposition: Order a trial barrel; put them in the window and mark 45c. a half dozen, any size. A trial barrel consists of:

5 doz. Large Water Goblets, 5 3/4 in. high, @ 60c. doz. . .	\$3.00
4 doz. Small Water Goblets, 5 1/2 in. high, @ 55c. doz. . .	2.20
2 doz. Large Wine Goblets, 4 1/2 in. high, @ 45c. doz. . .	.90
2 doz. Small Wine Goblets, 4 in. high, @ 44c. doz.88
2 doz. Cordial Goblets, 3 1/2 in. high, @ 42c. doz.84
4 doz. Sherbet Glasses, 3 3/4 in. high, @ 67c. doz.	2.68
4 doz. Water Tumblers, 4 in. high, @ 67c. doz.	2.68
23 dozen glasses	\$13.18

We guarantee you against any loss. It costs you nothing to try a sale.



Franklin Glass Co., Franklin, Pa.

The Highest Achievement in Watch Construction

is represented in the

VACHERON & CONSTANTIN

GENEVA, SWITZERLAND



THE LEADER in { Quality Adjustment Durability Style

It Fits All Sizes of American Cases
New Grades—New Sizes—New Improvements
Special Grades for Railroad Men

EDMOND E. ROBERT, SOLE AGENT

3 Maiden Lane, New York

Indianapolis Letter

(Continued from page 1675)

A Substitution Game Again

A diamond ring valued at \$500 was stolen August 16th from the jewelry store of Mayr & Son, South Bend, Ind. Two men entered the store and asked to see diamond rings. During the inspection, one of the men substituted a ring with an imitation stone for one bearing the real gem, but the loss was not noticed until some time after the strangers had left the store. Later, Frank Mayr, accompanied by the Chief of Police of South Bend, visited Chicago to look over the photographs in the Rogue's gallery in the hopes of identifying the thieves but failed to recognize the photographs of his recent costly visitors.

F. C. Sheldon, the well-known and successful jeweler, of Shelbyville, Ind., accompanied by his wife, visited friends in the city during the State fair. Mr. Sheldon was looking fine and said he was enjoying the best of health. He thinks this will be one of the best years he has ever had. Everything in his section of the State is in a prosperous condition, as the factories are all busy and farmers had fine crops and got good prices for their products. He considers THE KEYSTONE as an old and valued friend.

William Harrison McCain, aged seventy-five years, recently died at his home in Kokomo, Ind. He was the first white child born in Carroll County, in the State of Indiana. He was the father of the well-known and popular jeweler, Corbin K. McCain, who has for years been one of Kokomo's leading merchants.

Turner & Son, Arcadia, Ind., are nicely settled in a new room, which is a decided improvement over the old quarters.

J. F. Ratliff, Richmond, Ind., spent his vacation at his old home at Canby, Ind.

W. E. Jenkins, at one time manager for Jenkins & Co., Richmond, Ind., has returned to Bloomington, Ind., where he has been appointed librarian of Indiana University.

Mrs. Rowe, wife of Jeweler C. Z. Rowe, of Argos, Ind., is recovering from the effects of a recent runaway accident that just escaped being very serious.

George W. Clemons has moved into a new store room that has just been erected on the main street, in Greenwood, Ind.

John W. Hudson, Fortville, Ind., a regular visitor to this market, was recently met upon his return from a delightful trip to Denver and Colorado Springs. He was accompanied by his wife, who always shares her husband's annual vacation trips.

Albert Meseke, watchmaker with W. P. Caruthers, Oberlin, Ohio, enjoyed a vacation in August at his former home, Seymour, Ind.

Successful Pearl Collector

A large collection of pearls of much value was recently exhibited by an aged man, giving his name as John Swanson, who was accidentally discovered living the life of a hermit in an abandoned oil rig in a wood on the river bank, near Marion, Ind. The man refused to say where he came from, but said domestic troubles had caused him to seek a life of seclusion. He had lived almost two years in the old rig and had engaged in pearl hunting with marked success. He shipped his pearls to a New York dealer. This is another incident that proves the mussel industry in the Wabash and other Indiana rivers to be lucrative. At no time during the present season has there been less than twenty buyers on the field from the larger Eastern markets. Some of the

fishermen have shipped their pearls to Paris. Two pearls recently found near Vincennes, Ind., brought \$550 and \$350. The latter is said to have been worth at least \$1800.

The citizens of Boonville, Ind., have decided to erect a fine town clock to cost about \$1500. Steps have been taken to raise the necessary funds.

August 31st the large plate-glass window in E. F. Stark's jewelry store, at Newpoint, Ind., was broken with a heavy stone wrapped in a cloth. Three revolvers and some small articles of jewelry were taken. The total loss was \$100.

L. J. Savage, Macy, Ind., is receiving the condolence of his friends upon the recent death of his wife.

Trade Changes and Removals

Among the changes made by Indiana jewelers recently, we note the following: V. B. Teachout has removed from Kendallville to Sturgis, Mich. Edward Hainz, formerly of Muskegoe, is now doing business at West Salem, Ill. George E. Kinney, formerly engaged in business in Anderson, has opened a store in Grand Rapids, Mich. M. D. Eatinger, North Judson, has sold out to his son, who will continue business at the old stand, but with a larger stock. Cox & Hodgkin is the new name of the old firm of M. S. Hodgkin, at Lynn. Harry Stevenson, last month moved to Indianapolis from Frankfort. John H. Sutherlin, Ladoga, has quit the jewelry business. N. F. Stedman has removed his jewelry business to Ladoga from Waveland.

The City Council of Michigan City, Ind., recently adopted an ordinance licensing and regulating pawn-brokers and forbidding persons engaged in such business from buying or receiving any article whatever from miners without the consent of their parents or guardians. The ordinance was passed for the purpose of eliminating abuses practiced for years.

F. C. Toepp, South Bend, Ind., has remodeled his establishment and added a complete optical department under the management of Charles Schnell.

The store of A. J. Fisher, watch repairer and optician at 156 Virginia Avenue, was entered August 24th by burglars, who broke open a window and carried off trays of spectacle frames valued at \$50. The police found the empty trays under the viaduct. The thieves are supposed to have escaped on a passing freight train.

Z. Staples, manager of the prescription department of S. T. Nichols & Co., spent the first week in September in Southern Indiana resting up after a very busy summer in the optical business.

B. A. Orndoff and J. J. Scott, of Valparaiso, Ind., have returned from Chicago, where they finished a course in optics.

Charles E. Crecelius, of New Albany, Ind., has been enrolled as a student of the Northern Illinois College of Ophthalmology, Chicago.

A lens grinding plant has been installed in the optical establishment of Oberreich & Arnold at Laporte, Ind.

William E. Huston, secretary of the American Association of Opticians, is an old Indiana man. He was a charter member of the Indiana Optical Society, held office several times and contributed much to the life and welfare of the society.

A Successful Jeweler

H. L. Rost and family, of Columbus, Ind., were the guests of his brother, Carl L. Rost, during the State Fair. He reports trade conditions very good down his way. Mr. Rost had just purchased the corner lot, opposite the St. Denis Hotel, in Columbus, upon which he

will erect, early in the spring, a modern business block, and occupy the corner room. Mr. Rost owns the building he is now in, but will have a larger and more modern store in the new building. Besides his numerous enterprises in Columbus, Mr. Rost is vice-president of the Progress Lead & Zinc Co., of Joplin, Mo., a mining enterprise that has prospered and is making money for its stockholders.

K. D. Ronk, of Ladoga, was in the city last month, buying a full stock of tools and material. He is on the outlook for a good location.

Wm. Beatty has enlarged his store room, at West Lebanon, Ind., and added a larger stock.

Aaron Pursel, Noblesville, Ind., a familiar figure in this market, was recently met in one of the wholesale houses. Mr. Pursel says trade is good and prospects bright. He is beginning to find himself cramped for room, and is longing for larger quarters.

Geo. F. Long, New Richmond; Louis F. Ott, Veedersburg, and Wm. Beatty, West Lebanon, formed a pleasant party, who visited the mineral springs at Martinsville, Ind., during State Fair week.

President J. H. Ellis, of the Indiana Optical Society, recently appointed M. C. Klein, Crawfordsville, Ind., treasurer to finish out the unexpired term of R. H. Denney.

The improvements on the Wiley Block, occupied by John Wimmer, optician, are almost completed. The handsome new plate-glass front and interior decorations have greatly improved the appearance of his salesroom. The second floor, devoted to the manufacturing department, has also undergone a number of changes.

C. V. Stephens, of Carthage, Ind., is offering his jewelry stock and fixtures for sale.

An Army of Visiting Jewelers

Out-of-town dealers in the city last month were numerous. Many of them came to visit the State Fair, September 11th to 15th, when the Indiana State Board of Agriculture opened its gates for the fifty-second annual exposition of live stock and farm products. Thousands were in attendance. One of the great attractions was Dan Patch, the world's greatest harness horse, Hoosier born and bred. It was a week when the "glad hand" was extended by the members of the wholesale and manufacturing firms to their customers from all over Indiana. Many did some fall buying, while others just dropped in to exchange greetings. All were most welcome visitors. Among them were noticed the following:

J. A. Meissen, Cicero.
F. Pennington, Knightstown.
A. B. Cooper, Mooresville.
H. Wheeler, Dana.
Ike Booth, Tipton.
J. A. Oswald, Crawfordsville.
J. S. Wilhort, Upland.
N. W. Mayer, Crawfordsville.
M. Shelburn, Zionsville.
R. C. Eisenbach, Lafayette.
J. Mayer, Elwood.
C. C. Seaton, Clayton.
J. A. Hardin, Greenwood.
A. S. Orr, Greenfield.
L. E. Heaps, Spencer.
Turner & Son, Arcadia.
J. H. Baber, Marion.
J. H. Smith, Greenfield.
D. S. Whittaker, Lebanon.
J. A. Pickett, New Castle.
Will. Hazeltine, Kokomo.
C. H. Ankeny, Lafayette.
C. O. Erisman, Lafayette.
Sam. Sterchi, Terre Haute.
C. C. Faris, Marion.
Samuel Prager, Terre Haute.
J. F. Ratliff, Richmond.
Wm. Beatty, West Lebanon.
G. W. Clemons, Greenwood.
H. Wheeler, Dana.
Chas. G. Wilett, Royal Center.
W. J. Lamb, Losantville.
Mrs. August Anderson, North Salem.
Eugene Wilson and wife, Martinsville.
T. N. Bonifield, Warren.
H. L. Renner, Sandtoun.

Aaron Pursel, Noblesville.
Louis F. Ott, Veedersburg.
G. W. Keifner, Loogootee.
W. V. Klein, Connersville.
George Long, New Richmond.
A. H. Pauley, Bloomington.
J. E. Haddon, Dana.
A. J. Smith, Bloomington.
M. S. Brown, Acton.
J. W. Hudson, Fortville.
C. E. Kever, Fountain City.
B. Maier, Edinburg.
J. F. Lisher, Mirristown.
Scott Mullin, Liberty.
J. E. Ward, Worthington.
J. W. Thompson, Danville.
Fred. Mills, Greensburg.
Mr. Dressler, Bowling Green.
Flo. Dennis, Westfield.
H. A. Davis, Pennville.
J. A. Bard, Brazil.
C. O. Bentschler, Center Point.
S. M. Royer, Patricksburg.
F. C. Sheldon, Shelbyville.
H. L. Rost, Columbus.
A. C. Harrison, Fisher's Station.
J. A. Pickett, Newcastle.
J. A. Spencer, Spiceland.
H. S. Werncke, Greencastle.
John L. Duncan, Wingate.
L. M. Royer, Bowling Green.
Mr. Campbell, Darlington.
W. H. Markle, Rigdon.
H. E. Kinnear, Marion.
E. B. Scott, Linden.
C. E. Wright, Sims.
J. W. Vest, Greenwood.

EVERYTHING
NEEDED FOR
HOLIDAY
STOCK

Diamond Goods
Watches
Clocks
Jewelry
Silverware
Novelties

CHRISTMAS
SPECIALS IN
GREAT
VARIETY

The Retailers' First Profit

is made in the purchase of stock. Wise and economic buying means quick and profitable selling. *We see to it that our patrons buy right*—that they have every possible advantage in price, quality and service. Keep this in mind when selecting your holiday supplies.

Our stocks comprise in unusual abundance every requirement of the trade. We made our preparations with an accurate knowledge of the demands of the season, and can assure at all times satisfaction and prompt delivery—the goods you want just when you want them.

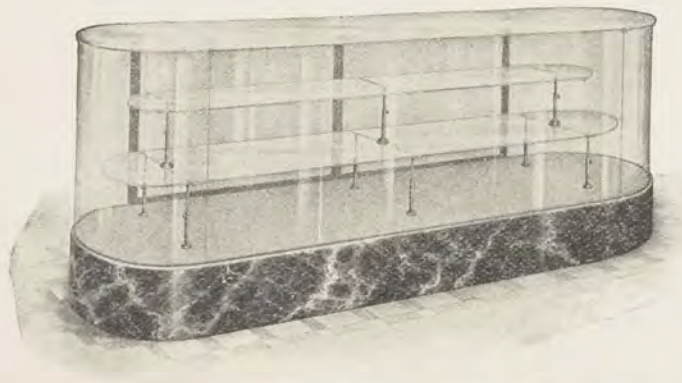
**Woodstock=Hoefler
Watch and Jewelry Co.**

Ninth and Walnut Streets

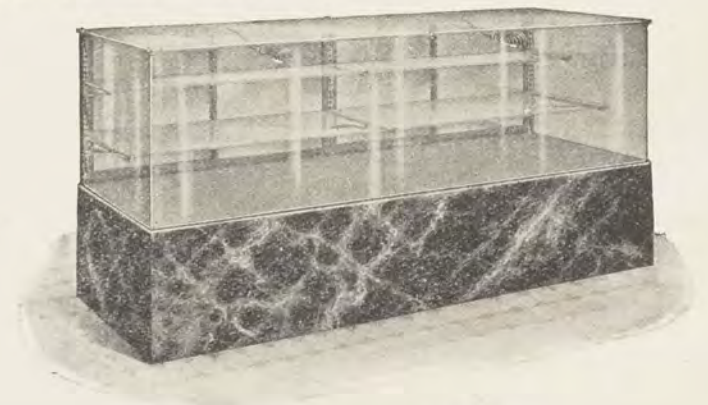
Kansas City, Mo.

More Specimens of the "AMERICAN BEAUTY"

THE MARVEL SHOW CASE OF THE AGE



"AMERICAN BEAUTY" CENTER CASE No. 420



"AMERICAN BEAUTY" FLOOR CASE No. 406

Grand Rapids Show Case Co., Grand Rapids, Mich. Nampa, Idaho, February 23, 1905.
Gentlemen:—Enclosed find freight receipt and draft to balance my account in full. The "American Beauty" came in fine shape, and I can't help but think how well you have it named. Everyone who sees it says, "Isn't it a beauty?" and I fully agree with them. I thought I had the finest case before that could be made, all bevel plate sides, ends and top, with marble base, but this looks richer. Wishing you success, I remain,
Yours truly, W. H. MANKEY.

Grand Rapids Show Case Co., Grand Rapids, Mich. Ord, Nebr., July 10, 1905.
Gentlemen:—I received the "American Beauty" Cases all O.K., and am very much pleased with them. There is no comparison between them and the old-style cases. They show off the goods to the very best advantage; also keeping them clean and bright, as the doors fit so nicely no dust can get in.
Yours truly, E. L. CARD.

GRAND RAPIDS SHOW CASE COMPANY, Grand Rapids, Mich.

NEW YORK OFFICE, 718 Broadway—same floor as
Frankel Display Fixture Co.

THE LARGEST SHOW CASE PLANT IN THE WORLD!



The Immense Harvests

The season of harvest-time rejoicing is here in full blast, and everybody is taking a sort of holiday before winter sets in. The gratification of the country over the abundant crops this year, is finding manifestation in many localities, in harvest fetes of various sorts. Conspicuous among these was the corn carnival at Atchison, where an elaborate programme was carried out, and visitors were reminded of the abundance of corn by having it showered upon them. Corn took the place of confetti, and everybody joined in the merry battle. Extensive preparations were made, and Ed. Howe, editor of the *Atchison Globe*, and leading spirit of the corn carnival, had Ellery's Royal Italian Band to give a succession of concerts.

The Annual Carnival

The carnival spirit in Kansas City is marked always by the annual festivities of the Priests of Pallas, who during a whole week furnish entertainment for all Kansas City and its thousands of guests. October 2d is the opening date of the carnival this year, and it will continue throughout that week. Sousa and his band are to be here the entire week and give several concerts, besides appearing in conjunction with the Epperson Megaphone Minstrels in their two performances. Other entertainments of the week are the annual Priests of Pallas ball and the Bal Masque. By the time this is printed the festivities will be well on, and it is likely that the prophecy of a record-breaking crowd will be borne out. The programme this year is so attractive and the country itself in such good condition that many out-of-town people will take a little vacation and come to see Kansas City's big show. It is quite proper that people of our tributary territory should do this, not alone because of the excellence of the attractions, but because a little rest and vacation is good for everybody, and a few days in Kansas City while it is at its best, and there is a great deal going on, is enough to benefit those who are, as a rule, engrossed in business. Many out-of-town merchants postpone their coming to the city until festival week, and then combine business with pleasure by placing their orders while here.

Trade Conditions and Prospects

All of the wholesale houses agree that conditions could not be better for the time of year than they are now. Basing their estimates on the bumper crops, and the general good times, they have placed larger orders than usual with the manufacturers, and the big factories are, as a rule, anywhere from three to five weeks behind with their orders. Early orders for Christmas goods have come in plentifully, and this is, no doubt, a result of the constant urging of the jobbers, who have repeatedly pointed out to their customers the necessity of early orders when a full selection of goods is desired at once. With the orders of the wholesale dealers already so large, it is likely that many retail buyers may have to wait for their goods. All of the optical houses are as busy as they can be, and their fall business is now

at its height. The manufacturing jewelry establishments are all working overtime. The Meyer people have had to work extra hours for several weeks, and the Edwards & Sloane shop have been so rushed that four new men were hurriedly put into the manufacturing department. What is true of these two firms is true of all the other manufacturers, who have all the business they can attend to. Good watchmakers are as scarce as the proverbial hen's teeth, and all of the members of this craft are constantly busy. The large amount of work that is being done in the shops is a distinct indication of good times in the country. The small jewelers, when business is good, have to constantly leave their watchmaking benches and attend to their stock, and when business is exceptionally good, the work is, of course, hurriedly packed up and sent to the big shops in Kansas City.

Kansas City Real Estate on the Up Grade

Kansas City real estate is still on the up grade. Prices, especially for business property, are extremely high. Many down-town sites have changed hands at big prices. Residence building is especially brisk, for in these days of "easy payments" everybody is in the notion of acquiring a home. Many new additions to the city have been laid out and homes are springing up in the suburbs like mushrooms.

A few Kansas City jewelers placed extensive orders abroad for goods for the holiday trade. The import order of J. R. Mercer, which has just been cleared through the custom house, is one of the largest of its kind. It includes rare specimens of Dutch silver and many beautiful bronzes.

Mrs. C. C. Hoefer has returned after a three-months' absence from Kansas City, during which she visited in the East and spent some time at Plum Lake, Wis.

C. A. Thomas, of Norborne, Mo., has sold his jewelry stock to R. E. Meehan.

A. S. Fonville, of Wichita Falls, Texas, spent a fortnight in Kansas City, during which time he selected his winter stock of jewelry.

Louis Meyer, of the Meyer Jewelry Company, has been very ill at his home for two weeks. It will probably be some time before he will return to business.

Walter Jaccard, of the Jaccard Jewelry Company, has returned from his summer trip to Europe, bringing back with him many novelties for Christmas buyers.

W. H. Reed, of Golden City, Mo., was a Kansas City visitor last week.

Mrs. Otto Burklund, wife of the Ossawatimie, Kans., jeweler, is in Kansas City taking a course in engraving at the Kansas City Horological and Engraving College. Mrs. Burklund shows unusual talent and promises to make an especially fine engraver. She was not entirely untutored in the art when she began her studies here, for previous trials with the engraving tools had so pleased her that she decided to take a practical course.

Bass & Company, jewelers, of Huntsville, Mo., have sold out their stock.

The Nelson Jewelry Company, of Cotter, Ark., recently suffered considerable loss in a fire which destroyed several other business houses.

J. R. Mercer is back after an extended absence, during which he spent several weeks fishing in Canada, and visited the big Eastern manufacturing centers.

F. W. Meyer will soon inaugurate extensive alterations and improvements in his store, planning to have all complete by the time that the Christmas trade is well on.

Mr. and Mrs. Paul Margolis have returned from a vacation outing of several weeks.

New students recently matriculated at the Southwestern Optical College are Herbert S. Ellison, Hobart, Okla. Ter.; Obadiah Holmes, Blue Springs, Mo.; B. L. Coldron, Leavenworth; J. B. Miller, Coffeyville, Kans., and R. W. Easton, of Kansas City. Dr. E. A. Lane, of this college, has returned after a visit of several weeks with relatives in Denver and Pueblo.

C. S. Weed, of Woodstock-Hoefer Watch & Jewelry Co., is ill.

S. Joseph, the Des Moines jeweler, spent several days in Kansas City last month.

Thomas Ware, of Gurney & Ware, has returned from his outing at Plum Lake, Wis.

Miss Anna Collins, of Mercer's, is spending two weeks on a ranch in Western Kansas.

E. D. Martin, formerly of Carl Junction, Mo., has opened a retail jewelry store at 107 West Ninth Street.

W. C. Schaible, of Falls City, Nebr., and M. Queen, of Kansas City, are taking courses in watchmaking at the Kansas City Horological College.

Ed. Dunning, of the Dunning Jewelry Company, is building himself a handsome new home.

V. F. Kirkpatrick and Mrs. Kirkpatrick, of St. Joseph, were Kansas City visitors recently.

A. S. Tucker, of the Tucker Jewelry Company, recently bought his fall goods here.

Dr. C. W. Crosby, 1024 Walnut Street, has gone to Chicago and New York to take a post-graduate course in neurology. His office will remain open in his absence.

Among the out-of-town jewelers who visited Kansas City within the last two weeks were J. W. Phillips, Chanute, Kans.; T. L. Basket, Chillicothe, Mo.; Walter Starcke, Junction City, Kans.; Wm. G. Glick, Junction City, Kans.; G. H. Lee, West Plains, Mo.; W. H. Haupt, Bartlesville, Ind. Ter.; J. C. Haupt, Peabody, Kans.; W. H. Meyer, Lawson, Mo.; W. W. Whiteside, Liberty, Mo.; S. J. Huey, Excelsior Springs, Mo.; F. Meluish, Ottawa, Kans.; E. Hostetter, Garden City, Mo.; C. A. Clement, Springfield, Mo.; H. E. Tucker, Higginsville, Mo.; W. E. Crollin, Chillicothe, Mo.; Will. Pfeiffer, Parsons, Kans.; L. Megede, Richmond, Mo.; J. B. Hayden, Topeka, Kans.; E. D. Dunning, Concordia, Kans.; L. S. Grim, Jewell, Kans.

A New "Far-Speaker"

The "auxetophone" is an attachment for reinforcing the sounds given forth by phonographs and gramophones, invented by C. A. Parsons, the inventor of the steam turbine, and Horace Short. A small valve of peculiar construction controls the admission into the trumpet of compressed air supplied from a pump or bellows. The action of the apparatus is compared in the *Scientific American* to that of an air relay, whereby not only are greater power and volume imparted to the sounds, but the fullness and richness of tone are heightened. It is said that on a calm day the auxetophone can be heard distinctly at a distance of two or three miles, and that in speech every word may be clearly distinguished as much as five hundred yards away.

"The Keystone is so good now I could not possibly offer a suggestion to better it; so will leave it to you. I am particularly interested in Workshop Notes."—W. H. Crisp, Jeweler, Enid, Oklahoma Territory.



PHILADELPHIA LETTER

The partnership hitherto existing between Richard M. Cooper and John S. S. Cooper, trading at 722 Sansom Street as Richard M. Cooper & Son, has been dissolved, Richard M. Cooper having withdrawn. The business will be continued at the same address by John S. S. Cooper under the old firm-name.

A. M. Kendall, the Millville, N. J., jeweler, visited the jobbing trade in this city last month, renewed friendship with the local dealers, looked over their interesting lines and gave some appreciable orders. Jeweler Kendall was agreeably surprised by the novelty, beauty and extent of the stocks now being shown in Philadelphia's wholesale market.

C. S. Hunsberger, of Souderton, Pa., paid a visit to the Philadelphia market last month, and made some choice purchases of stock to meet an anticipated brisk demand during the holiday season.

Bailey, Banks & Biddle Co., were awarded the contract for the cups and other handsome trophies contested for at the eleventh annual Bryn Mawr horse show, held September 20th to 23d. These prizes were an attractive feature of the company's window displays, in which connection they were very much admired.

Benjamin Gebhard, manufacturing and wholesale jeweler, has removed from 129 South Seventh Street to 735 Sansom Street. The new location affords him a considerable amount of extra space, and in its general appointments is admirably adapted to his increasing trade.

Recent visitors to the local jobbing trade included Capt. Geo. Bowen, of Bridgeton, N. J. Capt. Bowen spent several days inspecting the new fall and holiday lines of the Quaker City wholesalers, made numerous purchases, and took back with him some very pleasant memories of his visit.

J. W. Tyler, of Tylersville, Pa., was a buyer in the local market last month. He secured some choice lines for fall and holiday trade.

Wilson Streeter, one of the foreign buyers for Bailey, Banks & Biddle Co., who left for Europe in May last, has lately been ill in Paris with sciatic rheumatism.

W. H. Waltz, the Schwenkville, Pa., jeweler, called on the wholesale trade of this city last month, and made some seasonable purchases. He speaks favorably of prospects in Montgomery county.

Samuel Kind, of S. Kind & Sons, returned lately from a sojourn in Europe. Mr. Kind has been away for nine weeks, most of which time he spent at the German health resorts.

J. E. Caldwell & Co. furnished the cups and other interesting trophies for the Atlantic City and Cape May automobile races.

O. O. Stillman, the well-known jeweler, of New Brunswick, N. J., renewed acquaintanceship with his numerous friends in the Philadelphia jewelry trade last month. Mr. Stillman was highly pleased by his visit to this city, and marked his appreciation of the new fall and holiday lines shown by the jobbing trade, by making liberal purchases.

Harvey Feldman, of B. J. Feldman & Sons, of Franklin, Pa., who was one of the injured in the recent railroad accident at Harrisburg, died

last month, the immediate cause of death being neuralgia of the stomach. The funeral took place on September 14th, when a large number of relatives and friends followed the remains to their last resting place.

William Wildemore, well known to the local trade, having been in the employ of L. A. Scherr & Co. for twenty-five years, died recently.

Among the recent arrivals at the Philadelphia College of Horology are: E. Wicks, Pittston, Pa.; C. C. Murry, Timpson, Texas; W. Leyberger, Salem, New Jersey; W. P. Cook, Salem, N. J.; E. H. Smith, Vineland, N. J.; H. Steffler, New Philadelphia, Ohio; L. H. Hepworth, Hope Valley, R. I.; A. G. Bloom, Harrisburg, Pa.; Miss Kathryn Clark, Bristol, Pa.; J. B. McBain, Middleburg, N. Y.; H. J. Hood, Ozark, Ala.; H. McLee, Sharon, Pa.; P. H. Haggerty, Mauch Chunk, Pa.; O. S. Wiggins, Patchogue, L. I.; W. M. Powell, Emporia, Va.; W. F. Evans, Mount Savage, Md.; W. B. Wallace, Jr., Lexington, Va.; G. B. Pruett, Oakland, Cal.; E. A. Hollis, Martinsburg, W. Va.; R. E. Stone, Keene, N. Y., and J. T. Umpleby, of Brooklyn, N. Y., who is taking a special course in optics.



DALLAS, TEXAS LETTER

There is a general improvement in business in this section and trade is more brisk than at this period last year. The outlook for the fall and holidays is most hopeful, especially in Dallas, which is becoming the metropolis of the Southwest. It is now the headquarters of numerous wholesale houses and is favored by the vast extent of the trade territory to which it caters. The great Texas State Fair, originally scheduled to open on September 30th, and close on October 15th, has been postponed owing to the yellow fever scare in some sections of the South. Under the new arrangement, the fair will be inaugurated on October 28th and concluded on November 12th. Fortunately no cases of the disease have been reported in Texas so far, but it was opined that to postpone the fete would contribute to its greater success, as by October 28th most of the quarantines will have been raised, the attendance, no doubt, will be consequently greater, the spirit of the occasion more genuinely festive, the attractions more numerous and the business benefits more abundant.

John L. Boland, of St. Louis, has opened his sample-room in Dallas, under the management of Chas. C. Mitchell, and, as usual, is now ready for all fall orders.

The business of Fletcher Allen, Kosse, Tex., is now in involuntary bankruptcy.

Frank P. Moring, of Ladonia, Tex., was in Dallas, recently, making some fall purchases.

Lee S. Smith, of Bowie, Tex., made a pleasure and business trip to Dallas, visiting his sister, as well as laying in a fall line of goods.

W. H. Gumm, of Van Alstyne, Tex., made a business trip to Dallas recently.

A. L. Jones, of Llano, Tex., spent several days in Dallas last month, selecting his fall line of goods, consisting of jewelry and musical instruments.

A. D. Honeycut, of A. D. Honeycut & Co., druggists and jewelers, of Gatesville, Tex., was a recent buyer in the Dallas markets.

The Dallas Trade League entertained a large number of visiting merchants from all parts of the State, for two days last month. A well-attended business meeting was held, at which the city's trading facilities were praised, and an enjoyable banquet was afterwards given at the Oriental Hotel, in honor of the visiting dealers.

W. E. Brown, a jeweler, of Boyd, Tex., was a buyer in the Dallas markets last month.

C. W. Thompson and wife, of West, Tex., spent several days visiting relatives near Terrell last month, and on their way home Mr. Thompson visited the trade, making necessary purchases for his jewelry store.

A. M. Wesson, of Midlothian, was a recent buyer in the Dallas markets. Mr. Wesson has moved into larger and more commodious quarters, and has now a very pretty jewelry store, having added new fixtures.

L. N. Pittman, son of E. I. Pittman, a jeweler, of Emis, Tex., was a recent visitor in Dallas.

C. T. Moore, of Mineola, Tex., spent several days away from business, taking a little rest and recreation.

Mr. Bradford, of the Bradford Drug Co., of Mineola, Tex., paid Dallas a two-days' visit last month, making some fall purchases.

I. Tendler, of Rosebud, Tex., was in Dallas recently. Mr. Tendler has lately opened a jewelry store at the above-named place.

B. Z. Friedman, of B. Z. Friedman & Co., Fort Worth, Tex., was in Dallas recently on a business trip.

Watchmaker Henderson, of J. E. Mitchell & Co., Fort Worth, spent a day in Dallas recently.

T. H. Benninger, watchmaker and jeweler for J. W. Pittman, of Cleburne, Tex., made a business trip to Dallas recently.

J. H. McCoy, watchmaker for J. W. Lane & Co., Coalgate, I. Ter., was a recent buyer in the Dallas markets.

J. B. Russell, watchmaker for D. E. Austin & Co., Grapevine, Tex., made a business trip to Dallas last month.

Will F. Dietrich, of Kaufman, Tex., made a business trip to Dallas recently, laying in a part of his fall line of goods.

L. E. Miller, of Goldthwaite, Tex., spent several days in Dallas last month, attending to some business in his line.

Thos. M. Cave, of Thorndale, Tex., spent several days in Dallas lately. Mr. Cave combined pleasure and business together and spent a very enjoyable visit.

B. G. Glass, of Madill, I. Ter., was a recent buyer in the Dallas markets.

C. N. Bushnell, formerly watchmaker for S. R. Glidewell, Whitewright, Tex., has opened a business of his own at Channing, Tex.

Victor Hunter, jeweler for Sam. F. Stewart, of this city, spent his vacation at Whitney, Tex., and reports a very pleasant visit.

L. B. Platt, of the Platt Jewelry Company, is just getting up from a seven-weeks' spell of sickness. Mr. Platt at one time was very low, but he is fast improving.

W. A. Peck, of Denison, made a pleasure trip to Dallas recently. Mr. Peck is a Shriner, and attended the general meeting which took place September 15th.

R. E. Allen, formerly of Jos. Linz & Bros., Dallas, has accepted a position with C. L. Norsworthy, as watchmaker.

T. S. Dennis, of Eastland, spent a few hours in Dallas recently on a business trip.

J. P. Oliver, of Hearne, Tex., was a recent buyer in the Dallas markets.

B. Gorman, of Winnsboro, Tex., spent several weeks in West, Tex., on his vacation, and reports that he feels much better and is now ready for business.

W. D. Frey, material clerk for C. L. Norsworthy, Dallas, was on the sick list a few days last month, but is now at work again.

G. H. Fisher, formerly of Wichita Falls, spent several days in Dallas recently, on a visit to relatives. Mr. Fisher is now taking a rest at Mineral Wells, Tex.

Aubrey Dunn, formerly of J. C. Dallas & Co., Temple, Tex., has resigned his position and opened a business of his own at Coleman, Tex.

STAR (★) BRAND

OUR LATEST PATTERN

The "BELMONT"

MADE ONLY IN THE
COLD MEAT FORK
and BERRY SPOON
Now Ready for Delivery

TRADE-MARK

★ ROGERS & BRO. A-1



COLD MEAT FORK
(Two-thirds size)

If you have not already placed your order for fall trade, it would be well to send it early, either to us direct or through your jobber. If not fully posted as to the merits of the celebrated **STAR (★) BRAND** of electro-silver plated flatware, send for catalogue and full particulars.

Made only by

International Silver Co., **Rogers & Brother,** Waterbury
Successor to Conn.

NEW YORK WAREROOMS: 9-11-13-15 Maiden Lane



BERRY SPOON
(Two-thirds size)

SOLD BY LEADING JOBBERS

New York Standard Watch Co. Announce a New Watch made especially for the Watch Trade

A watch built especially for *you*. A low price for a serviceable movement; a showy watch that will force sales. An improved model all the way through; entirely new design of plates and character of finish; *compensating balance, breguet hairspring, seven jewels, lever escapement*; two finishes—nickel damaskeened and combined fancy gilt and nickel damaskeened, very handsome and attractive; *pendant set*; fully guaranteed by the makers: in every way measuring up to our claim of



**"The Best Watch
in the World
for the Money"**



How can we make so good a watch for so little money? We have one of the largest American factories running full time on this *one thing*—producing nearly 2,000 movements a day—always making them thoroughly good, yet reducing the cost to the minimum. If we were working on twenty-five different models, the price of these new watches would be perhaps double. You get the benefit of our *specialization*. Your jobber has these new models *now*—order early, the demand is great and growing. Price-list on request.

New York Standard Watch Co.
Jersey City, N. J.

THE WESTERN CLOCK MFG. CO.

SOLE MAKERS OF THE "AMERICA" ALARM

NEW YORK CITY
51-53 Maiden Lane

LA SALLE, ILL.

CHICAGO
131 Wabash Avenue



"Strenuous" Long Alarm

The Kind You Have to Get Up to Stop

THE "STRENUOUS" LONG ALARM rings for five minutes continuously unless stopped by a brass shut-off attached to the bell. It is put up in a large nickel-plated case, $4\frac{1}{2}$ inches wide across the dial and $2\frac{3}{4}$ inches deep. The movement has all the advantages of our unique CASTING CONSTRUCTION which permits the use of very THIN HARD STEEL PIVOTS, reducing the friction to a minimum, assuring absolutely true wheels and producing perfect timekeepers.

The "STRENUOUS" does not cost any more than most of the short-ring alarm clocks on the market, and can therefore be retailed for \$1.00 at a good profit.

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More advertising this year than ever before.

Look in any of these magazines for the "World Brand" advertisements and judge for yourself as to their trade-bringing qualities: "Delineator," "Designer," "New Idea Woman's Magazine," "Ladies' Home Journal."

This comprises the strongest list of woman's magazines published and covers a circulation of over **Three Million** subscribers.

Our advertising is done entirely in the interest of dealers who carry "World Brand" Silverware. It is our aim to secure customers for such dealers—to send customers directly to their counters.

We make it easy for you to carry "World Brand" Silverware.

A factory shipment costs you but \$25, or even \$10.

Write TO-DAY for "**World Brand**" **Silver Catalogue Supplement** describing special assortments and showing net "Costs You" prices.

We guarantee "World Brand" to be plated 50% heavier than Standard Plate. It costs you no more. Customers readily pay a better price for this heavier plate. You make a better profit.

The American Silver Company

46 W. Broadway
New York

Bristol, Conn.

Silversmiths' Building
Chicago, Ill.

Keep Your Stock Fresh with New Patterns and Shapes

Our Cut Glass sells out of stock
and the line is noted for its

Heavy Blanks
Rich, Deep Cutting
Brilliant Finish
Moderate Prices

To keep up to date, send for
our complete catalogue—all
half-tone illustrations.



CLERMONT VASE
18" high
No. 9419

Important

We offer a special in Cut Glass each
month. Send for description of this
month's offer and get your name on
our list.

UNGER BROS.

Manufacturing Jewelers, Silversmiths and
Glass Cutters

412-418 Halsey St., Newark, N. J.

*We do not job our glass, but
cut every piece we sell here in
our own factory.*

If you haven't already received our catalogue of

"Ornaments for the Hair"

Write for one to-day

It is to your interest to see it for we make the largest and most comprehensive line of combs and barrettes in America.

Our new and complete catalogue of all the goods manufactured by us is now on the press and will be ready to mail the day you see this ad. It contains all the latest novelties of the season. Be sure and ask for one at once.

FISHEL, NESSLER & CO.

Silversmiths and Jewelers

OFFICE AND WORKS—
79, 81, 83, 85 Crosby Street
SALESROOM—
556 Broadway

New York, N. Y.

Patentees of the "Breakless" Bar Pin.



STERLING SILVER



TRADE MARK
HAIR ORNAMENTS



PLATED JEWELRY

These well-known trade-marks on the back of each article manufactured by us are a guarantee of originality, artistic distinction and perfect workmanship.



Wealth of Watch Stock for Fall Trade



We have completed elaborate preparations for supplying promptly and satisfactorily the fall and holiday watch needs of the trade. Our stocks comprise full lines of the product of the Keystone Watch Case Co.

Keystone Solid Gold

Jas. Boss Filled

Betsy Ross Complete
Watch, etc.



ELGIN MOVEMENTS

WALTHAM MOVEMENTS

Full line of RAILROAD WATCHES

Also Cases of the Crescent Watch Case Co. and the Philadelphia Watch Case Co.

H. O. HURLBURT & SONS, 14 South Tenth St. Philadelphia, Pa.

New England Watches



A few of the choice designs that are proving to be great sellers

No. 8473, with arabesque bezel, is novel and attractive and with rose gold finish makes a unique and stylish watch. The other designs, 8519 and 8521, are very effective, and the entire line of

ELF WATCHES ARE THE MOST UP-TO-DATE FOR A TEN-LIGNE SIZE



No. 4689 Rugby—the ten size boys' hunting in 20-year cases. The entire line of Rugby Watches is very salable.

Numbers 9631, 9633 and 9635—the Cavour fifteen-ligne size.

THE BEST-SELLING LINE OF LADIES' WATCHES ON THE MARKET

Accurate, reliable, and carry our unquestioned twenty-year guarantee. All sizes, in open-face and hunting cases.



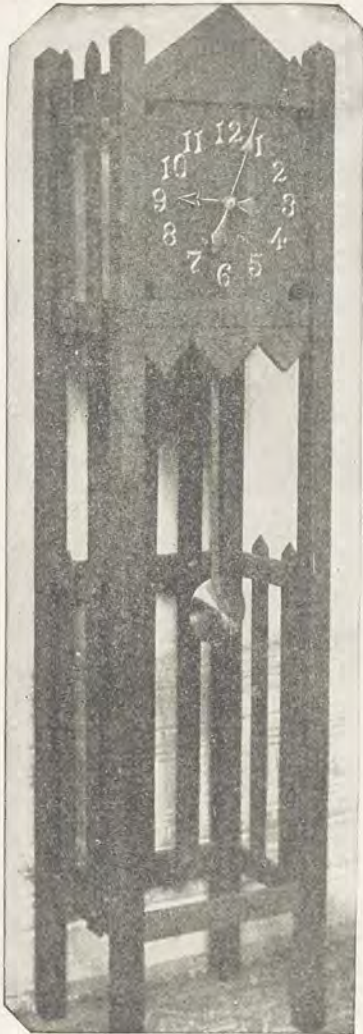
Send to-day for Catalogue describing all our lines and prices

New England Watch Co., Waterbury, Conn.

37-39 Maiden La
New York

131-137 Wabash Avenue
Chicago, Ill.

Spreckels Building
San Francisco, Cal.



60% Profit!

A 6-foot-high MISSION HALL CLOCK exactly like this photographic cut

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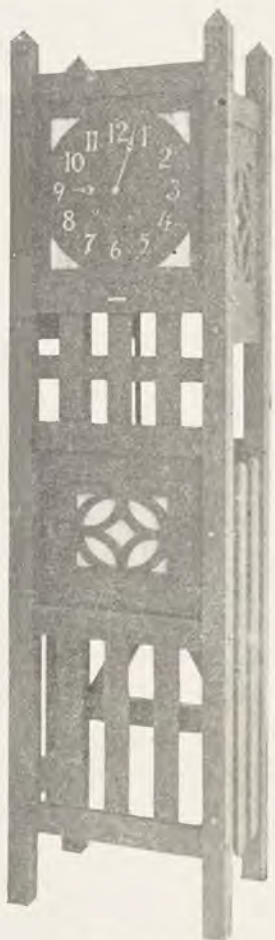
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STERLING

TECHNICAL DEPARTMENT

Lessons in Horology

COURSE IN MECHANICS AS APPLIED TO CHRONOMETRY

By JULES GROSSMANN, Director of the Horological School, of Locle, Switzerland, and
HERMANN GROSSMANN, Director of the Horological and Electro-Mechanical
School, of Neuchatel, Switzerland.

Authorized translation by JAMES ALLAN, JR., Charleston, S. C. Former pupil of the
Locle Horological School.

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(Continued. Part XXII.)

The especial advantages of this system of gearings are, first, that the two wheels being similar and the teeth not showing any change of curvature at the passage of the line of centers, any one tooth will drive the other before as well as after the line of centers. Moreover, the construction of a wheel not depending in any way on that which it should drive, all wheels evolvents of circles can gear together; the relation of the velocities which they have is only to be considered. This is a valuable property which allows a single motive wheel to drive at once several others, or to make several wheels gear together successively, as is the case in the screw-cutting lathe. Another advantage to be considered is that the distance of the centers can vary between certain limits without the regularity of the gearing suffering in consequence.

The gearing of evolvents can be interior; the form of the teeth, in place of being convex, is then concave. This fact is an inconvenience which makes this combination little used. One can, in these cases, diminish the concavity by multiplying sufficiently the number of teeth.

220. Third—Roller Method. The principle of this method differs from the preceding, but is just as general.

Let us imagine, first, any polygon, $ABCDEF$ (Fig. 56), compelled to roll without sliding the length of a line XY . At a certain moment of the movement

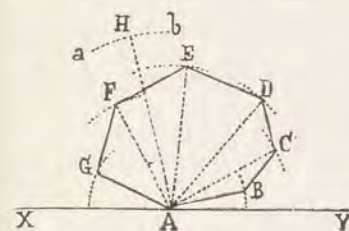


Fig. 56

one of the angles, A , for example, is found in contact with the line XY . During the rolling around this point all the points of the polygon, and with them all those which, interiorly or exteriorly, could be unalterably connected with them, describe arcs of circles around the center A . As, for example, the point H , exterior to the polygon but unalterably connected with it,

will describe an arc ab during the instant of the rolling considered.

The radii of these diverse arcs of circles will be their normals and will necessarily pass through the point A .

Let us remark that the length of each arc described depends on that of its radius and on the number of sides that compose the polygon. If we suppose this geometrical figure formed with a great

number of sides, the lengths of the arcs described while it turns around one of its sides, will diminish. At the limit, that is to say, when the number of sides becomes infinite, the polygon is confounded with a continuous curved line, and each of the points which compose it will describe, nevertheless, as the polygon rolls around an instantaneous point of contact, an infinitely short arc of a circle. But, however small it may be, this arc possesses, nevertheless, two extreme radii, drawn infinitely near to each other and passing through the instantaneous center of rotation. Since they are drawn infinitely near to each other, either of these radii of curvature is, consequently, normal to the point considered of the total

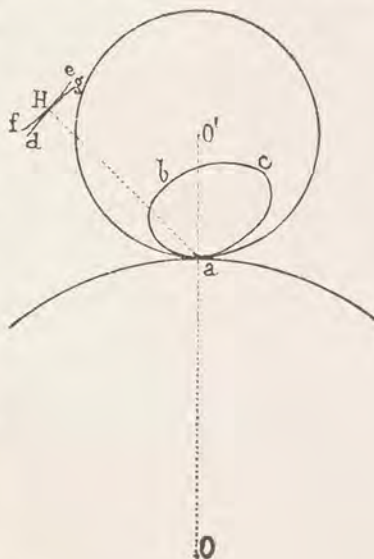


Fig. 57

curve described by this point during the continual rolling of the generatrix along the line of the *directrix*.

This established, let there be, moreover (Fig. 57), any curve, abc , which we cause to roll on the exterior of the primitive circumference of a wheel and at the interior of that of the pinion. If, to be more clear, we suppose that a point H taken outside of this curve may be connected with it in an invariable manner, the movement of this point will be similar to that of all the points composing the given curve.

During a certain period of the curve's movement at the exterior of the primitive circle of the wheel O , this point H will describe a trajectory dHg ; then, when the movement takes place at the interior of the primitive circle of the pinion O' , its trajectory will be the line fHe . These two curves can be adopted as the profile of conjugate teeth. In fact, we imagine that the curve abc follows the movement of the two primitive circumferences in such a manner that these three curves remain constantly tangent at a . The trajectories meet at H , since this point describes them both; moreover, they are tangent there, since the normal for each is obtained on joining the describing point H to the point of contact a of the moving curve abc with both of the primitive circumferences established.

Consequently, the common normal of the teeth, at their point of contact, passes through the point of tangency of the primitive circumferences, and the verification of this fact suffices, we know, in order to have the curves obtained, adopted as forms of teeth.

Let us examine from this point of view the following case:

221. Flank Gearings. In order to obtain a profile very much used in the practice of horology, one chooses as the generating form the circumference whose diameter is the radius of one of the primitive circles and one takes the describing point on its circumference (Fig. 58).

In the movement of the generating circle around the primitive circle of the wheel, the point A describes an arc of an "epicycloid" AD .

In its movement in the interior of the primitive circle of the pinion, this same point A describes a straight line $O'A$, which is a radius of the circle O' . This plane surface $O'A$ is called a "flank."

Let us remark that the epicycloid which forms the profile of the tooth in flank gearings is not the same as that which we have determined for the lantern gearings (212). In the first case it is produced by a point of a circle with a radius less than one-half that of the primitive circle of the pinion, and in the second this curve is produced by a point of the primitive circumference itself.

222. We are now going to prove that *in the rolling of the interior of the circle with twice the radius, the moving point traverses a diameter.*

If one represents in effect any position whatever, O'' , of the moving circle during its movement in the interior of the primitive circumference of the pinion, the angle inscribed, $A'O'M$, has for its measure the half of the relation of the arc $A'M$ comprised between its sides to the radius $\frac{1}{2} A'O'$, that is to say, $\frac{A'M}{A'O'}$.

One can, on the other hand, measure it as an angle to the center O' by the relation of the arc comprised $A'A$ to the radius $A'O'$; therefore, $\frac{A'A}{A'O'}$.

But, if the expression of the theorem is true, that is to say, if the point A of the generating circle is carried to M along the straight line $A'O'$, the two angles $A'O'M$ and $A'O'A$ should be

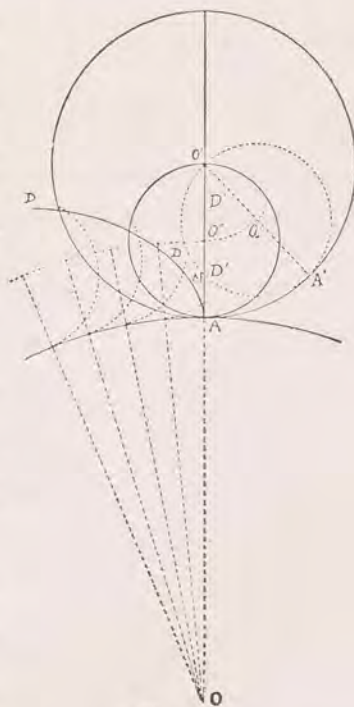


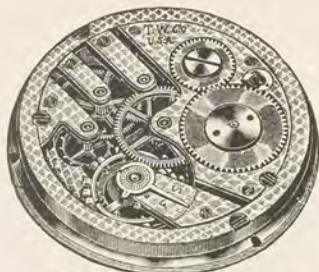
Fig. 58

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No. 310. FORTUNA. 6 Size, 7 Jewel, Hunting and Open Face, Pendant Setting

Nickel damaskeened, cut expansion balance, safety pinion, screw bankings, straight line lever escapement, hardened and tempered breguet hairspring, quick train, exposed winding wheels, handsome white enamel dial with depressed seconds and red marginal figures. Open-face, without seconds.



No. 320. "FORTUNA." 12 Size, 7 Jewel, Hunting and Open-Face, Pendant Setting

Nickel damaskeened, cut expansion balance, safety pinions, screw bankings, straight line lever escapement, hardened and tempered breguet hairspring, quick train, exposed winding wheels, handsome white enamel dial with depressed seconds and red marginal figures. Open-face, without seconds.



No. 135. Bridge Model, 16 Size, 11 Jewel, Hunting and Open-Face, Pendant Setting

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No. 130. Bridge Model, 16 Size, 7 Jewel, Hunting and Open-Face, Pendant Setting

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Lessons in Horology

(Continued from page 1689)

equal and superpose ; we would, therefore, have the equality of the terms :

$$\frac{A' M}{A' O'} = \frac{A' A}{A' O'}$$

The arc $A' M$ is equal, in fact, to the arc $A' A$, since the rolling of the generating circle is effected without slipping ; the two relations are, therefore, equal and the point M is found, in consequence, on the radius $A O'$.

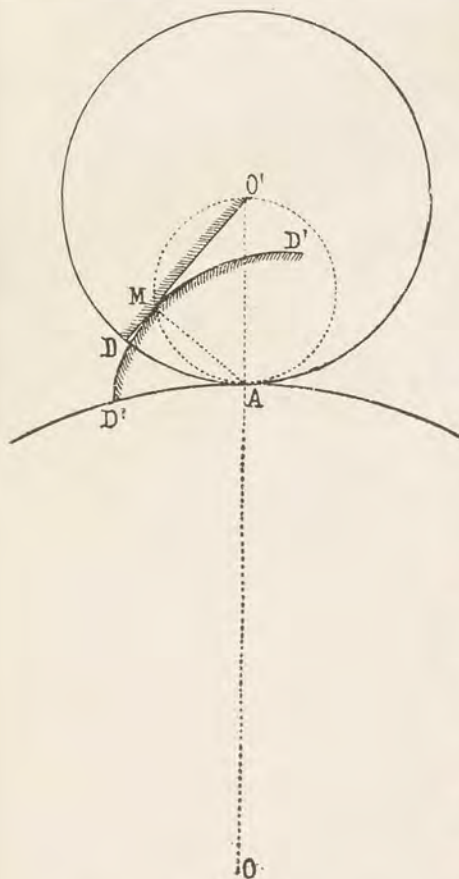


Fig. 59

Since it relates to any instant whatever of the movement, this point, therefore, does not leave the diameter $O A$, which is, then, properly the trajectory sought.

223. If one imagines the flank in any position whatever, as, for instance, $O' D$ (Fig. 59), its point of contact M will be obtained by erecting to it the perpendicular $A M$. The angle $A M O'$ being a right angle, the point M will be found on the circumference which has $A O'$ as diameter ; consequently, in flank gears, the location of the points of contact is the generating circumference itself.

224. An analogous reasoning to that which we have developed for a preceding case (213), shows that in the simple flank gears the driving can only take place on one side of the line of centers.

225. In order that the contact of two similar teeth may commence before the line of centers and end on the other side of that line, it suffices if each tooth has a mixed profile formed with a flank interior to its primitive circle and with an epicycloidal part exterior, generated by a circle with a diameter equal to the radius of the primitive circle of the other wheel. Thus, for example (Fig. 60), the circle O'' furnishes in its successive rollings a flank $O' A$ for the wheel O' and a curve $A D$ for the wheel O . The circle O_1'' furnishes in an analogous manner a flank $O A$ for the wheel O and a curve $A D'$ for the wheel O' .

This combination is called "reciprocal" flank gearing. One can, therefore, say that in reciprocal flank gears the driving takes place on both sides of the line of centers.

Let us add that the form of reciprocal flank gears cannot be employed for interior gears.

226. Two wheels with plane interior flanks and epicycloidal curves exterior to the primitive circles should, according to the generation of their profiles, be made especially for each other, since a wheel cannot gear regularly in several others of different diameters. This inconvenience is avoided for a series of wheels that one wishes to make gear with the same wheel, by replacing in the wheels of the series the straight flanks by curves, one chooses for generating circle of these interior curves and of the corresponding exterior curve of the particular wheel, a constant circle whose diameter differs the least possible from the radii of the wheels of the series.

One encounters in horology an example of this case in the gearings of the dial wheels and the setting wheels. The cannon pinion drives the minute wheel, in which also gears the main setting wheel ; this drives, in its turn, the small setting wheel (168).

An inverse movement is produced when the hands of the watch are set to the hour, and it is then the small setting-wheel which drives the other wheels.

One can, in this case, take the circle O'' half of the primitive circle of the cannon pinion, as generating form of the exterior

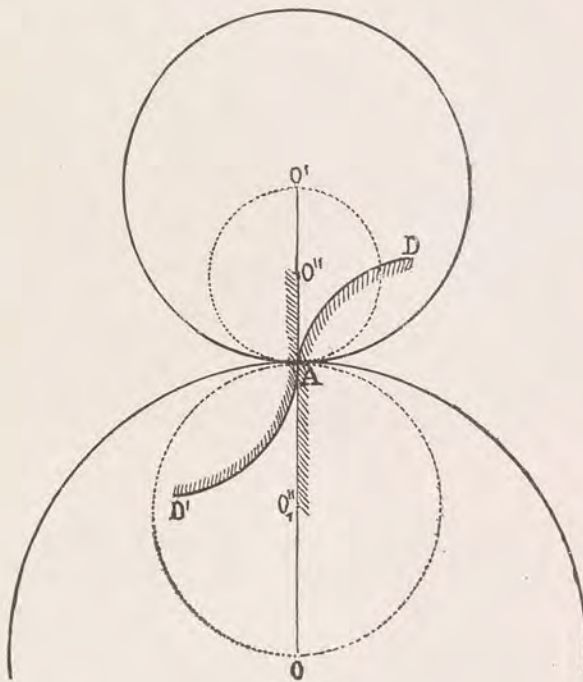


Fig. 60

epicycloids of the wheels and afterwards make this same generating circle roll in the interior of each of the primitive circumferences considered, in order to obtain the interior form of the teeth, this form is then a "hypocycloid" (Fig. 61).

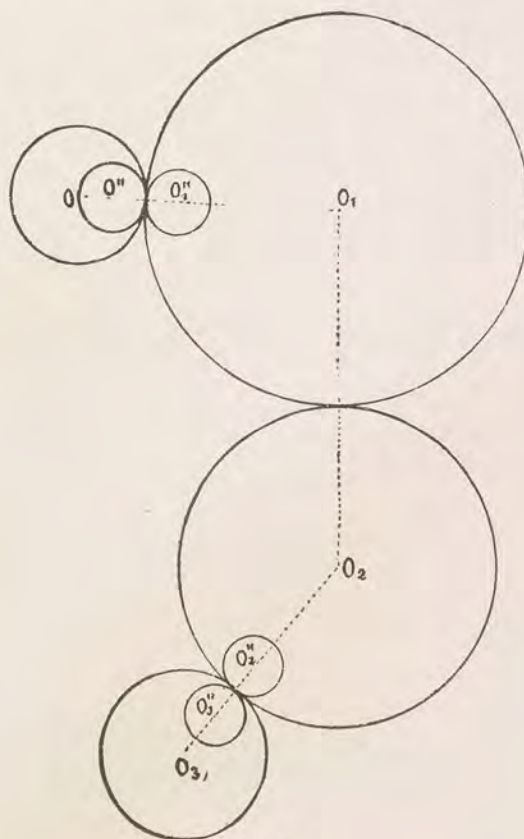
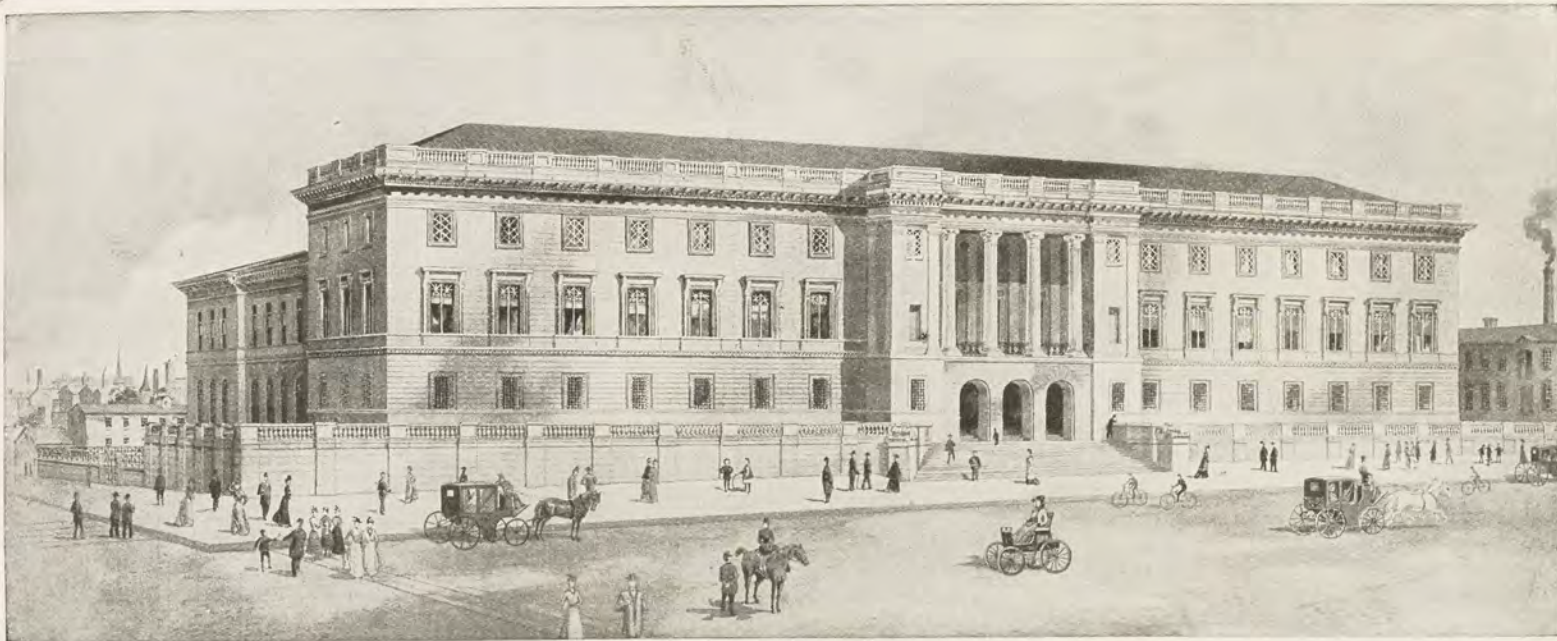


Fig. 61

In practice, one substitutes very often straight lines for these hypocycloids, and thus one obtains a general outline recalling that of the flank gearings, although incorrect from the point of view of its construction.

[TO BE CONTINUED]



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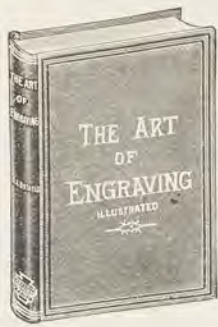
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(Continued. Part XXXII. Begun in March, 1903)

The middle stroke of an E or an F is cut in the manner described in our preceding issue, it being, of course, necessary to cut in both directions.

At Fig. 125 we illustrate the method of cutting this stroke in fine lines. The lines should all be cut down, each succeeding line being shorter; then a line cut down across the extreme tops of these lines, as shown at Fig. 126. These lines are sometimes cut by beginning all at the same point and gradually swelling out. This produces a star effect, which is entirely wrong.

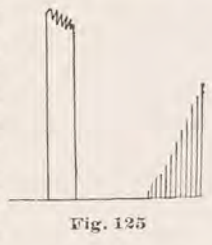


Fig. 125



Fig. 126

For this reason the engraver is especially advised to follow the methods shown at Figs. 125 and 126. It will not be necessary to describe the methods of wiggling Roman letters, as this class of letter is very seldom cut in any way other than mentioned. If, however, it is desired to cut them in any other way,

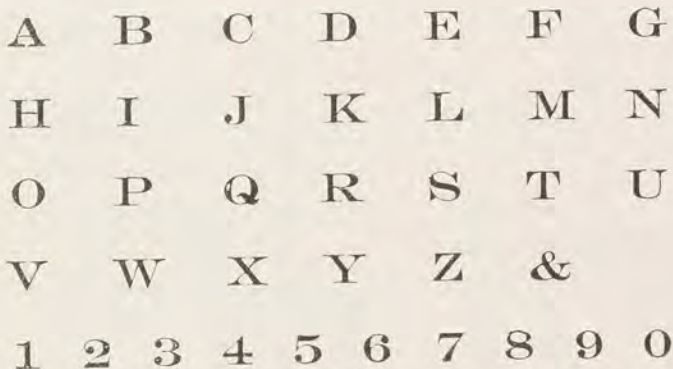


Fig. 126 A

sufficient knowledge of wiggling as applied to old English is known to the student to be able to easily apply it to this class of letter. At Fig. 126A we illustrate the complete Roman alphabet and figures.

At Fig. 127 we illustrate the word "Engrave" in the Japanese style of lettering. These letters can be cut to the best advantage with a flat-face graver,

the size of which will depend upon the size of the letter. The graver should be as wide as the widest portion of the letter. It will be seen that the



Fig. 127

letters are simply composed of lines starting in a fine line and ending up heavy, gradually increasing from the hair line to the wide stroke. These and other letters to follow under this head are to be used in such places as the engraver will find that they can be used to best advantage. Of course, it must be acknowledged, and the student is advised that script letters and old English are the styles used mostly by engravers. The class of lettering we are considering under this head is seldom used, but a knowledge of the method of cutting it will be found very useful and in some cases valuable. This is especially true when applied to lettering souvenirs and bowls of teaspoons, where possibly this class of letter-

ing is most used. We often find very cheap napkin rings, children's cups and inexpensive souvenirs engraved in such letters.

At Fig. 128 we illustrate a style of letter which might properly be called a piccadilly letter. These letters are composed of several cuts, one of which is shown at A. It will be seen that the three widest portions or the wide extremity of the letters are illustrated at points indicated by the letter C, Fig. 128. This style of letter is very often used by engravers in ornamental work.



Fig. 128

At Fig. 129 we have a block letter H, with the left half perfectly plain and the right half with the little cut, after the style of those which compose the

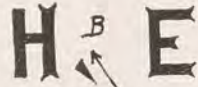


Fig. 129

letter shown at Fig. 128, added to each of the corners of the letter. The arrow B and the cut directly under it illustrates the direction in which these cuts are made in the lower right-hand corner of a letter. The cuts are made by cutting in the extreme corners of all the letters, allowing the graver to increase the width of the incision as it advances, thus making the letters pointed, as shown in the right half of the letter H. To complete the letter H in this style would necessitate eight strokes. The E, same figure, would also necessitate eight strokes. The upper and lower left corners of the letter E require one cut only. This work can be reduced by making the cuts very short, allowing them to protrude beyond the corners of the letters only a very little, which would make the letters, if they were very small, appear to be very sharp and pointed, while if they are allowed to be drawn out farther, as shown in the letter H, an effect will be produced which would change the general appearance of the letter radically. This method of squaring up letters is sometimes used in cutting letters for printing in order to make the corners very sharp. A letter cut in this style is very useful for prominent lettering such as would be used on a dog collar or some coarse piece of work. It can be done on very fine work, but usually heavy lettering is not used on that class of work, unless it is outlined and filled in.

At Fig. 130 we illustrate what is known as a cap block letter. We have already told how to cut block letters and all the technical points in connection therewith. In this illustration we merely show that these letters can be changed in their general formation by adding a bar across the end of the bars, as shown here, and are then known as cap block letters. They can be cut in the various forms previously mentioned for cutting plain block letters, and can also be shaded as in plain block letters. A letter of this kind on a coffin plate can be engraved so as to appear very showy and neat by wiggling the vertical bars coarse with a narrow graver, and with a wider graver wiggling the horizontal and angular bars very fine. Then add the shade on the lower right side.



Fig. 130

At Fig. 131 we illustrate the word "Harmoniums" in a block letter shaded at the top only. We illustrate this style of letter to show the student how a slight shade will change the position of the letter. As here seen the letters appear to be tipped forward at the top. The opposite effect would be produced if the shading was reversed and placed at the bottom. Letters to be cut in this style should be designed and outlined very accurately, and then cross lined as here shown. The white portion of the letter at the top, it is unnecessary to say, is not cut at all. The dark showing between the letters and just above the top of the letter is made by cutting a series of fine lines. The ornamental work above the word, and at the end, is made with a square graver. In fact, the entire illus-

Block Letter Shaded

At Fig. 131 we illustrate the word "Harmoniums" in a block letter shaded at the top only. We illustrate this style of letter to show the student how a slight shade will change the position of the letter. As here seen the letters appear to be tipped forward at the top. The opposite effect would be produced if the shading was reversed and placed at the bottom. Letters to be cut in this style should be designed and outlined very accurately, and then cross lined as here shown. The white portion of the letter at the top, it is unnecessary to say, is not cut at all. The dark showing between the letters and just above the top of the letter is made by cutting a series of fine lines. The ornamental work above the word, and at the end, is made with a square graver. In fact, the entire illus-



Fig. 131

tration is made by a series of fine lines, all of which is done with the one tool, the square graver. Such work as this is seldom practical, except in a very elaborate inscription on a fine piece of work, and is referred to here for the benefit of the student from an artistic standpoint, showing him the effect of shading.

(TO BE CONTINUED)

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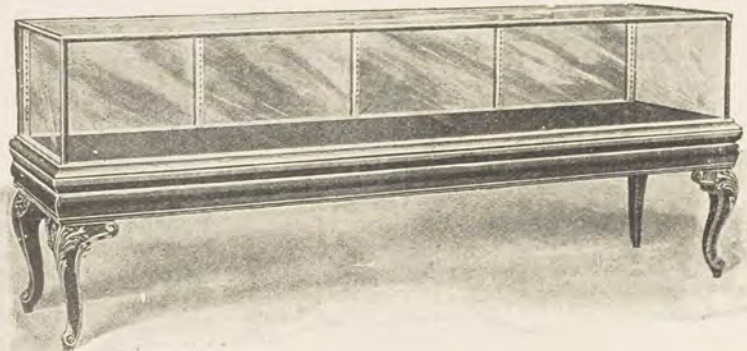
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How to Make a Hall Clock Case

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One of the novelties which many have made for themselves is rustic clocks. These are

made from branches of trees—the more rugged the more picturesque—so assembled as to form a crude case. This form of clock is capable of infinite variety, and many quaint timepieces have been evolved from the crude material. But a special favorite of the time is the Mission clock, which now reigns in all its sombreness in many homes. The mission style is, of course, adaptable to all kinds of clocks, but seems to be specially suited for hall clocks. The mission idea is probably too sombre to be permanently popular, but its suitability for the dignified time-teller in the hall is beyond question. This modern replica of the grandfather's clock calls for strength, solidity, dignity of form and duskiness of appearance and all these qualifications are idealized in the heavy and sombre mission styles, with their durable workmanship and absence of decoration. There is nothing puzzling or exacting about the construction of these cases which can be made in odd moments by any craftsman of ordinary ability.

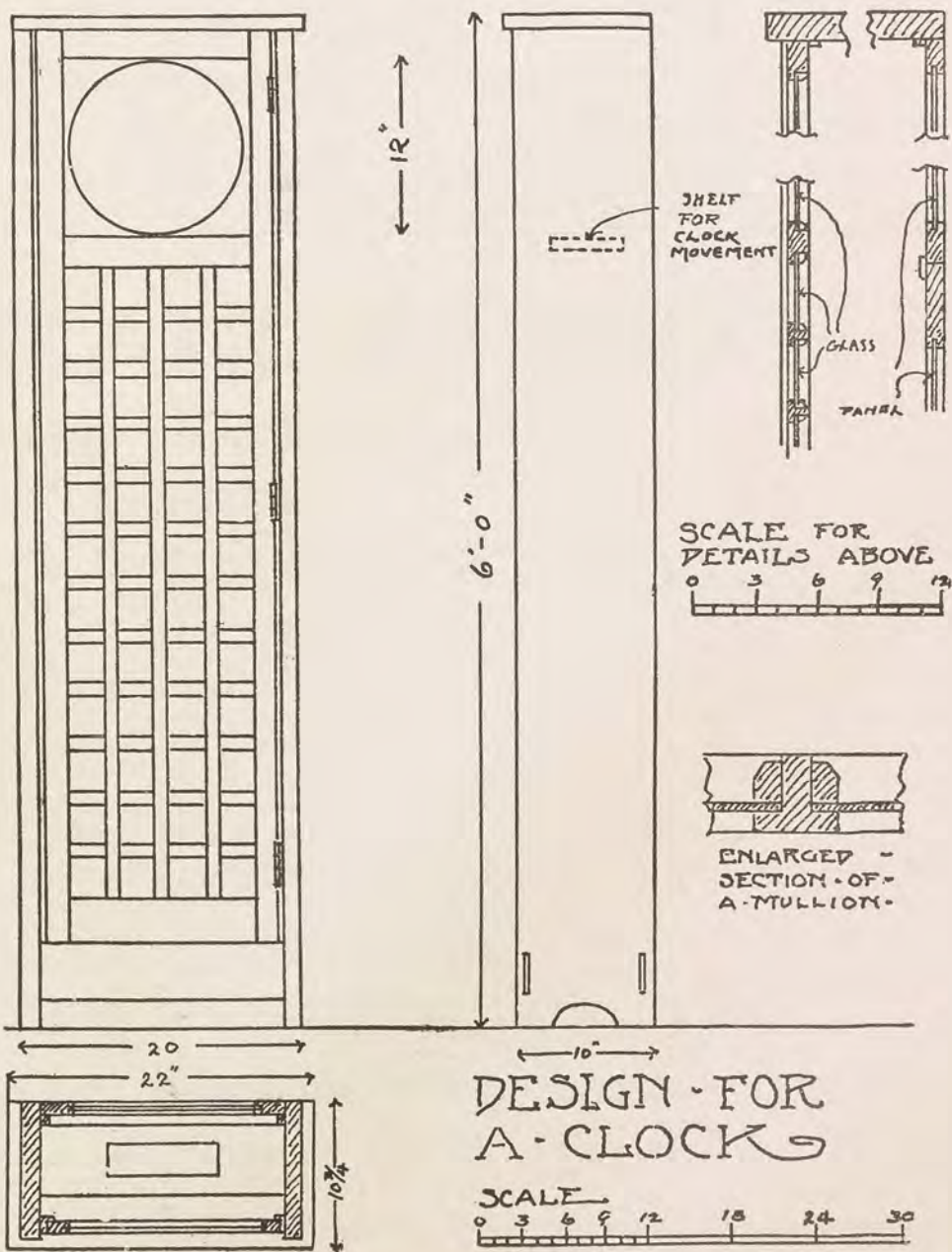
In a recent issue of *The Craftsman* appeared an instructive article on hall clocks and giving specifications for the construction of the case. The article stated:

This simple, yet almost necessary piece in a well-equipped house, is made of oak, mahogany or other suitable hard wood. It is six feet high, with a door the whole size of the front. The upper part is a glass panel and the lower is filled with square panes. Small butt hinges are used for the

door, and it is made so as to lock. The face is made of wood with the figures burned on, or of metal. If preferred, the enameled zinc or tin face usually supplied with the clock movements may be used, though we like the wood or metal better. The face is twelve inches square. If the case is made of mahogany, a brass face is most appropriate; if of oak, a copper face. If a wooden face is used it should be of a light colored wood with fine grain, such as holly or orange.

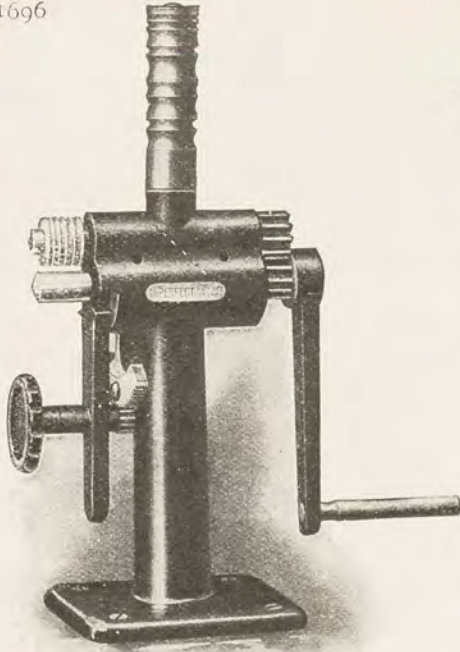
MILL BILL FOR CLOCK

Pieces	No.	Rough			Finish	
		Long	Wide	Thick	Wide	Thick
Sides	2	72 in.	10½ in.	1⅜ in.	10 in.	1¼ in.
Top	1	23 in.	11 in.	1⅜ in.	10¾ in.	1¼ in.
Bottom rails	2	23 in.	4½ in.	1¼ in.	4 in.	1 in.
Door stiles	2	66 in.	2½ in.	1 in.	1⅞ in.	⅞ in.
Door rails	2	15 in.	2½ in.	1 in.	2 in.	⅞ in.
Lower door rail	1	15 in.	3½ in.	1 in.	3 in.	⅞ in.
Door mullions	3	47 in.	1¼ in.	1 in.	1 in.	⅞ in.
Door mullions	11	15 in.	1¼ in.	1 in.	1 in.	⅞ in.
Back stiles	2	50 in.	3 in.	1 in.	2½ in.	¾ in.
Back rails	2	18 in.	6½ in.	1 in.	6 in.	¾ in.
Back panel	1	44 in.	14½ in.	¾ in.	14 in.	½ in.
Bottom	1	19 in.	8½ in.	1 in.	8 in.	⅞ in.
Back door stiles	4	19 in.	2¾ in.	1 in.	2½ in.	¾ in.
Back door panel	1	14 in.	14½ in.	¾ in.	14 in.	½ in.
Movement shelf	1	19 in.	5½ in.	1 in.	5 in.	⅞ in.
Stops	2	72 in.	1½ in.	¾ in.	1¼ in.	½ in.



DESIGN FOR A CLOCK

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$\frac{1}{2}$ Ct. " 3.50 "	$1\frac{1}{2}$ Ct. " 7.00 "
$\frac{5}{8}$ Ct. " 4.00 "	$1\frac{3}{4}$ Ct. " 7.50 "
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Electricity for Jewelers

[With this article we begin the publication of an illustrated serial on the above important subject. The serial will cover very thoroughly the subject of electricity in its various applications to the work of the jeweler and optician. An installment will appear in each issue.—ED.]

What jewelers most need for practical work is not a knowledge of all the intricacies of the science, but a thorough comprehension of a few of the fundamental principles—those which are brought into play in everyday workshop life. We shall take up those principles, with such explanations and examples as are necessary to make the reader familiar with them, and able to consider new problems as they arise from day to day and work them out for himself.

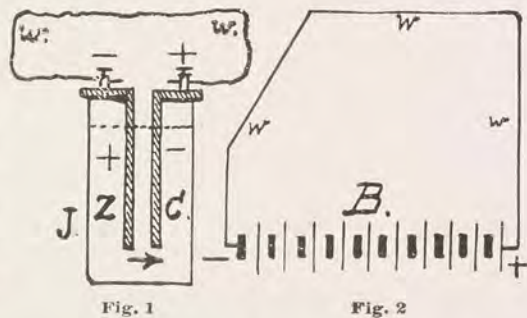
A *battery* is an electro-chemical apparatus for producing a "current" of electricity. It does not produce electricity, but an electric current or flow, as it is generally expressed. In its simplest form, which will illustrate the principle as well as any, it consists of two plates of dissimilar metals (or of a metal and carbon) immersed in a solution adapted for keeping the surfaces of the plates clean and fresh. One of the plates acts or is acted upon by the solution, and it is called the active or "positive" plate or "electrode;" the other is not acted upon, and is called the "negative" plate or electrode. Zinc is the metal generally employed for the positive plate, and copper or carbon for the negative.

Fig. 1 represents such a battery, *Z* being the zinc plate, and *C* the copper, arranged parallel to each other in a solution of sulphuric acid in water (say 7 parts of water to 1 part of acid), which fills the jar *J* up to the dotted cross line. When so arranged, both the copper and the zinc are slowly dissolved by the acid and no current is produced. But if we connect these metals, above the solution, by a conductor of electricity, say by copper wires *w w*, a current of electricity flows through the wires and the copper plate ceases to be acted upon by the acid. Only the zinc is now dissolved, and the quantity of zinc consumed is in proportion to the current produced. The explanation is, that the two metals are differently related to the acid solution, both chemically and electrically, the zinc being more "electro-positive" than the copper, in consequence of which it is acted upon chemically and produces an electric current from itself to the copper, by which the copper is protected as long as the current continues.

Every current flows through a complete circle or "circuit," of conducting material. If there is no complete unbroken circuit for it to flow through, there will be no current at all. It invariably flows from the positive to the negative metal in the solution, *i. e.*, in Fig. 1 it flows from the zinc to the copper,

as indicated by the arrow below them. It then passes through the copper up to the wire *w*, through *w w*, around to the zinc plate, and so completes the circuit. This flow continues while the circuit is closed and complete (called a "closed circuit"), but if it is opened or broken at any point (called an "open circuit") the current stops.

The portions of the plates outside of the solution have nothing to do with producing current; they are only useful for holding the plates in position and making connections with the external circuit, by means of binding posts and screws. These posts are called the "poles" of the battery. The one *out of which* the current flows is called the positive pole and marked +, the other is the negative pole and is marked —, being the one into which the current flows on its return to the battery. By tracing out the circuit you will see how it comes about that the positive pole is on the negative plate of the battery, and



the negative pole on the positive metal. Such an arrangement is usually called a cup or "cell" of battery.

A current of water flowing through a chute or opening at the bottom of a reservoir is measured by its volume, multiplied by the pressure. The size of the opening gives the volume of the stream, and the height of the water above the opening is the head or pressure forcing it out. The greater the pressure or head, the more water escapes per second. In a similar way, a current of electricity has volume and electric pressure. The pressure is more properly termed "electromotive force," and is expressed not in feet or inches, but in "volts." Such a battery as described gives an E.M.F. (electromotive force) of about 1 volt. The volume of a current of water depends on the resistance it meets to its escape, being greater as the opening is larger and the resistance less. So the volume of an electric current depends on the resistance it meets in the circuit through which it flows; the larger the cross-section of the conductor, the less the resistance, and the greater the volume of current which flows. This volume is expressed in "amperes," and the current is measured by multiplying the number of amperes in the current by its E.M.F. in volts; the product

is said to be so many "watts" of current. Thus, a current of 10 volts and 2 amperes would be $10 \times 2 = 20$ watts. An electric current has energy, and can do work. For comparison of electricity with steam and other power, it may be stated that 1 horsepower is equal to 746 watts of current.

A very clear explanation of the electrical terms "volt" and "ampere" might here be made by using the analogy of a waterfall to explain. Say we have a current of water and a turbine-wheel. If we have a turbine-wheel and allow a thousand gallons a second to fall from a height of one foot on the turbine we get a certain power, we will say one-horse power. Now, the one foot of fall will represent one foot of pressure in electricity, and the thousand gallons will represent the ampere or the amount of the current. We will call that one ampere. Thus we have a thousand gallons of water or one ampere, falling one foot or one volt, or under one volt of pressure, and the water working the turbine-wheel gives one-horse power. If, now we go a thousand feet high and take one gallon of water and let it fall on the wheel, we will get the same power as before, *viz.*, one-horse power. We have got a thousand times less current or less water and we will have a thousandth of an ampere in place of one ampere, and we will have a 1000 volts in place of one volt, and we will have a fall of water a thousand as against one foot. Now, the fall of the water, or the height from which it falls, is the pressure or volts in electricity and the amount of water is the amperes.

In diagrams of electrical apparatus, the battery is generally represented, not by a drawing of the cells, as in Fig. 1, but by a number of thin parallel lines, alternating with shorter and thicker ones, as shown in Figs. 2, 3, etc. One thin and one thick line together represent 1 cell of battery, and these are repeated to designate the number of cells of which the battery consists. Thus, 5 couples indicate 5 cells, and so on.

The number of kinds of batteries is legion. They may have two metals and one solution, two solutions and one metal, two solutions and two metals, or one solution and one metal in two different states. With each arrangement may be employed different metals and different kinds of solutions. The same arrangement and the same materials may have many different relative positions and forms. But in all of them the fundamental principle is the same as explained: the production of electromotive force by chemical action, setting up a current when a complete conducting circuit is offered. In selecting a battery, reference should be had to the purpose for which the current is required. There are three general types of

(Continued on page 1701)

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Subscribers wishing inquiries answered in this department must send name and address—not for publication, but as an evidence of good faith. No attention will be paid to anonymous communications. Questions will be answered in the order in which they are received.

An INDEX to the questions answered in Workshop Notes department for each year accompanies each December number. Subscribers are requested to preserve these indexes, and, before mailing questions, to refer to them, as similar questions may have been answered in previous issues. These indexes are arranged alphabetically, according to subject covered in each answer, and tell the issue and page on which the information may be found.

"Clock Dials."—Kindly let me know through "Workshop Notes" the solution to use for resilvering clock dials?—Take of nitrate of silver crystals 1 dram and dissolve in 2 ounces of water contained in a glass or earthen vessel. In another glass or earthen vessel dissolve 3 drams of pure cyanide of potassium in 1 ounce of water. Pour both solutions into a six-ounce bottle and shake well. At first they will be black but soon settle clear; then add 1 ounce of whiting. Pour out enough of the solution to do the job in hand and apply the fluid with a stiff brush, rinse well with pure water. If any of this solution which has been poured out is left over, do not put it back into the stock bottle. Shake well before using to stir up the whiting. A better process is done by what is called cold silvering. To do this dissolve some old scrap silver in nitric acid reduced one-half with water. After the silver is all dissolved, add eight times the bulk of water, and then common salt as long as any precipitate is formed. The white precipitate is chloride of silver. Let settle and pour off the supernatant fluid; then pour on more water, let settle and again pour off the water, repeating the operation three or four times to wash the precipitated silver chloride. Dry this precipitate in the dark, and add 3 parts by weight of carbonate of potash (sal tartar); 1 part of whiting and 1½ parts of finely ground table salt. To use this mixture wet a large even-textured cork with water and dip in the mixture and rub the surface to be silvered, which must be bright and free of grease. After a good coating of silver is formed, rinse well with pure water and dry by heating. When cool rub with clean, soft chamois skin and varnish with white collodion lacquer.

"Glass."—Will you let me know when and where glass was first made, also when first used for watch glasses?—The invention of glass dates from the earliest antiquity, and the honor of its discovery has been contested by several nations. As the oldest known specimens are Egyptian, its invention may with great probability be attributed to that people. It is mentioned as early as the fifth or sixth dynasty, and called *bashnu*, the Coptic *bijni*; and articles made of it are represented in the tombs of the period; while its fabrication is depicted in sepulchres of the twelfth dynasty—i. e., about B. C. 1800. An Egyptian specimen now in the British Museum has on its underside hieroglyphics giving the name Nuantef IV., whose data is assigned by Lepsius as B. C. 2423-2380. The glass of Egypt was generally opaque, rarely transparent, and always colored, the articles made of it being of small size, and principally for adornment, as beads, vases, small figures and objects for inlaying into wood or other material. Specimens exist of this glass bearing the name of the Queen Hatsu of the eighteenth dynasty, B. C. 1445, and vases of blue glass with wavy lines in white, light-blue, yellow, black, red and green, of that and a later age, have been discovered. The Egyptians also successfully imitated precious and other stones in glass—as emeralds, lapis lazuli, turquoises, jaspers, onyx and obsidian; for this purpose, they used nearly the same materials as at present—manganese, copper, iron, cobalt, gold and tin. Transparent glass, indeed, does not appear earlier in Egypt than the twenty-sixth dynasty, about B. C. 750, when bottles and a few other objects—as figures for inlaying, and beads imitating gems—were made of it. According to Herodotus, the Ethiopians, two centuries later, placed their mummies

in glass coffins; but the fact has never been proved by the discovery of such coffins. Under the native Pharaohs, Egyptian glass seems to have been extensively exported to Greece and Italy, and its reputation continued under the Ptolemies, when the furnaces of Alexandria produced glass vases of numberless shapes and considerable size. At this period, the Egyptians invented the *millefiori* glass, consisting of small threads of glass arranged vertically and then fused, so that the whole rod thus formed was of one pattern; and by cutting off slices, each piece produced the same pattern. The beads of *madrepore* glass found in the tombs of Greece and Italy, and formed by placing slices of such rods in a mold and fusing the whole, are probably of Egyptian or Phœnician origin. Egypt retained the pre-eminence in the manufacture under the Romans, the sand of Alexandria being indispensable for the finest qualities, and it exported glass to Rome. Hadrian, on his visit, was struck with the activity of the manufacture, and sent to his friend, the Consul Servianus, one of the vases, called *allosontes* or "opalescent;" and the Roman writers mention with admiration the melting, turning and engraving of Egyptian glass. To the most flourishing period of the empire are to be referred certain vases and slabs with white camei figures of fine execution in relief on a blue background, and plates of opaque glass for inlaying the walls of rooms, such as those which are said to have decorated the mansion of the usurper Firmus. The art of glass making, in fact, has never become extinct in Egypt, the Fatimite caliphs having issued glass coins in the tenth and eleventh century, and beautiful lamps of glass enameled on the surface with various colors having been made in the fourteenth century. Although the art has fallen to the lowest ebb in Egypt, the workmen are said to show aptitude in its production. After the Egyptians, the people of antiquity most renowned for glass were the Phœnicians, who were the legendary inventors. Certain of their merchants, it is said, returning in a ship laden with natron or soda, and having been compelled by stormy weather to land on a sandy tract under Mount Carmel, placed their cooking pots on lumps of natron on the sand, which fused by the heat of the fire, formed the first glass. Sidon, indeed, was long celebrated for glass wares made of the sand brought down from Mount Carmel to the mouth of the river Belus. The nature, however, of the earliest Phœnician glass is unknown, unless the opaque little vases of the toilet found in the tombs of Greece and Italy, and the beads of the same discovered in the barrows and tumuli of the old Celtic and Teutonic tribes, were imports from the Phœnicians. The vases of Sidon were, however, highly esteemed at Rome under the Antonines, fragments of bowls of blue and amber glass with the names of the Sidonian glass makers, Artas and Irenæus, stamped in Latin and Greek, have been found in the ruins. Perhaps the Assyrian glass vases were made at Sidon; at all events, the earliest stated specimen of transparent white glass is the vase having upon it stamped or engraved in Assyrian cuneiform a lion and the name of Sargon (reigned B. C. 722), found at Nimrud by Mr. Layard; and glass seems to have been imported to or even made in Assyria as late as the time of the Parthians, when Nineveh became the Roman colony of Claudiopolis. Under the Sassanides, molded glass vessels, elaborately decorated were made, as shown by the cup of Chosroes, A. D. 531-579, in the Louvre; and Persia continued to manufacture glass vessels in the middle ages. The Arabs seem to have derived their glass from the Byzantines, and specimens introduced into Europe by the Crusaders were called in royal and other inventories Damascus glass; this was colored and not plain. Although the art of glass making appears to have been practiced in remote times this nation does not appear to have attained any proficiency in it, and is content at the present day to remelt European glass; while some of its highest efforts do not exceed the imitation of jade and other stones. There is still in the East an extensive use of glass beads, made chiefly at Khalib or Heron. Glass was equally unknown to the Hindus, except in the production of a few trinkets and inferior objects, till the settlement of Europeans in India; and the country was, at the remotest period, supplied by Phœnician, and, in the middle ages, by Venetian traders. Although Josephus claims the invention of the art of the Jews, no remains of Jewish glass are known, and it is probable that the Jews were indebted for their

supplies principally to the neighboring cities of Tyre and Sidon. Even in Greece itself glass was not ancient. In the days of Homer it was unknown. Herodotus, indeed, mentions its employment for ear-rings, but these may have been of Phœnician fabric. It was called *hyalos*, crystal or ice, and *lithos chyle* or fusible stone. Aristophanes, B. C. 450, mentions glass or crystal vessels, and various inscriptions confirm its use, but its value was next to gold, which could hardly have been the case if it had been of native manufacture. The glass making art in Italy does not date earlier than the commencement of the Roman Empire, importations from Sidon and Alexandria having previously supplied the lack of native manufacture; but there is ample evidence of its extensive manufacture at that period having been introduced in the days of the Ptolemies, large plates being used for incrusting chambers, *vitreæ camerae*; and hollow columns of this material, with lamps inside, were used to illumine the public theaters. As early as B. C. 58, the theater of Scavrus had been decorated with mirrors or glass plates, disposed on the walls. Glass was used also for paving, and for the blue and green tesserae of mosaics window glass does not appear till about the third century after Christ, the houses at Herculaneum, destroyed in the reign of Titus, being glazed with talc and some doubt remaining as to the use of glass for this purpose at Pompeii. Lactantius in the third century and St. Jerome, 422, mention glass windows. Other windows of this material are said to have been found in Ficulnea, and even in London. Under the Romans, colored as well as white glass was extensively used; it had a greenish tint in the first days of the Empire, but had sensibly improved in color and quality in the days of Constantine. The first production of white glass like crystal was in the days of Nero. As far as the use of glass in horology is concerned, entire cases of rock crystal were common in the last quarter of the sixteenth century, while glasses or "crystals" were not in use for about fifteen or twenty years later, or about 1615. Rock crystal, however, was used for the purpose of protection as early as 1550.

"Alumi."—I have been watching your columns for some time in the hope of learning how to solder aluminum—especially spectacles, which I have been told has been done. Can you help me out?—The soldering of aluminum is a matter that has not been thoroughly solved as yet. There are experimenters who have been working at the problem for years. We have given in these columns formulæ for doing such work, although always stating that it is a most unsatisfactory process. You can locate such replies with the aid of the index accompanying each December issue. Below we give a formula that recently appeared in *Popular Mechanics*: What is reported to be the most successful solder for aluminum yet secured, consists of tin 64 parts by weight, zinc 30 parts, lead 1 part, and aluminum 1 part, to which add a small portion of resin. To solder, clean the surfaces and face with the solder. No chemical is used, but the surfaces of the parts to be soldered should be gently heated to assist in making a good adhesion. While the foregoing may give good results, we rather think it would be a good plan to use a ferrule on such a delicate piece of work as a spectacle. In fact, we lean to the opinion that a new frame would be the cheapest in the end, and also the most satisfactory.

"Tort."—Will you kindly inform me how to distinguish genuine tortoise shell combs from imitation?—If we bear in mind one remarkable quality of genuine tortoise shell in being easily softened by a heat equal to that of boiling water and of retaining any form when cold that has been given to it when heated, it is not likely that we will be caught by the imitation. Again, it would be quite easy to tell the difference by having a piece of the known genuine article and keep it for comparison with any suspected piece that comes along. There are certain marked characteristics, best judged by the eye, that cannot be very well imitated; consequently the test by comparison is not only as good as any other for the determination of the genuine, but it is cleanly and avoids all bother necessary to other tests.

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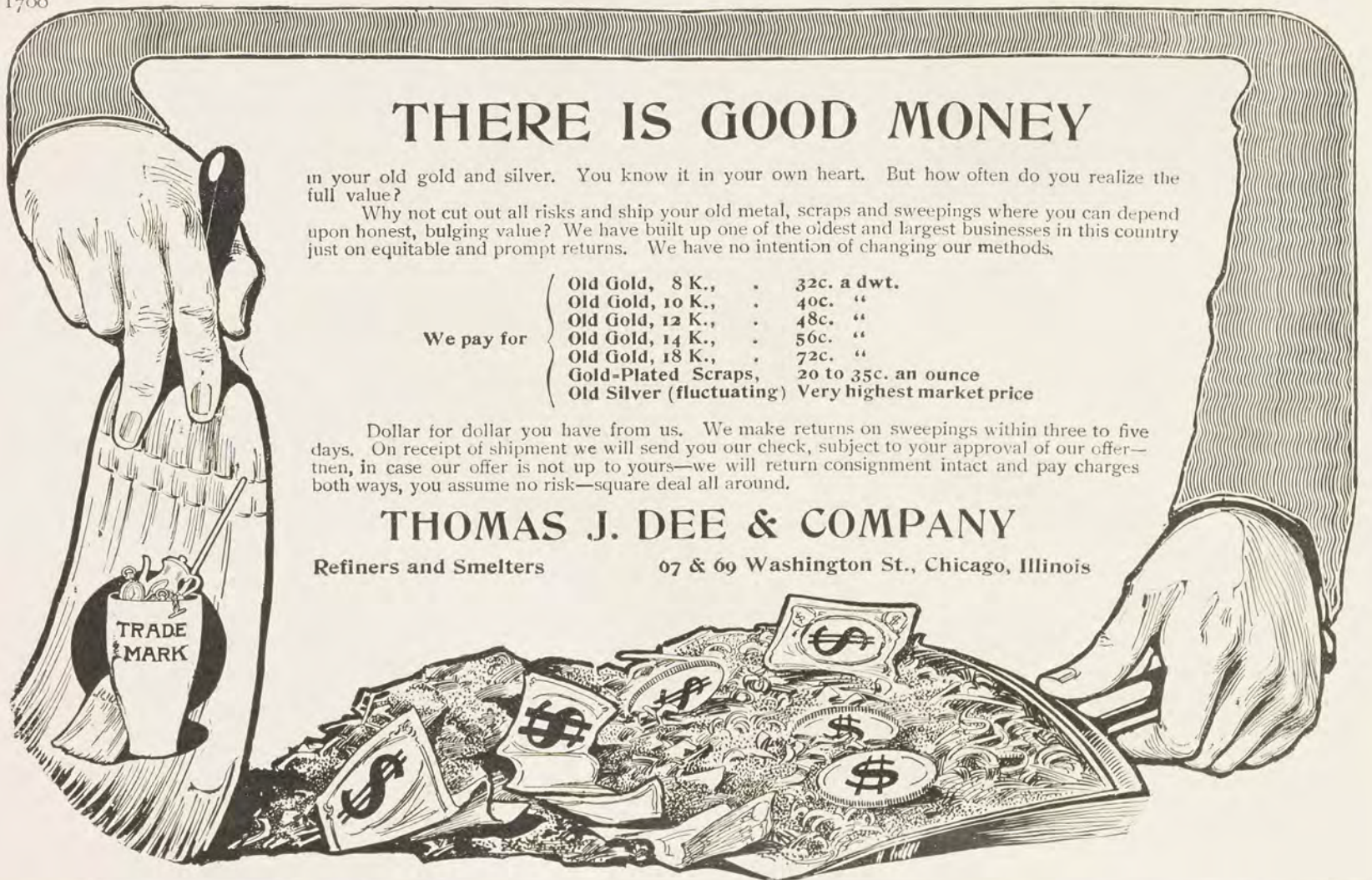
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Electricity for Jewelers

(Continued from page 1697)

battery principally used in practical work: the Daniel or "gravity," the Leclanché and the bichromate.

The gravity, or Daniels battery, is very largely used, as it is not subject to polarization, and its E.M.F. remains constant whatever the resistance in the external circuit may be—being the nearest approach to a constant battery that we have for practical work. It will supply a moderate volume of current regularly for a long time, but it is not well adapted for being left unused for some time and then suddenly called on for a large volume of current, being a "closed-circuit battery," *i. e.*, it can be left with the circuit closed, to furnish current continuously for long periods of time.

The Leclanché is excellent for ringing bells, signaling and other purposes requiring light currents for occasional use. But for furnishing a large volume of current, as for electroplating, for working large magnets or induction coils, it is of little use. It might answer for small plating operations required by watchmakers, but the gravity would be better. This is an "open-circuit battery," *i. e.*, the circuit is to be normally open, and is only closed while current is actually needed for use, and opened again when the work has been done. It is very convenient to use, however, requiring very little attention to keep it in order.

When the Leclanché and the gravity batteries (especially the latter) are not in use, it is well to close the circuit through a high resistance, say several hundred ohms per cell, to preserve the electro-positive and negative relation of the elements, and prevent the battery from being injured by accidental reversal of the action or by local action of the solutions on the plates or on each other. The bichromate batteries do not need this precaution, as they are provided with means for raising the zinc out of the solution when not in use; which, of course, protects them.

The bichromate or chromic acid cells furnish a very powerful current for plating, induction coils, etc.—more powerful than the nitric acid batteries, while they give off no fumes and are ready for use at a moment's notice, even after being set aside for weeks. But they have the fault that their force rapidly falls off during use, and it is necessary to frequently stop the work and raise the zinc out of the solution an instant to depolarize it and produce circulation in the liquid, then slide it down and go on with the work. It is said that a small gas jet, arranged under the cell, will heat it sufficiently to pro-

duce a constant circulation of the liquid and prevent polarization, so that it can be used continuously till nearly exhausted without any fall of the E.M.F. When the action becomes sluggish add more sulphuric acid, but not before. This is an open-circuit battery, as are the following.

Storage batteries are adapted for furnishing very large currents, slowly or quickly, as may be desired; but, if laid aside for any length of time, they gradually lose their charge by internal or local action. Owing to the necessity of constant recharging from external sources, they are not fitted for general use by jewelers.

Having thus given a general idea of the subject, we will now come down to details, explaining them according to the generally accepted idea about currents, etc.

Electro-motive Force; Coupling in Series:

Different batteries produce different E.M.F. The Daniels or gravity gives about 1 volt, the Leclanché 1.5 volts, and the bichromate about 2 volts, the exact E.M.F. differing according to the arrangement and nature of the elements composing the battery. The only way to ascertain the exact E.M.F. of a battery is to measure it, with a voltmeter or other means. We shall treat the subject of measuring apparatus and electric measurement hereafter, but the foregoing items give information enough for ordinary working. When a greater E.M.F. is wanted than is furnished by one cell, enough more are added to make it up. Thus, if 1 cell gives 1 volt, 10 of the same cells in series will give 10 volts, and so on. The cells are all arranged in the same way, with the + pole of each one connected to the — pole of the next, and the two poles left free (at the ends of the series) are the + and — poles of the whole battery. This is called "10 cells in series." The current flows through all of them, and has the combined E.M.F. of all the cells in the series. Different kinds of battery can be used together in a series, if desired, provided their poles are connected as described. But small cells should not be put in series with large ones except for using currents adapted for the smallest; *i. e.*, such a volume of current as the latter would furnish if "short-circuited" by itself, or having its poles connected without any external resistance. [TO BE CONTINUED]

Inventions to Be Invented

An inventor recently enumerated the following as inventions which would bring fame and fortune to the inventor:

A silent typewriter. The great objection to typewriters is their noise, yet it should be easy to deaden the click of the keys.

An automatic stamp fixer. To affix a postage stamp to a letter there is no method but the awk-

ward one of dampening the stamp and pressing it on the envelope with the hand. The world needs an automatic letter stamper. This should be an instrument shaped like a seal. It should carry in its interior a hundred or more stamps. Pressed upon an envelope, an inside mechanism should first moisten the stamp and then fix it firmly on the letter. Such a contrivance, capable of stamping a hundred letters a minute, would sell like hot cakes.

Some chemical solution that will make flannel unshrinkable would, if patented, sell at a high rate.

A rotary toothbrush. Dentists clean their patients' teeth with a brush, as round as a marble, that revolves by electrical or by foot power. The dentist moves the brush slowly over the teeth, and, whizzing powerfully, it cleanses more thoroughly than the violent rubbing of an ordinary toothbrush could do. A rotary brush, revolving from the pressure of the hand, would afford an easier and a better way to clean the teeth than the world now possesses, and hence it would sell well.

A cheap substitute for rubber.

A flying machine.

Newspaper the Best Medium

The most experienced advertiser in the United States says: "Without depreciating the value of any of the good advertising mediums, for there are many, I wish to state emphatically, and without qualification, that the newspaper is the best and cheapest advertising medium for the retail advertiser, and is the only local medium worthy of being called 'indispensable.' I cannot too forcibly impress upon you the intrinsic value of newspaper advertising space. I base my opinion upon twenty-five years of actual experience in weighing advertising values. I am speaking through the head of experience, and not through the hat of conceit, nor have I any self-interest whatsoever."

Friendliness Among Competitors

Not so very long ago it was generally taken for granted that one's competitor was necessarily a rival, and therefore an enemy, says the weekly *Implement Trade News*.

It might be permissible, under favorable circumstances, to speak to him if one met him in society or at a church, but that was about all; and even to unbend that much was often esteemed a weakness.

To call on him at his place of business, unless to pick a quarrel with him over some actual or fancied act of poaching on one's preserves, would have been beneath one's dignity, a confession of cowardice, a signal for the competitor to keep an eye on him in the belief that he was attempting to sneak some of his trade secrets.

This picture is not extremely exaggerated, nor is the condition like that of the giant lizards recently unearthed, wholly of a previous age. But thanks to the spirit of the modern association, which is working like leaven throughout the trade in the West, the old-time conditions are changing and giving way to more rational and neighborly ones.

It is possible now for competitors to be good friends. It is not even considered necessary to lock the safe and call in the clerk to defend one when one sees his competitor entering one's store.

In fact, while it probably would not look well to see competitors in business hanging around one another's store too much, a reasonably frequent call, to talk over mutually important business affairs, would not be out of the way, and good results could hardly help follow such a course.

WHAT WOULD YOU GIVE TO DO AS WELL?



LOOKED THREE YEARS BEFORE DECIDING

PROF. F. W. SCHULER: LYNN, MASS.
 DEAR SIR AND FRIEND—Doubtless you will be surprised to hear from me at this time, but I cannot refrain from informing you of the marked success I have had since leaving your school.
 The knowledge obtained under your instruction has proven its value over and over again, and I have had beautiful results with my complicated work.
 For three years previous to entering your school I looked the ground over very carefully, and when I decided to cast my lot with you it was the longest step in the right direction that I ever made.
 To any young man who is desirous of a thorough knowledge of watchwork, engraving and optics, I can only say, enroll yourself at once with the Philadelphia College of Horology, as without doubt it is the peer of any institution in this country to-day. Sincerely wishing for a continuation of your success, I am,
 Yours very respectfully,
 15 Broad St. Place. H. B. DODGE.

HOW MUCH MORE MONEY

would your employer pay you if you were a first-class engraver? You will see the advantage of knowing how to engrave in the next month or so. Better make up your mind to learn how. We can teach you and it won't take long by our method.

The demand for first-class Watchmakers, Engravers and Opticians was never so great as it is to-day and they are offering good salaries for such workmen. There is not a Horological College in this country that is better equipped to make a thorough, practical Watchmaker, Engraver and Optician of you than we are. We have the teachers who are experts, up-to-date methods, tools and appliances and have had over eleven years' experience in teaching. Write for our prospectus; it will give you full information.

The Philadelphia College of Horology

Broad and Somerset Sts., Philadelphia, Pa.

Established 1894

F. W. SCHULER, Principal

Now is the time to get in your supply of

Ingersoll Watches



What is there that offers to the jeweler such novelty combined with stability, such low price coupled with reliability, and such volume of sales at such fair profits?

Progressive jewelers are daily learning that Ingersoll watches attract many to their stores and make many new friends.

Send for new circulars and ask about our new ladies' watch.

ROBT. H. INGERSOLL & BRO.

"Watchmakers to the American People"

51 Maiden Lane
NEW YORK

304 Masonic Temple
CHICAGO

BOUDOIR ALARMS

SATIN GOLD FINISHED NOVELTIES

Fitted with our Celebrated Intermittent Alarm Movement, which rings every twenty seconds for five minutes on a bell-metal gong on back of clock. Alarm can be stopped by turning a switch.



HEATH ALARM

Height, 6 3/4 in. Width, 5 1/4 in. Dial, 2 in.

A NUMBER OF STYLES TO SELECT FROM
Write for Illustrations and Prices

THE NEW HAVEN CLOCK CO.

Dept. M

NEW HAVEN, CONN.



WORKSHOP NOTES

Subscribers wishing inquiries answered in this department must send name and address—not for publication, but as an evidence of good faith. No attention will be paid to anonymous communications. Questions will be answered in the order in which they are received.

"Resist."—*I would like to know a good method of plating part of an article and leaving other parts unplated; for instance, in plating the bowl of a teaspoon when you do not want any plating on the back. I have sometimes used wax but it comes off easily in the solution. What is a good way to do such work?*—If you use your solution warm, we can readily understand why the wax comes off the work, although if the temperature is not above 125° F. ordinary beeswax should prove satisfactory as a "resist"—this being the technical term of the substance in question. Old wax is the best—it seems that the oftener it is used the better it gets. If you heat the solution above 125° you will find asphaltum varnish to be an excellent resist, though some workmen prefer the ordinary shellac varnish, which, in fact, is in most general use among manufacturers doing this class of work.

"Plates."—*Will you please tell me how to remove silver from gold-plated chains that were silver plated through a cyanide solution used for cleaning silverware.*—If the chains acquired a coating in such a solution, and there was no action thereon by an electric current, it is quite possible that you can remove the silver by polishing on the lathe. If, however, the coating is very thick, it will be necessary to remove the silver by a stripping process, and it is not likely that a gold-plated chain of the ordinary run will stand this treatment. Of course, if the chains are gold filled (not plated), there would be no danger in the operation. In such stripping you could merely allow the chains to play the part of the anode in a cyanide solution. We would suggest that you try the polishing plan before resorting to stripping.

"Show Windows."—*What can you recommend to prevent dampness in show windows?*—The best remedy for troubles of all kinds, whether mental or physical, is to remove the cause. Now, let us investigate as to the cause of windows sweating. The term "windows sweating" does not mean that the moisture exudes from the pores of the glass, but that moisture condenses on the glass from the atmosphere immediately in contact with it. It is a well-known physical property of air that it will hold and maintain in diffusion a certain amount of water in a gaseous state, such state being maintained by heat, and any falling off in heat or, in other words, lowering of the temperature outside, causes the molecules of water diffused in the air to unite and form drops, or "sweat" as the phenomenon is usually termed. There is a further cause for such condensation on the glass, which lies in the natural attraction between the surface of glass and the molecules of water. The problem of condensation of water from the gaseous to the fluid state, is a complicated one and requires a lengthy explanation to make it understood. But it suffices to say that molecules of water held in the air as a vapor (that is, strictly in a gaseous state) are as transparent as air and entirely invisible. At the instant such molecules combine to form water they part with the heat which held them in a gaseous state and combine into water drops and attach themselves to the glass, the glass probably taking to itself the heat which held the water as gaseous molecules. Now, in order to cause glass to sweat, it must be brought to a lower temperature than the air which holds the moisture. Hence, if we can contrive to keep the temperature of the glass above the condensing point of the moisture contained in the air in contact with it, there will be no sweating. If we cannot do this we must direct our efforts toward reducing the humidity, that is the quantity of moisture held by the air which comes in contact

with the glass. This end can be achieved by placing in the window some substance like freshly-burned lime stone, an open vessel containing strong sulphuric acid, lumps of cyanide of potassium, and many other substances having a chemical affinity for water will do it; but all involve bother and expense, and no suggestion has so far proved entirely satisfactory. Gas burned in a show window will generate moisture, actually produce water by causing a combination of the oxygen of the air with the hydrogen of the coal gas. Lights from kerosene also generate water in the same way. In fact, all lights arising from combustion produce water, moisture, and consequently tend to produce sweating of windows. Hence, electricity (preferably incandescent) lighting has the least tendency to produce sweating of windows.

"Pennyweight."—*I have a lot of scrap gold, amongst which is a lump of 40 dwts. mixed with mercury. Will it injure the gold to melt all in one crucible?*—It will not injure the gold to melt all in one crucible, although it would do no harm to give the lump containing the mercury a preliminary heating. It would not be necessary to carry it to the melting point, for at about 600° F. the mercury will be dissipated in vapor. This fact is taken advantage of in present-day methods of mining—the finely-divided gold is collected by means of the mercury, which is then dissipated by heat; but in the operation (on account of the large quantity used), the mercury is carried by means of a flue to a condenser, where it is gathered and used over and over again.

"Foxy."—*For some time past, I have had trouble with deposits from my gilding solution. Can you advance reasons for it?*—In the operation of gilding, the color of the deposit may be influenced momentarily in several ways. Assuming that the current of electricity is neither too strong nor too weak, and the bath in perfect order, if too small a surface of anode is immersed in the bath, the gold deposit will be of a pale yellow color. Or, on the other hand, if too large a surface of anode is exposed in solution, the deposit may be of a dark brown or "foxy" color, whereas the mean between these two extremes will cause the deposit to assume the rich orange-yellow color of fine or pure gold. Again, the color of the deposit is greatly affected by the motion of articles while in the bath; for example, if the gilding be of a dark color, by briskly moving the articles about in the bath, they will quickly assume the proper color. The temperature of the solution also affects the color of the deposit, the tone being deeper as the solution becomes hotter, and vice versa. The color of the gilding is likewise much affected by the nature of the current employed. A weak current from a Wollaston or Daniell battery may cause the deposit to be of a paler color than is desired, whereas a Smee, Grove or Bunsen (but more especially the latter) will produce a deposit of a far richer tone. The presence of other metals in solution, but copper and silver more particularly, will alter the color of the deposit, and therefore it is of the greatest importance to keep these metals out of the ordinary gilding solution by careful means. When gilding in various colors is needed, recourse must be had to the solutions described elsewhere, but on no account should the gilding bath used for ordinary work be allowed to become impregnated with even small quantities of any other metal. When we state that small causes will sometimes interfere with the natural beauty of the pure gold deposit, the importance of preserving baths from the introduction of foreign matters will be at once apparent. Another thing that affects the color of the gilding is the accumulation of organic matter; that is, vegetable or animal matter, which is introduced into the bath by the articles immersed in it; thus, greasy matter from polished work, and beer from the scratch-brush, will sometimes lodge in the interstices of hollow work, and escape into the bath even after the articles have been rinsed; each in their turn convey organic matter to the gold solution, by which it acquires a darkened color; indeed, we have known solutions acquire quite a brown color from these causes. In our experience, however, the presence of a small amount of such foreign matter, in moderation, has often proved of advantage, especially in the gilding of insides of vessels, when a rich and

deep-toned gilding is required: a solution in this condition we should prefer, for insides of cream ewers, sugar-bowls and goblets, to a newly-prepared gold solution; indeed, when a bath works a little foxy, it is, to our mind, in the best condition for these purposes, since the former is apt to yield a deposit which is too yellow for such surfaces. There is an extreme, however, which must be avoided, that is when the bath yields a brown-yellow deposit, which is very unsightly, though not uncommonly to be seen in our shop windows. When the gilding upon chains or articles of that class is of a deep brownish-yellow color when removed from the bath, it will, when scratch-brushed, exhibit a fine gold appearance, specially suited to this class of work, and more like jewelers' "wet color work" than electro-gilding, which will render it more acceptable to those who are judges of gold color. Indeed, when the electro-gilding process was first introduced, it was a general complaint amongst shopkeepers that electro-gilding was too yellow, and that electro-gilt work could easily be distinguished from colored gold in consequence, which was admitted to be a serious defect, since a person wearing a gilt article would naturally wish it to be assumed by others to be of gold. In gilding such articles, therefore, the aim of the gilder would be to imitate as closely as possible the color of gold jewelry, whether it be dry or wet colored work. In the latter there is a peculiar depth and softness of tone which is exceedingly pleasing; in dry colored work a rich dead surface is produced, which it is not so difficult to imitate in electro-gilding.

"Whitening."—*Can you tell us how to prepare a white enamel for ornamental articles?*—Calcine together and convert completely into oxide 2 parts of tin and 1 of lead. Mix 1 part of this oxide mixture with 2 parts of pulverized white crystal glass, and after adding a very small quantity of saltpeter or pyrolusite as a decolorizing agent, fuse in a small crucible and pour the fused mass into cold water. Repeat the fusing twice or three times, or until the mass is no longer blistered, but thoroughly homogeneous. It is then rubbed to a fine powder and may be applied either by itself or, for small surfaces, by mixing it with oil of lavender and laying it on, like oil paint, with a brush. For the preparation of white enamel with a lower fusing point, the following composition may be used: 100 parts of the tin-lead oxide, 60 of pure quartz meal and 25 of common salt. In place of pure quartz meal, sand may be used, which must, however, be subjected to purification, in order to yield a white product. For this purpose calcine 100 parts of sand with 25 of common salt. The iron contained in the sand combines with the chlorine of the common salt to a combination which evaporates on heating, and a fritted mass sufficiently free from iron remains behind. The sand is then mixed with 25 parts of red lead and fused. In this manner a fritted mass representing a lead-soda glass is obtained. To prepare enamel with this mass, it is finely pulverized and mixed with a zinc oxide, or with the mixture of tin oxide and lead oxide, by using 100 parts of oxide to 50 of the frit. The larger the quantity of tin oxide in the enameling mass, the thinner the coating may be. Enameling masses containing no tin oxide may also be prepared, sodium antimonate being generally used in this case. A composition giving a very beautiful enamel consists of a mixture of 3 parts of crystal glass, 1 of sodium antimonate, and a very small quantity of saltpeter. In preparing all these kinds of enamel care must be had in fusing to prevent the action of the reducing bodies in the crucible by closing the latter with a well-fitting lid. If the gases penetrate into the crucible, enameling masses of inferior quality are obtained.

"Marked."—*I find in an adjusted American movement the balance jewels marked; some have one, some two small holes in; after they are taken out there is no way of telling how they were in, and if new ones were put in how would you proceed? It seems to me that this question was answered in The Keystone once before, but I am unable to find it. Would you be kind enough and give such information where to find the reply, or give such instruction as may be of some help as to how to understand the meaning of such jewels?—See our reply to "Examiner," page 1135, July, 1905, KEYSTONE.*

Photographs on Watches, Cigarette Cases, Etc.

THERE is evidently a growing taste for photographic portraits on such articles as watches, gold or silver cigarette cases, match-boxes, etc., and the jewelers who undertake to get this class of work done usually charge a pretty good figure for it.

The Carbon Method

As the carbon method of producing pictures of this kind may be of service to many of our readers, we shall here describe it in detail. We shall assume, at once, that the reader is already quite familiar with the practical working of that process, for we here say that anyone who takes up the working of this process for the first time, and attempts to apply it to the present purpose, must not expect to meet with any great success in his first few essays. It goes without saying, that it is the double transfer system that must be employed—the picture being developed on a temporary support, and then transferred to the article desired. It will at once be seen by practical workers that the ordinary commercial flexible support is not suitable for the work, for the reason that it is too thick and unyielding to be pressed into sufficiently close contact on a convex surface, such as the dome of a watch case, for example, to obtain a perfectly finished transfer. It may, however, sometimes be successfully used for quite cylindrical articles.

The India Rubber Support

For the above reason, it will be obvious that a more flexible and yielding support must be employed. One is the India rubber support as first used by Swan; another is a film of collodion. We will deal with the former first. Some thin "foreign post" paper, the thinner the better, so long as it will withstand the warm water in the development, is coated with a solution of India rubber about the consistency of thin treacle. The best way of obtaining this is to get a tin of solution from the rubber stores and thin it down with a benzole to the required consistency. It is poured into a dish and the paper floated upon it, and then hung up for the benzole to evaporate. The paper had best be coated a few days before it is required for use, so as to ensure that all the solvents of the rubber have thoroughly evaporated.

This India rubber support is used in precisely the same way as the ordinary flexible support, the exposed tissue is squeegeed upon it, developed, and then allowed to dry. The picture need not be alumed; indeed, it will be better for our present purpose if it is not. The picture is now ready for transferring to whatever may be required, which, for the moment, we will assume to be the dome

of a watch case. It is unnecessary to mention that it must be removed from the watch; this a neighboring watchmaker will do for one. The dome is then cleaned with benzole, to remove all traces of grease or dirt. It is then coated on the outer side with a solution of gelatine containing a little chrome alum, such as that used for double transfer paper. The following is a good formula to employ:

Nelson's No. 1 gelatine ½ oz.
Water 10 oz.
Chrome alum, dissolved in 1 oz. of
water 6 gr.

Making the Transfer

The dome is evenly coated with this and allowed to dry. To make the transfer neatly, trim the print to the required size, and put it and the watch dome in cold water for ten minutes or so. Next, put the latter in warm water, at about 105 degrees to 110 degrees Fahr., until it just feels slimy. Then take the print, having previously marked it as a guide to position, and put it into the warm water and bring it into contact with the dome, of course, avoiding air bubbles, and remove the two, and press in close contact with a soft dry handkerchief, gently rubbing towards the edges with the finger so as to remove all superfluous water. It is then allowed to become thoroughly dry spontaneously. When dry, the back of the paper is moistened with benzole, and after resting for a minute or two the paper can be slipped off, leaving the picture firmly attached to the metal. Should any rubber remain on the picture it may be rolled off with the finger, or removed with benzole. It now only remains to varnish the work. The proper varnish for the purpose can be obtained from any photographic supply house, and is practically a cold lacquer, and when dry is as hard and durable as the lacquer on our lenses. It is simply flowed over and drained off, and it dries in a few hours.

Collodion as a Support

We mentioned just now that collodion might be used as a temporary support, and perhaps, on the whole, it is the best to employ. Here is the method: A glass plate, after being waxed, or prepared with French chalk, is coated with ordinary enamel collodion, thickened with two or three grains per ounce of pyroxiline, so that it yields a thick film. After the collodion has thoroughly set, the plate is put into a dish of water to soak, and is afterwards washed under the tap to get rid of the solvents of the collodion. The exposed tissue is then squeegeed on that, developed in the ordinary manner, and allowed to dry. When dry the film can be stripped off and trimmed, and then mounted on the metal as just described. It is a good plan to trim the picture while it is still on the glass—a wheel trimmer and

zinc shape is convenient for the purpose. The collodion film has an advantage over the rubber support, inasmuch as it is transparent, so that air bubbles can be seen, and the picture the better arranged in position. After the transfer, the collodion can be dissolved off with a mixture of ether and alcohol.

In conclusion, it may be mentioned that for carbon pictures on metal a tissue should be selected that contains a large proportion of pigment to gelatine, and should also be printed from a tolerably thin negative, so as avoid a high relief in the image, which is objectionable in this class of picture, and, moreover, it serves to indicate the method by which it has been produced, which, in some instances, it is not desirable to do.

—British Journal of Photography.

Taking Promissory Note in Payment of Account

A Pittsburg correspondent asks the result in taking a long running note in payment of an account, and if "we would have protection prior to the maturity of the note in case we would acknowledge receipt of note stating that same would be credited to the account when paid, and regardless of the wording of the receipt would make an entry crediting our customer's account and charging the amount to bills receivable, or would it be necessary to withhold credit from our customer's account until the note was paid."

It is the law in practically all jurisdictions, including Pennsylvania, that a promissory note, though negotiable, given by a debtor to his creditor, does not operate as payment of a pre-existing indebtedness, in the absence of an agreement between the parties that it shall so operate, and an action may still be maintained on the original indebtedness. This is also true of a contemporaneous indebtedness.

It is also the law that an agreement that the acceptance of a note shall operate as a payment of the debt is binding and that in either case the acceptance of a note suspends all right of action against the debtor until the maturity of the note. After maturity it is the duty of the creditor to first surrender the note, when he may resort to any action available at that time to collect the original indebtedness. When the note is expressly accepted as payment subject to the subsequent performance of specified conditions upon the non-performance of such conditions, it will not operate as payment, as when the note so taken is expressly to operate as payment when paid, as suggested in the above inquiry.

We do not see how the creditor could have any protection prior to the maturity of the note unless expressly agreed with the debtor that suit may be brought at any time. It would be unwise to credit the account and charge the amount to bills receivable, for this would be some evidence, although not conclusive, that the note has been taken in payment of the account.

—Business Men's Magazine.

"The Keystone seems to be all the jeweler could desire. We need it in our business, could not do without it; we tried, but it wouldn't work. It gives not only real facts and assistance to the storekeeper, but lots of food for thought."—T. S. Byers Jewelry Co., St. Louis, Missouri.

EISENSTADT
MFG. CO.
ST. LOUIS



TRADE MARK



PRESENTATION JEWELRY
TO ORDER

GLAD to SHOW YOU SKETCHES and ORIGINAL DESIGNS
for BADGES, EMBLEMS, SOCIETY PINS and CARVED
GOLD WORK, COLOR ENAMELING, GEM MOUNTING, NEW
and ARTISTIC EFFECTS for SPECIAL OCCASIONS



All Chains stamped L.S. & Co.

LISTEN!

Quality and workmanship considered the **L. S. & Co.** goods give the best value for the money asked, and so are money makers for the retailer.

ASK YOUR JOBBER AND HE WILL BACK UP OUR STATEMENT.

LOUIS STERN & CO.

Chainmakers & Silversmiths

PROVIDENCE·R·I·



KING & EISELE

1707

Wholesale Manufacturing Jewelers
Importers of Diamonds
Jobbers in American Watches

10-20 North Division Street
342-344 Washington Street

ESTABLISHED 1870

BUFFALO, N. Y.



King & Eisele occupy this entire building

OUR FALL LINE IS THE BEST THAT EVER HAPPENED

Solid Gold Jewelry

Gold Filled Jewelry

Solid Gold Watch Cases

Boss and Crescent Gold Filled Cases

Elgin and Waltham Movements

New England Complete Watches

DIAMONDS

K-E RINGS—We manufacture the K-E Ring Line and sell direct to the RETAIL JEWELER. Do not complete your fall purchases without first seeing our line. Our salesmen will call on you soon. Selection package sent to responsible jewelers.

Has the Fairy Queen paid You a Visit?

Proclamation!

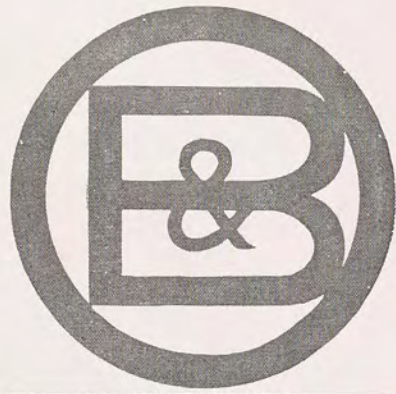
Her Highness having appointed us goldsmiths for the United States she has issued a royal command to every jeweler, upon penalty of losing trade, to write at once for a selection package from our fall line of one thousand different styles of 10 karat solid gold stone-set rings.

The Queen brooks no delay!



The ^{HIGH}
Queen City Ring M'f'g. Co.,
BUFFALO · N · Y.

Buffalo Engraver



“Ring- Leaders”

We are unquestionably the “Ring-Leaders” of the Country, and our product reigns supreme. October is the Ring month of the year; a month of thirty-one days for the Jobber to reap his profits. Present prospects point to one of the most successful seasons in years. *All orders are receiving prompt attention*; the “side-tracking” process is not in order here. You, as a buyer of “selling” goods will appreciate what *that* means.

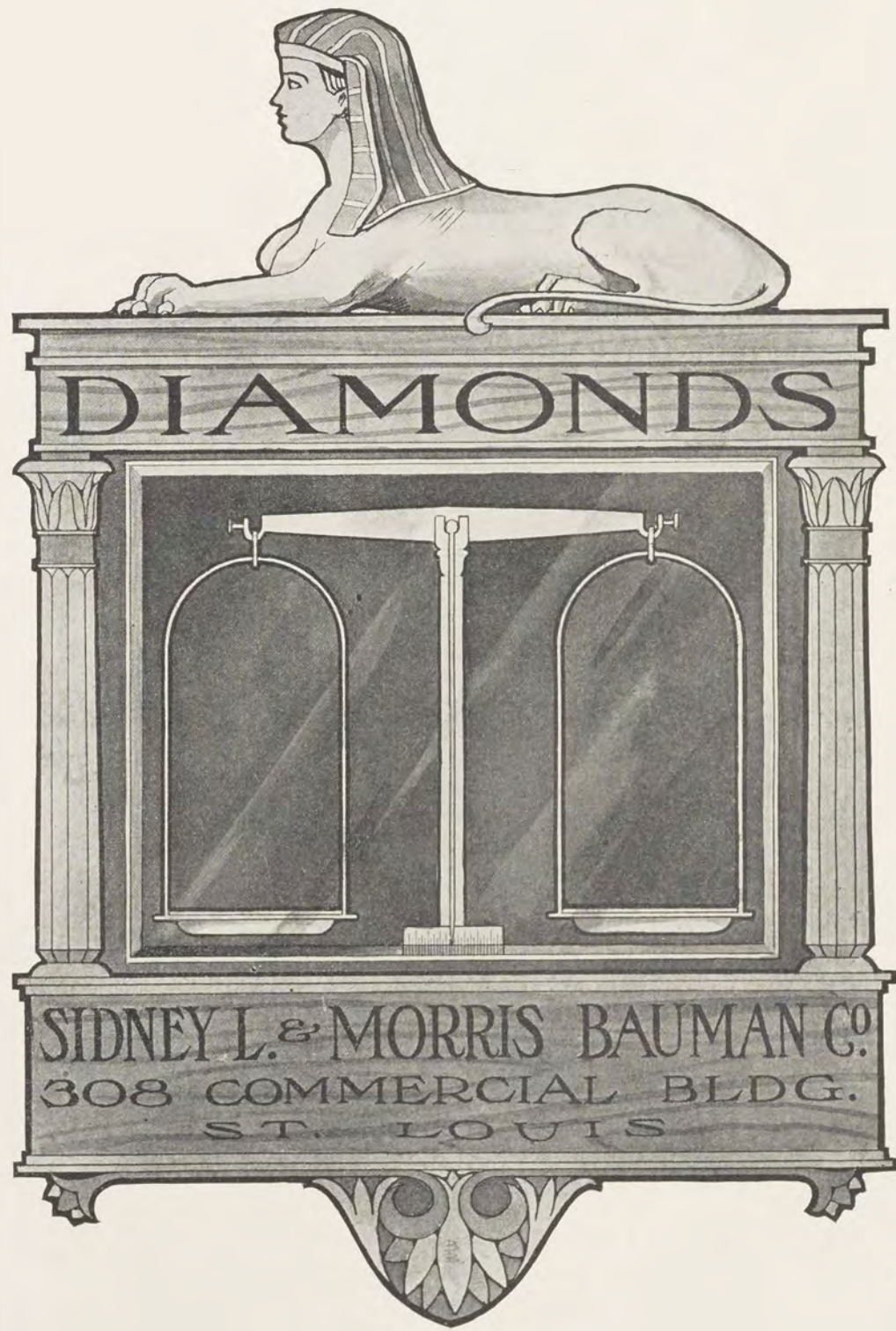
Ostby & Barton Company

Providence, Rhode Island

9 Maiden Lane
New York

103 State Street
Chicago





REMEMBER

No order too large for our capacity
None too small for our careful consideration



THE stamp HB in each Heintz Ring is an imprint of Ring perfection. The Retail Jeweler *knows* that, in the holiday season just ahead, the Heintz productions will lead the way to a successful and profitable Ring business. Remember: "Weeds develop into flowers only by transplanting." Weed out your old stock and cultivate a growth in your sales by selling the HB Ring.

HEINTZ BROTHERS, Buffalo, N. Y.

"LK" — SHORTHAND FOR RING SUPERIORITY

THESE
SIX
DIAMOND
RINGS
\$ 51.00
KEYSTONE KEY

A Kaufman Special

If you are a stranger to the Kaufman line of rings, we are *particularly* desirous of sending you the above six rings "on suspicion." We will send them *at our expense*, and if you decide they aren't the best values you've seen this season—send them back *at our expense*.

Our traveling men may not get to your vicinity but we want to sell you just the same. After seeing these six rings, if you like the sort, we'll gladly send you a selection package of any proportion you wish. Let us get started with you—that's all.

Newspaper Cuts

We don't stop at selling you our rings—we'll help *you* to sell them by furnishing newspaper cuts free of charge. A single column cut like the above design (without the lettering) goes with each sale of the six rings.

LOUIS KAUFMAN & CO.

Makers of Gold Rings

82 AND 84 FULTON ST., NEW YORK

A New Sun-Dial

THE art of dialing was one of the earliest applications of the knowledge of the apparent motions of the sun, and is of great antiquity. But, since the advent of the transit telescope and the invention of clocks and watches, it has fallen into disuse, owing to the fact that it only gives very approximate time indications, and that the kind of time (solar) which it gives is unsuitable for ordinary commercial purposes.

Defects of Old Dials

The first defect is due to the very short length of the shadows cast by the gnomon; the second is a result of the varying speed of the earth in its orbit round the sun, and of the inclination of the ecliptic to the equator, causing the time intervals to vary. In its primitive form, therefore, it is of small use for present-day requirements, and it only justifies its existence by its claims as a historical and an educational instrument and, in a smaller degree, as an ornamental garden accessory. Time is now obtained from the sun or stars by means of the transit instrument, consisting of a telescope attached to a horizontal axis, and capable of movement in the plane of the meridian only, and furnished with means for accurate adjustment. An instrument of this kind must, however, always remain a high-class scientific instrument, the care of which is beyond the ordinary amateur, requiring for its proper adjustment special expert knowledge.

Superiority of the New Dial

The new transit dial here described, whilst making no pretensions to the scientific accuracy of the transit telescope, is far superior to the old primitive sun-dial, and will furnish time to within the limit of a second. It consists of the usual form of sun-dial on an ornamental stand with engraved dial and gnomon. This latter is composed of two metal plates separated by an interval. Between these plates is placed a special form of narrow cylindrical lens, covering an arc of seventy-five degrees, so arranged that it gives an image of the sun or a star at all ordinary altitudes without being moved. As is well known, a cylindrical lens has no effect on rays of light in one meridian—that parallel with its axis—and that the image of any source of illumination formed at its focus is a line of light. This is arranged, in this case, to be in a vertical direction and, whatever the altitude of the sun or stars, a line image is always present in the field of vision. This image is viewed in the ordinary way by a positive eyepiece furnished with cross wires, the rays, for convenience of observation, being turned at right angles by the intervention of a totally reflecting prism.

Combined Dial and Telescope

The instrument is, therefore, a combination of the original sun-dial with a special form of telescope, the object-glass of which is formed by the narrow segmental cylindrical lens, which projects into the field of vision an image at all altitudes of the sun or a star, without any movement or adjustment. The metal work is permanently fixed to the dial and not liable to derangement or damage, the lens

being perfectly protected by the plates of the gnomon. It is easy to use, and tables are furnished rendering unnecessary the usual calculations. The method of making the corrections is here given, using two examples—the sun and a star.

Place of Observation

If the sun is used, the time must necessarily be at or near noon, at the time of the sun's southing or passing the meridian. Greenwich being taken as the standard meridian, all other places at other longitudes are referred to this, and allowance made for their distance east or west. We must also know the difference between mean and apparent time for the day; or, in other words, the "equation of time," which is given in the almanacs. We will presume that our place of observation is, by the ordnance map, 2 deg. 15 min. west of Greenwich. As 360 degrees of arc are equal to 24 hours of time, the proportion is 360 to 24, or 15 to 1. If, therefore, we divide 2 deg. 15 min. by 15, we obtain 9 minutes as the distance in

time from the meridian of Greenwich and, being west, the sun will transit this amount of time later than at Greenwich. Taking the transit on July 30, 1905, we find that on this date the equation of time is 6 min. 14 sec. +; or, in other words, the real sun does not arrive at the meridian until 6 min. 14 sec. past 12, and as our station is 9 min. later also, the time shown by a mean-time clock when the sun souths on this date must be 12 hrs. 15 min. 14 sec.

	H.	M.	S.
Mean time at apparent noon,	12	6	14
Correction for longitude,		0	9
	12	15	14

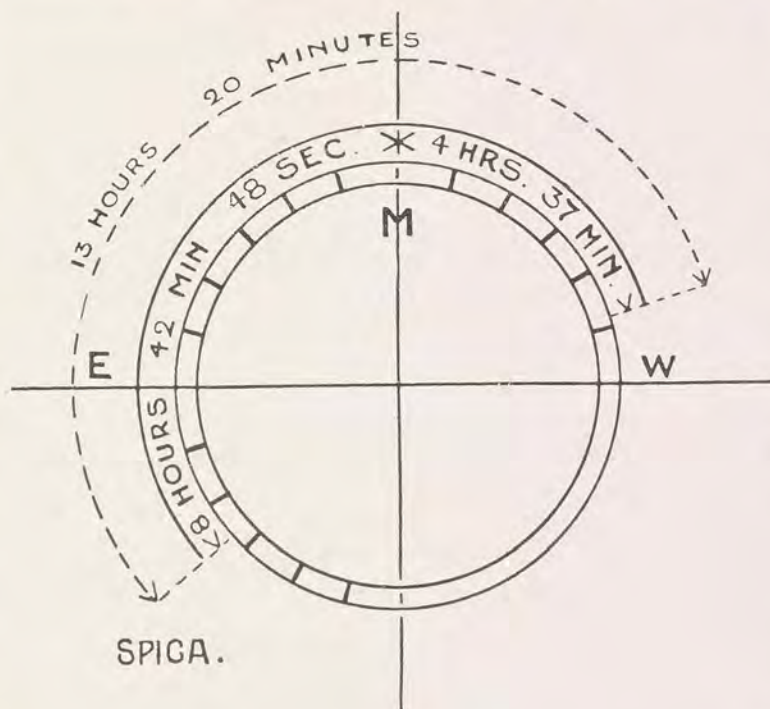
If the place of observation is east of Greenwich, then the correction is minus and must be deducted also. If the time had been, say, February 12, 1905, 14 min.

26 sec. would have to be added for equation of time. If time is taken by a star, we must have a table of conversion from sidereal to mean-time intervals, as the right ascension of stars is given in sidereal time. Sidereal time at noon is the distance from the first point of Aries, from which all distances of stars are measured in right ascension. This, on June 1st, was 4 hrs. 37 min. 12 sec.

Taking the well-known star Spica, we find, from the almanac, that its right ascension is 13 hrs. 20 min., so that it will come to the meridian at this time minus 4 hrs. 37 min. 12 sec. = 8 hrs. 42 min. 48 sec., and this, corrected into mean-time intervals, given on page 574 of the "Nautical Almanac," is found to be 8 hrs. 41 min. 23 sec., the time a mean-time clock should show when Spica passes the center wire of transit dial. The same method is applicable to any other star, and the almanac gives particulars of some visible all the year round.

In the *English Mechanic*, for every month, a list of twenty-four stars is given, with their mean times of southing on the first day of every month. The times for any other day is obtained by multiplying 3 min. 56 sec. by the day of the month, minus one, and adding this to the time given for June 1st. This list of stars is fairly comprehensive and will be found to answer for all ordinary purposes.

—W. Banks, F.R.A.S., in the *London Watchmaker, Jeweler and Silversmith*.



ROY
TRADE-MARK REGISTERED

EVERY ROY WATCH CASE is made from ASSAYED GOLD, and QUALITY IS GUARANTEED AS STAMPED.



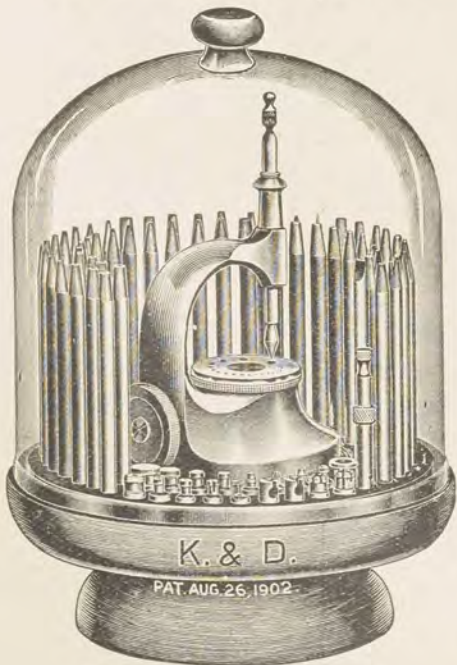
Our new Fall line in attractive designs and unequalled finish are on sale by leading jobbers who care to supply their trade with the newest and best solid gold case made.

ROY WATCH CASE COMPANY

206 Kearny Street
San Francisco, Cal.

21-23 Maiden Lane, NEW YORK

IMPROVED STAKING TOOL WITH NEW FRICTION SLEEVE



No. 12. 100 Punches, 24 Stumps
No. 13. 76 Punches, 20 Stumps
No. 14. 60 Punches, 18 Stumps

These improvements completely obviate vibration or displacement and thoroughly safeguard watch parts while in the die.

Kendrick & Davis, Lebanon, N. H.

The highest degree of perfection yet attained in staking tool improvement is found in the new K. & D. tool shown in the accompanying illustration. The most notable new feature is the

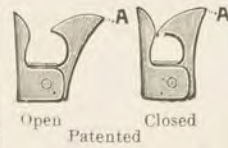
FRICTION SLEEVE

for holding the punches up while placing and removing parts of watches from the die.

This tool has also a new device for tightening the die in position, consisting of an adjustable bolt and double-bearing cam.

THE LATEST AND BEST

The "Automatic" Safety Catch



Neatest, strongest, best and most practical safety catch that has ever been presented for consideration of the trade. It is **automatic** in action and a positive lock for the pin. The pin-stem engages readily and positively cannot come out until you release it. The release is as simple and can be accomplished more readily than from an ordinary open catch. A touch of the finger on point *A* and the pin is automatically freed from the catch. Made in Gold, Sterling Silver and German Silver.

Samples sent on application from Manufacturers or Wholesale Dealers in Jobbing Material.

GEO. H. FULLER & SON CO., Pawtucket, R. I.

Chicago Office—103 State Street

"CLINCH"

Hoffman's Safety Catch for Scarf Pins

Newest and Most Practical Scarf Pin Fastener on the Market

Fits any size pin. Has a grip like a vise. No broken finger nails. Nothing to get out of order. Neat and simple. It will not mar the pin.

PRICES	Retail price,
Style No. 1. \$1.50 doz.	25 cts.
Style No. 2.	
Roman gold, 2 00 doz.	35 cts.
Style No. 2.	
14 K. Gold Plate.	
polished, \$3.00 doz.	50 cts.

For sale by all leading jobbers and material houses, or

THE HOFFMAN NOVELTY CO.

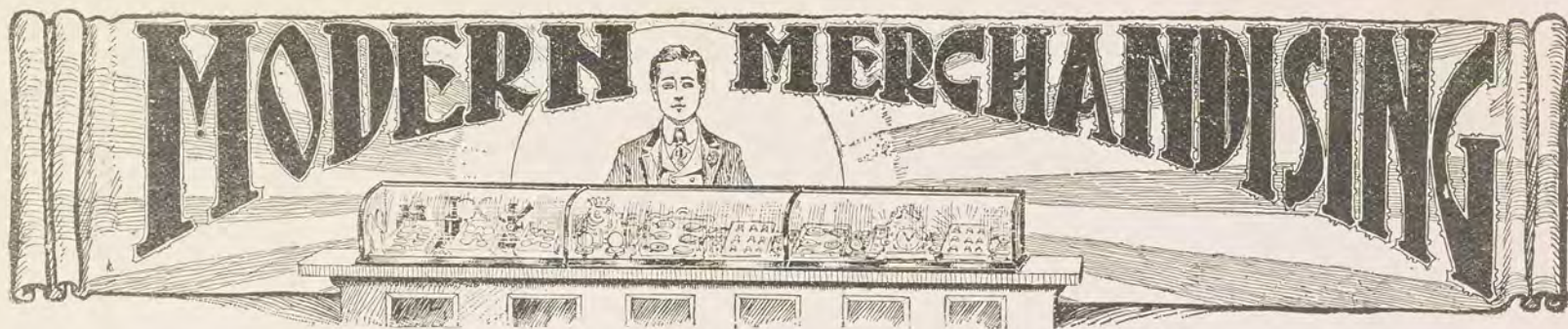


Patent applied for.
No. 1. 25 cts.

No. 2 ALBANY, N. Y.



How the Clinch is operated.



Stock Purchasing in the Big Markets

IN an article in our last issue we enumerated the advantages to the jeweler of occasional personal visits to the big markets for the triple purpose of stock purchasing, physical and mental relaxation and business edification and enlightenment. We have now before us a letter from a subscriber, commending our views on the subject, but warning his brother jewelers against the temptation to over-buying, which, he claims, is particularly strong in the wholesale centers. The immense volumes of stock and multiplicity of styles and patterns have, he contends, a bewildering and fascinating influence, while the suavity and persuasiveness of the salespeople and the overwhelming friendliness of the various firms are calculated to produce a hypnosis which is fatal to cold-blooded bargaining and conservative selection. "It is an old saying," writes our subscriber, "that a rooster has most nerve and fights best in his own barn-yard. I have known men who were proof against all the blandishments of the most gifted and persistent traveling man, but who succumbed readily among the big stocks and in the soothing atmosphere of State Street or Maiden Lane."

THERE may be some basis for this contention, but our subscriber's pretext is certainly over-drawn. If the jeweler is, as he ought to be, thoroughly posted on his requirements before visiting the market, and if he possesses, as he should, the qualifications of a shrewd purchaser, there is not only no danger for him in the immense stocks or in the firm's effusiveness, but on the contrary all these things can be turned to his advantage. The fundamental fact remains that here he has before him all the latest products of the jewelry world, the varying prices at which they may be offered by a hundred competing firms, the bargains and special offerings of rival houses, all of whom would, no doubt, make some little concession for his business. This is where the merchant with cash in hand makes his first profit, and even if he should need credit or exceptionally lenient terms of payment, he will, in this way, get closer to the heads of the establishment and quite likely secure more satisfactory arrangements than through the long-distance medium of the traveling man or the mails. But why reiterate? The actual experience of the trade

is the best guide, and this has proved conclusively the wisdom of keeping in *personal* touch with the jobbing centers.

THERE is one point on which we can agree with our correspondent, namely, that whether the jeweler buys from the traveling man across the counter or at headquarters in one of the big cities it is always well for him to have the reputation of being a shrewd, hard-headed purchaser. The merchant who goes into the market with the reputation of being "a nice fellow to sell to," is not likely to get the consideration of the one who is known as a captious critic of goods and values. Confidence in that the jobber will treat you right under any circumstances may be justifiable, but we doubt whether such faith can be classed among the business virtues. Even the jobber, who is honored with your confidence, may regard as a much safer patron the shrewd, close-figuring merchant, for such a one is much more likely to be successful in his business. Traveling men sometimes claim that the "nice fellows to sell to" get all the "snaps" and "inside prices" because the salesman and his house "will take care of them." We grant this may be true in some cases, but it is just like human nature to use these snaps and inside prices to coax some jeweler to buy who has the other kind of a reputation.

IT must be remembered that the jobber is as much interested in making a profitable sale as the retailer is in making a profitable purchase, and that no matter how honest he may be or however much he may feel like treating you well, he will necessarily be swayed to some extent in his own favor by self-interest. The jobber is not in business for his health any more than the retailer, and he must not be expected to make sacrifices for your profit. It is always more satisfactory for him to do business with a man who knows how and what to buy than to have thrown on him responsibility for the retailer's selections.

In buying as in selling the jeweler must be on the eternal lookout for his own interests, quick to take advantage of opportunities and quicker to detect when advantage is being taken of him. Confidence in those with whom we deal is an admirable thing, but

there's safety in flavoring one's faith with a pinch of suspicion. It is no longer the custom for the jeweler to limit his patronage to any one house. He rightly claims the freedom of the market as his privilege, and the exercise of this privilege puts a business premium on tact and shrewdness. The advice which the poet Burns gave to his young friend, is not without applicability to modern business conditions:

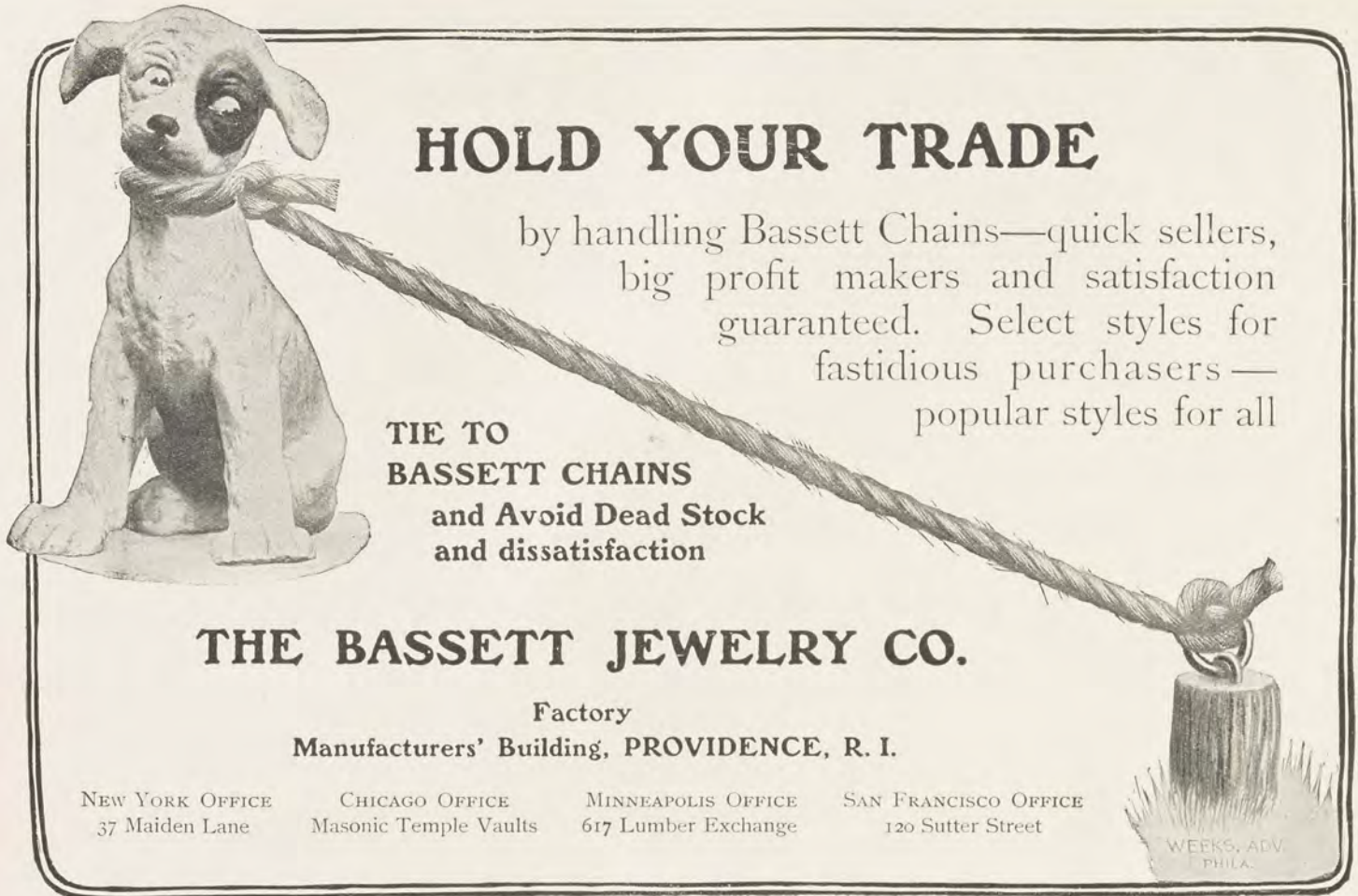
Aye, free, off-han' your story tell
When wi' a bosom crony,
But still keep something to yoursel'
Ye scarcely tell to ony.
Conceal yoursel' as well's ye can
Frae critical dissection,
But keek through ev'ry ither man
Wi' sharpen'd, sly inspection.

Benjamin Franklin, wise old seer, said that in business, unlike religion, we were saved not by faith but by the want of it. Our correspondent is right in advising that the merchant should bring with him to the jewelry market all his powers of resistance and self-assertion. The meek and confiding may possess the earth, in accordance with the Biblical promise, but they are not the ideals for shrewd stock purchasers.

How to Read Your Trade Paper

IN a forceful article on the necessity of the merchant reading his trade paper, *Printer's Ink* says:

Few men are so busy that they have no time to read trade papers. The evenings at home cannot be spent to better advantage by him who wishes to achieve the greatest possible success, than in reading one or more in an understanding way. Right here comes the rub—in an understanding way. And it is because a great many men do not know how to read a trade paper that they do not read them at all. The right way to read a trade paper or any other kind of paper, for that matter, is to place one's self in a state of mind which may be termed both perceptive and receptive. By doing so, one will perceive that which is of value and store it away where it may readily be found when wanted, instead of reading the articles as if they were just so much reading matter which must be read somehow or other. Then, that which may be read between the lines, is often of greater value than that which is printed, and the reader should be alert to see and feel such things.



HOLD YOUR TRADE

by handling Bassett Chains—quick sellers,
big profit makers and satisfaction
guaranteed. Select styles for
fastidious purchasers—
popular styles for all

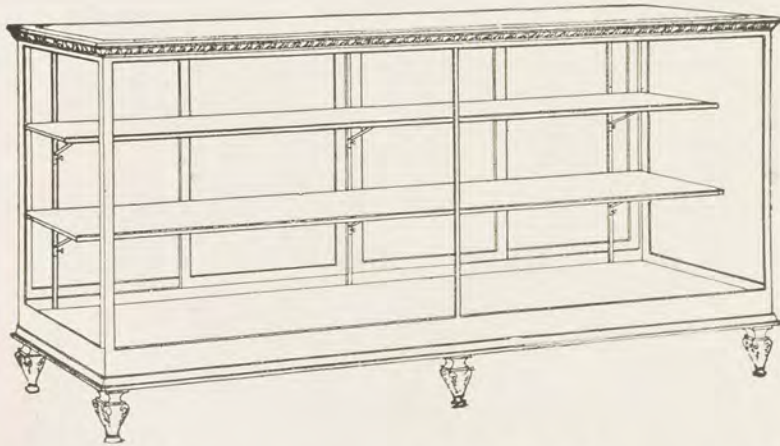
**TIE TO
BASSETT CHAINS
and Avoid Dead Stock
and dissatisfaction**

THE BASSETT JEWELRY CO.

Factory
Manufacturers' Building, PROVIDENCE, R. I.

NEW YORK OFFICE	CHICAGO OFFICE	MINNEAPOLIS OFFICE	SAN FRANCISCO OFFICE
37 Maiden Lane	Masonic Temple Vaults	617 Lumber Exchange	120 Sutter Street

WEEKS, ADV.
PHILA.



The Phenomenal Sale of this Case Proves its Usefulness

Jewelers with a keen eye in every case relating to their business, saw at once the beauty, utility and cheapness of our "IDEAL" CASE.

It is made of solid oak, or other wood desired, highly polished, beveled plate-glass top, double strength glass front, ends and doors, has two highly polished shelves of same wood as case, supported by Tom's adjustable brackets, metal legs six inches high, and doors run on steel tracks.

DIMENSIONS:—Length as ordered, 28 inches wide, 43 inches high, upper shelf 12 inches wide, lower shelf 16 inches.

The construction of this case is first-class. It has a nicely molded top, ornamented with egg and dart.

A BEAUTIFUL CASE

Made and sold by

Union Show Case Co.

105 E. Lake Street, CHICAGO, ILL.

FACTORY—56-66 Frank St. and 424-428 Maxwell St.



Wall Cases. Solid Oak. 8 feet long, 8 feet 4 inches high, 1 foot 4 inches deep inside. Doors slide up, fastened to Morton's steel chains and weights. Inside of case and shelves lined with black felt. Made to ship in the knock down.

Net price, \$58.00. Worth \$70.00

Sample Advertisements of Progressive Jewelers

We are now nearing the period when every jeweler who wishes to make the most of this promising season should inaugurate a vigorous advertising campaign. The time to advertise is, of course, all the time, but it always pays well to increase the usual space and appropriation as the holiday season draws near. It must be remembered that in our day advertising is no longer optional with the merchant; it is compulsory. Exacting competition

necessitates recourse to all the trade-bringing agencies, and newspaper advertising is the chief of these. The advertisements here shown are purposely contracted in space in order to show as many samples as possible. They are the newspaper announcements of enterprising jewelers, some of them being slightly changed in form, and will suggest ideas to many who are less proficient in the art.

It should be needless to repeat at this time that the capability to write an advertisement is one of the most valuable of the

(Continued on page 1719)



BRING YOUR DIAMONDS

to us often and have them examined to see that the mountings are in good order. An examination costs you nothing and it may save you the jewel.

P. H. STEVENS
12 Asylum St.
Hartford

If a man chooses to carry an inaccurate timepiece, That's his business.

If he prefers to have it repaired and made accurate, That's my business.

And I know my business thoroughly. An inaccurate timepiece may cause one a world of inconvenience. It may cause the loss of many dollars or even a loss of life.

That's why many great corporations require their employees to carry perfect Watches.

I am an authorized inspector of Watches for such a corporation—the great Rock Island System.

Does that not show confidence in my ability as a watchmaker?

A. B. Jones, Stuart's Reliable Jeweler



DIAMONDS FOR THE BRIDE

A piece of fine diamond jewelry will please her best. It is most appropriate as a token of love, admiration and friendship, but it will be prized the most of all for the beautiful sentiment it expresses.

The Finest Stock in Rochester at Rochester's Finest Jewelry Store

Rings of fancy clusters of Diamonds, Rubies, Sapphires, Opals, Pearls, Turquoise, Emeralds, etc. . . . \$25 to \$600
 Hearts of Pearls, Diamond centers 32 to 75
 Ear Rings 25 to 500
 Diamond Necklaces 18 to 500
 Lavallieres, all the precious gems 5 to 65
 Bracelets, set with Diamonds . . . 50 to 100
 Chatelaine Watches, set with Pearls and Diamonds, beautiful modeled cases of flower design and old rose coloring, dragon chatelaine . . . 50 to 75
 Brooches of Diamonds and Pearls 15 to 750

DIAMOND SOLITAIRE ENGAGEMENT RINGS, \$25 TO \$1000

TIFFANY WEDDING RINGS, IN ALL WEIGHTS, \$3.50 TO \$10

WEDDING FAVORS—Brooch Pins, Signet Rings, Hat Pins, Mounted Combs, Scarf Pins, Cuff Buttons, Watch Fobs, Rings set with gems, etc.

E. J. SCHEER & CO.
144 Main Street East

BRIDES and their friends should not forget to look over our reasonable priced, but guaranteed quality, new goods for wedding gifts and favors. If you are

ENGAGED

don't fail to have a ring to commemorate that fact, and get it of us, because then you will get more for your money. We make a specialty of WEDDING and ENGAGEMENT RINGS, and have our way of engraving them FREE—1000 rings to pick from. Solid gold, from \$1.00 up to the fine diamond, which run from \$4.98 to \$175.00.

FINE SILVER TEA SETS, special, \$2.98
 Cake Baskets—fine, large size, well plated 98c. to 4.00
 Syrup, special, quadruple plate 1.48

These are only a few things of the choice, new stock



BEST & Co.
JEWELERS, OPTICIANS
11 Genesee Street

Sterling Silver Belt Buckles


Here is a collection of Sterling Silver Belt Buckles in a variety of most attractive designs—both floral and figure subjects—that we're able to offer to-day at half prices, or less. Some are in French gray finish, others in rose gold; and many are attractively set with stones.

Altogether, a pleasant chance to pick out pretty adjuncts to the winter frock, at a material price-saving—\$1.00 and \$1.50, worth \$2.50 to \$6.00.

Evans, 105 Market St.

EXTRAORDINARY WATCH VALUES

DO YOU WANT A WATCH? Most every one does. Everybody needs one. Some people, however, don't feel like paying a large sum of money for one. They try to get along by depending on the public clocks and their friends for the time. Inconvenient, of course. I have a number of watches taken in exchange that I shall sell at bottom prices. All the leading makes. I have put them in first-class condition and they keep as good time as new ones. There's no further excuse for your going without a watch.



A. C. TUCKER SOUTH AVE. WHITMAN
JEWELER AND OPTICIAN

FALL WEDDING GIFTS

QUADRUPLE PLATE SILVERWARE
The patterns were never so rich and handsome as they are this season.
Single pieces, \$1.10 to \$15.00
Tea Sets . . . \$8.00 to \$40.00
Coffee Sets . \$10.50 to \$24.50

CUT GLASS
Always in good taste as a wedding present. Articles from \$1.50 to \$35.50.

STERLING SILVER HOLLOWWARE
A selection from this elegant class of goods means that you are buying something that will become an heirloom.
Single pieces, \$2.25 to \$30.00
Tea Sets . \$110.00 to \$168.00
Coffee Sets . \$53.00 to \$65.00

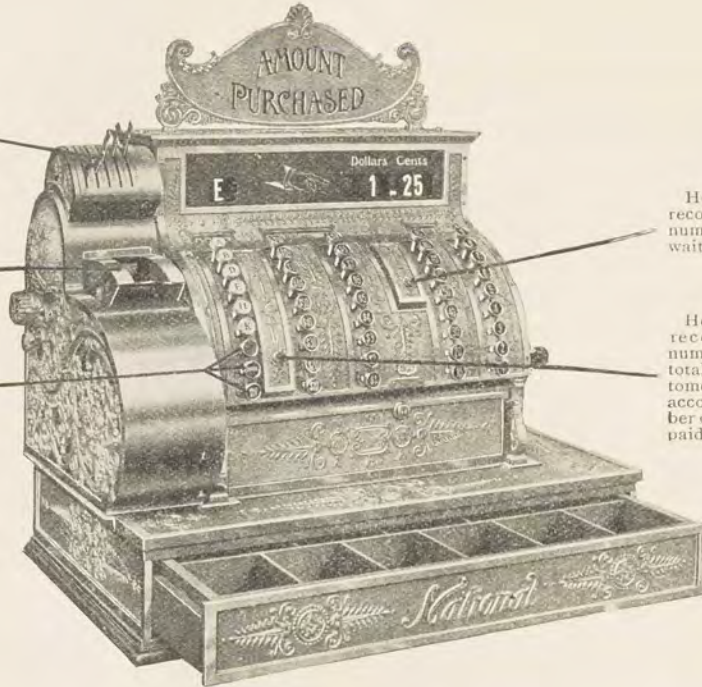
WEDDING RINGS
Solid Gold \$2.50 to \$11.00

Hofman's, JEWELERS AND OPTICIANS
78 North High Street

These levers keep track of credit customers. Also keep lot and size, stock numbers or cost and selling prices.

Here under lock for proprietor is printed record of every transaction, including cost and selling prices, lot and size numbers, etc.

Improved way of handling the credit sales, money received on account and money paid out. Makes it impossible to forget to charge.



Here under lock is record showing total number of customers waited on each day.

Here under lock is a record showing total number of charge sales, total number of customers who paid on account, and the number of times money was paid out during the day.

DECIDE today that you will let automatic machinery take care of your greatest troubles. You cannot afford to waste time and energy doing things that a machine will do.

National Cash Register Company Dayton Ohio

HENRY ALLSOPP

A★
TRADE-MARK

GEO. A. ALLSOPP



ALLSOPP BROS.

Manufacturers of

Ladies', Men's, Misses', Children's RINGS

As well as a

Full Line of Signet, Lion and Grotesque Rings

SELECTION PACKAGES TO RESPONSIBLE DEALERS

Allsopp Building, Camp & Orchard Sts.

NEWARK, N. J.

THE BEST LIGHT.



GIVES
5 TIMES More Light
than acetylene

6 TIMES More Light than electricity
10 TIMES More Light than kerosene
100 TIMES More Light than a candle

COSTS LESS THAN KERSENE

Each lamp makes and burns its own gas. Hang or set it anywhere. A pure white, steady light.

NO ODOR! NO WICK! NO GREASE! NO SMOKE!
LITTLE HEAT! SAFE!

Over 100 Styles for Indoor and Outdoor Use

AGENTS WANTED—Exclusive Territory
Write for catalog, lists and discounts

THE BEST LIGHT CO., 259 E. Fifth St., Canton, Ohio

We do **RELIABLE**

Silver-Plating

and
Silverware

Repairing



Can this be Repaired?

Yes!

We Repair any article in the Silverware line, making new parts to match the old ones, broken or melted off, the same as new.
We Replate any article you want in Gold, Silver, Nickel, Bronze, Brass, Oxidized Silver, Old Bronze, Statuary Bronze, and all the Antique or Old Finishes, etc.

Silverware
Repaired and
Replated

Sercomb Company 1429 Wabash Ave.
F. H. PUTNAM, Manager CHICAGO

Sample Advertisements of Progressive Jewelers

(Continued from page 1717)

qualifications of the modern jeweler. He should also be posted on type and display and have some sort of an idea of the general principles of the printer's art. If he is so "set in his ways" as to be beyond instruction in this important branch, he should at least insist on such qualifications in one or more of his clerks.

The advertising jeweler should always insist on a proof of his

advertisement being sent to him for correction and approval before publication. Poor language, bad grammar and misspelled words always leave an unfavorable impression on the reader, and these should be carefully guarded against. The jeweler who scratches off an advertisement in a few moments and leaves the rest to the printer, is not doing justice to his reputation or his business. He is of the class who tell you that advertising does not pay, while his competitors are making money by careful use of this very agency. But such a merchant is little less than an amusing anachronism.



The Ways of a Watch

The ways of a watch are past finding out. Don't try. If your watch is lazy and won't run, let our repairer spur it up

—he'll make it on time to a dot. Ten to one you've neglected it—let it get dirty; or rusty from lack of oil; maybe given it to the baby to play with. We get plenty of watches bearing the telltale marks of little teeth. Whatever's the reason, **don't delay**; delay costs money and spoils the watch.

We give thorough examination and regulating free—anything more costs as little as satisfactory work can be done for.

P. G. DIENER, 410 Market St.

A DIAMOND RING

Absolutely Perfect. 1 1/4 carat.

\$125

Absolutely Perfect. 1 1/4 carat.

\$125



SPECIAL WHILE THEY LAST. We recently imported a lot that enable us to offer some wonderful bargains

Jos. Linz & Bros.

Write for Catalogue

Every one who buys a Diamond

of us feels that he or she has secured a good bargain. We intend that every one shall feel that way. Every gem we sell must be right in quality, color, cut and price. We have some nice ones to show you.

I. A. Faunce, 1314 N. Third Street

BEAUTIFUL RING SETTINGS

We have a line of gold rings of manifold designs. Beautiful plain gold, light weight, round wire rings; ornamented and plain gold bands, etc., set with rich white diamonds and—but you must see them to appreciate their tone.

WEDDING RINGS

Let us furnish the tie that binds true lovers. Whatever style or weight you desire is here. We guarantee our wedding rings.

LESLIE E. CARL
82 FRONT STREET



The Value of Engraving



When I sell you any article of Jewelry or Silverware I engrave the article, free of expense, to your special order.

It may be a single letter or an elaborate monogram, according to the article and the suitability for engraving.

All my engraving is done by hand in a perfect manner, so as to be a lasting pleasure.

Engraving makes an article more valuable, a gift more personal. You can't overlook the value of engraving if you have good taste.

Leslie E. Carl
The Jeweler
87 Front Street
Telephone 14 Deposit

A FINE LINE OF

EMBLEM JEWELRY

Emblem Signet Rings with raised gold letters or emblems in their respective colors. Genuine ELK TEETH and EAGLE CLAWS in all my charms.

Elk Masonic Red Men Odd Fellows } Rings
Buttons { Elk Masonic Red Men Odd Fellows

Each emblem is designed intelligently and sure to please the most critical patron. For beauty, quality and finish my line excels. Get my prices, for they are right.

LESLIE E. CARL, Reliable Jeweler
82 Front Street, Deposit

Men's Watch

\$10.50

Thin Model



Men are tired of clumsy watches.

This, small, thin model case is more convenient and easy to carry.

Very handsome gold filled case, warranted 10 years; fine American Waltham movement.

This week only we quote the special price of \$10.50

Geneva Watch and Optical Co.
305 S. Broadway

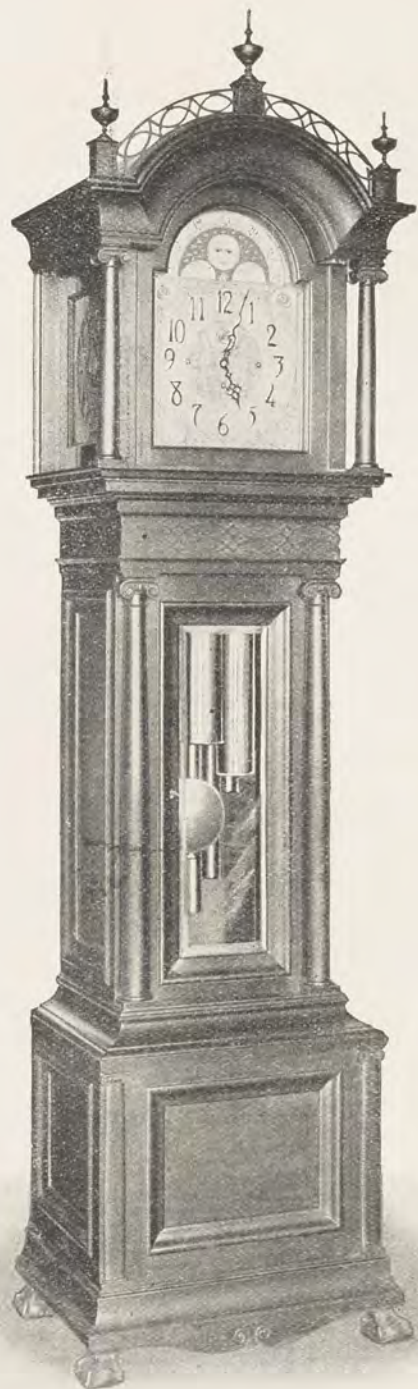
A Good Timekeeper for \$8.50

We're having quite a sale on this watch—it has proved eminently satisfactory to a great number of people who want a moderate-priced timekeeper. It has all the appearance of a high-grade chronometer, and we will guarantee the works to be all right. Here are the details:

Seven-jewel American movement, gold filled case, \$8.50

We do all kinds of Watch Repairing.

A. C. Tucker
Jeweler and Optician
South Avenue
Whitman



Our new catalog is now ready, and we will be pleased to mail it to all regular dealers

Our line of **Hall Clocks** is the largest and most complete we ever manufactured, and comprises all the latest features of high-class construction.

We have some new designs of Watchmakers' Regulators, which excel anything we have heretofore produced.

Our new WILLARD or "BANJO" Clock is an elegant specimen of our high-class work and is built for the fine trade.

Waltham Clock Company
Waltham, Mass., U.S.A.

The "Hiawatha" Hat Pin Set



Patented June 28, 1905

Actual size

The Hat Pins represent two principal characters from Longfellow's poem, Minnehaha and Hiawatha. These heads are made of Sterling Silver, stems of German Silver, 8 1/2" long. The tops are mitered, making a complete head.

The Hat Pin Holder, made of Silverine Metal, finished in French Gray, loaded base and covered with felt.

Each set, consisting of the two Hat Pins and Holder, put up in a paper box.

We show a large line of new goods in Sterling Silver Toilet Sets, Manicure Pieces, Salt Shakers in Cut Glass, Individual Salt Shakers in all Sterling, Hat Pins, Brooches, Belt Pins, Scarf Pins, Link Buttons, Fobs and Link Purses

This Hiawatha set for sale by all leading jobbers. If the Jobbers have not got them, write to us.

ROTHSCHILD BROTHERS COMPANY

Manufacturing Jewelers and Silversmiths

Attleboro, Mass., U.S.A.

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New York Office, 37 Maiden Lane

New England Selling Agents

We show a complete sample line in our New York office

Thomas Long Co.

41 Summer St., Boston, Mass.

Measures Minute Time

*An Ingenious Apparatus Which Records Millionth of a Second
The Velocity of Projectiles—A New Method of Determining
the Speed of Flying Cannon Balls*

A REMARKABLE series of experiments for the determination of the law of the resistance offered by the air to spherical projectiles have just been concluded by Professor A. F. Zahm, of the Catholic University of America, at Washington, D. C. In these experiments it was necessary to measure, with the utmost degree of accuracy, the inconceivable brief space of time of one millionth of a second, and this unique achievement Professor Zahm attained by an apparatus which he invented, and which must take its place as one of the most wonderful of scientific instruments.

Measuring Small Sub-Divisions of Time

Professor Zahm was told, before beginning his experiments, that the accurate measurement of one-tenthousandth of a second would be sufficient for the purpose of determining the physical law which he was required to establish, namely, the part the air played in retarding the progress of cannon balls. No instrument then existed for the measurement of one-tenthousandth of a second, and it was felt by Professor Rowland, of Johns Hopkins University, who suggested the matter to Professor Zahm, that if the latter succeeded in inventing such a contrivance the cause of science would be very materially advanced. There have been many efforts made to devise an instrument for this purpose, but heretofore unsuccessfully.

The relation between the velocity of a projectile, and the resistance opposed to its motion by the air, has been the subject of experiment from the earliest times. All of the results, however, are inaccurate owing to faulty methods. The electric wire recording device employed by artillerymen is, as Professor Zahm points out, imperfect, as the ball, in cutting the wire, first deflects the latter, while it is impossible to determine the point of contact. His own experiments have demonstrated that, contrary to the theory of Professor Rowland, the elimination of the millionth part of a second would have rendered the results valueless for the purpose of scientific accuracy.

As it is, Professor Zahm is the first to establish the law of air resistance to

spherical bodies at speeds at and below one thousand feet a second.

Measuring Cannon Ball's Flight

There were three factors which enabled Professor Zahm to devise his apparatus for measuring the flight of a cannon ball to the millionth of a second. One consisted of the very accurate and frequently verified computations of the law of falling bodies, the other of photography, and the third of the possibility of obtaining sunbeams one-hundredth of an inch or less in thickness on a falling photographic plate. The method involving these three factors, called by Professor Zahm "photo-gravity," he had conceived in its essential elements some years previously. The problem now lay in obtaining sharp traces of the sunbeams upon a photographic plate attached to a falling body, and further and vitally important, a perfectly sharp record on the plate indicating where the sunbeam had, for the minute fractional part of a second, been interrupted.

In order to test how sharply a light-beam record could be interrupted, Professor Zahm had a carpenter make a columnar box, five feet high and three by five inches inside section, and having two grooves down which a board carrying a sensitive plate should fall. Placing a small condensing lens in the side of the box, he allowed sunlight from a vertical slit a hundredth of an inch wide and fifty feet distant to come to an approximate focus on the falling plate, which was dropped from a latch.

While the plate was falling he struck the beam with a stick. It was an anxious moment for Professor Zahm when he looked at the plate to see if the interruptions of the trace of the sunbeam were sufficiently strongly marked for accurate measurement. The record was examined under a micrometer microscope, and showed that the edge of the interruptions could be located accurately to one-five-thousandth of an inch, which is, perhaps, nearly as close as one dare measure a film. As the plate was moving one hundred inches a second, this test showed that the time of interruption could be fixed accurately to one-five-hundred-thousandth of a second. By increasing the speed of the plate and using stronger light, the accuracy was made

less than one-millionth of a second, while Professor Zahm hopes, by a further modification of the apparatus, to determine intervals of one-hundred-millionth of a second.

A Marvelous Apparatus

The perfected apparatus employed by Professor Zahm for the measurement, with this marvelous degree of accuracy, of the variation in the speed, or, in other words, the slowing-up of cannon balls due to air resistance, and thereby the physical law of the latter, represents much labor and ingenuity.

The gun from which the balls are fired is of peculiar construction, every precaution being taken to guard against deflection of the ball, which is of hollow steel or wood. The latter is fired across the room into a box thickly padded with cotton. On its way it cuts three minutely narrow sunbeams, admitted by mirrors and apertures, which are deflected on the rapidly falling photographic plate.

Professor Zahm takes one of these plates which has been used, and points to three minute dots close together at the lower end, which are barely visible to the naked eye. These are the so-called "zero marks," or initial positions of the streams of light before the plate is dropped. The making of these zero marks involved the invention of a special apparatus consisting of a thin disk, having a radial slit, and mounted on a handle by a spiral spring stiff enough to rotate it very suddenly. The disk is held cocked before the open camera-hole and allowed to snap. As the radial slit flies past the hole, light is admitted much less than one-thousandth of a second, thus marking the bottoms of the straight lines which are seen above, and which are traced when the plate is dropped. In these lines are clearly to be seen the breaks made by the cannon ball in passing each beam.

A record of this sort obtained, the plate is laid on a dividing engine. Thus the linear measurement of the ball's course between the first and second, and the second and third beams of light is determined, and the time of exposure of the plate is no less accurately computed by the known law of falling bodies. The difference in the time of transit of the ball between the first and second and the second and third beams can only be represented in millionths of a second, and hence the necessity of Professor Zahm's photo-gravity device. The measurement of one-ten-millionth of a second, which the professor hopes soon to achieve, will serve further to determine the exact resistance offered by the air to cannon balls, and the problem will then be to evolve a form of projectile best calculated to overcome this factor.



No. 378. Onyx



No. 376. Onyx



No. 386



No. 384



No. 382



No. 380



No. 385



No. 387



No. 392



No. 395



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Our Emblem Rings are different from the other kind. They are 14 K., 6 and 8 dwt., with center emblem raised and side emblems cut in bas-relief, finely modeled and enameled. They sell well because they are fine goods at reasonable prices. Our catalogue tells all about them. Selections sent.



No. 379. Onyx



No. 383



No. 391



No. 391. Reverse



No. 62



No. 51



No. 70



No. 63



No. 66



No. 71



No. 67



No. 44



No. 64



No. 42



No. 50



No. 65



No. 68



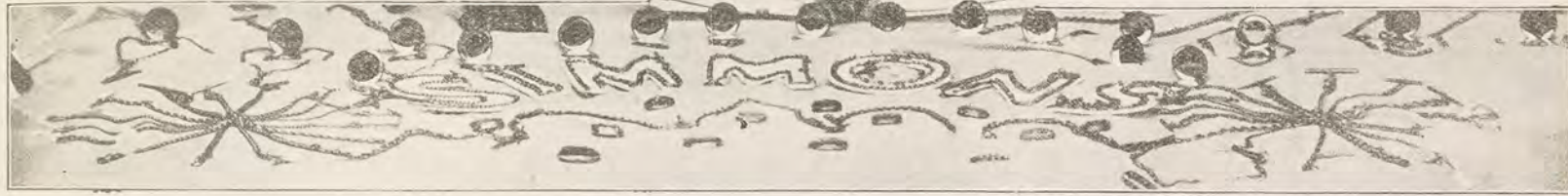
No. 61



No. 69

The Show

Window



Motion and Mechanism

Coincident with the gradually rising standard of skill and taste in window decoration, the utility of motion and mere mechanical attractions has been in constant process of development. This is especially true as regards single-line dealers, with many of whom attempts at fine artistic effects were impracticable, to say the least. In the larger cities people seem involuntarily to look to the department stores for all that is rich, rare and beautiful in the art of displaying merchandise. The department store in this respect enjoys one of the advantages inherent in sheer bigness. With its myriad wares and fabrics it has vast possibilities for variety, change and charm. Its window area is, in itself, an attraction, and every decorator knows from experience that the greater the area the greater the facilities for the production of striking and impressive results.

Jewels as Display Stock

But there is a no less inherent magnetism in jewels and jewelry never more powerful than in our day, so that, let the department store develop how it may, the jewelry store will never lose its human interest so long as human nature remains what it is.

This is not the jeweler's only compensation, however, for in view of the mechanical side of his calling, the growing value of motion and mechanism as window attractions, to which we have referred above, gives him a singular advantage over his brethren in other lines. There could be no better evidence of how the trade has come to realize and appreciate this advantage than the numerous letters which have of late been received by *THE KEYSTONE*, requesting suggestions for the designing of mechanical displays. One jeweler, who lives in a gold mining town, writes that a traveling man told him of a stamp-quartz-mill window display, described some time ago in our journal, and requests us to favor him with the information. As this may interest others similarly located, we will repeat that the "stamps" were made of curtain poles, surmounted by tin cans, all painted a dead black, to look like iron. Underneath the head of each stamp, and fastened to a horizontal rod, was a four-sided cam, and these cams were placed irregularly, so that each stamp rose and fell independently. Back of the screen was a trough inclining toward the front, so that when fed with water from a hose the trough overran, the water rushing through the screen and into the front pan, from which it also overflowed to be caught in a trough at the front and conducted to a waste-pipe. The display of watches and other goods may be made upon little uprights of tin soldered to the bottom of the pan, or upon blocks of wood high enough to raise the goods above the surface of the water. The stamp mill was kept in motion by a little electric motor.

While on the subject of mechanical displays, we will recall others which have been used to good purpose: Take a large tin pan—a bread pan is best—and a two-quart tin dipper. Have the tinsmith solder the edge of the dipper to the edge of the pan, in the position they would occupy if one were pouring water from the dipper into the pan. Have a slot made, one-half inch wide by four inches long, in the bottom of the dipper, and also a corresponding slot in the edge of the pan, near the bottom. Through these slots run an endless band of black velvet

passing over rollers back of the pan and dipper which are connected with a motor. Cover the surface of the velvet with brooches and gems of all kinds. When the motor is running the effect will be that of a cascade of jewels pouring from the dipper into the pan. The pan should be filled with puffed chiffon or some gauzy material, and the dipper also filled with it, so as to hide the places where the band passes through the slots. On this puffing may be displayed rings, chains or other articles.

Another idea is to utilize neck-chains, by making a bell of them, to be suspended in the center of the window. A frame for the bell should first be made of light wire, having a four or six-inch ring at the top and a twelve or fifteen-inch ring at the bottom. Fasten one end of a chain to the top ring and allow it to drape gracefully to the bottom ring, in bell shape. The chains should lie close together or with but short distances between. The tongue of the bell may be made of one chain bearing a padded ball at the end, which may be used for displaying stick-pins, etc.

Nothing makes gems sparkle so delightfully as electric light in motion. An electric fixture with horizontal arms, bearing two or four lights, should be made to revolve rapidly by means of a motor. The effect will be to make your display of jewels glitter and sparkle wonderfully.

A Harvest Display

In those sections of the country where agriculture overshadows all other industries, and more especially in the grain belt, very attractive and seasonable window trims are based on the harvest idea. In all such displays the spirit of abundance must find expression, for harvest-time is proverbially the time of plenty. This year the idea is susceptible of additional emphasis, for agricultural conditions are unusually favorable and, consequently, trade is on a stable basis, for business is safe when all's well with the farmer. A pretty idea is an agricultural scene with a figure of the goddess Ceres holding under her arm a cornucopia. Here, however, the conception must be modified to suit the mercantile purpose, for from the cornucopia should protrude watches, chains, diamonds, rings, pins, brooches and all such articles. Cover the floor and background with a russet-gold cloth puffed and puckered in the best possible taste. The sides may be draped with the same material. At either side of the foreground place a corn sheaf and, if it can be conveniently improvised, a harvest man, sickle in hand.

Any jeweler or ingenious jeweler's assistant should be able to make a cornucopia out of cardboard or tin and cover it over daintily; nor should much trouble be experienced in finding a suitable figure to symbolize the season in stores which carry a line of statuary. The corn sheaves may be freighted with watches, and all other articles not likely to get lost in the straw and other goods should be appropriately exhibited in the remaining spaces. As appropriate legends for the display, "A Jewelry Harvest," "Harvest Offerings," "A Harvest of Opportunities," suggest themselves. The letters of the one chosen may be made of straw ribs and, provided it

does not interfere with the perspective from without, the sign may be conspicuously attached to the glass, preferably to form the segment of a circle. The trimmer can vary the idea to suit himself.

Under present conditions fall trade will begin early; the trade should, therefore, now begin a vigorous campaign of publicity.



AIKIN, LAMBERT & CO.'S

Self-Filling Fountain Pen

Retails 3A, \$3.00 4A, \$3.50 5A, \$4.50



We offer to the trade a new self-filling device in Fountain Pens that we believe for convenience, durability and simplicity to be the best yet invented for this purpose, and shall be pleased to furnish samples to dealers with prices and discounts.

It has no ink joint to soil fingers or clothing. Holds three times as much ink as any other self-filler. Ink is held in a hard rubber reservoir instead of soft rubber sack. Pressing the bulb expels the air and ink flows into the barrel.

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Jewelers

Please note that we have in preparation the most complete sample line of Wedding and Society Stationery ever placed before the trade. Ready this month. Let us have your request for it now.

The "MODEL" Fountain Pen



THE MODEL OF PERFECTION. Retail Price, \$1.00 to \$10.00. Made of finest grade rubber and fitted with a 14 K. Gold Pen. No extra charge for special imprint. Every pen guaranteed. Write for samples and prices. All makes repaired and returned same day received.

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ALL QUALITIES OF GOLD AND SILVER, in Plate, Square and Round Wire, Rolled to Any Gage.

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Diamonds Watches Jewelry

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Correct Forms in Social Correspondence

To properly conduct a stationery business the jeweler should be well posted on all matters connected with the social use of his wares. He should know the proper sizes and form in visiting cards, invitations, etc., and also be well versed in the correct forms in social correspondence. His advice is often solicited on such matters and if he is qualified to enlighten his customers, his service will be appreciated. For personal as well as business use, he will find useful the following information, for which we are indebted to the *Ladies' Home Journal*:

For social correspondence choose plain, unruled stationery, folding once to fit the envelope, white, cream white, gray or gray blue of good quality. Men of good taste use only white paper.

Avoid eccentric shapes and colors, monograms or heraldic devices of unusual size, and anything conspicuously odd.

An embossed or colored address at the head of each sheet is the sensible fashion of to-day. Initials used with the address, or in its stead, are small and usually inclosed within a ring or scroll.

Social correspondence should never be conducted upon postal-cards or upon business or office paper. That bearing the club address is correct, as is hotel or steamship stationery when one's own is not available. Half-sheets are not used. Exceeding neatness, a clear, legible note without flourishes commends the writer.

Style in Written Letters

Begin two inches from the top of the sheet. The words should be clearly separated, a three-quarter-inch margin at the beginning of each line, and the writing carried not quite to the edge of the page. A new paragraph should introduce each new subject, leaving an inch-wide margin at the left.

If one cannot write evenly and straight a sheet of black lines may be slipped under the page. It is the present fashion to write on the first and fourth pages, then crosswise on the third and second, for convenience in blotting. The date, written in full, should be placed at the top of a letter at the right side. On a note it is written at the close at the left of and below the signature.

Business letters begin with "Sir" or "Dear Sir," or "Dear Sirs" or "Gentlemen," prefaced

by the name and address. Either "My dear" or "Dear" is equally good form for social correspondence. "Dear Miss" is provincial; a woman's surname must follow that prefix, though "Dear Madam" is perfectly correct for formal or business letters, whether the woman addressed be married or unmarried and the writer man or woman.

Women of the same social rank, though total strangers, address one another "My dear Mrs. A—" when need arises for correspondence.

A woman addresses a man who is a stranger, "Mr. John Jones," and beneath it "Dear Sir," though if he be the friend of a friend she may write "Dear Mr. —."

The most ceremonious letters are written in

desired. A lady inquiring the character of a servant need not do this.

In addressing the envelope write name and address distinctly. "John Smith, Esq.," is the fashionable form of addressing a gentleman, rather than "Mr. John Smith," though inside the letter one says "Dear Mr. Smith." Never write "Mrs. Doctor" or "Mrs. General" any more than "Mrs. Shopkeeper."

A letter is written conversation and should be simple, cordial and with a flavor of personality, like a chat with a friend.

When discouraged, sick or sad do not write—a letter carries atmosphere. Never write anything over your signature of which you might later be ashamed. Write kindly of every one. Letters are like debts, harder to pay when overdue. Read over your friend's letter just before beginning your reply—and then answer it. Out-of-the-heart letters are the most welcome.

Thanks, Condolence and Congratulation

Notes of thanks should be sent promptly; it costs less effort, and thanks lose their grace when deferred. Notes of condolence are expected only from intimate friends of the bereaved or of the deceased. They should be sent shortly after the funeral has taken place. Their expression must come warm from the heart to find its way to the hearts of others—short and sincere. Answers to notes of condolence should not be expected. When convenient the recipient may write or send a line on a card saying, "Your sympathy was most warmly appreciated."

An engagement is announced by informal notes written by the betrothed to their friends, and by their parents to the family connections. Happiness will inspire expression for the former.

Notes of congratulation should be prompt, natural and marked by joyous spontaneity.

Notes announcing the birth of a child are usually sent to intimate friends, and should be answered with hearty and kindly sympathy. If on a card beneath

the parents' names is written "announce the birth of a son, on May fifth, etc.," a card may be sent in acknowledgment bearing the word "Congratulations," or a line of friendly felicitation.

Formal Invitations

For invitations, the conventional wording is in the best taste. "Unique" modes suggest bazars and money-making entertainments. In writing formal invitations, follow the wording of engraved ones, leaving an entire line for each name, the whole occupying the center of the sheet, with ample margins, the top margin twice the width of the others. Abbreviations and numerals are not used.

One never writes any form of regret or acceptance on a visiting-card, however informal the invitation.

Formal regrets usually plead "a previous" or "another engagement." Where none exists an informal regret may be written.

SCHOOL SUPPLIES

We have a very large and varied stock of Stationery Supplies for use in school and college—everything needed by the pupil or teacher—and all at lower prices than ever before.

<p>Slates and Slate Pencils</p> <p>Assorted Lead Pencils</p> <p>Crayons in Assorted Colors</p> <p>Pen and Pencil Tablets</p> <p>Map-drawing Tablets</p> <p>Drawing Books</p>	<p>Stenographers' Books</p> <p>Patent Letter Clips</p> <p>Pen Wipers</p> <p>Pencil Cases</p> <p>Cloth School Bags</p> <p>Folding Lunch Boxes</p> <p>Pens, Ind and Writing Materials</p>
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There have been many improvements in Fountain Pens since last season. Call and see the new styles: self-filling and non-leakable.

SMITH & FOX
General Stationers

Sample Stationery Advertisement

the third person, in which case the name is not signed at the close.

Ending of Letters The formal ending for letters is "Yours truly" or "Very truly yours," for general social correspondence; "Very sincerely yours" and "Yours very cordially," among friends; while "Fondly," "Affectionately" or "Lovingly yours" are the terms used among close friends. "Respectfully yours" is not a correct term among social equals. Sign your full name, avoiding initials.

When a woman wishes to indicate to a stranger that she is married or single she signs her name thus: "Mary Holmes Lee (Mrs. Henry Lee)" or "(Miss) Mary Lee."

Since envelopes now adequately safeguard their contents, sealing-wax is used only as a decoration, and should be neatly affixed.

Inclose a stamp or self-addressed stamped envelope when writing to strangers if an answer be

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Stock Complete and Choice

Loose **DIAMONDS** Mounted

Elgin **WATCHES** Waltham

Gold **JEWELRY** Gold Filled

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THE HULL DETACHABLE HANDLE is so simple in construction it costs no more than ordinary makes and is guaranteed to be stronger than any other handle, either regular or detachable. Almost every umbrella above one dollar each that we have made during the past five years has been made detachable, and every one was absolutely satisfactory. We created a universal demand for detachable handles, and other manufacturers, noting our success, have made detachable handles, but they are so complicated they are not only liable to get out of order, but cost from ten cents to twenty-five cents extra, and will not fit perfectly when interchanged from one umbrella to another.



In placing your order for HOLIDAY UMBRELLAS, buy the kind that has a REPUTATION and SPECIAL FEATURES.

The HULL line is distinctly a JEWELER'S line, because they are BETTER MADE and MORE SIGHTLY than any other line on the market. Over a thousand styles of FINE HANDLES to select from.

Write to-day for BOOKLET, CATALOGUE and EXCLUSIVE SALE for the jewelry trade in your city.

Do not make the mistake of buying a detachable handle at an extra cost, or one which has not stood the test of time. Thousands of jewelers have found that "HULL" is "the name to tie to."

Samples sent prepaid.



The "HULL" way. The old way.

Hull detachables guaranteed stronger than any other handle.

Hull Brothers
Norwalk



Umbrella Co.
Ohio

Foolish Patents That are Applied For

WE don't have to look over so many tomfool applications for patents nowadays as in former years, but the funny practitioners of patent law still favor us with occasional farcical applications," said a principal examiner in the patent office. "These applications are always in regulation form, and the specifications describe all sorts of nonsensical contrivances.

Artificial Tails of Dogs

"Not long ago one of these applications drifted in, covering claims for an attachable tail for stump-tail dogs. The application was drawn up with great elaboration, and accompanied by numerous drawings that must have cost the expenditure of considerable time and effort. It was plainly the work of an idle young attorney.

"The specifications recited the difficulty which short-tailed dogs are alleged to experience in turning sharp corners, and also dwelt feelingly upon the obvious humiliation with which short-tailed dogs regard their abbreviated caudal appendages, especially when they come into social contact with other dogs better fixed out in that respect. Then the specifications described the attachable tail at great length, and the application wound up with numerous serious and technically worded claims for the propriety of the invention.

"This, of course, is all fun, or at any rate it is meant to be fun. But many of the bona fide applications for patents are more genuinely funny than the farcical applications.

A Hog-Killing Apparatus

"There is a never-ending stream of applications for freak patents. Not long ago a Chicago man applied for a patent on an electric hog-killing apparatus. The contraption was so devised that the unsuspecting hog stuck his head through an aperture in an electrically wired compartment, closed a circuit by butting his snout against a metal sheet, and with his head firmly held within the aperture by a drop clutch apparatus, practically committed involuntary suicide.

"Another man from the West applied, not long ago, for a patent on an electric horse. The horse is fashioned of aluminum, the body completely covered with the hide of a deceased horse, and in every respect the animal is made to look as natural as life, even being provided with movable eyeballs.

"The electrical horse is intended to run with the natural movements of a sure-enough live horse, and, according to the applicant, is capable of doing a mile a minute, 'just cantering,' as he states. The applicant doesn't state what he is going to do with his electrical horse after he gets his patent—supposing he gets it—but it is presumed that he meditates entering his imitation runner as a ringer in races with honest and truly live thoroughbreds.

An Everlasting Tombstone

"A few years ago a queer genius in New England applied for a patent on an improved tombstone, a metal affair involving a lot of odd kinds and designed to resist wind and weather for many thousands of years. The applicant has died since filing his application, and one of his tombstones adorns his own resting place in a small Massachusetts village, with the following inscription wrought on the face of it:

'Here lies Wendell, an inventor by trade, and this you will see, is an invention he made. 'Tis strange to say, though 'tis most truly said That he made it while living and enjoyed it when dead.'

"Still stowed away somewhere in the basement, I believe, is the rough model of a combined plough and cannon, a patent upon which was applied for by a Nebraska farmer. His farm was near the Sioux Reservation, and the cannon attachment to his plough was meant for the sun-dancing Ogallalas, who engaged in farm raiding.

"While ploughing in his field the crafty agriculturist could, by simply turning his plough upside down, load a small but effective cannon wherewith to shoot or scare the prowling red persons. The cannon was provided with an ammunition box and all of the appliances necessary for the proper serving of the piece.

Hens and Inventors

"Another queer application from a Western farmer was for a patent on a thing he called a hen pusher. It was intended to prevent hens from scratching and monkeying around in garden patches. Hooks of peculiar construction were to be attached to the hen's feet so that when she dug into the ground she was gently pushed forward by the hook and spring apparatus.

"Another application for a patent on a device for the bewilderment of the abused hen came in a while ago. It was called a patent hen's nest. The idea of it was to prevent weasels, rats and the like from raiding hens' nests and sucking the eggs.

"There was a small hole, concealed by a natural-looking straw flap in the bottom of the nest, and through this secret orifice the egg, as soon as the hen laid it, was dropped to a padded compartment below. There was a lot of meanness about that device, in my opinion. But some of these agricultural inventors are forever fixing up underhand devices for the humiliation and discouragement of the hen.

"A few years ago a machine called the mechanical housemaid was actually patented. The apparatus churns butter, washes and irons clothes, rocks the baby and performs all the rest of the household work except the fancy sewing and putting the cat out at night. The patentee, in his specifications, describes the operation of the machine at great length:

"'You place your baby in the cradle,' he wrote in essence, 'your cream in the churn, your clothes to be washed in the receptacle provided therefor,' etc., and the rest was the merest turning of a magical crank that started all of these various activities to buzzing.

Life-Saving Parachute

"A peculiar patent, actually granted, for the saving of human life from burning buildings is a portable parachute contrivance which the inventor aims to have installed in every room of every hotel on the globe. The man who is caught on the twelfth or twentieth floor of a burning hotel has only to fasten the parachute firmly to his head by means of chain and neck straps, and then jump into space, with or without a muttered prayer.

"Before donning the portable parachute he has fastened shoes with thick rubber soles to his feet—the shoes being part of the apparatus—in order to give him a gentle bounce when he hits the ground. The chap who invented this thing gave a demonstration of the working of the contrivance before he received his patent, hopping off the roof of a hotel in a Western city, unbeknown to the proprietor of the hostelry.

"The parachute opened up all right, but the inventor's descent was so extremely gradual and deliberate that he was considerably more than three parts hanged by the neck when he reached the ground.

"An invention for the terrifying of rats and mice was patented long ago, and I understand that it has become a seller. The invention was simply a papier mache cat provided with luminous eyes. The idea is to plunk the papier mache cat down before a rat hole and the luminous eyes do the rest.

"All sorts of patents have been granted for rendering the milking of cows easy or easier. Orville Grant, a brother of General Grant, got out one of these patents. The fact that it wasn't particularly practicable was manifested by General Grant's description of how it worked:

"'Orville tried the thing on an untrained cow that had no respect for patents,' said General Grant. 'Orville didn't look so pretty when he got through, but he knew a — sight more.'

"A Chicago man who stated in his application that he had been twice held up by footpads, neither of whom he cared to shoot to death with the pistol he carried on his person, because he didn't want to have the shedding of human blood on his soul, applied for a patent on a 'hollow bullet with a gelatine tip.' The hollow bullet was to be filled with a certain powerful gas.

"Upon striking the miscreant intended to be brought down, the soft gelatine tip of the bullet would drop off, permitting the escape of the aforementioned powerful gas, the overpowering narcotic properties of which were designed to put the victim to sleep for an indefinite length of time. The Chicago man couldn't exactly prove his case, and so he didn't get his patent.

"Some patents taken out by a number of great men look freakish enough when viewed from the standpoint of present-day ingenuity. The working model of Abraham Lincoln's device for raising vessels from shoals, upon which a patent was granted, is an oddly out-of-date affair to look over. So is the model of Mark Twain's scrapbook, upon which the humorist took out a patent many years ago. It was thought to be very ingenious and clever at the time Mr. Clemens got it out, but improved scrapbooks came so thick and fast that he never made anything out of it."

—Chicago Inter-Ocean.

Where Electricity is Troublesome

Everybody has noticed how friction generates electricity, whether on the back of a petted cat, or on a rubbed glass or gutta-percha rod, or at the fingers' ends of a person who has vigorously shuffled his feet over a dry carpet. Sparks can often be drawn from swiftly-moving belts on machinery, and in weaving and spinning processes the fibres sometimes accumulate troublesome electric charges. A method known as the Chapman process has been devised for neutralizing the static electricity generated in cotton and paper-mills, printing-press rooms and other places. It consists of a transformer stepping up in an alternating current to 10,000 or 20,000 volts and an inductor composed of fine steel wires encased in hard rubber, and arranged with its points placed above the web or other object in which the static electricity is to be neutralized. Charges passing from the points produce the desired effect.

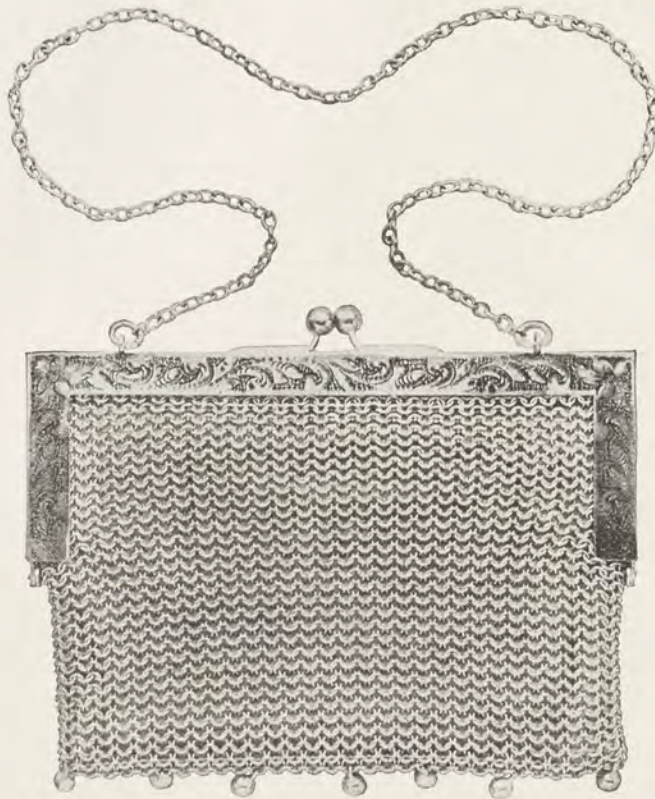
"The Keystone is good enough for me; I could not suggest any improvement. I take an interest in the entire book, mostly in Workshop Notes and Optics."—B. F. Cowles, Jeweler, Talmage, Nebraska.

Full line of German Silver Bags and Purses

IN SIZES FROM 2 INCHES TO 6 INCHES

ROMAN, SILVER
GUN METAL and
OLD ENGLISH FINISH
WHITE KID LININGS

These bags have many meritorious points in style, construction and finish. The principle upon which they are made obviates rivets, and the tops are not drilled. Just as good is but a tribute to their superiority, and should be so understood. Our Bag is the best.



BROOCHES
BEAD NECKS
BACK COMBS
BRACELETS
CUFF PINS
HAT PINS
SCARF PINS
NECK CHAINS
ETC.
CIGARETTE CASES
MATCH BOXES
LOVING CUPS
COIN HOLDERS
CIGAR CUTTERS
KEY RINGS
KNIVES
SCISSORS
ETC.

Codding & Heilborn Co., North Attleboro, Mass.

New York—Chas. Van Ness, 11 Maiden Lane

Chicago—G. S. Titus, 88 Monroe St.

San Francisco—H. C. Van Ness & Co., 115 Kearny St.

DO YOU KNOW

that the majority of our students are sons of watchmakers and jewelers?

What is the reason for this? Simply, because the watchmakers and jewelers are well aware of the fact that their sons learn more in six months in our School than they can in nearly that many years at home in their own store.

We don't mean to say by this that the watchmakers are not able to teach their sons just as good as we can, but we do say: that they cannot devote enough of their valuable time to teaching, and that it is a great deal cheaper if the watchmakers send their sons to our School instead of teaching themselves.

Now, Mr. Watchmaker, if you wish to give your son a thorough education in the various branches pertaining to the jewelry business, you will not make a mistake by sending him to our School at once.

It is an investment from which your son will draw interest in better pay and increased self-respect as long as he lives.

For more particulars send for our new Catalog to-day.



Engraved by E. P. RAGSDALE after four weeks' instruction

St. Louis Watchmaking School, 5815 Easton Ave., St. Louis, Mo.

Silver Service of the Battleship Kansas

The State of Kansas, yclept "bleeding," in ye olden time, has a different reputation now-a-days. Her fertile soil, her oleaginous subterranean seas, her fat herds, her enterprising people and her spirit of independence and self-assertion have given her a prominence, a wealth and a lift towards plutocracy that are the envy of her sister States. A

punch-bowl or centerpiece, shown on this page, with the accompaniment of a ladle and twelve cups all of beautiful design appropriate to the State; a large tray, four-piece tea set, two five-light candelabra, a soup tureen, two covered vegetable dishes, a meat dish, a fish dish, an entré dish, a water pitcher and tray, four bon-bon dishes and a cigar box.

The designing is characteristic of the art department of the Gorham Company in its appropriateness and artistic conception. The State floral emblem, the sunflower, of course,

occasion of much comment on account of the innovation of baptizing her with water instead of the traditional champagne. But "all's well that ends well," and the good ship *Kansas* was happily launched and will be creditably equipped for the national service, even to her tableware.

The precedent set in the presentation of silver services to the warships by the States and cities after which they are named is now being followed without any exception, and the fact that many such ships are being



Centerpiece of Silver Service to be Presented to the Battleship *Kansas*

recent honor paid the State was the conferring of her name on a battleship, and Kansas showed her appreciation and good taste by presenting the big war craft with a silver service of regal richness. The contract for this service was awarded to Edward Vail & Co., jewelers, of Wichita, who submitted designs and estimates on behalf of the Gorham Mfg. Co., of New York and Providence, who have furnished many other warships with a similar equipment. The service in its entirety weighs two thousand ounces, and the cost is \$5000, which was appropriated by the State for this purpose.

The service, which will consist of thirty-five pieces, will comprise the following: The

has a prominent place in the decoration, being shown on every piece. On one side of the punch-bowl, as here shown, is an etching representing the battleship *Kansas*, and in a similar space on the other side is an engraving representing the capitol building. The seals of the State of Kansas and of the United States are also prominent in the design.

The service to the *Kansas* was notable for the publicity given it, from the inception of the project until the order was finally placed. Some of the more economic legislators of the Sunflower State objected to such lavishness, but pride and patriotism triumphed and the costly service was finally agreed upon. The launching of the big ship, too, was the

constructed furnishes our designers with a magnificent opportunity for distinguishing themselves. The competitive manner of awarding the contract and the liberality of the appropriations also stimulate to extra effort, and our leading silverware manufacturers can look hopefully forward to many such contracts in the future. The drawings submitted in each case are triumphs of artistic designing, and even the unsuccessful ones are well worthy of preservation as embodying in harmonious unity the various things symbolic of the various States. These designs may be used to good purpose in many other ways. It is gratifying to know the designs accepted showed excellent taste.

Just Remember

that we are going to have one of the most prosperous seasons in the history of the jewelry industry. Don't forget this. Make preparations for it by placing orders for your goods early.

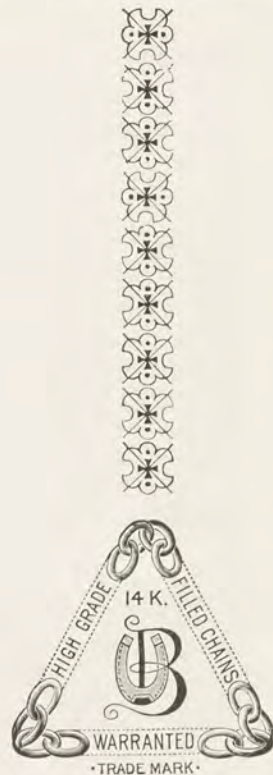
There will be an enormous demand for up-to-date goods. We have them. Our new Bracelets and Crosses are "par excellence."

If you wish to be in it when the sun shines bright
Buy the goods which sell at sight

S. O. Bigney & Co.

Factory, Attleboro, Mass.

New York Office, 3 Maiden Lane

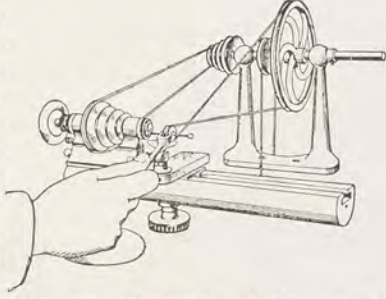


NEW GOODS and INVENTIONS

[The illustration and description of new goods and inventions as hereunder is a permanent feature of THE KEYSTONE, our twofold object being to keep the jeweler and optician thoroughly posted on the very latest and most salable goods, and the workman at the bench equally well posted on the newest inventions and improvements in tools and appliances.]

New Pivot Polisher and Grinder

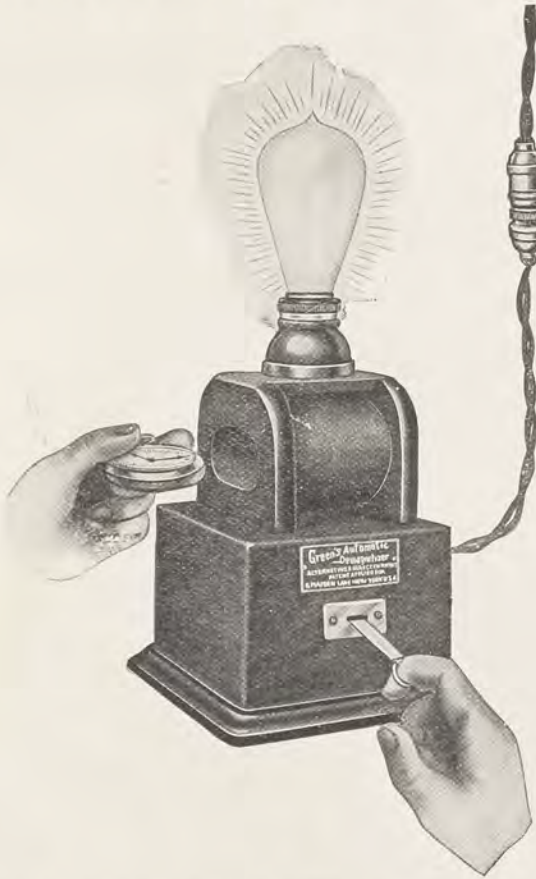
The growing demand for rapidity and efficiency in the repair department makes it imperative upon the progressive jeweler to keep in line with all improvements in workshop equipment. One of the latest additions to the jewelers' mechanical outfit is the lightning pivot polisher and grinder, shown in the accompanying illustration. This tool, which has been placed upon the market by Jos. Hornback & Co., 11 West Fifth Street, Cincinnati, Ohio, can be attached to the countershaft instantaneously. It has two bell-metal laps, one straight and one conical. It needs no adjusting and is very simple.



A New Demagnetizer

As the demagnetizer has become an important feature of the watchmaker's outfit in this electrical age, the jeweler will be interested in the new electric automatic demagnetizer, shown herewith, which is furnished to the trade by W. Green & Co., 6 Maiden Lane, New York. This demagnetizer not only transforms direct current into alternating current, but it can also be used on an alternating-current circuit with equally satisfactory results.

There are no wheels; pulleys or wiring attachments to get out of order, and the device is constructively neat and compact. It is made of solid polished mahogany, with nickel trimmings, inside and out; the drum is covered in solid leather and lined inside with water-tight leather. This demagnetizer may be used on any standard lighting circuit by simply removing the lamp from the electric-light socket and placing it in the socket on the lamp; the plug is then to be placed in the socket on the lamp which the lamp has been taken. The same



company has placed upon the market, under an improved system, American-made balance staffs and hole jewels for American watches in separate size holes and pivot. Both staffs and jewels are interchangeable. The staffs are highly polished, tempered, perfectly true and correctly gaged. The jewels are genuine ruby and sapphire of the finest quality, and settings are gaged to fit accurately. The countersink in the jewels is sufficiently deep to prevent the spreading of oil, and the walls of the jewels are short without being too thin. The staffs and jewels are arranged in cabinets, each size

hole and pivot in a separate bottle, thus facilitating selection. Each bottle is numbered to correspond with an accurate directory and guide, placed in each cabinet, to enable any size or style to be duplicated by number.

The New "Forget-Me-Not" Clock

A very pretty idea is embodied in the little clock from Vienna, shown in our illustration. The maker took into account the number of times a day it is necessary to look at the face of a clock, and wished each of these glances to bring a pleasant thought. So the frame of the clock was designed to hold a photograph of the one most dear to the owner of the clock; hence, the name, "Forget-Me-Not." The illustration shows in detail one of the four different designs in which the "forget-me-not" clocks are made. While they originated in Vienna, they are modeled in very graceful lines after Parisian l'art nouveau designs. The clocks themselves are made of metal, finished in beautiful colors and will hold a photograph 1½ x 3 inches. They are imported by the American Cuckoo Clock Co., of Philadelphia, Pa., who have prepared a folder in colors which reproduces the clocks faithfully.



New Automatic Electro-Plating Machine

Now that a serviceable electro-plating outfit has become a recognized essential of the jewelry shop, the trade will be interested in the device shown in this illustration, which represents the latest developments in the construction of these machines. This apparatus has been placed upon the market by H. Hirschbach, proprietor of the United States Electro Chemical Co., 80 Elm Street, New York. It works automatically and will fulfill all the requirements necessary to successful plating. No acids are used, as the electric motive force lasts for months; enough is supplied with the machine



to last for a year, and another year's supply can be purchased for about fifty cents. The patented devices are so constructed as to instantly set the machine ready for action when needed, or out of action when work is finished. In the cut a lever will be noticed, which, if turned to No. 1, will automatically lower an arm, producing a weak current; another turn to No. 2 lowers the second arm, increasing the current strength, and a turn to No. 3 produces a still stronger current, suitable for all kinds of work. When finished, a turn of the lever to No. 0 will move all the arms upwards, at once stopping all further chemical or electrical action and preserving the electrical elements as well as the electrical fluid. The machine is supplied with anode and cathode posts, to which the wires leading to the plating solution are attached. A current indicator shows the strength and the correct working of the machine.

(Continued on page 1728 e)

The "NORMA" Adjustable Bracelet

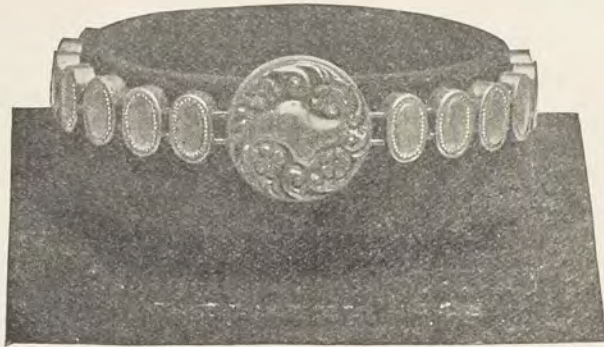
(Patented 1905)

Worn with perfect ease. Adjustable to any wrist. Flexible and smooth. Adapted to the requirements of the finest jewelry trade.



No. 134

Bright Finish Signet, Gold Front Center for Monogram



No. 115

Plain Roman Finish

The most novel display box ever shown. In two separate parts. The Bracelet rests on pad held by a spring. Slightest jar sets Bracelet in motion.



No. 109

Plain Bright Finish



No. 119

Bright Finish, Rose Center, Set with Pearls

The "NORMA" is made in 14 K. $\frac{1}{20}$ plate stock. In style, finish and workmanship is unsurpassed.



No. 114

Bright Finish, Rose Center, with Olivine and Pearls or Ruby and Pearl



No. 117

Roman Finish, Set with Imitation Olivine and Diamonds, or Ruby and Diamonds Alternating. Very Effective

Prices range from \$27.00 to \$72.00 per dozen. We illustrate but a few of the many styles. Send for new catalogue. Ask your jobber to show you the New Bracelet.

Patented and made only by

THE F. H. SADLER COMPANY

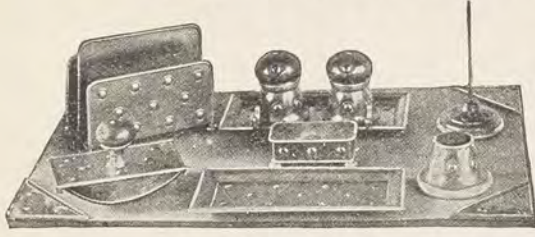
Manufacturers of Rings and Jewelry

Attleboro, Mass.

New Goods and Inventions

(Continued from page 1728c)

Unique Glass and Metal Novelties



Among the most interesting and timely offerings of the season are the lines of glass and metal stationery goods and novelties that have been placed upon the market by the Apollo Silver Co.,

542 Broadway, New York. These goods, a sample set of which is here illustrated, comprise desk sets made in opalesque glass, mounted in pierced metal and finished in verd antique; loving cups, steins, alcohol lamps, etc., made in real copper and trimmed with zinn and brass. The designs are original and ornate and the articles themselves of everyday usefulness. The demand for gifts and novelties, inevitable at the close of the year, seems admirably anticipated in these unique lines.

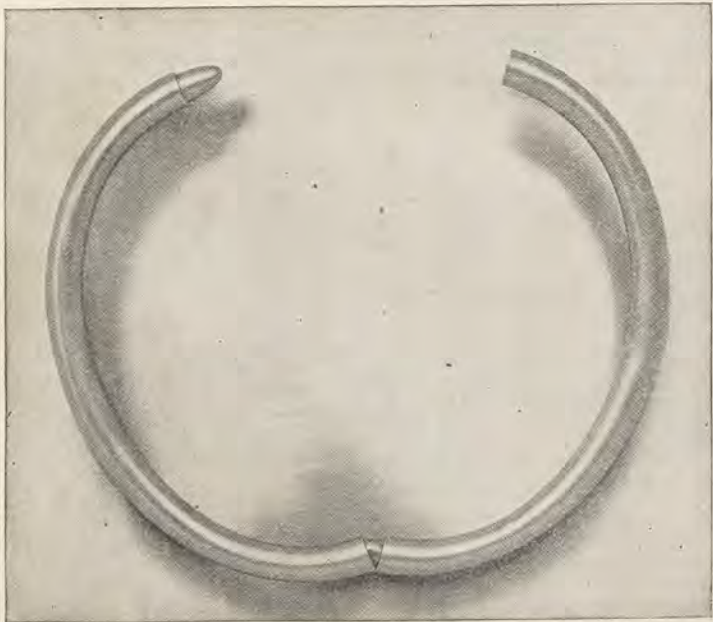
New Decalcomania Optical Sign

In the accompanying illustration is shown, in reduced size, a novel advertising device specially designed to help the business of the optician. It consists of a decalcomania sign exploiting the Titan eyeglass guard, manufactured by F. A. Hardy & Co., Chicago, from which firm this attractive sign may be obtained free of charge upon request. These signs are a decided novelty in their way, and in this age of advertising, competition and ingenious store attractions, their practical advantages are obvious. The optician must needs keep his business prominently before the public if he would escape being eclipsed, and to do so a decalcomania sign, such as is here shown, will prove a valuable and manifestly economic aid.



A New Spring-Lock Bracelet

A feature of the season's product in the jewelry line is a multiplicity of bracelet patterns, there being an unusual wealth of new styles as well as a number of constructive improvements. A new addition to the list is shown



in the accompanying illustration and is made by the Wolcott Mfg. Co., of Providence, R. I. This is a spring-lock bracelet and is styled the "Alethea." Its convenience to the wearer and security, in conjunction with its refinement of design and richness of finish, entitle it to a prominent place among the salable lines of the season.

New Flexible Bracelet

In the accompanying illustration we show a flexible bracelet of an original and attractive design. This bracelet has been named the "Norma," and is made in 14 karat, one-twentieth gold plate, by the F. H. Sadler Co.,



Attleboro, Mass. It is worn with perfect ease, is smooth to the skin and, being flexible, can be adjusted to any size of wrist. The "Norma" is handsomely finished and comes in various centers and settings. Its attractive qualities are enhanced by the display box in which it is

supplied. This box consists of two separate parts. The bracelet rests on a pad held by a spring, and is set in motion by the slightest jar, thus attracting additional attention.

New Silverware Pattern

A very pretty and seasonable pattern of silverware is shown in this illustration. This pattern is known as "The Violet," from the beautiful flower after which it has been designed, and is finished in French gray. It



is made by Simeon L. & George H. Rogers Co., Hartford, Conn., and is a very handsome example of the silversmith's art. The flower seems to lend itself to the beautification of the metal with very artistic effect, the die work is excellent and the general contour graceful and pleasing. In view of the approach of the holiday season such patterns as "The Violet" should prove very popular features of the jeweler's stock.

A New Revolving Display Stand

An admirable new window fixture is very imperfectly shown in our illustration. It is a revolving display stand, in which the mirror, glass disk and gold trimmings revolve in different directions and at different speeds with the electric globe at the top remaining stationary. Trimmed with jewelry it makes a window display that cannot fail to arrest the attention. The stand is durably constructed. The standards are made of seamless steel tubing, running on lightly tempered steel ball bearings, with brass pulleys and gearings. These stands are made by the J. H. James Mfg. Co., Fort Scott, Kans. The first and third section of shelves revolve to the right, and the second and top to the left, and at different rates of speed, ranging from four to ten revolutions per minute, the electric globe at the top remaining stationary. The lower shelf is a 32-inch French plate mirror; the others are heavy plate glass, 27, 22 and 17 inches respectively, all having half-inch bevel or polished edges as ordered. The trimmings between the shelves are brass, polished and lacquered, and can be had in gilt or nickel finish as may be desired.



New Issue of Watch Movements

The unprecedented activity in the watch market lends timely interest to the announcement by the American Waltham Watch Co. of a new issue of its 16-size nickel movements. These movements, which are 3/4 plate, stem wind and pendant setting, are described as follows: 17 jewels, red gilded settings; exposed pallets; cut expansion balance; patent breguet hair-spring, hardened and tempered in form; patent micrometric regulator; tempered steel safety barrel; exposed winding wheels; red gilded center wheel.





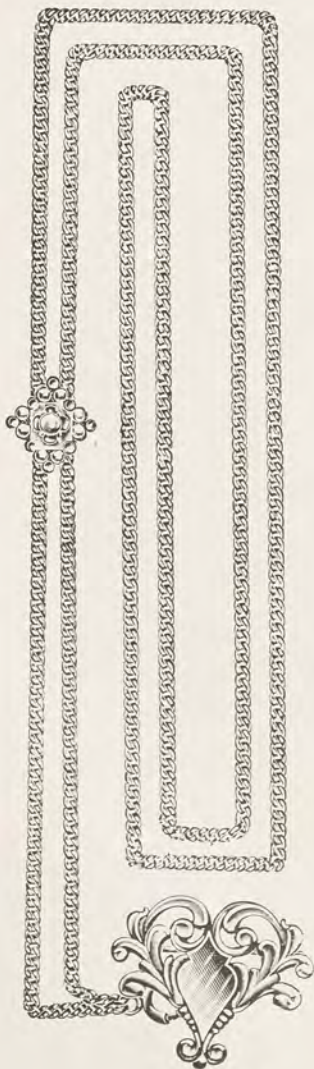
TO THE RETAILER

We wish to remark that

QUALITY TALKS

We do not have to say our chains are as good as some others, but we do say **emphatically** that if you desire some of the very best on the

market, purchase from your **Jobber** the ones with the C. A. M. & Co. stamp or trade-mark, which are guaranteed not only in quality but in thickness and karat of gold.

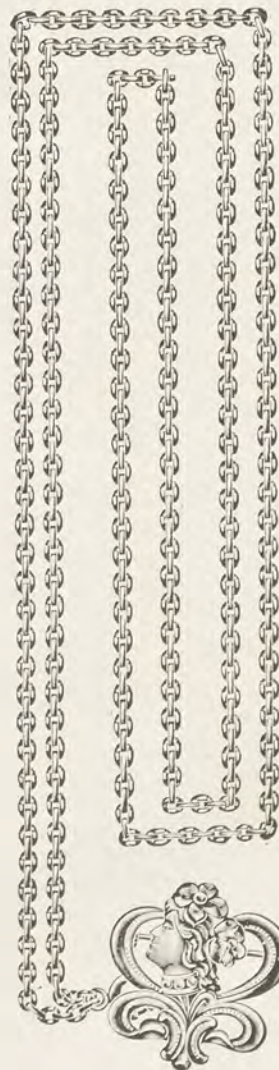


The Marsh Combination



PATENT APPLIED FOR

The Best-Selling Chain On the Market To-day



A combination of locket chain, and chatelaine pin, which may be worn as a safety chatelaine, as illustrated above, or the chain and pin may be worn independent of each other, if desired.

Can be detached in an instant

YOUR JOBBER

has it in his new fall line, and the constantly increasing sales are the best evidence of the favor with which it is being received by the Trade all over the country.

Originated and Introduced by

C. A. MARSH & CO., Attleboro, Mass.



DETROIT LETTER

Frank Weakly, alias Harry Johnson, and Harry Parker, were convicted recently for murdering and robbing Pawnbroker Moyer, of Detroit. Judge Phelan immediately sentenced the pair to Marquette Prison for life. The crime for which they were convicted was one of the most brutal murders in the history of Detroit. The pair entered Moyer's pawnshop while he was alone, his clerk having gone to supper. They immediately set upon him and pounded his head with a loaded hammer-handle. Mr. Moyer put up an awful fight and the brutes had to hit him fifteen or twenty times. He died within an hour after the attack. As soon as they saw he was helpless, the murderers helped themselves to all the diamonds that were on display, amounting in value to thousands of dollars, and \$1000 in cash. They escaped out the back way, and took the night boat for Cleveland. When their money was gone they tried to pawn some of the articles in a Cleveland pawnshop and, the broker becoming suspicious, sent for the police. They arrived and caught the pair with the goods on them. The goods bore the original price tags. The prisoners were brought to Detroit, and Johnson confessed and then denied his confession. Their trial lasted five days.

Harry Piper, for many years with D. E. Holland, Lapeer, Mich., has had the good fortune to be bequeathed \$10,000 in cash by the will of the late Julia E. Hockley, of Muskegon, Mich. Mr. Piper is over seventy years of age.

Capt. George Doty, aged ninety years, died recently at his home in Detroit. He was a resident of Detroit since 1825. He came here from New York. He established in Detroit the first jewelry store in Michigan, and for many years this store was considered the finest west of New York. Deceased was the oldest Odd Fellow in the State. He is survived by a widow and three daughters.

W. C. Morse has opened a jewelry store at Benton Harbor, Mich. He was formerly in Terre Haute, Ind.

T. E. Dexter, of Bellevue, Mich., has been compelled to give up his jewelry business on account of poor health.

W. W. Bugg, of Detroit, has bought the jewelry store of J. B. Tomlinson, at Jackson, Mich.

G. T. Wood, who formerly conducted a jewelry store at East Tawas, Mich., has moved to Foley, Minn., where he will engage in the same business.

A. G. Wood, formerly with J. Leith, Bay City, Mich., is now doing watch repairing for J. L. P. Gentil, Monroe, Mich.

Oscar Weseman, formerly with Geo. E. Childs, at Flint, Mich., has started in business for himself at El Reno, Oklahoma.

J. F. Plimley, manufacturing jeweler, of Detroit, recently delivered an order for one thousand society buttons.

Burr, Patterson & Co., manufacturing jewelers, of Detroit, recently made a ring for a Detroit retailer that was valued at \$3000. It was made of 18 K. gold. Diamonds and rubies composed the settings.

Weyhing Bros. & Co., finding that their present quarters at 16 John R. Street were no longer sufficiently commodious for their business, have secured roomy apartments in the Valpey Building. They will avail of their increased space to instal several new departments.

Peter Bloomstrom, jeweler and well-known man, of Escanaba, Mich., died suddenly at his home in that place recently. Deceased was thirty-eight years of age.

The Fair, a store at Decatur, Mich., was robbed recently. The thieves got away with about \$100 worth of jewelry.

S. P. Flayer, a jeweler, of Detroit, had a very narrow escape from death recently. He was riding his wheel when he was struck by an auto. He luckily escaped with a very few bruises.

Recent callers on the trade in Detroit were: L. W. Kerbs, Wayne, Mich.; Mrs. H. Siegel, Copac, Mich.; F. N. Pauli, Pontiac, Mich.; W. F. King, Jr., Adrian, Mich.; M. Ferguson, Romeo, Mich.; Geo. E. Hopps, Kingston, Mich.; M. D. Walton, Armada, Mich.; E. R. Britten, Eaton Rapids, Mich.; E. E. Atyeo, Belleville, Mich.; C. E. Marvin, Howell, Mich.; Roy Hinkley, Fenton, Mich.; O. H. Lutz, Ann Arbor, Mich.; Fred. Grimm, Mount Clemens, Mich.



CLEVELAND LETTER

Dealers now anticipate the largest fall and holiday business in years, and they are laying in stock in accordance with those views. All lines of trade are active, especially the steel trade, which is increasing by leaps and bounds. There is apparently nothing to stop the wave of prosperity for another year. The jewelers have no complaint over the trade for the year so far, and with three of the best months to come, there is a general feeling of confidence in the future. The next two weeks will see great numbers of out-of-town buyers among the jobbing houses, and it is safe to say that there will be liberal buying by the jewelers who read the signs of the times.

A. T. Hubbard, of Cowell & Hubbard Co., is in the East on a tour of the markets.

Sidney Ball, of the Webb C. Ball Co., has been in Chicago on business for his firm. The Ball company had hoped to be in their new building in time for the holiday trade, but as the structural iron workers are still on a strike, there has been nothing done on the building for over two months.

J. P. Johnston and Jack Hubbard, the opticians in the Colonial Arcade, have decided to branch out in their optical trade, and have opened a branch office in Akron, Ohio, which will be in charge of Mr. Hubbard. The Akron office will be opened October 1st.

W. D. McVitty, of Hastings, Florida, was in town last month renewing old acquaintances. He will join the staff of the Cowell & Hubbard Company for the next three months, and then return to his potato farm, which has proved to be a successful venture.

Geo. Tipling, the diamond salesman for Sigler Bros. Company, is mourning the loss by death of his aged mother.

F. B. Guyon, for some years past with the Lewis Jewelry Company, has resigned.

Herbert W. Burdick, of the Bowler & Burdick Company, had an exciting time on Lake Superior during the fierce storms which swept the lakes two weeks ago. Mr. Burdick was with a party of friends on one of the big freighters, and the experience is not one that he will care to repeat.

Walter Miller has returned from his first fall trip and reports an unusual good trade. He will leave again in a few days.

C. F. Keim, secretary of the Scribner & Loehr Company, has gone to the Adirondacks with his wife for a short trip.

Harry Rickesheiser, formerly with Abrecht, the engraver, has joined the engraving force of the Cowell & Hubbard Company.

A. D. Weed has resigned from the Burt Ramsay Company, and gone with the Lewis Jewelry Company, in the Colonial Arcade.

W. J. Eroo, New Castle, Pa., was in town last month buying an entire new stock of goods for his new store, which he will open in about two weeks. John A. Hirt accompanied Mr. Eroo and will be associated with him in his new venture. Mr. Hirt has just returned from Detroit, where he took a post-graduate course in optics from Dr. Owen, the well-known oculist.

Through the courtesy of Mr. Cobb, superintendent of the Ball Watch Factory, the novelty watch recently made for L. F. Loree, the well-known railroad manager, was shown to your correspondent. The watch is about one inch wide and about three inches long, and has an oval crystal similar to a miniature case, showing hour and minute dial above and seconds dial below.

Richard O. Carter, of New London, Ohio, has joined the Burt Ramsay store in the Schofield Building.

H. M. Wollam, 237 East Main Street, Galion, Ohio, is a new recruit in the jewelry business in that town.

Chas. Haimes, the watchmaker for A. E. Oyster, Alliance, Ohio, for the past few years, has resigned and taken a position with F. R. Montgomery, Sandusky, Ohio.

Joe. Schuster, the jeweler, of 997 Pearl Street this city, returned lately from a month's sojourn at Mount Clemens, Mich., much improved in health.

A. C. Collins, of this city, has moved in a new and commodious store, and has equipped it with handsome fixtures.

Timely discovery prevented the jewelry store of M. Meckes, 535 Pearl Street, this city, from whole or partial destruction by fire recently. One of the workmen had soldered a ring on a piece of charcoal and laid it in a press at closing time. At 2 A.M. the store was found to be full of smoke. The fire originated in the press, but was extinguished before serious damage had been done.

James Logan, 1139 St. Clair Street, recently returned to business much improved in health, having enjoyed a pleasant vacation.

The youngest child of J. F. Goodfellow, a local jeweler, met with a serious accident recently, having been bitten by a vicious dog. It is hoped, however, that the little sufferer will recover from the effects of the mishap without serious consequences.

Mr. Younglove, of Austin & Younglove, Green Springs, was in town last month. The firm are adding new fixtures to their store.

C. M. Wilson and wife, Salem, Ohio, stopped off on their way home from a fishing trip in Michigan.

Among the Ohio jewelers here last month were the following: A. E. Kintner, Painesville; C. E. Whitaker, Clyde; Harnes & Allen, Napoleon; D. Leonheiser, Huron; O. G. Carter, New London; F. R. Montgomery, Sandusky; C. Strausmeyer, Fremont; W. H. Hoyle, Sidney; W. G. Smith, Youngstown; A. E. Oyster, Alliance; J. C. Joss, New Philadelphia; Harry Downs, Bellevue; L. J. Goddard, Ravenna; H. S. Sumner, Akron; A. Washburn, Medina; H. C. Rogers, Seville.

SMITH HALL CLOCKS

Geo. W. Smith & Co.

INCORPORATED

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Philadelphia

111 Fifth Avenue, New York City

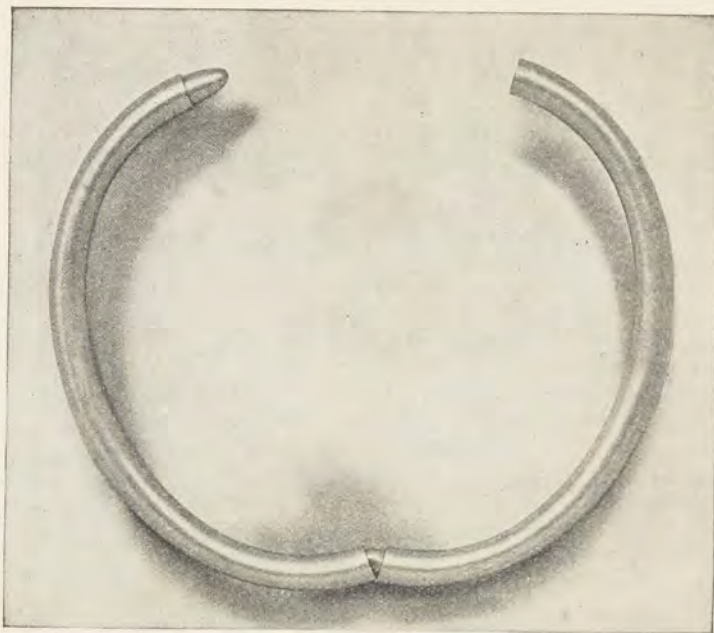
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HIGHEST AWARDS

LOUISIANA PURCHASE EXPOSITION

“The Alethea”



PATENT APPLIED FOR

The desideratum long sought by bracelet manufacturers combining

ELEGANCE OF DESIGN
SIMPLICITY OF OPERATION and
STRENGTH OF CONSTRUCTION

MANUFACTURED BY

THE WOLCOTT MFG. CO., 71 Peck St., Providence, R.I.



Cut reduced 3/4 times

This is our FAMOUS

“SELWELL ASSORTMENT” OF SILVER ALUMINUM NOVELTIES

and the best-selling souvenir assortment put out this year at

\$10.50

This assortment consists of **ONE GROSS** of twelve articles, one dozen of each. Hand-painted letters in two colors, with the name of your town on each article.

SAME ASSORTMENT, NOT LETTERED, \$9.00

SMALL INVESTMENT—BIG PROFIT

Send for **FREE SAMPLE** lettered with your town

THE E. A. FARGO COMPANY, Taunton, Mass.



A petition in involuntary bankruptcy has been filed against Klein Bros. Co., 51 Maiden Lane, New York, by A. Roseman. Robert G. Perry has been appointed temporary receiver under bond of \$3500.

J. C. Pilcher, who has succeeded Geo. E. Boyer in the jewelry business at Wellsville, Mo., prides himself upon the fact that he has been continuously a reader of THE KEYSTONE since it was first published.

Harry E. Tilghman, the jeweler, of 610 Main Street, Crisfield, Md., has lately been on a trip to the East. Among the places of interest visited was the factory of The Keystone Watch Case Co., Philadelphia, Pa.

James A. Montgomery, president of Montgomery Bros., Los Angeles, Cal. one of the largest jewelry firms on the Pacific Coast, is on a purchasing tour in the Eastern markets. He will make a five-weeks' sojourn, most of which will be spent in New York City and Providence.

S. Frackman, manufacturing jeweler, 51 Maiden Lane, New York, has issued an interesting 1905-6 catalogue and price-list of rings, links, buttons, pendants, etc. It is printed on enameled paper in black ink and abundantly illustrated. Each article shown is numbered and appended to the book is a price-list in which these numbers serve to facilitate reference.

As we continue to receive letters from jewelers requesting information as to the present whereabouts of the Courvoisier, Wilcox Mfg. Co., we have to inform those interested that this company has passed out of existence. Its affairs were placed in the hands of a receiver and closed out some months ago, the plant and machinery having been finally disposed of at public auction.

A. & R. Bergman, wholesale jewelers, formerly located at 238 Main Street, Buffalo, N. Y., are now established at 181 Main Street, a much more desirable location for the firm's business. The premises at the new address were altered to suit requirements, a new front having been installed and the interior handsomely decorated. The store is brilliantly lighted by electricity.

Murphy & Greene have succeeded G. E. Wheelhouse Co., as manufacturing and retail jewelers, at 2 Blandina Street, Utica, N. Y. The partners in the new firm are T. F. Murphy and H. M. Greene, both of whom had been for many years with the firm which they have succeeded. Thus they have had an abundance of practical experience, and as they are business men of the progressive type their new enterprise should prove a success.

Schutt & Peterson have purchased and will continue the wholesale jewelry business hitherto conducted by Nicholas Kos, 137 Genessee Street, Buffalo, N. Y. The partners in the new firm are Louis Schutt, who for thirteen years was with Jeweler Kos, the erstwhile proprietor, and Fred. Peterson, formerly in the retail jewelry business at 1227 Jefferson Street, Buffalo. Both partners are therefore well known locally, and this with their practical experience in the trade should conduce to the success of their enterprise.

Miss Bertha Louise Blicke, daughter of Jeweler J. B. Blicke, of Rochester, Minn., was married on Tuesday, September 19th, to George Smith Hannon. THE KEYSTONE tenders felicitations.

The Whiting Mfg. Co. are preparing to move into the big building at the corner of Nineteenth and Broadway, recently vacated by the Gorham Mfg. Co. The Whiting Co. will occupy the four or five lower floors, which will give them about double the space they now have in their old quarters at Eighteenth and Broadway. The new location is an unusually good one, and especially valuable through its former occupancy by the Gorham Co.

Fire destroyed the interior of the factory of the Anchor Silver Plate Co., of St. Paul, Minn., on September 19th. The company which had attained a position of considerable importance in the silver-plate industry in the Northwest, was capitalized at \$150,000, had a total invested capital of \$190,000 with \$120,000 of insurance, and employed one hundred and twenty-five people. The fire is especially deplorable at this time, as the company was working overtime, filling orders when the conflagration forced a temporary suspension.

Geo. A. Clark & Son, an enterprising jewelry firm, of Lorain, Ohio, recently secured for exhibition, upon furnishing bond for \$11,000, the diamonds which had been in the possession of the notorious Mrs. Chadwick. They consisted of a diamond necklace containing 932 gems and valued at \$10,000; a tortoise-shell hair comb, set with 137 diamonds and said to be worth \$1000. These were displayed, in conjunction with some costly jewels from the firm's regular stock. They attracted much attention and gave the firm wide publicity.

As some of the trade seem to be under the impression that the M. S. Benedict Mfg. Co., of East Syracuse, N. Y., have gone out of business, we are requested to inform the trade that such is not the case. The company is now being run by the Syracuse Trust Company, as trustees. In fact, the Benedict factories are running over-time in order to keep up with the fall trade. The same line as was formerly made is being manufactured, and the full force of traveling salesmen are on the road. The company is in a position to fill all orders promptly, as in years past.

The F. H. Sadler Co., Attleboro, Mass., have issued their 1906 catalogue, containing rich illustrations and appropriate descriptions of the many new and attractive styles of rings and other jewelry manufactured by this firm. The book is printed on enameled paper, in black ink, is well arranged and should be found useful for reference. A handsome half-tone, showing a lady wearing a "Norma" bracelet made by the firm, accompanies the catalogue, and another interesting feature contained in the book is the sample front cover of the retailer's "Ring-Booklet," issued free by the firm.

The Waltham Clock Co., Waltham, Mass., has issued its 1905 catalogue, with detached price-list. This catalogue is printed on enamel paper and richly illustrated with half-tones of the many beautiful timepieces manufactured by this company. The type matter, chiefly in black ink, is tastefully relieved by touches of green. A foreword, a talk on regulators, marble clocks, banjo clocks and other makes, inserted at the beginning of the sections devoted to these goods, constitutes the regular reading matter. A pouch in the back cover contains the price-list, together with a number of sample pages.

P. E. Kern, gold and silversmith, Skaguay, Alaska, who is well acquainted with the journey from Seattle to Skaguay, writes enthusiastically of its wonders and natural beauties, which, he believes, need only be known to be appreciated. In time, no doubt, and with the advance of commerce northwards, this rare country will become a favored tourist route. Jeweler Kern says of it: "The panorama from Seattle to Skaguay—the sea and the mountains; the long, deep inlets with their crystal waters, shading into the distant darkness of surrounding heights; the great glaciers, the long lingering twilights that separate the days in the far North; the wild precipices of White Pass and the mighty Yukon slipping down from between its flower-strewn hills to the far-off sea—all in our journey, have a varied grandeur and an abiding charm which once beheld are not soon forgotten."

Improvements in Dialless Clocks

Quite a catchy novelty at the time of its introduction to the trade was the "Ever-Ready" Plato clock, which has the distinction of being without dial or hands. The manufacturers of this novelty, the American Electrical Novelty and Manufacturing Co., of New York, have now made such improvements in construction and finish as make the new clocks much more perfect as convenient, ornamental and accurate timepieces. These clocks, as now improved, would make a pleasing variety in the holiday lines.

Book Notices

"The Gambler" is the expressive title of the latest novel by Katherine Cecil Thurston, whose fame as a novelist had already been made secure by her previous thrilling story "The Masquerader." The new book is in every way up to the high standard of its predecessor. Clodagh Asshlin, the heroine of the tale, is a young Irish beauty, who inherits from her father a fearless, impulsive, high-spirited disposition and high sense of honor along with a passion for gambling. The romance of her life develops along passionate and dramatic lines, verging upon a tragic climax in the culmination of her love for Sir Walter Gore. Mrs. Thurston again proves herself a born story-teller, who can hold the reader's attention with almost magic power. A number of well-executed page illustrations add to the interest of the book. It is published by Harper & Brothers, New York, price \$1.50.

"Engraving Metals" is the title of a convenient little volume of 160 pages published by David McKay, Philadelphia, Pa., and containing a comprehensive digest of the information on engraving metals by incision and corrosion, published from time to time in *Work*, an English industrial weekly. It has been compiled and edited by Paul N. Hasluck, editor of that journal and of *The Building World*, and author of "Handy Books for Handicrafts," who has many similar works to his credit. The book is divided into ten chapters, which deal with the subject of engraving in practically all its phases. It contains 115 illustrations, showing the various articles in the engraver's outfit and numerous examples of monogram work. It may be obtained from this office for the publisher's price, 50 cents.

From the same publisher comes "Electro-Plating," a book similar to the foregoing in size and compiled by Editor Hasluck from practically the same source. A number of articles by another well-known English technical writer have, however, been incorporated in the text. All electroplating processes are covered by this book in regular order, beginning with the tanks, vats and other apparatus required, then dealing in turn with batteries, dynamos and electrical accessories, preparing and finishing appliances—silver, copper, gold, nickel and cycle-plating and finishing processes—the final chapter being on electroplating with various metals and alloys. The book contains seventy-seven illustrations, chiefly representing the devices used in electroplating operations, and all admirably elucidative of the text. It may be obtained from this office on receipt of the publisher's price, 50 cents.



HOLIDAY WATCH STOCK

It will be well for the jewelers to remember during the busy season that we handle watches only. In this line you can rely on us at all seasons and in all emergencies. We have at all times the right kind of stock, and in such quantity as permits the promptest filling of orders. Our supplies and system are such as make delay or disappointment practically impossible. We make a specialty of mail orders. A letter will be given the same attention as yourself.

ALBERT L. HAMAN, 281-282 Endicott Building, St. Paul, Minn.

LEADERS OF THE NORTHWEST

Kirchner and Renich

MAKERS & REPAIRERS OF JEWELRY

WE RETURN ALL REPAIR WORK SAME DAY AS RECEIVED.

SEND IN YOUR NEXT PACKAGE AND OPEN AN ACCOUNT WITH US.

10=So Seventh St. MINNEAPOLIS, MINN.

Ohio Flint Glass Company

LANCASTER, OHIO

WE desire to call the attention of the Jewelry Trade to a line of goods which is made by a different process from the ordinary methods used for producing a high-grade line of goods. We call this line the **CONCORD**, and this name is covered by trade-mark.

We make it in a large variety of goods, and samples will be furnished at the regular prices. Illustrated catalogue will also be mailed, with complete price-list to cover it.

The line is well worthy of attention, and the goods are without competition, both in quality and in prices.

Landis School of Engraving

FALL COURSE



M. L. Landis
Proprietor and Instructor

WRITE US AT ONCE. If you wish to take a Course this Fall, please write us and we will assign and hold a place for you.

We do not accept more than twelve pupils at one time, devoting our entire time to their personal Instruction and Advancement.

Our methods are original and entirely new. We are the founders of a New System in the Art of Cutting and Designing, which enables a pupil, not endowed with artistic skill, to learn to make perfect letters.

Write us, and we will give you an idea of what you could accomplish by taking a Course with us.

M. L. LANDIS, 119 Koch Avenue, Detroit, Mich.



A Wave of Prosperity

The Northwest is happy and crops have all been safely housed and THE KEYSTONE'S predictions have been fulfilled. The actual reports of harvested grain even surpass our estimate. The farmer is now busy with fall plowing and taking advantage of every good day to get things in shape for the winter. Hauling of grain to market will begin early, money will circulate in large quantities and the retail jeweler, anticipating his share, is preparing his stock accordingly. Jobbers report fall lines now complete and business brisk. We have even heard the remark made: "We have done more business this year, so far, than we did all of last year." We hear no complaints and all are enjoying good trade. Travelers are jubilant and agree that never were they better received by the trade than this year. Orders are reported to be running far ahead of previous years. All of which seems to indicate that 1905 will go on record as a banner year.

O. H. Olson, formerly at Volga, Wis., but more recently in Tennessee, has returned to the Northwest and opened a store at Osceola, Wis. He spent a few days in the Twin Cities buying his stock.

O. D. Leidal, Fergus Falls, Minn., is mourning the death of his twenty-four-year-old son, from consumption.

W. B. Dean, Jr., for the past two years with D. G. Lockwood, Fort Benton, Mont., has succeeded W. J. Iliffe, Forsythe, Mont.

George W. Hauenstein, Red Wing, Minn., met death by drowning, in view of several hundred people, on August 31st. Mr. Hauenstein was standing in a rowboat watching a yacht race, when his boat was capsized by a wave. He was fifty-five years old, and one of the most prominent jewelers in the city. He leaves a wife and three grown children to mourn his sad end.

Sischo & Beard, St. Paul, have just issued a thirty-six-page supplement to their tool and material catalogue, and expect to have their jewelry supplement out this month. Both are typical of this popular and progressive Northwestern house. They will be sent to any jeweler, on request.

W. A. Funk, of F. Willman, Stillwater, Minn., spent his vacation visiting the old folks at Mankato, Minn.

Albert J. Krueger has repurchased his old business at North Branch, Minn., from his brother, W. A. Krueger.

A. J. Simpson, one of Minnesota's prominent optometrists, was married at Redwood Falls, Minn., on September 5th.

W. Harry Palmer, Mankato, Minn., who died last month, was the father of A. E. Palmer, Grand Forks, N. Dak., and of W. E. Palmer, Mankato, both prominent jewelers, who have the sympathy of their friends in the trade.

It is reported that John Rosendahl, Mabel, Minn., has bought out J. C. Hub & Co., Mapleton, Minn. Mr. Hub has been in poor health for almost a year, and will rest up for a while.

J. N. Kunkel, New Rockford, N. Dak., is the latest Northwestern jeweler to hang up the Jewelers' Security Alliance sign. They are getting very common in this section but should be more so, as there is no better or cheaper insurance available.

Walman & Co. have started a new jewelry and optical business at Detroit, Minn. J. A. L. Walman, of the firm, spent two weeks lately in the Twin Cities, buying stock and fixtures.

F. M. Nelson, formerly with I. S. Phippeny & Co., Manistique, Mich., is now at the bench for C. Overby, Rice Lake, Wis.

C. A. Hoffman, Minneapolis, was successful in his competition with Eastern houses, and has received the contract to supply Uncle Sam's officers, at Fort Snelling, with binocular field glasses.

L. A. Freeman, the progressive jeweler, of Cloquet, Minn., has added some new fixtures to his store room.

L. G. Howatt, of C. A. Swanson & Co., Superior, Wis., recently passed through the Twin Cities on his way to Portland, where he will visit the exposition.

C. H. Nesbitt has succeeded C. H. Nesbitt & Co., Harvey, N. Dak.

A. R. Butler has opened a new jewelry store at Sanborn, Minn.

M. A. Allen spent several days in the Twin Cities lately, buying stock for his new store at Mandan, N. Dak.

The factory of the Anchor Silver Plate Co., St. Paul, Minn., was completely destroyed by fire on September 19th. The company estimate their loss at \$60,000. It was insured for \$12,000. This comes at a very bad time of the year for the firm. The factory was being worked overtime for more than a month, to keep up with orders. On the night of the fire worked stopped at 10 o'clock. The night watchman discovered the fire one hour later. It seemed to spread all over at once. As the business was in a very prosperous condition, there is no doubt that the factory will be rebuilt at once, and business resumed on a better scale than ever.

C. W. Logan, formerly in business at Clara City, Minn., has bought out Chris Rygh, at Herman, Minn.

E. S. Halstead has begun business at Sarles, N. Dak.

Ernest L. Hardenberg, lately with M. Hendrickson Jewelry Co., Duluth, Minn., has started in business for himself at 302 E. Superior Street, in that city.

F. W. Kinnoin, for the past two years with A. L. Haman & Co., St. Paul, is now with O. H. Arosin, of that city.

I. M. Radabaugh, Hastings, Minn., has purchased a store building, has had it remodeled and is now ready for business therein.

W. J. Iliffe, recently at Forsythe, Mont., has moved to Dickinson, N. Dak.

The Twin City Watchmaking and Engraving College has opened for business at 710 Nicollet Avenue, Minneapolis.

Isaac Mann, Sheldon, Iowa, is enjoying a trip to the Coast. Mr. Mann expects to be gone about six weeks.

C. E. Barker, of Peterson, Iowa, spent a few days in Chicago at the beginning of September, making some purchases for fall trade. He also took occasion to visit his native place near Sheridan, Ind., where his father and several other relatives still live. Jeweler Barker reports that this year corn in his section is exceptionally good and all other crops better than they have been for some years past. People have plenty of money, he adds, and business is good. This, surely, is a very satisfactory state of things and we wish the jewelers well of it.

The State Fair brought in a goodly number of visitors to Twin City jobbers, who were pleased to renew the many old acquaintances and welcome the new ones. Among the visitors THE KEYSTONE

noticed were: Edw. Pelant, Lonsdale, Minn.; Herman Hoch, Alma, Wis.; Herman Osterberg, Superior, Wis.; Wm. F. Baier, Granite Falls, Minn.; R. M. Horr, Prentice, Wis.; Wm. F. Hurst, Duluth, Minn.; A. L. Freeman, Cloquet, Minn.; Carl W. Slocum, Cando, N. Dak.; J. F. Ahearn, Melrose, Minn.; F. K. Randall, Phillip, Wis.; Jack Boerner, Duluth, Minn.; Hans J. Heram, Elbow Lake, Minn.; Phillip Perlman, Washburn, Wis.; I. M. Radabaugh, Hastings, Minn.; H. M. Hitchcock, Redwood Falls, Minn.; Mr. Stacey, of Crane Bros., Lake City, Minn.; F. W. Zimmerman, Staples, Minn.; R. H. McEwen, Stewart, Minn.; W. M. Thorston, Kensal, N. Dak.; C. L. Barnett, Frederick, Wis.; Mark Rideout, Rushford, Minn.; Mr. and Mrs. M. A. Brann, Frederick, Wis.; S. C. Hone, Osceola, Wis.; Mr. and Mrs. E. A. Arhart, Lisbon, N. Dak.; Geo. L. Rochat, Ada, Minn.; E. H. Treiber, Scotland, S. Dak.; A. S. Heimark, Battle Lake, Minn.; G. M. Gazely, Arlington, S. Dak.; J. F. Brown, Enderlin, N. Dak.; R. Sloan, Ironwood, Mich.; H. T. Holverson, Alexandria, Minn.; Mr. and Mrs. C. H. Nerbovig, Mankato, Minn.; D. W. Smith, Pipestone, Minn.; J. M. Chalmers, Lake City, Minn.; O. J. Temason, Ostrander, Minn.; O. M. Stevenson, Fountain City, Minn.; H. O. Schlender, Springfield, Minn.; G. A. Heckel, Oakes, N. Dak.; C. E. Peterson, Pepin, Wis.; C. A. Westerbaum, St. James, Minn.; L. J. Korstad, Zumbrota, Minn.; C. A. Manning, Lisimore, N. Dak.; Edward Dawson, Winona, Minn.; Mr. Williams, Cannon Falls, Minn.; Geo. K. Monro, Grand Forks, N. Dak.; H. Stewart McLean, Mitchell, S. Dak.; A. C. Peterson, Gibbon, Minn.; Archie Stevenson, Madelia, Minn.; Miss Lillie, Spring Valley, Wis.; J. A. Clough, Spring Valley, Wis.; S. Milavetz, Virginia, Minn.; Chas. W. Heidbrink, Ellsworth, Wis.; Fred. Soderberg, Braham, Minn.; J. W. Grainger, Rochester, Minn.; O. P. Yaeger, Riceville, Iowa; I. R. Bunker, Superior, Wis.; T. Jacobson, Colfax, Wis.; J. Henry Eggers, Plainview, Minn.; E. P. Sundberg, Red Wing, Minn.; J. J. Palmer, Wells, Minn.; Albert J. Krueger, North Branch, Minn.; E. E. Gaylor, Brookings, S. Dak.; J. W. Brown, Ortonville, Minn.; Fred. Willman, Stillwater, Minn.; W. G. Gould, Glencoe, Minn.; Orville L. Mellin, Red Wing, Minn.; Fred. Giebler, Norwood, Minn.; Mr. and Mrs. F. C. Robins, Benson, Minn.; O. H. Olson, Osceola, Wis.; N. A. Allen, Mandan, N. Dak.; L. G. Howatt, Superior, Wis.; Wm. Lenz, Osakis, Minn.; Chas. Monroe, Hutchinson, Minn.; R. G. Ingraham, Menomonie, Wis.; C. M. Leffingwell, Little Falls, Minn.; F. W. Harper, Renville, Minn.; E. C. Roberts, Red Wing, Minn.; F. H. Straub, Fergus Falls, Minn.; C. O. Querna, Madison, Minn.; H. Princen, Minneota, Minn.; L. T. Dillon, Litchfield, Minn.; G. W. Dillon, Manley, Iowa; Albert L. Mealy, Delano, Minn.; E. P. Long, St. Cloud, Minn.; Wm. Krohn, Annandale, Minn.; C. O. Peterson, Lowry, Minn.; C. W. Wick, Clark, S. Dak.; Chas. Wesalie, Waconia, Minn.; M. G. Van Loan, Spring Valley, Minn.; W. S. Blake, Duluth, Minn.; R. S. Swarthout, Pine Island, Minn.; G. Chellin, Cassell, Minn.; G. A. Lacey, Wahpeton, N. Dak.; J. L. Egleston, Wadena, Minn.; A. O. Banks, Michigan, N. Dak.; T. J. Thompson, Barron, Wis.; E. E. Wheeler, Cando, N. Dak.; C. Nygaard, Brownton, Mich.; E. J. Steuerwold, Two Harbors, Minn.; H. H. Buck, Goodhue, Minn.; A. G. Rost, St. Peter, Minn.

"The Keystone is already of such a high standard that we can think of no way to improve it. Articles interested in: By gum! all of them."
—Wilmer D. Nelson Co., Jewelers, Pierre, South Dakota.

The Continuous Advance in Diamond Prices

and the plethoric prosperity make Diamonds the safest of all stock to purchase. You simply can't over-buy. The goods will increase in value even in the show case, and the left-overs from your big holiday sales may be even more valuable the day after Christmas than they are to-day.

**Our Diamond Stock
Is the Trade Ideal**

It is so easy to make from it the selections that suit, and you know beforehand that the prices are the best. There are qualities in diamonds as in other goods. Our stock comprises only such goods as we and you can handle with safety as well as profit. Mail orders given prompt attention.

C. H. KNIGHTS & CO.

Columbus Memorial Building

CHICAGO

Silver Services for U. S. Warships

THE presentation of costly silver services to the United States warships by the States and cities after which they are named, was a happy idea from many points of view. The patriotic gift creates a bond of union and mutual interest and pride between the State or city and its fighting namesake and confers a benefit on the jewelry trade by the very material stimulus it gives to artistic designing. Some thirty of these presentations have already been made, and the aggregate expenditure would no doubt total between \$200,000 and \$300,000. The competitive designing ensures the highest degree of art craftsmanship, and we doubt whether any more beautiful collection of silverware could be brought together than the services which have already been presented to the lucky warships.

A contract to furnish the silver service to be presented to the battleship *Nebraska* was recently granted to the Reichenberg-Smith Co., of Omaha. This service, which will be one of the most artistic yet made, will consist of a centerpiece, loving cup, punch bowl, punch ladle, silver waiter and eighteen silver goblets. The total weight of the service will be 1300 ounces and the cost \$3000. This exquisite service, two pieces of which are here shown, is being made by J. E. Caldwell & Co., of Philadelphia, Pa., and is a marvel of artistic and appropriate designing. This firm, it will be remembered, was also the successful competitor for the services which were presented to the *Iowa*, *Kentucky* and *Pennsylvania*.

The centerpiece of the *Nebraska* service here shown is 35 inches and its height is 21 inches. The lights have silver candle shades with the seal of the navy and the seal of the State etched on them. A picture of the *Nebraska* is etched on the central panel, while at one side is an etching of the Union Pacific bridge at Omaha, indicating the first overland route to the West, and on the opposite side a scene on the Platte River. On the corresponding panels of the reverse are etchings of the capitol building with a picture of the stock yards at South Omaha on one side and a herd of cattle on the other. Commingled with the etchings is relief work showing the chief products of the State, including corn, wheat and cattle. An eagle holds in its talons the golden rod, the State flower, and the laurel branch, indicating victory. Seaweed is introduced in connection with a shell effect, indicating the nautical purposes of the objects. The centerpiece weighs 500 ounces. The loving cup or flower vase shown



Punch Bowl and Ladle of *Nebraska* Silver Service

in the centerpiece may be used separately from the piece. It is 12 inches in height and has dolphin handles, with shell border. An Indian is etched on one side and on the other the head of a buffalo. It weighs 100 ounces.

The punch bowl, illustrated on this page, is 21 inches in height and 16 inches in diameter, interior measurement, and weighs 300 ounces. It is plated with gold on the inside and its handles are surmounted with full modeled eagles. The seals of the State and navy, surrounded by the State flower, adorn either side of the bowl. The three massive feet on which it stands represent the head, shoulders and forefeet of buffalos, and between these feet are modeled, in relief, a number of animals' heads. The etchings on the bowl include a representation of the *Nebraska* in the center and at one

side a picture of a sod house, one of the cabins of the early settlers; the prairie schooner is also shown. In the center of the obverse side is the inscription, at one side of which is a stage coach and at the other a modern train of steam cars. The punch ladle is 18 inches long and weighs 18 ounces.

The function of the silver waiter is to hold the punch bowl and goblets. The center of the plate contains an etching of the battleship. The waiter has a shell border with entwined dolphin handles and also the seals of the State and navy, while on the side a bear's head, in relief, is shown. The waiter weighs 260 ounces.



Centerpiece of Silver Service to be Presented to the United States Battleship *Nebraska*

NOW READY

Our new fall Catalogue—the most complete and important we have ever issued—will be ready by the time you can get a request for same back to us.

We do not send it broadcast in the trade, but if any reader of *THE KEYSTONE* who is an established jeweler in our trade territory will ask us for a copy (mentioning *THE KEYSTONE*), one will be sent by first express or mail prepaid.

You ought not to do your fall and holiday buying without it, for it lists, describes and illustrates the most complete, up-to-date line of Diamonds, Watches, Jewelry and Quick-Selling Wares and Novelties in the country.

We do not believe any retail jeweler can spend even ten minutes scanning this new Catalogue of ours without feeling that it is a pretty good book to have around.

You will find that it is built for the use of busy buyers who put a value on their time as well as on low prices.

There can be no question but that the jeweler who fails to get and study this issue of our Catalogue will miss some of the lowest prices and best values of the season.

You are welcome to a copy, free, if you will write for it.
Shall we send you one?

NORRIS, ALISTER & CO.

Wholesalers in Everything Needed by Jewelers

134-136 Wabash Avenue, CHICAGO

Death of Joseph M. Bates

Joseph M. Bates, head of the well-known firm of Bates & Bacon, Attleboro, Mass., and one of the leading members of the jewelry trade in America, died at Cottage City, Mass., on Thursday, September 7th, aged seventy-two years. His death was the result of a complication of diseases. One week prior to it he went Cottage City, where, with the reviving air of the sea, undisturbed rest and complete relaxation from the tension of business responsibility, it was hoped he would recover. At one time it seemed as if the hope would be realized, but a reaction set in which terminated fatally.

From boyhood Mr. Bates led a life of continuous activity. He was born in Wickford, R. I., and in 1852 went to learn the jewelry business in the factory of Reynolds, Dodge & Co., Providence. He afterwards served as a foreman for Wightman & Hough Co., and his first step toward a proprietorship was to secure an interest in Skinner, Viall &



Joseph M. Bates

Co., Attleboro. This he subsequently disposed of, and the next firm with which he connected himself was the first to bear his name, to-wit, Bates, Capron & Williams, Attleboro Falls. After two more years he disposed of this interest and went into business on his own account in Attleboro.

It was in 1866 that he was joined in partnership by George M. Bacon, who died a few years ago, and it was then that the widely-known firm-name of Bates & Bacon was assumed. In 1881 the concern added the making of watch cases to their regular productive activities, but within comparatively recent years this interest was sold to the Philadelphia Watch Case Co., Riverside, N. J., and the plant moved to that place. Coincidentally Mr. Bates purchased the plant and chainmaking business of G. A. Dean & Co., considerably enlarged the scope of its activities and conducted it for some time as the G. A. Dean Co., but the name of Bates & Bacon was subsequently resumed. In 1898 the Bates & Bacon plant was visited by a severe fire, in which a new factory erected by Mr. Bates fourteen years previously was burned, together with the shops of seventeen other concerns. Nothing daunted by his considerable loss, deceased built a temporary factory on County Street and followed soon after with a larger factory, of which he occupied one entire floor. The partnership between Messrs. Bates & Bacon was dissolved in May, 1890, and Mr. Bates, with the assistance of his son, Charles R. Bates, continued the business. In all he owned five of the factory buildings devoted to the jewelry industry in Attleboro, and

owned other real estate extensively. Another notable achievement to his credit was the erection of the Attleboro Opera House, which bears his name.

For thirty-three years before his death he had been president of the First National Bank, of Attleboro; he had also been president of the Attleboro Steam and Electric Co., and was interested in other laudable enterprises. His death, therefore, is a distinct loss to the community in which he lived and which he served so long and so substantially. The survivors are a widow and two sons, Frank M. and Charles R. Bates, the latter of whom was associated with his father in the firm of Bates & Bacon, and is now in charge of the concern.

Age of Invention

The inventive genius of Americans in these modern days appears to be aimed more generally along the lines of transportation than any other field of activity, and the patents applied for and granted on automobile and steam-power vehicles exceed all previous records.

The patent office has no statistics of the number of patents on any one subject, but those who have been working on the files of the office for years tell of tendencies along certain lines of activity. For instance, in 1896, at the height of the bicycle craze, when, instead of the usual five examiners in a division, thirteen were required to do the work. Now one attends to bicycles and does other work besides. The bicycle has been supplanted by the automobile, a large number of patents for new developments of which are constantly being filed under classifications of vehicles, motive-power machines, and steam and gas engines. The number is on the increase every week.

The desire of the human family to imitate the birds and fly through the air is shown by the number of patents on that kind of invention. Only five or six a month appear at the present time, but this division is looked upon as sure of growth. The inventions in transportation appliances continue to hold the palm and lead them all. Sixty-eight patents of this sort were filed in one week, and despite the fact that the railroad has reached a very high state of efficiency, the work of inventors continues. In general machinery the steam turbine is being developed especially for use on the big battleships, one having been ordered for the biggest battleship in the world, which is to be built by the British government. Pneumatic tools cause an increasing number of patents.

On munitions of war the experts who have been examining patents for a decade past have noticed that there is little that is practically new, and that guns are merely being developed to greater efficiency along the same lines. New devices for sighting, which make allowance for so slight a factor as the humidity of the atmosphere, are frequently filed.

Discovery of a Lost Art

Among the many secret processes of porcelain manufacturing and decorating, which were guarded so zealously by the Chinese for centuries, and which in time even they ceased to excel in, none was so sought after by the European manufacturers to discover, as their beautiful ruby red glazes, known as "Sang de Boeuf," "Rouge Flambe," "Peach Blow" and "Haricot;" the first of these being, as its name denotes, a wonderfully rich ruby or blood red, while the others were varieties of the

same color, blended with yellow, or streaked or mottled with blue, purple, gray or green.

The museums of Europe are rich in choice specimens of these exquisite chemical curios of ancient Chinese manufacture, as are many well-known private collections, notably the Rothschild collection, of London, and the famous Walters collection, of Baltimore; but the Chinese have long since ceased to produce anything to compare with these gems of the Kang-Si Dynasty.

All that was known of the coloring matter was that it was some form of oxide of copper, and that to obtain these glorious reds the porcelain had to be fired in a reducing atmosphere. The difficulty which most of the European manufacturers had to contend with was their paste or porcelain, as well as their glazes and firing, were so different to those of the Chinese as to afford them little help toward the solution of the problem.

Messrs. Doulton & Co., of Burslem, England, however, have at last solved the difficulty, and practically discovered this long-lost art, after two years of experimenting, fraught with many failures and disappointments. This experimental department was placed in the hands of a rising young ceramic chemist, Cuthbert Bailey, son of John C. Bailey, managing director of Messrs. Doulton & Co., and after study and watchfulness and the chemical examination and analysis of numberless specimens, fired at various temperatures, treated in various ways, and the building and rebuilding of special kilns, his efforts were crowned with success; and he is now turning out specimens of these mysterious glazes with all the various combinations of color effects.

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-Adv.

THE B. A. & CO. 1906 CATALOGUE

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The trade are invited to send us reliable items of news for this department

Arkansas

The business hitherto conducted at Merion by E. P. Stewart under his own name, has been removed to Hope, where it is now carried on on a larger scale under the name of E. P. Stewart & Bro.

Connecticut

Peter J. Donnelly, formerly with the A. R. Vanderbilt Jewelry Co., Amsterdam, N. Y., has purchased the jewelry stock of N. S. Lincoln, at Winsted.

Georgia

Fred. E. Vaissiere has purchased a store in Rome, and is making extensive alterations and improvements therein preparatory to opening in the retail jewelry business.

Illinois

Having read the report of the robbery of A. L. Griffin's jewelry store and of other business places at Potomac, as reported in the last issue of THE KEYSTONE, E. Jeanmairt, the jeweler-optician, of Mt. Carroll, writes to inform us that on the same night his store, a saloon, a restaurant and a dry goods store in that town were burglarized. The robbers, Jeweler Jeanmairt states, were experienced, and took only the best class of goods. He sustained a loss of several hundred dollars.

Indiana

R. A. Brown has removed his stock from Gaston to Albany, and will continue in the jewelry business in the last-named city.

Henry Vancleave has moved his jewelry stock from Russellville to Ladoga, where he has a very handsome and well-appointed store, having leased the K. of P. Building in that place, for three years. He has installed new and modern fixtures and his store measures 20 x 100 feet. He states that prospects for future business are most favorable.

Iowa

J. H. Lepper, the Mason City jeweler, who has long felt the need of more room for his business, has secured larger quarters, having leased an ample store room in the Willson Building, South Main Street. These premises are being completely overhauled, the floor lowered to the street level and a new and modern front installed. He now enjoys copious facilities for displaying his jewelry and musical instrument lines. His optical department is likewise roomy, well apportioned and replete with modern refractive apparatus.

The partnership hitherto existing between Jules Renaud and Emile F. Renaud, in the firm of Jules Renaud & Son, Keokuk, has been dissolved, Jules Renaud having retired. The business will be continued by Emile F. Renaud, under the firm-name of Jules Renaud's Son. This business change marks the retirement of one of Keokuk's business patriarchs, Jules Renaud having been a resident of Keokuk for forty years, during all of which time he has been engaged in the jewelry business. A local paper remarks of him: "His business operations have at all times been conducted upon a standard which has established a lasting confidence with the public in general, and the patrons of the firm in particular." And it adds: "Emile F. Renaud, while comparatively a young man, has proven himself in every way capable to assume the full responsibilities of sole proprietor of this thriving establishment, as he has been active manager for the past fifteen years."

Kentucky

Robert N. Phipps, the well-known Fulton jeweler, was married on October 4th, to Miss Irene

Gason, daughter of Mr. and Mrs. William Charles Gason, of Jackson, Tenn. THE KEYSTONE tenders congratulations.

Louisiana

L. Jansen, 112 Bourbon Street, New Orleans, recently enjoyed a steamer trip to New York City, which combined business with pleasure. Since starting in business in New Orleans two years ago, Jeweler Jansen has given continuous and active attention to his enterprise, and consequently there was an additional zest to the pleasure of his partial relaxation.

Massachusetts

William H. Robinson, senior member of the well-known jewelry firm of Robinson & Anderson, 375 Main Street, Worcester, died on Sunday, September 3d, in his sixty-ninth year. Mr. Robinson was born at Amherst, and upon completing his education, went to Knoxville, Tenn., where he conducted a dry goods store for a few years. He afterwards returned to New England, and opened a gentlemen's furnishing business in Boston. In 1868, recognizing the fine business prospects of Worcester, he removed thereto and succeeded in building up a valuable trade. In 1896, the firm was incorporated under the name of the Robinson-Hilton Co., but six years afterwards, upon the application of Mr. Robinson, the corporation was dissolved, and the business continued until December, 1904, by deceased alone. In the following March there was another change, when with the entrance of H. S. Anderson, the firm-name of Robinson & Anderson was assumed. A widow, three sons and two daughters survive Mr. Robinson.

Missouri

Culpepper & Dortch, who last March closed out their business in Hazel, Ky., and removed to Hayti, have succeeded in building up a desirable trade in the last-named place. The firm are official watch inspectors for the Frisco Railroad.

New York

M. R. Dower, manufacturer of badges and medals, who was located in the Meyers Building, Syracuse, for twenty-four years, is now established in the Bastable Building, where he has the advantages of a more central situation, and has considerably increased his facilities.

The business formerly conducted under the name of William Lutz Co., 71 Seneca Street, Buffalo, (Miss A. M. Davies, proprietress), has been succeeded to by the firm of Schnieder & Davies, the respective interests of Miss Davies and of A. Schnieder, who has hitherto conducted a retail jewelry business at 96 Seneca Street, having been consolidated at Miss Davies' location, 71 Seneca Street. These premises have been occupied as a jewelry store for twenty-two years, having been originally opened by William G. Lutz, whose death occurred some years ago. Miss Davies has been connected with the store for a number of years.

M. L. Levine, 163 East Genessee Street, Buffalo, has executed some notable alterations and improvements in his store. The walls and ceilings have been newly decorated and painted and new cluster electric lights installed. The side cases have been fitted with front bracket electric lights, which lend considerable brilliancy to Jeweler Levine's handsome display of goods.

T. C. Tanke, 378 Main Street, corner of Eagle Street, Buffalo, has made extensive alterations in his store building, having installed on the Eagle Street side new show windows and an entrance. The interior has also been equipped with new and modern fixtures and fine display facilities. The second floor of this establishment is devoted to clocks, bronzes, cut glass and art goods, and the third used for manufacturing and repair shops.

Daniel C. Fischel, 2 George Street, Green Island, is the inventor of a new artificial fuel which he has named "coaline," and for which he has applied for a patent. This invention seems to possess a special economic advantage from the fact that it is made from garbage. A favorable private test was made of its efficacy as a fuel in comparison with a like quantity of anthracite coal. The Troy Telegram says of it: "The coaline is a black solid. It can be made very hard or soft, also heavy or light. It is of most use for steam purposes

where steam is required to be raised in short time. It will raise heat in a much shorter time than coal. The reporter saw the material in the different stages. Mr. Fischel had a small box containing a light colored powder. This was the refuse vegetable matter after it had been dried and ground. Another box contained the pulverized slag. The coaline had a slight smell of tar, but during the process there was no odor at all." Jeweler Fischel has more than one other triumph of inventive genius to his credit, the most useful, probably, being an adjustable umbrella handle.

M. L. Mantell, the Syracuse jeweler, who has been ill for some weeks, is reported to be slowly improving.

W. D. McLean has removed from 284 River Street, Troy, to a more central location at 259 Broadway, in that city. Jeweler McLean is an expert watchmaker, who has been in the trade for many years.

J. R. Sturges, the enterprising jeweler, of 99 Congress Street, Troy, is the inventor of an ingenious gas stove for heating purposes, and has been granted on it four United States and two foreign patents. He has tested this stove against the best similar devices now on the market, with the most favorable results. He states that his stove produced fifty per cent. more heat at fifty per cent. less expense than the best of the other makes, and he has vindicated his belief in the superiority of his invention by leasing for three years a factory in which he will begin the manufacture of these articles. THE KEYSTONE wishes him success in his enterprise.

Ohio

C. H. Harris, of Portsmouth, has sold his store to J. F. Carr, of Kenton, who took possession of it on October 1st. Mr. Harris will again go into the jewelry business as soon as he can find a suitable location. His health, however, would not permit him to continue at Portsmouth.

J. F. Carr, formerly of Kenton, has purchased the jewelry business of C. H. Harris, Portsmouth. He has refitted the store throughout with mahogany fixtures, largely increased the stock and made a number of other improvements which, when completed, will make this one of the handsomest jewelry stores in Southern Ohio. THE KEYSTONE wishes Mr. Carr abundant success in his new location.

Pennsylvania

J. H. Lepsch, the Portland Mills jeweler, who is manager of the Standard Wood Co.'s factory at that place, intends to open a new jewelry store at Portland Mills on November 1st, under the firm-name of J. H. & C. Lepsch. A new brick building is being erected for the firm, which it is anticipated will be ready for occupancy on the date mentioned.

The demise, recently, at Allegheny, of Rev. Henry Seifert, a retired Lutheran clergyman, formerly of Franklinville, has a special interest for the trade by reason of the fact that three of his sons are well-known jewelers, namely, John M. Seifert, of Mulberry, Ind., D. I. Seifert, of Monessen, and C. H. Seifert, of Apollo. Besides the foregoing, the deceased clergyman leaves one other son and three daughters. A few days prior to his demise, he attained his eighty-third year, and he had been in the ministry for half a century.

Edwin Keller & Sons, the well-known Allentown jewelry firm, celebrated on September 12th, the fortieth anniversary of its establishment in that city. The founder of this prosperous business, Edwin Keller, is a native of Kellersville, who learned the jewelry trade in Easton, and became an expert workman. Forty years ago, in company with his brother, Samuel S. Keller, he went to Allentown, bought the jewelry store of John Newhard, at 737 Hamilton Street, and began business there September 12, 1865, under the firm-name of Keller & Brother. This firm continued until the year 1888, when Samuel Keller retired and Mr. Keller conducted the business alone. In 1893, he took into partnership his eldest son, Herbert C. Keller, who had become an expert optician. In 1897, his youngest son, Arthur E. Keller, became a partner under the firm-name of E. Keller & Sons. In August, 1892, the business was removed to its present quarters, 711 Hamilton Street. Apropos of its fortieth anniversary, the firm issued a very handsome little calendar, containing a brief resume of its history.



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Modern Gold Seekers and Their Methods

HIS methods differ from those of old prospectors. Takes advantage of progress in the sciences. Use of the drill in discovering veins or their extent.

Increase in Gold Production

The yield from the gold mines has increased 60 per cent. in less than a decade.

In seeking the reasons for this truly remarkable development one is especially prominent—the great advance which has been made in the methods followed by the modern gold seeker. The prospectors, says the *Scientific American*, have taken advantage of progress in geology, chemistry and other sciences and have provided themselves with mechanical aids which are far superior to the crude implements employed by the metal hunters of the past.

Their examination has not been confined to merely the bed of a creek or the side of a mountain, but often is so extensive that it embraces miles of area. Many a prospecting tour rises to the dignity of an expedition and embraces a variety of apparatus, to say nothing of a staff of geologists and other experts.

The Old-fashioned Methods

In the old-fashioned system, as it might be termed, of seeking precious metal, the prospectors can be divided into two classes—those who are satisfied to obtain the metal in any form and the "pocket hunters." The latter individual considers himself above the other type of prospector, terming his calling professional. Many a one has spent the better part of his life in exploring beds of streams and dry valleys in search of pockets. In southern Oregon the pocket hunters have been perhaps more numerous than elsewhere in the United States proper, as this section of the State has yielded a large amount of gold in this form. Pocket prospectors depend upon the pick, shovel and pan, as do their fellows, but they seldom dig further into the side of the bank or hill than their shovel will reach.

The ordinary prospector wades along the bed of the stream or tramps through its sand if it is "dry," here and there filling his pan with the material. Then immersing the pan in water, he thus separates the sand from the other matter and gradually spilling out the sand, eagerly gazes at the bottom of the pan to note any glittering streak which may betoken the presence of gold. If he is working along the side of a hill where he believes the ledge of rock may contain a

vein of gold-bearing ore, he breaks off likely portions with his pick, crushes them as best he can and dumping the dust and fragments into his pan repeats the separation process.

In the examination of rock for metal-bearing ore, the *arrastra* of the Mexicans and Spaniards has been used extensively, especially in California and Oregon. This contrivance consists of a vertical shaft or axis, which supports several wooden bars fastened at right angles to it. To the ends of the bars are attached heavy flat stones, which, by the movement of the axis, revolve in a circular pit. The specimens of ore are placed in the pit, a stream of water is turned upon them and the *arrastra* placed in motion by animal or water power. The ore is resolved into a slimy sediment by being ground in the water and passes off through the sluiceway, which is provided with riffles for catching the gold.

The Modern Methods

The modern methods for searching for deposits of precious metal are so radically different from those described that it may be said a revolution has taken place in prospecting in the United States. In the Rocky Mountain region the formation has been pierced as far as 2,000 feet in the effort to ascertain the existence of a vein or the dimensions of one already discovered. Some of the projects which have been carried out preliminary to the opening of mines represent an outlay of more than \$1,000,000 in the purchase of apparatus, the employment of noted experts and in the general magnitude of the operations.

Among the mechanical appliances which have been of great assistance to the modern prospector is the drill. With it he can make borings in a week where, if a shaft were sunk, a year would be needed. If the formation is to be examined by a shaft, however, the cost of sinking it is reduced to a minimum by means of explosive cartridges, which are now manufactured especially for such service. They are ignited by means of the electric current, and it should be said that an essential part of the modern prospecting outfit is the chemical battery, which is of value not only for this purpose but in the application of electrolytic methods to separating the precious metal from the dross.

Scientific Knowledge Necessary

Few expeditions of any size are sent out without an experienced geologist, who is usually provided with maps and other data giving the best information available regarding the region to be explored. Maps giving the extent of the

claims, the direction of the veins and the general topography of the region where the mine is to be opened are obviously of much value, and a draughtsman is frequently included in the staff, with material for preparing the maps on the spot from the data obtained by the investigators.

Besides the geologist, the services of an expert chemist are also of great importance, and a laboratory in miniature is contained in the packs carried by the animals. So complete is this portion of the equipment that a fairly correct field analysis can be made of the specimens secured by the use of the drill or by the other prospecting tools. If the outcropping of a quartz vein is discovered, enough is broken off to allow its character to be studied both from a geological and a chemical standpoint.

After examining it in connection with the formation in the vicinity, the geologist is often able to indicate where the surface can be bored with the possibility of reaching the ore-bearing stratum at once. The value of the ore from the outcropping and that from the interior can be approximately determined by the chemist. To crush the ore is a slight undertaking, and with the lead which he has brought along the material can be readily fused in a portable furnace. In fact, he has the essentials for making a "dry assay" on a limited scale, for cupels are now made of such light weight that they can readily be carried on muleback.

Chemical Tests for Gold

Taking the ingot of lead and of precious metal he can easily oxidize the lead by placing it in his cupel and heating the latter to the required temperature in an oven constructed of material which he can obtain in the vicinity. With his nitric acid he separates the silver which may remain, leaving the gold only to be tested for its value. The proportion of the gold to a given quantity of ore can be determined by his scales, but by using his touchstone or black basalt he can detect the quality of the gold by the color which this substance makes when drawn over the surface of the metal.

In the outfit of the modern prospector quicksilver has become practically indispensable. Its affinity for gold makes it a most valuable agent. Where the existence of placer gold is imagined, the introduction of mercury into the test washer soon solves the problem and avoids the use of riffles and other crude appliances which were formerly depended upon almost entirely. After crushing the specimens of test ore, the quicksilver can also be used to ascertain the quantity of free gold among the particles. As the mercury can be eliminated by heating the composition to a sufficiently high temperature, it is now utilized in large quantities by the modern prospector.

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Readers are requested to send for publication new ideas on any subject, technical or mercantile, of general interest to the trade. As this page is for the use of individual readers, we do not hold ourselves responsible for the views expressed. — Editor The Keystone.

Mutilation of Coins

ED. KEYSTONE:—In regard to the article in your August issue as to "Mutilation of Coins by jewelers, I wish to state that in the late '80's and early '90's there was a fad of making bangles of coins. To such large proportions did it grow, that the government, to stop the use of coins for this purpose, passed the law prohibiting the mutilation of coins.

Shortly after the passage of this law, a jeweler (if I remember right, of Boston) had an order to myke up some ornaments from a number of coins. When completed, the work was to show that it was made of coins; yet the coins were to be in such condition that they could never be used again as currency. To assure himself that he was not violating the law, this jeweler wrote to the Treasury Department, explaining how he wanted to use the coins and asking for a ruling in the matter. The reply seemed to indicate that such use of the coins would not be a violation of the law. The jeweler then went on with the work, and later was hauled up for violation of the law. He offered in extenuation or defence the letter from the Treasury Department. At the trial this letter was repudiated by the court, the jeweler was adjudged guilty and had to pay a heavy fine.

The intent of the law is the protection of the coinage, and any mutilation, however slight, is a violation. Any one has the right to melt his coins into bullion, but nothing short of complete destruction as coins will suffice.

Truly yours,

Columbia, S. C. P. H. LACHICOTTE.

Gold Rings Blackening the Finger

ED. KEYSTONE:—I have sold several 14 K. solid gold band rings and am having trouble with them turning the finger black. Will you kindly tell me through your valued columns the cause and remedy. The rings were sold last Christmas and have been in constant use.

Truly yours,

Dunkirk, Ind. G. W. C.

P. S.—Please do not refer me to some back number of your journal, as I have no file for any considerable time back.

[We will make this letter the occasion of a word of advice to the trade, on the necessity of keeping complete files of this journal. Had our subscriber had a file with the annual indexes, he could have found this information in a moment, saved his time and ours, and also the space in our columns which might be used to better purpose on some less familiar subject.

As most of our readers are aware when the skin blackens a ring, it is caused by the sulphur thrown off in the insensible perspiration. The subject of gold rings blackening the finger is one which, we think, has interested the human family about as long as gold rings have been worn. The belief usually held by people is, that a gold ring will not blacken the finger, while a brass ring will. The facts are, gold rings will in some instances

blacken the finger. There is always a distinguishing feature between the blackening produced by gold and that produced by brass; the black from gold is a true black or gray, while the black from brass is a green-black. The explanation of a gold ring blackening the finger is, the gold is soft and the skin of the finger wears away gold enough to give a black color, not a stain but an absolute painting of the finger with a black pigment, which really is gold in a very fine state of division. In proof of this, write your name on a piece of enamel cardboard with a five-dollar gold piece. The board used must be enameled, to remove enough gold to give a color. A better medium or substance to use is a thin kind of hard white leather drug-gists use for tying over the corks of bottles. A piece of such leather glued to a bit of board, and used like a buff, will show a black streak after a few rubs on the edge of a gold coin.

Another proof that fine gold appears black can be shown by chemical action. Alloy some pure gold with three times its weight of silver. Roll out the alloy extremely thin, then cut into small bits and dissolve them in pure nitric acid, diluted one-half with water. After the metal is apparently all dissolved there will remain in the bottom of the vessel a black powder, which is nothing more nor less than the gold which was alloyed with the silver, which can be proved by fusing the black powder to a yellow button of pure gold of the same weight as was alloyed with the silver. It follows, as a natural sequence, that the softer the gold the more easily it will wear away and blacken the finger. To those who are incredulous about the human skin being rough enough to perceptibly wear away gold, we suggest consulting a barber who strops his razor on the palm of his hand. There is much difference in persons in regard to the abrasive properties of their skin, and we presume that with the same person a dry, rough condition of the skin would tend more toward blackening than would a soft, moist condition.—ED.]

"Putting Up a Front"

IN an interior town, one evening recently, the representative of a prominent jobbing house, just arrived, was sitting in front of the hotel planning his operations for the next day. He heard the "chug-chug" of an approaching automobile and, looking up, saw Mr. Blank, the jeweler, whizzing by. Two citizens, standing nearby, were thus heard to remark:

"That's a fine machine of Blank's."

"You bet! Paid me \$1500 for it, cash, a week ago. Blank seems to be getting on—the jewelry business must be paying."

"Well, you can't tell. Maybe Blank is only 'putting up a front.' I'd sooner have Jones' business, around the corner. He doesn't put on the style that Blank does, but he's getting there in a business way. Blank's a bluffer."

The jobber's man sat up and thought things over. He turned to his memorandum book and saw that Blank owed the firm just about \$1500, past due; and Blank had "paid cash" for the automobile the week before. The jobber's man had come to the town specially to offer Blank a "good thing" in a job lot of discontinued styles of staple goods, amounting to about \$1000. He had not been disturbed by the overdue account but had intended to sell the job lot on top of the old bill, if he couldn't get cash on account; for Blank had always successfully "bluffed"

the firm. But the automobile butted in on his plans.

The next morning he took the goods to Jones, who bought them with an "extra 10 off for cash."

The incident suggests a variety of profitable morals, which might be tabulated as follows:

1. Your cash belongs to the man whose bill is past due, not to the vender who will help you to "put up a front."

2. "Putting up a front" is only justifiable when there's something *behind* the front.

3. There's no such brake for an automobile on the road as a fat bill-file at home. It seems to interfere with the whiz.

4. Blank's satisfaction in "putting up a front" is as nothing compared to Jones' satisfaction in contemplating his discounted and receipted bill.

5. Blank is fooled in thinking the people are fooled.

6. Jones will sell the bargain lot at a big profit; an automobile can't sell goods.

7. Better smell of watch-oil than gasoline, until your bills are paid.

8. \$1500 past due for goods sold or in stock seems twice as big as before the \$1500 was paid in cash for a luxury.

9. A pretence that is *found out* is the flattest proposition possible. A toy balloon looks like a solid globe *until* you prick it with a pin; and there's nothing quite so absurd as to hope that a *business* balloon may long escape an inquiring pin.

10. An unpretentious man generally carries with him the quiet sympathy and good will of his neighbors; but the man who "puts up a front" challenges the criticism of the people, in demanding something of their credulity. No man likes to believe that another *thinks* he can be made a fool of.

11. An automobile is not the only way to excite attention. Sometimes superior workmanship at the bench, or having the best goods, or the lowest prices, does the trick; and it costs less—and pays better.

Food Deposits on Desert Islands

The New Zealand government has provided for castaway crews by establishing depots where food and clothing may be obtained on several islands off the coast. Not long ago a French crew, shipwrecked and cast upon the Auckland Islands, were sustained for a considerable period by this thoughtful provision. At most of the islands a boat is left, also, while finger-posts point out the way to the depots. The government steamer visits most of the islands twice a year, and no island is visited less than once a year.

Mr. Up-to-Date Jeweler :



HAVE you seen the new lines of Art Pottery we have just produced?

DO you know that they are absolutely new—that they are different from any ever made?

WILL you be interested when we tell you, and investigation will prove, that they sell readily at good profit, and *give perfect satisfaction?*

WE think you should be interested and see them sure before buying a dollar's worth of pottery—it'll pay you. Send for catalogue to-day.

SALESROOMS:

NEW YORK—68 and 70 West Broadway
PHILADELPHIA—1035 Market Street
CHICAGO—514 Hartford Building
BOSTON—146 Franklin Street
PITTSBURGH—420 Bissell Block
PORTLAND, OREGON—46 and 48 Front Street
BALTIMORE—2 Clay Street

J. B. Owens
Zanesville, Ohio

50 Per Cent. More Attractive



Illuminated "Quick Sales" Show Cases

(John Petz, Patentee)

are fitted with best **German Plate Mirrors** which show **true** reflections of the goods displayed. This, combined with our clever **Illuminating Device**, makes "Quick Sales" Cases attract **50% more attention** than others. The experience of progressive merchants everywhere proves it.

American Shock Mirrors—used by **nine-tenths** of our competitors because they are cheaper—**are wavy**—do not show true reflections, and haven't the remarkable brilliancy peculiar to German Plate.

It's the details of construction—the mirrors—the glass—the wood—the glue—the workmanship—and the finish that makes "Quick Sales" Cases more rigid, more durable and more attractive than others. It's the "Quick Sales" **quality** that insures "quick sales and more sales." Write to-day for prices and information.

DETROIT SHOW CASE COMPANY, Dept. C

"Show Case Builders to Progressive Merchants"

JOHN PETZ, Pres.
HERBERT MALOTT, Sec.-Treas.



482 to 490
Fort Street, West
Detroit, U.S.A.

Canadian Branch
Windsor, Ont.

THE MIDDLETOWN SILVER CO.

MIDDLETOWN, CONN.

FINEST GRADE
SILVER PLATED
HOLLOWWARE

A Line Guaranteed Strictly
Hand Burnished

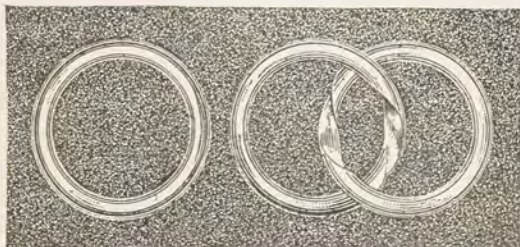


PHOTOGRAPH BOOK
Loaned to the Trade
for Inspection

NEW YORK, 14 Maiden Lane
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317 FRUIT, F. G. BURNISHED
CHICAGO, Temporary Office, 22 St. James Place

SAN FRANCISCO, 134 Sutter St.
ATLANTA, 70-80 Peachtree St.



Numerous inquiries have been made

Who Makes The Alliance Ring?

Let us solve this question for you

WE DO!!!

The graceful style of the Alliance Ring is rapidly supplanting the use of the old-style wedding ring. We have thus far supplied the entire demand, and we take these means to inform you that should you need them, we can supply you. These rings are most carefully adjusted; the joints are barely perceptible, except by a magnifying glass. They are easily opened as shown on illustration by inserting a sharp instrument, for instance a pin, in the inside pin hole.

14 karat, 3 dwts., in ½ dozen lots, \$1.10 per dwt., net 18 karat, 3 dwts., in ½ dozen lots, \$1.25 per dwt., net

Leonard Krower, Manufacturing Jeweler, 536-538 Canal Street, NEW ORLEANS, LA.

The Origin of Pearls

Due to Boring Sponges and Burrowing Worms—
Most Important Fisheries of India—Pearl
Fishing in the United States

SPEAKING generally, the substance forming the inner layers of the shells of any nacreous mollusk is termed "pearly." In the mass it constitutes what is known as "mother of pearl," while in the form of a detached lustrous concretion it is a "pearl." Dr. W. A. Herdman, of the University of Liverpool, England, in reporting recently on the pearl oyster fisheries of Ceylon, makes some very interesting statements as to the origin of pearls, from which it appears that some pearls, or pearly excrescences on the interior of the shell, are due to the irritation caused by boring sponges and burrowing worms, says Randolph L. Geare in the *Scientific American*.

It would seem that minute grains of sand and other foreign particles gain access to the body inside the shell, which are popularly supposed to form the nuclei of pearls, only under very exceptional circumstances; in fact, only one pearl out of a large number which Dr. Herdman decalcified contained in its center what proved to be beyond doubt a grain of sand. It is only when the shell is injured, as by breaking off or crushing the projecting "ears"—thereby enabling some fine sand to work in—that such inorganic particles supply the irritation which gives rise to pearl formation.

Varieties of Pearls

Another class of pearls, found in the muscular tissue of the animal, are called "muscle pearls." They have no organic nuclei, but seem to start as minute calcareous concretions in the tissue. The choicest pearls, to which Dr. Herdman gives the name "cyst" or "orient," occur in the thin muscular margin of the mouth, or in the thick, white lateral part over the stomach and liver, or at times are found free in a cavity of the body; and Dr. Herdman's observations have caused him to remark that the majority of the fine pearls found in the soft tissues contain more or less recognizable remains of parasitic worms, so that the stimulation which eventually causes the formation of an "orient" pearl is due to infection by a minute worm which becomes encased and dies; thus, as Dr. Herdman puts it, justifying in a sense Dubois's statement that "the most beautiful pearl in the world is in short nothing more than the brilliant sarcophagus of a worm."

Dr. Kelaart, another prominent authority on pearls, is credited with having been the first to connect their formations with the presence of wormy parasites, although as far back as 1852 Filippi proved that the

trematode worm, known as *Distomum duplicatum*, was the cause of pearl formation in some of the fresh water mussels. Other authorities, such as Humbert, the Swiss naturalist, agree that these worms play an important part in the formation of pearls, and, this being so, it may be asked what is to prevent the possibility of infecting oysters with these worms, thereby increasing the supply of pearls.

The True Pearl Oyster

The true pearl oyster (*Meleagrina margaritifera*) is found chiefly in the Indian Ocean, the Red Sea, the warmer parts of the South Pacific, the Gulf of California and the Caribbean Sea. The local conditions supply, &c., vary greatly in different regions.

The pearl fisheries of India have long been famous. The most important are in the Gulf of Manar. On the Ceylon side the fisheries were very profitable in 1903 and 1904. The seasons are irregular here, as elsewhere, owing to the frequent disappearance of the oysters before they reach the proper age of production, which is four to six years.

As the *modus operandi* of these fisheries is in general similar in every region a brief description of that employed in the Ceylon fisheries will suffice for all. When conditions are favorable a fishery is organized and two hundred or more large boats are fitted out, manned by sturdy natives, each boat having its complement of divers. The boats, grouped in fleets of sixty or seventy each, start at night so as to reach the banks by sunrise.

Each boat generally carries two divers and is manned by ten rowers, a steersman and a shark charmer (*pillal karras*). He is a very important personage, for upon his mystic ceremonies the diver chiefly relies for protection from the numerous sharks, but he also arms himself with a club in case the incontinents of the charmer should fail. As soon as the bank is reached a signal gun is fired and diving commences. The diver has a stone of granite weighing about forty pounds attached to the cord by which he is let down in order to facilitate his descent. Divers work in pairs, one going down while the other stays on board to watch the signal cord. When this is jerked the stone is pulled up first, then the basket of oysters and lastly the man. Divers generally remain below about a minute and are expected to make forty or fifty descents a day.

Sorting The Pearls

The pearls are sorted into ten different sizes by passing them through brass sieves containing respectively 20, 30, 50, 80, 100, 200, 400, 600, 800 and 1,000 holes. The number of oysters obtained daily in these fisheries is estimated at about a million. These are auctioned off, and frequently bring \$10 to \$14 a thousand, while even as high a price as \$24 a thousand has been reached. The present local price for selected pearls of one carat and upward is about \$20 per carat. In 1903 the Government realized \$271,850, and in 1904 \$351,564 from these fisheries.

Among other localities where pearl fisheries are carried on may be mentioned

the Merguian Archipelago under the Government of Burma, the lower end of the Red Sea, the Persian Gulf, the waters around the Molucca Islands, in the neighborhood of Zanzibar, and on the west coast of New Caledonia. Nearer home are the fisheries of La Paz, in lower California, British Honduras, Panama, along the coast of Ecuador and of Peru, and in the lower Gulf of Maracaibo. There is also a flourishing pearl fishery on the northern coast of Australia, where a large fleet of vessels is employed, and another extensive industry has lately been reported in the neighborhood of Thursday Island, north of Queensland.

Value of Fresh Water Pearls

The gathering of pearls from fresh water shells has been carried on for centuries on this continent.

When De Soto was made Governor of Cuba it was agreed that one-fifth of all treasures won in battle, including pearls, should be given to the Spanish crown, and on one occasion his men are said to have obtained 350 pounds' weight of pearls from Indian graves in Cutifachiqui.

The value of pearls from fresh water shells varies greatly, depending on their size and color. One pearl from a fresh water mussel was sold for \$1,500, while a round pink pearl from Tennessee brought \$650. One of the finest pearls ever collected in the United States was the "Queen." It had a beautiful luster and weighed ninety-three grains. It was found near Paterson, N. J., in 1857, and was sold to the Empress Eugénie for \$2,500. To-day it is probably worth \$10,000.

Pearl fishing in the United States has been carried on in many States, including Kentucky, Tennessee, Texas, Wisconsin, Illinois, Arkansas, Missouri, Georgia and Kansas.

The manufacture of ornamental objects, such as pocketbooks, hand satchels, jewel cases, etc., from pearl shells, has during recent years become an important industry, and with their iridescent shades of salmon, purple, pink and cream, very beautiful articles are made.

Pearl Button Industry

The pearl button industry has increased extensively during the last eight years, and several factories, especially in towns in Iowa and Illinois bordering on the Mississippi River, are now in operation. The principal species of fresh water mussels whose shells are used in their manufacture is the "niggerhead" (*Quadrula ebena*), while several varieties of "sand shells" are also employed, including the "yellow" (*Lampsilis anodontoides*), the "black" (*L. rectus*), and the "slough" (*L. fallaciosus*). One of the best shells is the "deerhorn" (*Tritigonia verrucosa*); and another favorite is the "butterfly" (*Plagiola securis*).

The pearl button industry in the United States began in 1891, the first factory being established at Muscatine, Iowa. The largest factories turn out as many as a thousand gross of finished buttons a day, the average price obtained being thirty-five to forty cents a gross.

DIAMONDS

LOOSE and MOUNTED

MAKERS OF FINE JEWELRY

JOS. NOTERMAN & Co.

512-514 RACE STREET

CINCINNATI, OHIO

DIAMONDS RECUT AND REPAIRED

The **QUALITY** and **WORKMANSHIP** of
DORST JEWELRY

has become a byword among discriminating jewelers

Two completely equipped factories—many workmen and a corps
of office men who exert every means to supply your wants.
Each man an expert in his particular work, making

**DIAMOND MOUNTINGS, EMBLEM GOODS, MEDALS
BADGES AND CLASS PINS**

Specially distinguished for Jewelry and Watch Case Repairing

THE DORST COMPANY

Special Manufacturing Jewelers for the Retail Jewelry Trade

Kansas City, Mo.
Gumbel Building

Cincinnati, Ohio
Lion Building

What to Do with Small Savings

EVERYBODY would like to save money, and almost everybody can. But it is generally agreed that money is harder to keep and safely invest than to get. Especially is this true of small savings. What shall we do with them?

Open a bank account. Booker T. Washington says to his people: "As soon as you have saved a dollar open a bank account. And if you do not have a dollar, open it with half a dollar."

Select the strongest and best-managed bank you can, but any bank is safer than your bureau drawer, and when a bank does fail, which is not often in proportion to the number of banks, the owners of the bank must lose all their investments in it first, so the depositors usually lose nothing. Or go into a building association. Usually an investor pays into his building association one dollar a month for each share he takes. This money is invested by the managers of the association, generally in mortgages on real estate in the town where the association is located. The interest thus earned for you is added to your principal and is kept accumulating until each of your shares is worth two hundred dollars, when your money is drawn out and paid to you. The time that it takes for a share to amount to two hundred dollars varies somewhat according to the local demand for money, but it is usually about ten or eleven years. A simple calculation will show you that you have received a very good rate of interest upon your savings while they were accumulating.

One advantage of a building association is that you are compelled to save money, and to resist temptations that come to you to spend it unnecessarily. You can withdraw from the association at any time and get back all that you have paid in, together with a fair interest upon it; but to get all that your money has earned, you must continue to pay until the shares mature and are worth the two hundred dollars apiece. Building associations are especially helpful to a man who wants to buy a home with his savings. He can borrow most of the cost of a home from the association, pay the interest each month, which will be much less than rent, and at the end of ten or eleven years his matured shares will pay his debt. Many thousands of men with small incomes have paid for homes in this way.

The building associations here referred to are home associations well managed by careful, conservative men. But you should be very cautious about investing in building associations in distant places, especially if they are spending money to pay agents to travel about and promise high rates of interest. Some of these associations have proved to be disastrous to those who invested in them.

When you have saved five hundred or a thousand dollars look around for a permanent investment. But first make up your mind what not to do. Do not invest in some mining or other plausible scheme which you see advertised, or which has been urged upon you by an agent, as certain to pay you ten or twelve per cent. upon your investment. Do not forget that there are millions of dollars lying idle in the banks of this country whose owners would snap at a chance to invest them safely at five per cent. or even less. And if the investments thus advertised were really safe you would never hear of them. Their manage-

ment would certainly not spend money in advertising or sending out agents when the man next door has a million dollars to invest at half the rate which they are promising you. While an occasional one of these may turn out fortunately, such are very rare indeed. The best of them are speculative, and many of them are frauds. It is a great misfortune that the newspapers publish their advertisements. The best papers and magazines do not do it.

First of all, then, look out for the safety of your investment. Be more anxious that your principal shall be safe than to get a high rate of interest. Do not expect to find any permanent and safe investment that will pay you more than five per cent. There is no greater discouragement to further saving than to lose what you have already saved.

A Home as an Investment

If you are permanently located and need a home, buy one. Pay all you can upon it, borrow the rest of its cost upon a mortgage, with the privilege of paying off a part of the mortgage every time you pay your interest, and then pay for it as fast as you can. There is no safer or more satisfactory investment of savings than in a home. But if you do not need a home, real estate is often an unwise investment. It is often difficult to sell without a sacrifice. It is a common and true saying, that real estate is much easier bought than sold. Repairs, taxes and insurance use up a large part of the rent. Securing tenants and collecting rents is troublesome and sometimes uncertain; and persons with little practical business experience, which includes most women and many men, had not better buy real estate as an investment.

Next to a home, there is no better investment for you than a first mortgage on real estate in your neighborhood. A mortgage is a pledge of property for the payment of a debt. A second mortgage is a second one placed on the same property. The first mortgage and its interest must be paid in full before anything is paid upon the second mortgage, so don't buy a second mortgage. If the property is sold, whoever buys it assumes the mortgage and must pay the interest, and the principal when it is due. Should the owner of the property fail to pay the interest or principal when due, the property may be sold by the sheriff, and the mortgage, principal and interest, is paid from the proceeds of the sale.

To invest safely in a mortgage you must be sure that the property really belongs to him who gives the mortgage, that it is worth considerably more than you lend upon it, that the buildings upon it are insured, and that it is recorded in the proper office in the county courthouse before any other mortgage on the same property is recorded there, for it is the order in which the mortgages are recorded, not the order in which they are given, that makes them first or second mortgages. It is the business of a conveyancer or a lawyer to attend to these details, and this service is usually paid for, not by you but by the borrower. Such a mortgage needs no further attention so long as the interest and all taxes on the property are promptly paid, except to see that buildings are kept insured, and possibly to call in your loan if the property seems to be depreciating much in value.

Except in neighborhoods remote from business centers, or in those which are rapidly developing and increasing in value, the best rate of interest now paid upon good mortgages is five per cent. Most of the best ones, placed in or near the large Eastern cities, do not pay more than four or four and a half per cent. Almost everywhere the de-

mand for good mortgages is greater than the supply, but they can usually be got after a little waiting.

Bonds as an Investment

Bonds are a favorite kind of investment. When a railroad or other such company wishes to borrow money, it, too, usually gives a mortgage upon its property. But as no one person could or would lend a railroad all the money it needed, a mortgage is given to some trust company, and this mortgage is cut up into thousand, or five hundred, dollar pieces, called bonds, and these are sold to investors. The trust company holds the mortgage for the security of the bondholders. Bonds run a term of years, rarely less than ten, often twenty, thirty, and even fifty or a hundred years. The longer a bond has to run the better it is, because it saves one the trouble and risk of finding a new investment. When a company is well established, is doing a good, safe business, and is bonded for only a reasonable part of the value of its property, its bonds are among the best and safest kinds of investment. The interest is usually collected by cutting off, when due, coupons which are attached to each bond, and which are promises to pay six months' interest when due. These may be collected through a bank like checks.

The safest bonds are municipal bonds, or those issued by the government, State, county, city, borough or township. Good municipal bonds pay but small interest. Any State or important city in the United States can borrow money at from three to three and a half per cent., and no county or town in the country with first-class credit is now obliged to pay more than four per cent. upon its bonds. All the late issues of United States Government bonds pay but two per cent., and they sell at a premium, but their value is increased by the fact that national banks need them in order to issue bank notes upon them. But the bonds of good trolley roads, water or coal companies and other corporations can be bought which pay almost, and sometimes quite, five per cent.

It ought to be added, that once railroads and similar enterprises were built from the sale of both stock and bonds. Stock was subscribed and paid for by the builders of the road, and bonds were sold to pay only the rest of the cost. Then its bonds represented only a part, say one-half, of the cost of a railroad, and were almost always a safe investment. But now many enterprises are paid for wholly by the sale of bonds, so the company has really borrowed all, and sometimes even more, than its property cost. This is especially true of the trolley roads that are now building everywhere. They are usually built wholly from the sale of bonds, and they should be carefully investigated before buying their bonds.

Be Careful in Buying Stocks

Stocks are another favorite form of investment. The stockholders are the owners of the railroad, etc. There are all kinds of stocks, some good, some very poor, and here, too, it is important that inexperienced persons should carefully consult experienced, capable and honest men as to which should be bought. The best stocks pay a low rate of interest on their present cost. They, too, usually pay their dividends twice a year. These dividends in well-established companies seldom change, but the directors have the right to change them or to stop paying them at any time. An important advantage of stocks and bonds is that they can be sold at any time and practically for their full value.

—Geo Morris Phillips, in *Ladies' Home Journal*,

1738

WAIT FOR US

NEW GOODS, NEW PRICES

We will soon call on you with an entirely new line of **M. S. BENEDICT MFG. CO.'S** Hollowware, Flatware, Ormolu Gold Clocks, Jewel Boxes, Ink Stands and Art Novelties. **DON'T** buy until you see us; we can give you the best values of any line shown this year.



W. A. VAN PATTEN, Ohio and Indiana
JOHN BAILEY, Pennsylvania and West Virginia
H. S. OSMUN, Michigan
GEO. F. YALE, Illinois
M. E. WRIGHT, New England States
E. A. KANE, New York and New Jersey
CHAS. W. FUSSELL, Atlantic Coast States
C. C. GRAHAM, Pacific Coast States
H. L. HAWKINS, Middle West

GILMORE BROS., Canada
D. M. BANKER, New York Office
R. H. BECKLEY, Boston Office
NEWTON OWENS, St. Louis Office
E. H. BANKER, Chicago Office
C. T. AHLBORN, General Representative
W. E. WIRT, Kansas
WM. G. KING, Wisconsin
H. C. KELLEY, Minnesota and Dakotas

Advertising for Retailers

Importance of Advertising—Advertising in Small and Large Towns—Use of Price Tickets

THE retailer who has advertised persistently and intelligently and has achieved success by reason of it is the one on whose advice and experience we can most rely. Such a merchant is C. H. Casey, of Jordan, Minn. At the last convention of the Minnesota hardware merchants at Duluth he read a paper on advertising that was so full of practical wisdom that it will be read with interest and profit by every jeweler. Mr. Casey said:

Importance of Advertising "This subject of advertising is, I believe, one of the most important of all matters which a business man must consider, for in many ways it involves the vital interests of his business; it is a selling agency, and in a retail business it is probably the most important of all the selling agencies of your business.

"The first question is, does it pay to advertise in small towns? The answer to this may be found in the methods of the mail order houses. They do not advertise in the large cities, they strike the small towns. They describe their goods, not to the city people, but to the people in the small towns and country, and they get results. If the retail hardware man will take his cue from this and go at the people right, mean business in advertising, and make a business of it, they will succeed. When the city graft houses stop advertising through the territory covered by your home paper, you may conclude that advertising in a small town doesn't pay, but so long as they are getting business right out from under your noses, getting cash for goods not as good as you sell on time, you cannot say that advertising does not pay. The same people who are willing to follow their ads. will read yours if you give them something worth reading. Put in something that means something, keep it fresh, and the results will justify the statement that advertising does pay in towns, large or small.

Small Towns and Large Cities "There is, however, a vast difference in the style of writing an advertisement for a large concern in a large town and the local dealer in a country town. The man living in a town of 5,000 inhabitants or less, talks in his advertising to the people he knows personally, and to people who know him personally. The large retailer in Chicago or New York talks impersonally to some hundreds of thousands of people whom he does not know, and who do not know him personally. In this case it's the 'business' that is addressing the public, but in your case it is the 'man' that is the chief factor. Too many merchants, it seems to me, make the mistake of attempting to follow the impersonal methods of the big city advertiser. They realize that those big retailers are very successful, and that it is their advertising that is making them so, very largely, and they try to follow their ad-

vertising methods, which do not fit or apply to the smaller locality at all.

"My belief is, and always has been, that if a thing is worth doing at all, it is worth doing well, and I believe that this applies as directly to the advertising of your store and your business as anything one could think of. If you are going to spend money at all, spend enough and apply it in a way that it will attract attention, or what you do spend will be practically a waste.

"To start right in advertising requires a certain amount of 'sand.' To put out a good quantity of your hard earned dollars, that are already safe in your pocket, or in bank, and seek in exchange what might be called an unknown quantity, takes grit and faith, both in your ability to write convincing, pulling ads., and in the results in dollars and cents. Here is, I believe, where many a merchant 'falls down.' He is solicited by the local newspaper man for an ad.; he asks what it will cost, and being told, hesitates and thinks of how good that money is, of the nice things he could buy with it, or perhaps of how hard he had to work and scheme to make, but finally decides to take a few dollars' worth of space and see what he gets out of it. The consequence is he gets little or nothing in the way of benefit from his investment, because he didn't spend enough or keep at it long enough to be noticed. Very often that merchant never has the courage to try advertising again.

Distribution of Advertising "In regard to distributing advertising matter, I think many merchants make the mistake of being 'penny wise and pound foolish.' They buy or get up a piece of advertising that in itself is very worthy, and make the mistake of trying to get it into their customers' hands by handing it to them as they come into the store. This soon becomes an old thing, clerks get careless, even you forget it yourself, and the result is that perhaps not much more than half the edition ever gets further than the office or a shelf under the counter until it's old and out of date. And what you do get out, only a small fraction is appreciated as it should be, from the fact that your customer received it at a time when, to him, he had more important things on his mind. If you get up a booklet or a calendar that is worth giving at all (and it is useless to get any other kind), it is worth the trouble and expense of sending it to your customer through the mail. Deliver it right into his house, where he is bound to pick it up and look it over, and in all probability when he is in the best frame of mind. Thus he will form the most favorable opinion of you and your business.

"With such advertising you ought to send a nicely written letter, calling his attention to it, and to any other matter connected with your business. I have found this extremely good in sending out my annual calendar at the beginning of the year. It affords you the opportunity to thank your customers for the business they have given you during the previous year, shows that you appreciate it, and you can express the hope that their account will be largely increased during the coming season.

Use of Mailing Lists

"In my own business I have, and keep up, several mailing lists, which we use in sending out advertising matter. We have one list that contains the names of the head of every family, in the territory from which we draw trade. This we use for general advertising, such as circulars and booklets. We have another that contains the name of every person with whom we have done business, or with whom we feel that we should do business, which is used in distributing calendars and more expensive advertising. Then we have lists of carpenters, threshermen, well-men, town and school officers, etc., and use them when we have anything that is especially interesting to them. One thing I have done in this line that all of you may not have thought of, is, that when I get up an especially good ad., one that appeals to a certain class, I have the printer take this out (I am speaking of a newspaper ad. now), put a nice border around it, and run off a few hundred of them, then mail them direct to the persons most interested. For instance you get up a good, strong ad. on belting and fittings, and you mail them in the manner I have described to every thresherman, creamery man or mill man in your territory, and the chances are you will get good results, and with a minimum of expense.

Truth in Advertising

"Make your advertising truthful; do not announce 'bargains' in glaring headlines, unless you have bargains, for perhaps your competitor down the street is offering the public the same or better goods at as low or lower price, and not making a fuss about it. Your customers will soon begin to doubt all your advertisements and even your personal talks, and it will leave you in really worse shape than if you had not advertised at all. Tell your trade just what your goods are and what you propose to do, and when the time comes, do it.

"In my judgment, an error with many merchants who are considered good advertisers, is that they show too much anxiety to sell. There is an apparent fear that those who read may not come to buy; an uncertainty lest what the advertiser says will not be believed. They assert almost as if with tears in their eyes, that 'this store is an honest store;' that 'people who deal with us will not be cheated;' 'we will treat you square,' and other words to the same effect. When one is continually bellowing about his honesty it gives you the feeling that perhaps it's just as well to keep one hand on your pocketbook, and the other on your watch, or even send for the police. In other words, honesty rarely needs to make an assertion of virtue. You get the public to your store by general publicity, and fair dealing, good merchandise, and low prices will speak for themselves.

"Your show windows are one of your best, and at the same time, very cheapest advertising mediums, and you ought to give them all the time and what little expense they require to keep them in the very best shape. Keep them clean and neatly arranged."

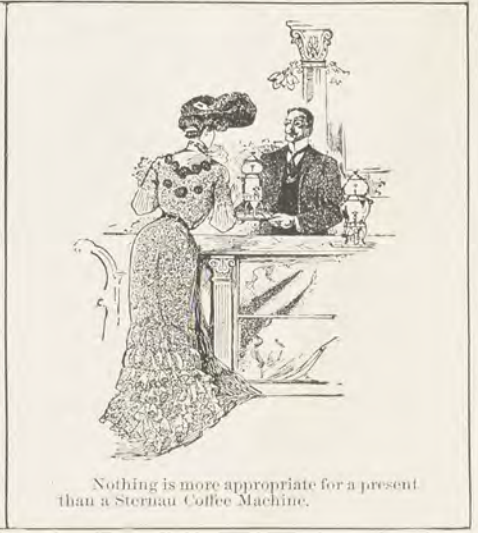
"IF IT BURNS ALCOHOL, WE MAKE IT"



Everyone who uses the Sternau Coffee Machine is happy, and begins the daily routine of work in a frame of mind that is "at peace with all the world."



The noble Turk, the swarthy Arab and the indolent Mexican, long ago recognized the many excellent qualities of coffee. To them the Sternau Machine is a boon.



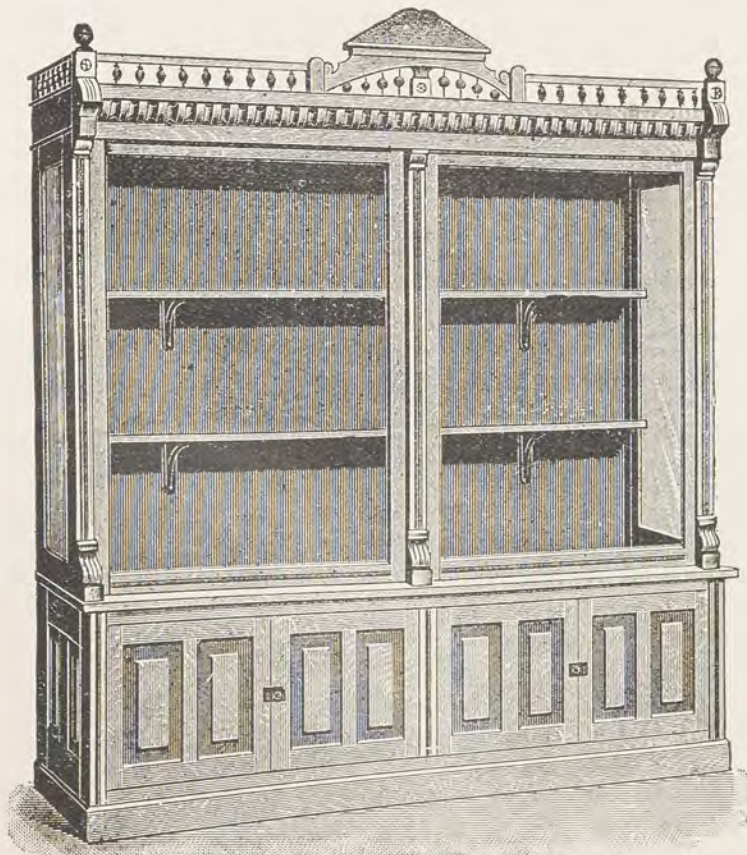
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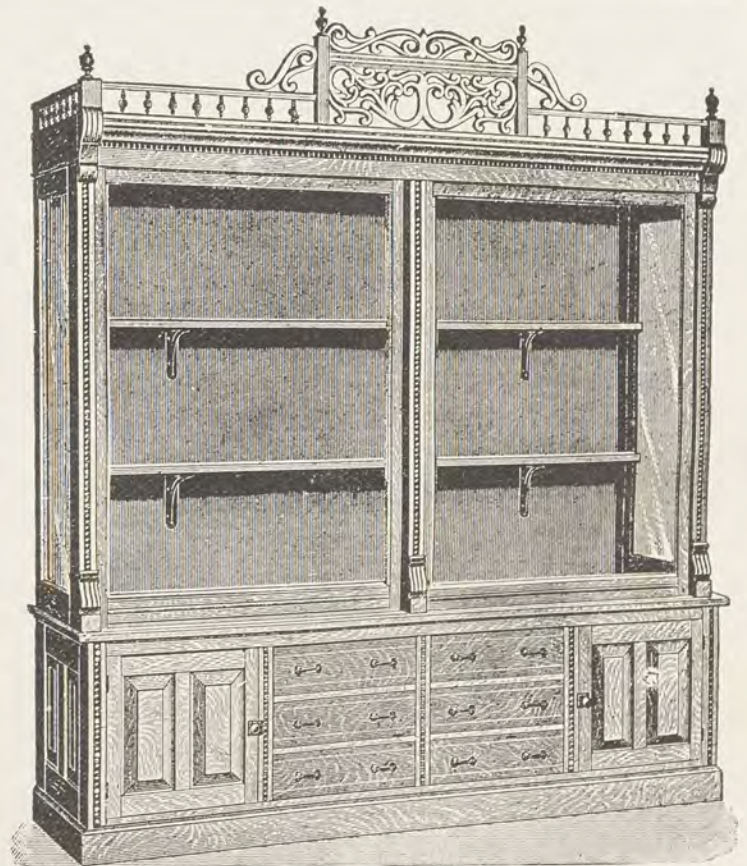


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No. 44. Case 8 Feet Long, Oak Only. Dimensions: Height, 9 feet 2 1/2 inches; length, 8 feet; width of base, 2 feet 3 inches; depth of show case, 17 1/2 inches; glass best quality, double thick, full length in doors and sides; size of glass in each door 40 x 54. Well adapted for the display of goods, has six large commodious drawers and two cupboards for storing extra stock; the doors are made to slide on brass tracks, making the case practically dust-proof. This case is constructed in a first-class manner and well finished; shipped in knock-down. Net Cash **\$47.80**

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Gems of the Pacific Coast

ONE exhibit in the Mines Building, at the Lewis and Clark Exposition, in Portland, Oregon, which especially attracted the attention of the visiting jewelers, was the remarkable collection of precious and semi-precious stones of the North Pacific States, prepared by George F. Kunz, the noted mineralogist, and loaned by Tiffany & Co., New York. The collection comprises a representation of all the more remarkable gem minerals from the entire Pacific Coast region and from many points of the interior Northwest, together with some from Arizona and Utah. The following description of the exhibit, by Mr. Kunz, is very interesting:

Among the most valuable gem materials shown are beautiful blue sapphires from Yogo Gulch, Fergus County, Mont. These present a striking contrast to the varied colors, red, yellow, brown, blue, green and white, of those found in the placer washings near Phillipsburg, Granite County, Mont. These latter are all obtained by sluicing, whereas, in Fergus County sapphire is mined in a solid igneous rock. Montana is also represented by some fine and remarkable examples of amethyst and of smoky quartz, sometimes curiously mingled, and the latter filled with inclusions of black tourmaline. These are very interesting varieties, found a few years ago in the Little Pipestone district, in Jefferson County.

From the Pacific Coast proper the most northerly exhibit is that of the peculiar large crystals of garnet from Fort Wrangell, Alaska. These garnets are distributed through a gray mica chist, like plums in a pudding, and although beautiful as cabinet specimens, have little or no value as precious gems. From Prince of Wales Island are shown magnificent large crystals of dark green epidote, wonderful for their perfection as minerals, but not of gem value. They were found by accident in mining for copper.

Of especial interest are specimens of aboriginal celts, hammers and knives made of green jade, found in graves in Alaska. One large mass of stock piece shows how the natives cut off enough of this precious mineral to form their imple-

ments for hunting, for war or for the camp. Lieutenant Stoney succeeded some years ago in finding the substance in place as a vein material at Jade Mountain. Thus was disproved the hotly-contested theory of a great German anthropologist, who spent a lifetime in discussing the history and use of this everywhere-prized aboriginal material, and in attempting to prove that jade existed only in two places in Asia, hence that all the material, whether found in ancient Roman graves, in France, in the Swiss lakes, or in America, must have been brought by immigration from Asia. Oregon is represented by various specimens of agate. Chalcedony (sapphrine), from Kern County, Cal., is also shown, and likewise charming green chrysoprase, from Visalia, Tulare County, Cal., where the finest examples of this

Calaveras County, Cal., when great masses of this mineral were found, that cut, as shown in the case, rock crystal balls measuring from $2\frac{3}{8}$ to $5\frac{7}{8}$ inches in diameter. It was believed that the Japanese only could work quartz crystals in this manner, but Tiffany & Co. cut these in their own establishment from this American material, and no finer examples of such balls have ever been produced.

Southern California is fast becoming known as one of the most remarkable gem regions in the world, rivaling the long-celebrated treasure ground of the Ural Mountains. San Diego County, with its wonderful yield of gems, was hence more fully represented than any other part of the coast, notably in the splendid tourmalines from Mesa Grande and Pala—red and green and

bicolored crystals that weigh several pounds, and wonderful gems that weigh up to 30 carats each—red, green, yellow, and sometimes single gems showing two or three distinct colors.

Wyoming was represented by the fine pieces of moss agate, in large polished slabs, from Hartville, and New Mexico by specimens of turquoise and of the pyrope garnets from the Navajo nation, which are often quite erroneously mis-called rubies.

From Arizona there was a rich display of the wonderfully beautiful malachite, and azurite specimens from the copper mines at Bisbee, Clifton and Morenci; also the elegant chrysocola, with a brilliant coating of crystals of quartz, from the Globe mine. Fine examples were shown of peridot (chrysolite), from the lately-discovered locality for this mineral at Talkalai, Ariz.; one of these was a cut stone of $25\frac{3}{4}$ carats. Turquoise matrix, from Gila County, is a somewhat novel ornamental stone—the rock traversed by small veins of turquoise being cut and polished so as to produce a very pleasing effect. Another ornamental stone, resembling lapis lazuli, and like that celebrated mineral, adapted to choice uses in art work, is quartz so penetrated and filled with a dark blue fibrous mineral known as dumortierite that it presents a homogeneous opaque mass of an indigo or violet blue, that can be cut and polished like the real lapis lazuli. This is from Clip, Ariz.



This illustration shows a sample of the dazzling petrified remains of a California forest. The explanation offered is that, ages ago, during an eruption of Mount St. Helena, the trees were overthrown and entombed, their petrification being the natural result of the hot alkaline waters which flooded them, and which contained silica in solution.

material found on the American continent have been obtained in some quantity.

Of much interest is the compact green vesuvianite, from Yreka, Siskiyou County, Cal., a stone with some future as an ornamental material, being almost as tough and as beautiful in color as the best jade. Another elegant green mineral is utahite, a gem stone peculiar to Utah, where it is found in the Floyd mining district, in Clay Cañon. It is a rich golden green stone, slightly translucent, that seems capable of use as an ornamental material, and has some use in quaint jewelry.

Transparent Rock Crystal

It is a striking circumstance that where the West and East meet—in Japan and in California—should be found such masses of transparent rock crystal, from which can be cut those wonderful balls which the collectors of the world have always obtained with such delight from Japan. It was quite a surprise some years ago, in working a gold mine at Mokelumne Hill,

Gem Stones from Arizona

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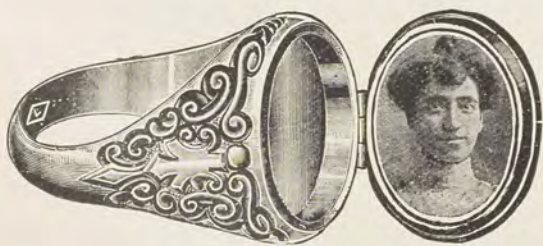
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Hints on Fire Insurance

The Policy Form—Attachment Forms Placing Insurance—Adjustment of Losses—Schedule Rating

FIRE insurance is a subject that should have the careful attention of every proprietor and manager. If they cannot personally attend to their insurance affairs, they should delegate a competent salaried employe to that duty—it should never be left entirely to a local agent or broker, no matter how competent they may be.

The local agent and broker each has his place and both are very necessary to the fire insurance business, as it is now conducted. Most of them are good men personally and a large percentage are competent insurance men who really take a great deal more interest in the insurance affairs of their clients than do the clients themselves; but, the fact that the average local agent and broker are both conscientious and competent should not serve as a reason for any business manager to neglect his insurance affairs.

Necessity of Fire Insurance Fire insurance is a necessity and should be bought and handled with the same care that is exercised in the purchase of any other article. It is also a contract and should have the same consideration from a legal standpoint that any contract demands; this, of course, involves the form of policy, and the printed form which is attached to the policy, as a part of the contract.

The standard form of policy adopted by different states should be studied; their restrictions noted and tabulated; and whenever a policy is offered that is not a standard form, it should be read and studied with unusual care, for not infrequently, they contain clauses that make them absolutely worthless, and it is a pretty safe assumption that there is a "Nigger in the woodpile," or a standard form would be used. Sometimes policies are offered that are marked in print "Standard" when in reality clauses (usually objectionable) have been added.

Attachment Forms These should be prepared with utmost care. After having studied the policy form carefully and having noted its restrictions, the business should be studied and the points at conflict with the policy form should be listed; then the attachment form should be prepared. The first item is the "cover." This should be defined very plainly, so as to leave no particle of doubt as to its intent. Next comes the "privilege clause" and the same importance attaches to it. One must be sure that privilege is granted to cover every point of conflict between the business as it is conducted and the policy form, else the policy is of no value; on the other hand if the privileges asked are unreasonable the insurance companies are liable to curtail their lines or refuse to write the risk at all.

The companies sometimes require that certain conditions of "Co-insurance" or "Average" or both, be made a part of the

contract, and in such cases these "Co-insurance" and "Average" clauses should be complied with, for in the case of loss they will certainly be considered in the adjustment. In some places the policies are stamped with a condition requiring the approval of the electrical equipment by an inspector in the employ of the underwriters, and in such cases this matter should have attention.

Time in Insurance Policies

Policies are usually written from noon to noon, and in view of the fact that the question of whether solar or standard time is intended has been the basis of many lawsuits, it is well to have in the attachment form a clause covering this point, which clause should also state whether the time will be calculated from the place in which the policy is signed or from the place in which the property is situate.

In many lines of manufacture, the methods are often changed and in all lines there is more or less changing in the plants; each time a change is made the insurance should be considered, and in case of conflict with the existing contracts, indorsement covering the new conditions should be immediately procured for all policies interested. It is important that the written portion of all policies covering on one risk read exactly alike, and to accomplish this it is only necessary to be sure and use but one style of attachment form.

Placing Insurance

After the "Attachment Forms" have been prepared the insurance should be placed. To avoid the vexing question of apportionment and contribution, in case of loss, it is advisable to have all policies on a risk cover specific amounts on each item, that is, if the property, say stock, is in three different buildings, and the policy is for \$1,500, have it specified that \$500 attaches on the stock in each building, or make such other division as seems necessary. Better still, have separate policies for each building, but under no circumstance place same insurance blanket on the stock in the three buildings if placing any specific insurance on the items, unless familiar enough with the subject of contribution to know just where you will land in case of loss.

If the business is large the question of securing enough desirable insurance is sometimes a serious one, and it becomes necessary to accept policies from companies who write "Surplus Lines," that is, companies who are not authorized to do business in the state in which the property is located, but who write the policies from their offices in other states. Generally, in case of loss, these companies abide by the settlement of the admitted companies, but if suit is necessary, it will, of course, have to be brought in the state in which the company or its representative is located. Sometimes it is necessary to go still further and seek insurance in foreign countries. Usually the foreign policies contain "Warranty Conditions," and these conditions must be strictly complied with. Not infrequently the foreign policies and sometimes some of the domestic policies contain the "Highest

Rate Clause" and it also is imperative in its demands.

In determining what policies to accept and what not to accept, the "insurance manager" becomes a credit man. He surrounds himself with Best's, Garret's and other reports and gathers together from other sources whatever reliable information is obtainable about all the companies; being especially careful as to the "Surplus Lines." Each company must be studied separately and analyzed as to its underwriting, policy, quality of management, character of assets, promptness in payment of losses, etc. Many bogus companies solicit lines through the mails and otherwise; sometimes offering to write the risks at reduced rates and holding out other inducements. These, of course, are easily recognized, as they are either reported as worthless by the agencies, or if of recent manufacture, are not reported at all, and inquiry develops their character.

Adjustment of Losses

In case of a loss by fire, the first thing to do after notifying the agencies, is to comply with that part of the policy regarding the care and assortment of damaged goods, protection of property from further loss, etc. Then the records should be put in the best shape to exhibit quickly and conclusively just what was in the fire and its value, this will aid much in the adjustment, particularly as to the length of time consumed, but also in a general way.

In the adjustment it will develop whether or not the "attachment form" used was a good one, and in the collection of the loss after its adjustment will develop whether or not wisdom was shown in the selection of companies. The loss adjustment, therefore, is really more or less of an exhibit of the ability of the insurance manager.

The adjuster or adjusters are soon on the ground. They ask for their policies, read them carefully, note the conditions of co-insurance or average (if any), and proceed to look over the damaged property. They then take such steps as they deem necessary to satisfy themselves as to the amount of the loss and usually come to some agreement with the insured as to the amount; but they are sometimes unable to do this, and ask for an appraisal as provided for in the policies, in which case the final settlement is sometimes delayed several days.

All conditions of policies as they exist with the attachment forms on them, enter into the adjustment, and are fully considered by the adjusters in the apportionments of the loss after the amount of it has been established. If co-insurance or average conditions are contained in the policies, it is necessary to determine the sound value and average, as well as the amount of loss, and as these values have direct bearing on the amount to be collected by the insured from the companies, proper steps should be taken so that the values are correct.

Schedules and full information as to building and equipment can be had without charge from the nearest office of the Board of Underwriters.—*The Business Man's Magazine.*

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The Origin of the Diamond

Sir William Crooks, F.R.S., the world-famed British scientist, recently delivered a lecture on diamonds in the city of Kimberley, South Africa. The lecture had special interest by reason of the eminence of the lecturer.

The Riddle of the Diamond

Sir William began by pointing out that from the earliest times the diamond had fascinated mankind. It had been a perennial puzzle—one of the "riddles of the painful earth." Of late years, the development of electricity, with the introduction of the electric furnace, had facilitated research, and if the diamond problem was not solved, there was every probability that it shortly would be solved. He had studied diamonds scientifically for thirty years, and in 1896 spent nearly a month at Kimberley collecting facts connected with the birth of the precious stone. After giving a detailed description of the Kimberley mines, and pointing out that the five mines were all contained in a precious circle, three and a half miles in diameter, Sir William said that before the discovery of the mines, there was nothing in the superficial appearance of the ground to indicate the precious treasures below. Since the filling of the volcanic ducts with diamondiferous ground, denudation had planed the surface and the upper parts of the craters and other ordinary signs of volcanic activity being smoothed away, the superficial

and ubiquitous red sand had covered and disguised the whole surface. Other diamondiferous pipes in the neighborhood were small and did not contain stones in payable quantities.

A Geological Plum Pudding

How the great pipes were originally formed was hard to say. They were certainly not burst through in the ordinary manner of volcanic eruption, since the surroundings and enclosing walls showed no signs of igneous action, and were not scattered and broken up even when touching the "blue ground." It was pretty certain these pipes were filled from below after they were pierced, and the diamonds were formed at some previous time and mixed with a mud volcano, together with all kinds of debris eroded from the rocks through which it erupted, forming a geological "plum pudding." It might be that each volcanic pipe was the vent of its own special laboratory—a laboratory buried at vastly greater depth than they had yet reached—when the temperature was comparable with that of the electric furnace, where the pressure was fiercer than in our puny laboratories and the melting point higher; where no oxygen was present, and where masses of liquid carbon had taken centuries, perhaps thousands of years, to cool to the solidifying point.

The chemist arduously manufactured infinitesimal diamonds, valueless as ornamental gems; but nature, with unlimited temperature, inconceivable pressure, and gigantic

material, to say nothing of measureless time and appalling energy, produced without stint the dazzling, radiant, beautiful, coveted crystals he was enabled to show them.

The Meteoric Theory

After describing the processes by which an infinitesimal diamond might be artificially manufactured, Sir William Crookes, dealing with the meteoric theory, said he was enabled to show photographs of true diamonds he had himself extracted from the Canyon Diablo meteorite. A fine slab of the meteorite was on the table. Here they had incontestable proof of the meteoric theory. At the same time, although in Arizona, diamonds had fallen from the skies, this descent of precious stones was what might be called a freak of nature rather than a normal occurrence. It was certain from observations he had made, corroborated by experience gained in the laboratory, that iron at a high temperature and under great pressure—conditions existent at great depths below the surface of the earth—acted as the long-sought solvent for carbon, and would allow it to crystallize out in the form of a diamond. But it was also certain, from the evidence afforded by the Arizona and other meteorites, that similar conditions had existed among bodies in space, and that on more than one occasion a meteorite freighted with jewels had fallen as a star from the sky. Many circumstances pointed to the conclusion that the diamond of the chemist and the diamond of the mine were akin in origin.

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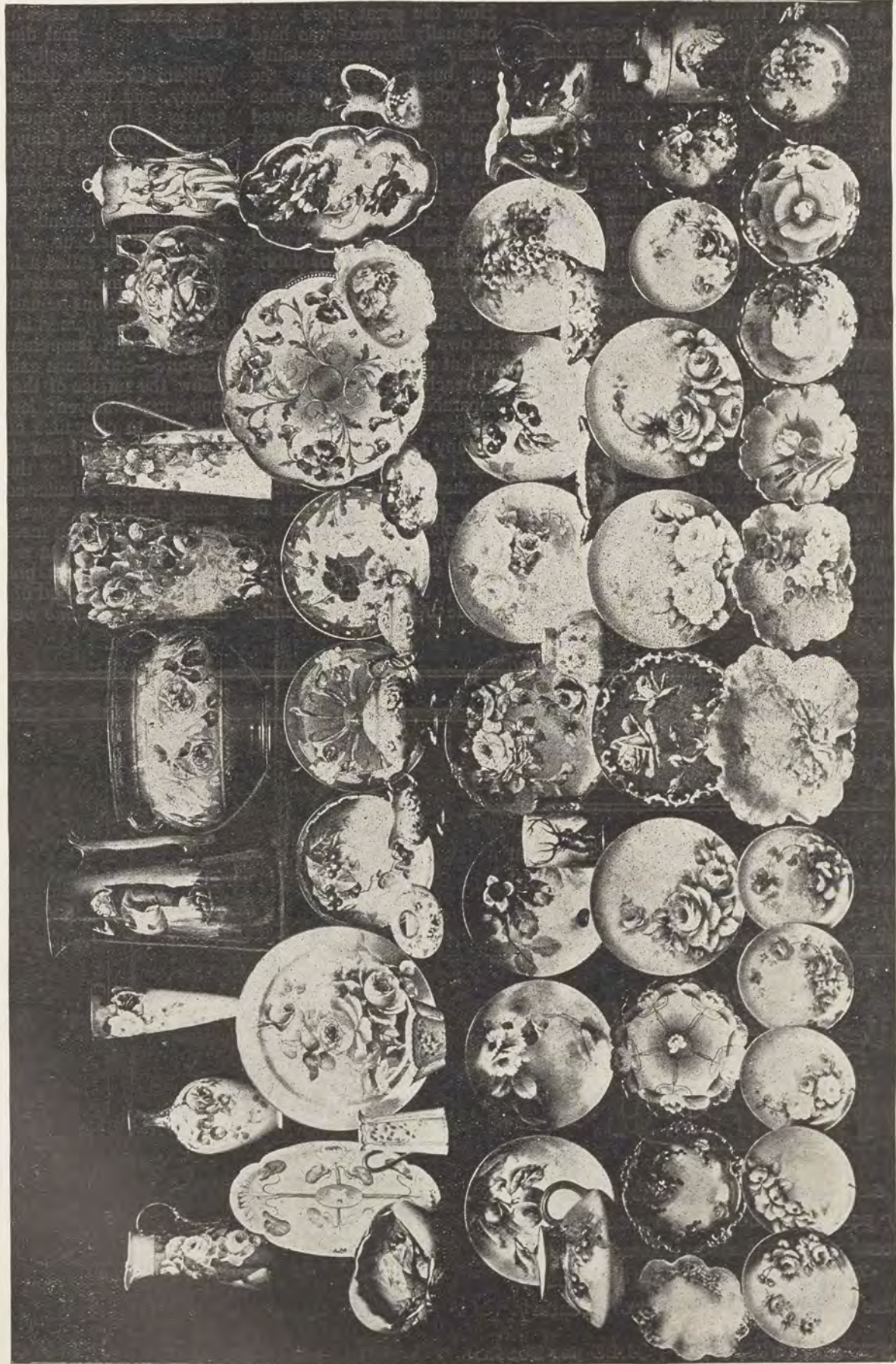


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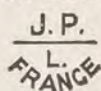
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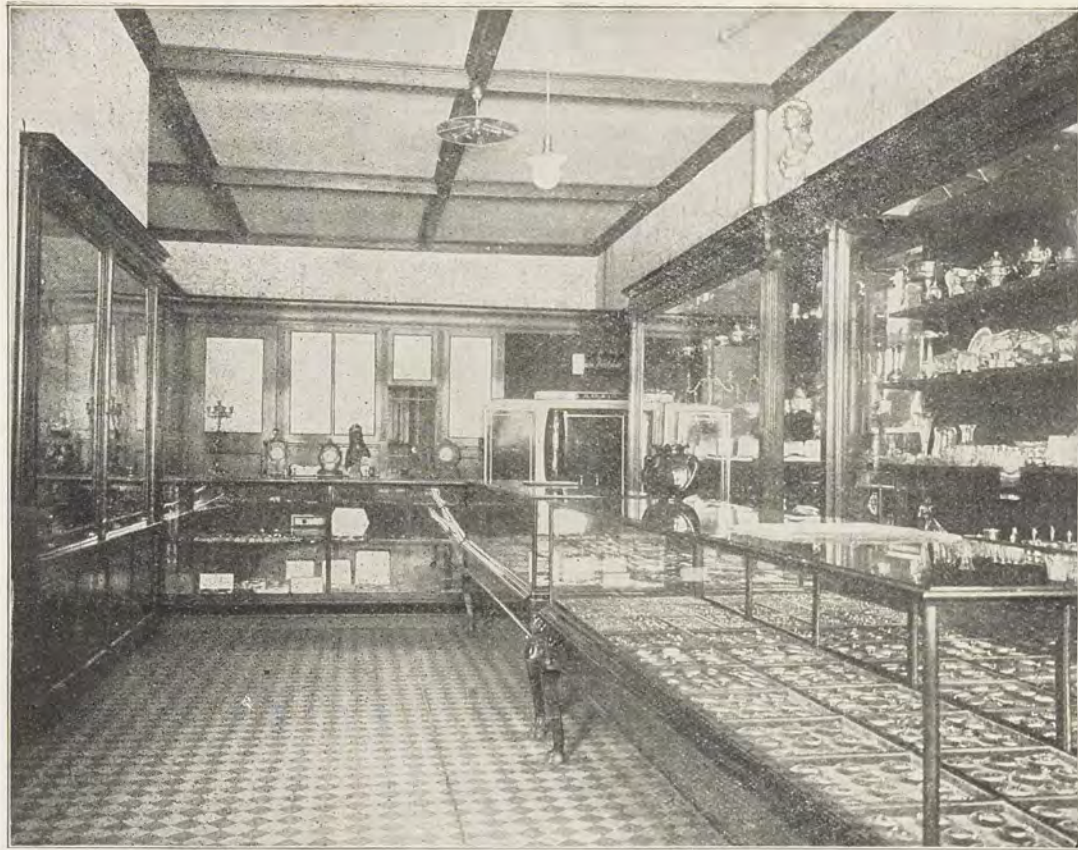


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Made in New Narrow Widths; also in Child's Size

A simple arrangement of springs makes this bracelet adjustable to any wrist, whatever its size or conformation. It is thus the extreme of

Comfort, Comeliness and Security

Simple in its parts and strong in construction, it is durable and not liable to get out of order.

Made in rolled-gold plate and sterling silver. Plain or with signet or locket top.

MASON, HOWARD & CO.

New York Office
180 Broadway

Manufacturers

Factory
Attleboro, Mass.



THE NEW NARROW CHILD'S "VELVET"
Made also with Signet Top



THE NEW NARROW "VELVET"
Made also with Signet Top



THE WIDE "VELVET"
Made also with Signet or Locket Top

Don'ts for the New Salesman

SALESMEN are told many things they should do; perhaps they ought to hear a few things they should not do. If there is one thing above all others that a salesman should observe it is this:

Value of Cheerfulness

Don't grouch! The surly salesman who goes around carrying with him a big chunk of London fog does himself harm. If the sun does not wish to shine upon him—if he is having a little run of hard luck—he should turn on himself even with the greatest effort, a little lime-light. He should carry a small sunshine generator in his pocket always. The salesman who approaches his customer with a frown or a blank look upon his face is doomed right at the start to do no business. His countenance should be as bright as a new tin pan.

The feeling of good cheer that the salesman has will make his customer cheerful; and unless a customer is feeling good he will do little, if any, business with you.

I do not mean by this that the salesman should have on hand a full stock of cheap jokes—and pray, my friend, never a single shady one; nothing cheapens a man so much as to tell one of these! But he should carry a line of good, cheerful, wholesome talk. "How are you feeling?" a customer may ask. "Had a bad cold last night, but feel chipper as a robin this morning." "How's business?" a customer may inquire. "The world is kind to me," should be the reply. The merchant who makes a big success is the cheerful man; the salesman who succeeds, whether on the road or behind the counter, carries a long stock of sunshine.

Don't Be Insistent

Another thing: Don't beef! There is a slight difference between the "grouch" and the "beef." The man may be grouchy without assuming to give a reason therefor, but when he "beefs" he usually thinks there is a cause for it. I knew a man who once lost a good customer just because he "beefed" when a man to whom he had sold a bill of goods countermanded the order.

The merchant was stretching his capital in his business to its limit. Things grew a little dull with him and he figured it out, after he had placed all of his orders, that he had bought too many goods. He used the hatchet a little all the way around. I had some of my order cut off, but instead of kicking about it I wrote him that he could even cut off more if he felt it was to his advantage; that I did not wish to load him up with more than he could use; that, when the time came that I knew his business better than he did, it would then be time for me to buy him out. But a friend of mine did not take this same turn. Instead, he wrote to the man—and the merchant thought a good deal of him, personally, too—that he had bought the goods in good faith, that expense had been made in selling the bill and that he ought to keep them.

Well, now, that was the very worst thing he could have done, because it went against the customer's grain. He let his countermand stand, and since that time he has never bought any more goods from his old friend. He simply marked him off his list because it was very plain to him that the friendship of the past had been for what there was in it.

Don't fail to make a friend of your fellow salesman!

This can never do you any harm and you will find that it will often do you good. The heart of the man on the road should be as broad as the prairie and as free from narrowness as the Egyptian sky is free from clouds. One of my friends once told a group of us, as we traveled together, how an acquaintance he made helped him.

An Instructive Experience

"I got into Dayton, Washington, one summer morning about 4.30," said he. "Another one of the boys—a big, strong, good-natured comrade, until then a stranger to me—and myself were the only ones left at the little depot when the jerk-water train pulled away. It was the first trip to this town for both of us. There was no 'bus at the depot and we did not know just how to get up to the hotel. The morning was fine—such a one as makes a fellow feel good clear down to the ground. The air was sweet with the smell of the dewy grass. The clouds in the east—kind of smeared across the sky—began to redden; they were the color of coral as we picked our way along the narrow plank walk. As we left behind us the bridge which crossed a beautiful little stream lined with cottonwoods and willows, the clouds had turned a bright vermillion. There was not a mortal to be seen save ourselves. The only sound that interrupted our conversation was the crowing of the roosters. The leaves were still. It was just the right time for the beginning of a friendship between two strangers.

"Isn't this glorious!" exclaimed my friend. "Enchanting!" I answered. I believe I would have made friends with a crippled grizzly bear that morning. But this fellow was a whole-souled prince. We forgot all about business and the heavy grips that we lugged up to the hotel seemed light. My friend—for he had now become that to me—and myself went out to hunt up a cup of coffee after we had left our grips at the hotel.

The Sequel Ten Years After

"The next time I met that man was at the Pennsylvania Station at Philadelphia, ten years afterward.

"God bless you!" said he. "Do you remember me?"

"You bet your life I do!" said I. "We walked together one morning ten years ago, from the depot at Dayton, Washington, to the hotel." "Do you remember that sunrise?" "Well do I?" "What are you doing down here?" "Oh, just down on business. The truth is I am going over to New York. My house failed recently and I'm on the lookout for a job."

"And boys, that very fellow fixed me up the next morning with the people that I am with to-day."

Again: Don't fail to be friendly with anyone who comes in your way.

You bet your life it never hurts a fellow to be friendly with anybody. Once, when I was going down from a little Texas town to Galveston, the coach was rather crowded. The only vacant seats in the whole car were where two Assyrian peddler women sat in a double seat with their packs of wares opposite them. But as I came in they very kindly put some of their bundles into the space underneath where the backs of two seats were turned together, thus making room for me. I sat down with them. A gentleman behind me remarked: "Those people aren't so bad, after all." "Yes," I said, "you will find good in every one if you only know how to get it out."

I had a long and interesting talk with that gentleman. He gave me his card, and when I saw his name I recognized it as that of a noted lecturer.

"Well what good did that do you?" said one of the boys who was not far-seeing.

Good? Why, that man asked me to come to his home. There I met one of his sons who was an advertising man for a very large firm in Galveston. He in turn introduced me to the buyer in his store and put in a good word with him for me. I had never before been able really to get that buyer's attention, but this led me into a good account. You know I don't care anything for introductions where I can get at a man without them. I'd rather approach a man myself straight out than to have any one introduce me to him, but there are cases where you really cannot get at a man without some outside influence. This was a case where it did me good.

Make New Friends

But with all this, don't depend upon your old friends! A salesman's friends feel that when he approaches them he does so because they are his friends, and not because he has goods to sell that have value. They will not take the same interest in his merchandise that they will in those of a stranger. They will give him, it is true, complimentary orders, charity-bird bills, but these are not the kind that count. Every old man on the road will tell you that he has lost many customers by making personal friends of them. No man, no matter how warm a friend his customer may be, should fail, when he does business with him, to give him to understand that the goods he is getting are worth the money that he pays for them. This will make a business friendship built upon confidence, and the business friend may afterward become the personal friend.

A personal friendship will often follow a business friendship, but business friendship will not always follow personal regard. Every man on the road has on his order book the names of a few who are exceptions to this rule. He values these friends because the general rule of the road is: "Make a personal friend—lose a customer!"

Don't switch lines!

The man who has a good house should never leave it unless he goes with one that he knows to be much better and with one that will assure him a good salary for a long time. Even then a man often makes a mistake, to his sorrow. He will find that many whom he has thought his personal friends are merely his business friends; that they have bought goods from him because they have liked the goods he sold. It is better for a man to try to improve the line he carries—even though it may not suit him perfectly—than to try his luck with another one. Merchants are conservative. They never put in a line of goods unless it strikes them as being better than the one they are carrying, and when they have once established a line of goods that suits them, and when they have built a credit with a certain wholesale house they do not like to fly around, because the minute that they switch from one brand of goods that they are carrying to another, the old goods have become to them mere job lots, whereas, if they continue to fill in upon a certain brand, the old stock would remain just as valuable as the new.

Don't fall on prices!

The man who does this will not gain the confidence of the man to whom he shows his goods. Without this he cannot sell a merchant successfully.

Don't carry side lines!

You might just as well mix powder with sawdust. If you scatter yourself from one force to another you weaken the force which you should put into your one line.

—Charles N. Crewdson, in *Saturday Evening Post*.

1744 1/2



YOU
 CAN SECURE THAT
 CLASS PIN ORDER
 BY SHOWING
 OUR DESIGNS AND SAMPLES.
 WE ARE HEADQUARTERS.
 WRITE TO EITHER FACTORY.
 WENDELL & COMPANY,
 103-105 WILLIAM ST.
 NEW YORK.
 57 WASHINGTON ST.
 CHICAGO.

The Die-Sinker

The part which the die-sinker fulfills in the successful production of silver and plate is a duty that demands much thought, artistic ability and no end of patience, says H. L. Clulee, head of the die-cutting department of R. Wallace & Sons Mfg. Co., Wallingford, Conn.

From the plain block of steel to the finished die, the process is one of the most interesting connected with the silversmith's craft. From times far back in history the use of a die or mold for the duplication of coins, medals and all articles of use and ornament has been the means employed to gain that end. Crude as at first some of these efforts were, the art has grown until at the present time it is looked upon as almost the only method of producing artistic silverware in duplicate.

In the making of a spoon as far back as 1835, when Robert Wallace first started in the business, the die consisted of a small block of steel with just the tip of the handle cut into it. This was placed on an anvil, and a man holding the spoon in one hand, struck the impression of the tip on to the blank by the means of a hammer held in the other hand. After much forging and filing the spoon was ready for the shaping of the bowl, which was accomplished in about the same way. From that small beginning the process has gradually grown, until it requires a drop hammer of nearly a thousand pounds weight and a pair of dies upon which a great amount of skill and labor has been expended to produce the result attained at the present day.

You will readily see how much depends on good die-cutting. One may have a beautiful design, a most carefully worked out model, and yet

if the work of the designer and modeler is not faithfully carried out the result will not be satisfactory. It is a study in progress to follow the productions of the first patterns in spoon work up to those of the present day, noting the change from simple ornamentation as first used to the elaborate creations of the modern silversmith.

How Rouge Is Made

For the final polishing of metals, or "coloring," as it is usually called, it has been found that rouge is the most satisfactory of any known material. As most of the examples of fine metal work originated in France, it is natural that the name of "rouge," which in the French language means red, should be applied to this red polishing material.

Rouge occurs in commerce in two forms: First, dry rouge; second, rouge in sticks or cakes. The sticks or cakes of rouge are made from the dry rouge by incorporating it with tallow, wax or other forms of binders. This is simply to hold it together so that it may be applied to the buffing wheel in a convenient manner. The dry rouge is also used for many purposes.

Chemically, rouge is an oxide of iron. Red iron ore or hematite is of the same composition, but this is very hard and would not answer for polishing purposes. The surface of the metal would be scratched, both by the hard oxide of iron itself and also by the sand or other silicious material which is always associated with it. Polishing rouge, therefore, is made in another manner.

Sulphate of iron, or green vitriol as it is frequently called, occurs in commerce in a very

cheap and pure condition. It is formed in large quantities as a by-product in the pickling of iron and steel wire in its manufacture. Sulphuric acid (oil of vitriol) is used for the pickling, and the sulphate of iron is crystallized out of the pickling vats. It will be appreciated, therefore, that the sulphate of iron when it is made in this manner is not a costly material. It is for this reason that rouge is not costly.

When this sulphate of iron or green vitriol is heated, the sulphuric acid is gradually given off as the temperature is increased until finally all the acid is expelled and only oxide of iron is left. The hardness of the oxide of iron (or rouge which it now is) depends upon the heat. The hotter it is heated, the harder the rouge; and, for this reason, the hard rouges for polishing nickel require a much higher temperature than those which are to be used on copper or brass.

The rouge which has heated to a low temperature is scarlet in color, and is known as "jewelers' rouge" and is sufficiently soft for polishing gold and silver. That which has been heated to a high temperature is of a bluish tint and is very hard. It is called "crocus" and is used for polishing steel. The intermediate grades are used for copper, brass and nickel.

The rouge is mixed with any convenient material for a binder, but the best forms of binders are substances which are not difficult to remove after buffing. A mixture of equal parts of tallow and yellow soap is excellent, as it does not resist the fish-soap solution or other compound which is used to remove the rouge which remains in the crevices of the work after buffing.

—The Brass World.

Hennecke's Statuary



EXCLUSIVE SUBJECTS
NEW EFFECTS AND FINISHES

*Producers of the
only High-Grade
Statuary on the
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ESTABLISHED 1865
CATALOGUE ON REQUEST

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WATCH GLOVES

Price, \$1.25 per dozen



Made of the best glove kid with celluloid front, fits closely to the watch and is the best watch protector ever devised.

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F. W. H. SCHMIDT

Wholesale Jewelry, Tools, Materials and
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1104 Heyworth Bldg., CHICAGO, ILL.



F A N S

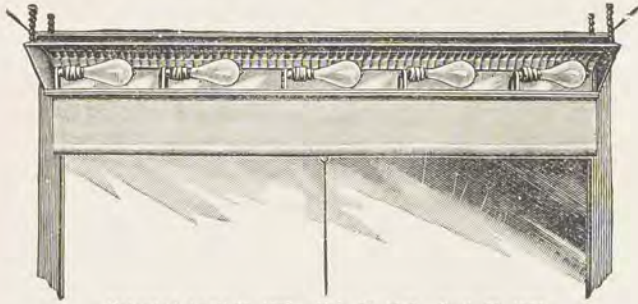
For Holiday and Wedding Presents

Made especially for the Jewelry Trade

LOUIS STEINER, Importer

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YOU ARE INTERESTED



Patented April 20, 1897. Feb. 21, 1899. Sept. 29, 1903

In Frink's Special Patent Window Reflector

Because it offers the only thoroughly satisfactory method of lighting your store windows. It is built of metal, lined with silver corrugated glass set on scientific angles, so that all the light is thrown on the goods displayed; yet concealed from the sidewalk. The successful experience of hundreds of merchants should be a guarantee that Frink Reflectors are needed by you.

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Jno. C. Pierik, Springfield, Ill.
Theo. A. Kohn, New York
Shaw & Berry Co., Washington, D. C.
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Simons & Co., New Haven, Conn.
Wm. Barthman, New York

Lambert, New York
E. P. Sundberg, Fargo, N. Dak.
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SAMS' FLUX
is the best for hard soldering

SAMS' SAFETY BLOWPIPE OUTFIT FOR JEWELERS

The original Sams'—Greatly improved

FOR SALE BY ALL JOBBERS

- Outfit complete . . . \$12.50
- Outfit without bellows, . . . 8.50
- Generator (B) . . . 6.00
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Metal Specialties Mfg. Co.
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CANDO Silver Polish

IS THE BEST

for Jewelers to handle—it is a quick seller and positively superior to any known polish on the market. The patent cap used on jar for **CANDO** is made to perfection.

We call special attention to the importance of a package for Silver Polish that can be **RESEALED** after it is once opened.

Samples sent when requested. Correspondence solicited

PAUL MFG. CO.
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OUR IMPROVED BEST OF ALL ROLLER REMOVER

Price, \$1.50
Finely nickel-plated

Our Never Equaled Pivot Drill Chuck and Drilling Device



Once used, you would not be without it for five times its cost.
Description of Tool.—A is milled band to clutch in screwing down set nut B which holds Pivot Drill in position. C is back center taper which fits tail stock of lathe. D shows rest pin entering C, or tail-stock spindle. Place Pivot Drill in countersink in the staff to be drilled. Push up tail-stock spindle and set thumb-screw, and as the drill enters the staff the opening between C and D shows the depth you have drilled. This device also lessens the breakage. Price, 75 cents.
We also furnish best quality of Pivot from 4 to 30 thousandth for 30 cents per dozen. Order either from us or your jobber. In ordering, mention name and kind of lathe used. We also manufacture tools for watchmakers, jewelers and opticians. Write us for estimates.



Our New Crown Enlarging Tool
This tool sells for \$1.00, and will enlarge inside of crowns from small swiss to 18 size. Nickel-plated.

DETROIT WATCH TOOL CO., 516 Michigan Ave., Detroit, Mich.



We are now offering our entire 1905 sample line of Bric-a-Brac, Bronze and Metal Goods

AT GREATLY REDUCED PRICES

Special Offer for this fall on our **HAND-PAINTED CHINA**.

Send for particulars and Illustrated Catalogues of China, Statuary, Steins, etc.

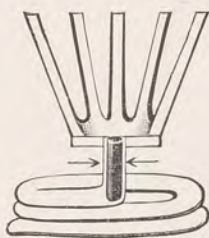
When in New York, call and see us at our **NEW** location—largest floor in town devoted to Novelties for Jewelers

L. W. LEVY & CO.
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Clipper-Proof Stud



The piece of carbon steel shown by the arrows is not visible in the stud.

The clipper-proof stud absolutely prevents diamond studs from being nipped by thieves.

A cutting plier will break before the stud.

No jeweler should be without it.

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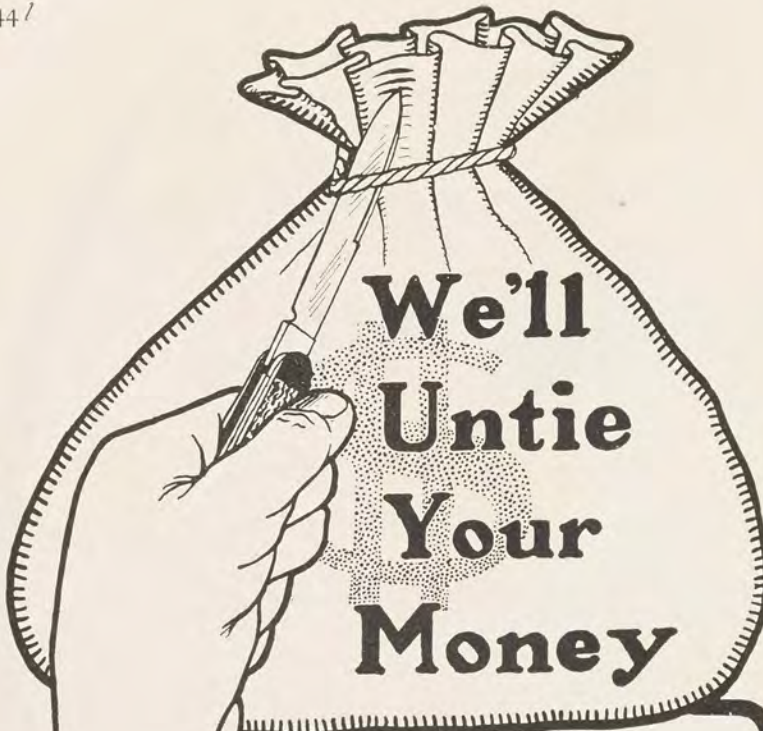
If you have not seen our line send
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**We'll
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Money**

Every jeweler in the country has more or less money tied up in "dead stock." Once "dead" it's always "dead." And each season makes its addition to the accumulation of bygone years. This is the millstone about the neck of your business that is slowly but surely dragging it down into bankruptcy—possibly so slowly that you will not realize it until it is too late. But sooner or later the time will come when this "dead stock" will sell you out unless you have been fortunate enough to appreciate the evil in time, and sell it out.

We are "dead stock" experts. We can sell, without misrepresentation, all the goods that you find "unsalable"—expensive bric-a-brac, hollowware, small out-of-date jewelry, etc., and in doing so can place from \$2,000 to \$5,000 a week in your cash drawer.

We succeed in satisfying both buyer and seller. The result is that when we complete your sale we leave you a long list of new customers. Let us send you some valuable information in the form of testimonial letters from jewelers who have brushed away the cobwebs of prejudice and indulged in a "M. & T. Business House-Cleaning." This information is worth money to you. Write for it to-day, stating the size and condition of your stock, and whether there have been any auctions in your town recently.

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There is no stock too large or too fine but what I will guarantee a profit, and can give reference to that effect from almost every State in the Union. With my 22 years' experience, it has enabled me to give you this iron-clad guarantee.

Write me. All letters strictly confidential.

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Sales made in any part of the English-speaking world for the legitimate jewelry trade.

If you contemplate holding a sale of your jewelry stock in the near future, we would advise that you write us for terms, etc. Upon application, we will mail you our *Booklet on Auctions*, containing references, etc.

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Gained by honesty and profit sales count with business men.

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When built by years of hard work, is priceless to the

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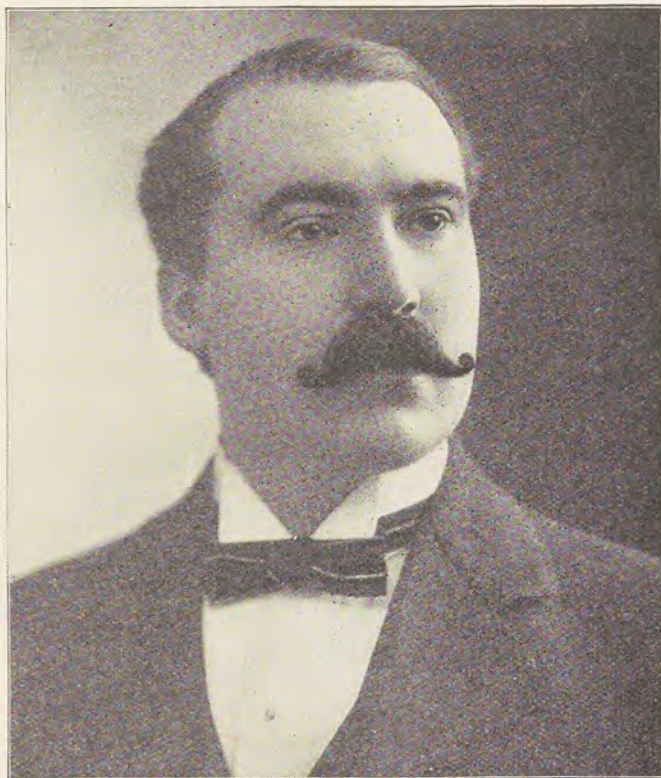
BEST OF REFERENCES



August and September

Otto P. Ream, Hartford City, Ind.
J. B. Haverback, St. Marys, Ohio.
J. C. Slick, Mishawaka, Ind.

Write the above firms as to my methods of conducting sales and the profits I make for my customers.



R. M. HARDING

156 Wabash Avenue

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America's Most Successful Auctioneer

I not only guarantee a successful sale, but also that you will stand just as high in the community as a result of the AUCTION, and that your business subsequent to the sale will be better than before.

AUCTIONS as conducted by me are business-building as well as money-making. As a proof of this I give below a list of jewelers, both in the United States and Canada, for whom I have conducted sales. Write me for full particulars.

Hesse & Sturges, Boise, Idaho
 Geo. E. Feagans, Joliet, Ill.
 L. L. Berens, Bellingham, Wash.
 Frisch Brothers, Seattle, Wash.
 A. C. Becken, Chicago, Ill., 3 sales
 Strelitz Bros., Chicago, Ill.
 David W. Allen & Co., Montreal, Canada
 Drake Carie & Co., Davenport, Iowa
 Jos. Brown & Co., Chicago, Ill.
 Price Keeth & Co., Chicago, Ill.
 T. L. Coughlan, St. John, N. B.
 K. Bezanson, Moncton, N. B.
 K. Bezanson, Sydney, Cape Breton
 C. L. Newman, Halifax, N. S.
 Fair & Square Jewelers, Joliet, Ill.
 J. Merrel & Co., Anaconda, Mont.
 W. C. Stull, Whatcom, Wash.
 F. A. Reynolds, San Francisco, Cal.
 A. H. Simons, St. Paul, Minn.
 L. Blumencrance, Minneapolis, Minn.
 M. Greenburg, Minneapolis, Minn.
 L. Zuckerman, Chicago, Ill.
 Randel & Bennet, Colorado Springs, Colo.
 Cutting & Wilson, Winona, Minn.
 M. Greenburg, Chicago, Ill.
 D. A. Hank, Logansport, Ind.
 J. C. Hilton, Neena, Wis.
 P. H. Pierce, Lawrence, Kans.
 J. W. Clegg & Co., Charleston, Ill.
 E. F. Kirchessner, Adrian, Mich.
 P. K. Wiser, Mankato, Minn.
 J. G. Hoff & Son, Waterloo, Iowa, 3 sales
 B. Vance, Madison, Wis.
 A. Sakie, Crookston, Minn.
 T. C. Lindsey, Dayton, Ohio
 Hart & Ernest, Tiffin, Ohio
 G. R. Thompson, Findlay, Ohio
 L. D. Dana, Antigo, Wis.
 F. J. Nerham, Nevada, Iowa
 W. H. Hilton, Denison, Texas
 C. W. Dugdens, Ames, Iowa
 A. L. Cleaver, Ames, Iowa
 A. L. Cleaver, Boone, Iowa
 H. J. Whitley, Los Angeles, Cal.
 H. Hinges, Salem, Oregon

B. H. Balard, Reinbeck, Iowa
 A. Jackson, Eau Claire, Wis.
 J. Iverson, Stevens Point, Wis.
 P. H. Kuhn, Quincy, Ill.
 Porterfield Bros., Sanborn, Iowa
 H. C. Clamor, Elmira, N. Y.
 J. C. Long, Kane, Pa.
 S. Goldstone, St. Louis, Mo.
 C. Veicht, Milwaukee, Wis., 2 sales
 S. Whipple, Trinidad, Colo.
 J. McNamara, Lakewood, N. J.
 Hooker Jewelry Co., Des Moines, Iowa
 W. T. Testen, Houston, Texas
 Goodspeed & Co., Colorado Springs, Colo.
 Parker Bros., Sterling, Colo.
 W. C. Alexander, Salida, Colo.
 Trinkley & Koerber, Fort Wayne, Ind.
 A. J. Reinhardt, Lincoln, Ill., 2 sales
 Keppler Jewelry Co., Anaconda, Mont.
 J. Merel, Seattle, Wash.
 C. W. Underwood, Racine, Wis.
 A. C. Bechtel, Ogden, Utah
 W. A. Kirkham, Leavenworth, Kans.
 E. S. Smith, Sherman, Texas
 E. M. Blakely, Trenton, Ont.
 F. C. Boerner, Fort Worth, Texas
 Brock & Feagans, Los Angeles, Cal.
 Berre Brothers, Winnipeg, Man.
 Bonnet & Ross Co., Columbus, Ohio
 Davis Jewelry Co., Lansing, Mich.
 New Haven Clock Co., Chicago, Ill.
 International Silver Co., Chicago, Ill.
 Wm. A. Rogers Co., Chicago, Ill.
 Sproehle & Co., Chicago, Ill.
 Geo. S. Davis, Newton, Iowa
 J. R. Lucas, Rockwell City, Iowa
 Berry Bros., Clarksville, Tenn.
 California Jewelry Co., San Francisco, Cal.
 M. Schussler & Co., San Francisco, Cal.
 Holsman & Alter, Chicago, Ill.
 A. L. Kingsbury, 206 Kearny Street,
 San Francisco, Cal.
 A. M. Smythe, Elgin, Ill.
 Hesse & Sturges, Boise, Idaho
 A. G. Bedford, Ionia, Mich.

1744⁷²



710. 7 Jeweled. 711. 10 Jeweled.
O. F. 18 size gold filled, 25-year guarantee, screw
back and jointed bezel.

An Announcement!

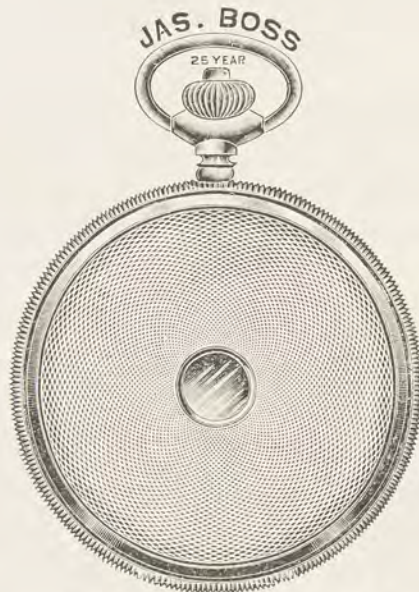
We are now supplying the **NEW CHRONOGRAPH WATCH**, made by the New York Standard Watch Co., in Jas. Boss 25-year Gold Filled Cases. This combines the Best Chronograph Watch with the World's Standard Filled Case. A complete watch that merits a place in the stock of every jeweler. Ask your jobber to show you these new watches. Owing to the great demand for them, orders should be placed early.



712. 7 Jeweled. 713. 10 Jeweled.
O. F. 18 size gold filled, 25-year guarantee, screw
back and jointed bezel.



718. 7 Jeweled. 719. 10 Jeweled.
O. F. 18 size gold filled, 25-year guarantee, screw
back and jointed bezel. Engine-turned top and bottom.



706. 7 Jeweled. 707. 10 Jeweled.
O. F. 18 size gold filled, 25-year guarantee, screw
back and jointed bezel. Engine-turned spot.



716. 7 Jeweled. 717. 10 Jeweled.
O. F. 18 size gold filled, 25-year guarantee, screw back
and jointed bezel. Fancy engine-turned top and bottom.



706. 7 Jeweled. 707. 10 Jeweled.
O. F. 18 size gold filled, 25-year guarantee, screw
back and jointed bezel. Engine-turned spot.



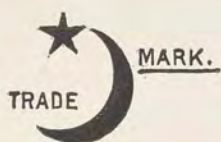
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My Opal: and Sunsets

BY JOHN TWEEZER

Chief among my scant personal possessions of value (outside some rare books in my library) is an unset, irregularly-shaped opal, the charm of which, to all who have seen it, is in its suggestion. It is unique—a dream of lambent color. Rainbows glow on its face and drift across when it is moved; fires burning in spaces that mathematics may disprove, but that lie a mile below the stone, shine upward eerily and break in flame-flowers; now it is a splendor of the deep, pure, vibrant red of the prism; now it lightens to orange; then a tender blue, like June skies, shoaling into turquoise, is seamed with gold; now it shines green, like moss in sunlight, with purples misting at the edges; now its lights dance and gleam through the whole gamut of the possibilities of color—which may be a faulty figure of speech, but what will you when the color itself suggests music? In one light it sets you a-dreaming of quiet pools and sedges; in another you think of a phosphorescent sea under the stars; but in another (and in this last quality I find its best account) you see the sunsets of October. My opal is a joy because so many sunsets abide in it.

But all the opal holds, and thousandfold more, is anyone's without the asking. Look up, man, and let your starved eyes revel in the pageant. Look up at the gorgeous spectacle, so full of mystery and invitation. Look quickly and all over, while you can; for sunsets are precious because they are so brief. We could not endure them constantly; they would be too stimulating. The exceeding and superlative is only fit for occasion; Nature, in her wisdom, chooses an average for man. She gives us the blue sky for daily food and the brilliant sunsets only for dessert. Such pleasures and profits of beauty cannot last—they would cease to be such if they did. Drop your tool and your pen and your care and share them when they offer. They may be the only bits of heaven you can be sure of.

The power of sunset is not merely the power of beauty, rare and precious as that is; it is the power of freedom that it gives to the beholder—the compulsion to enter great spaces. One is calmed by this opening of heaven's gates at nightfall. If only we had not taken on this habit of caring for the morrow! If only we could be saved from thinking upon our stomach, our rent and our sins, what liberty we might enjoy! We are but little people, even the biggest of us. There is in man just so much room, no more. If he troubles about the morrow, he loses peace now.

Look up. Things splendid, lovely and grotesque offer to our vision. Beauty, rich, vast, serious, romantic, floods the earth with ruddy tints as the light strikes through these oriels of vapor. Now the cirro-stratus takes on its oranges and crimsons, kindling at lakes of molten gold, while the far-off lean moon seems foreign. Kites have flown two miles above the earth; men have climbed four miles and risen in balloons to seven; yet how easily the fancy swims up past them all, unchilled in the weak upper air, unscared by the black spaces that open behind the blue, untired of wing, unstrained of sight, and floats on cloud-cars of gold and silver, ivory and pearl, ruby and rose-leaf, amethyst and opal!

Therefore, look up and see the October sunsets. For heaven then seems not far, and the sight of it, though it comes as we plod the streets, kindles answering beams of hope, of joy, of love, of wonder, in our souls. How poor the richest are if they cannot use this wealth! What riches fall to the poorest if they will lift their eyes to take them from the sunset sky!

How to Take a Vacation Without Leaving the Store

Simply let your *mind* vacate; and change your points of view.

A successful man once said, "I can sit in my chair for an hour and never think once." He could secure a vacation at any time, on call.

Emptying the mind frequently is a wholesome practice. There is too much striving, studying, thinking about gain and being in a hurry makes us think *small*. If Socrates had lived out at Piraeus and had to catch the 8.42 every morning for Athens; and if Plato had bolted his chops while watching his clepsydra; there would have been two philosophers the less though both men had lived a century longer.

The bothering over details is "the chiefest sin" of the man at the head. Take a broader view; then the little things will fall into groups and the needless things drop out of sight. We do not really count for much until we have broken some of the rules and made them over to fit our ideas, or found how to do without them entirely. A real physician can practice medicine with only ten drugs. A very famous painter used only seven colors, all told—but he mixed *brains* with his pigments.

Change your habitual points of view. Get outside of yourself, and the bricks will not seem so full of trouble as even they now are to your jaundiced eye. Keep your eyes

on far prospects—your thoughts will clamber after them, or else the sun will get into them and the bad ones go a-dozing like the bats and owls. Ask yourself, "What will my present trouble matter in a hundred years?" And recall some unfortunate who has a *worse* trouble, and be comforted.

Caught in the Cobwebs of an Empty Skull

There are seventy-seven ways, or more, of going from this place to that, but there is only one straight path.

We hear of the advantages of fore-sight and the lessons of hind-sight; but no mention is made of side-sight. Yet he who looks on an action *from the side* is generally the largest gainer of all.

Experience is the wet-nurse of knowledge.

It isn't the number of things you think you know that counts, but how well you know the things you know.

To tabulate the varieties of ways at your disposal for making a fool of yourself would bankrupt the whole numerical system.

The death of the best man in the community is no loss to the undertaker that coffins him. In the burning of any great building there is immediate profit to the men whose business is to cart away rubbish. The storm which lays low the fine old shade trees makes money for the workman with an axe. There is no such thing as a universal calamity—there is compensation to some one for every loss to another. Somehow there is always a smile nearby, whenever a sob is heard, and some answering satisfactions in the shadow of every distress. "'Tis an ill wind blows no one good."

Falling leaves—falling prices: There's the germ of a suggestion for an October window.

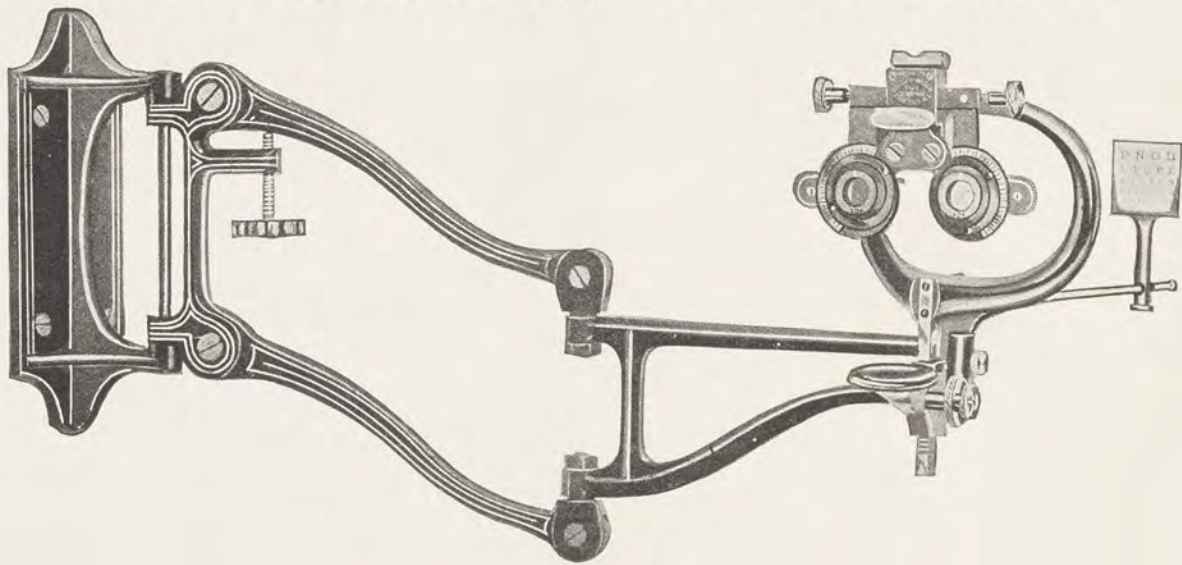
If Today knew Tomorrow's program there would be no sad Yesterdays.

Some men never feel at home with themselves unless they are unhappy.

Tell me what he does with his spare time, and I'll pretty accurately gage his future progress.

J. T.

ANOTHER NEW INSTRUMENT

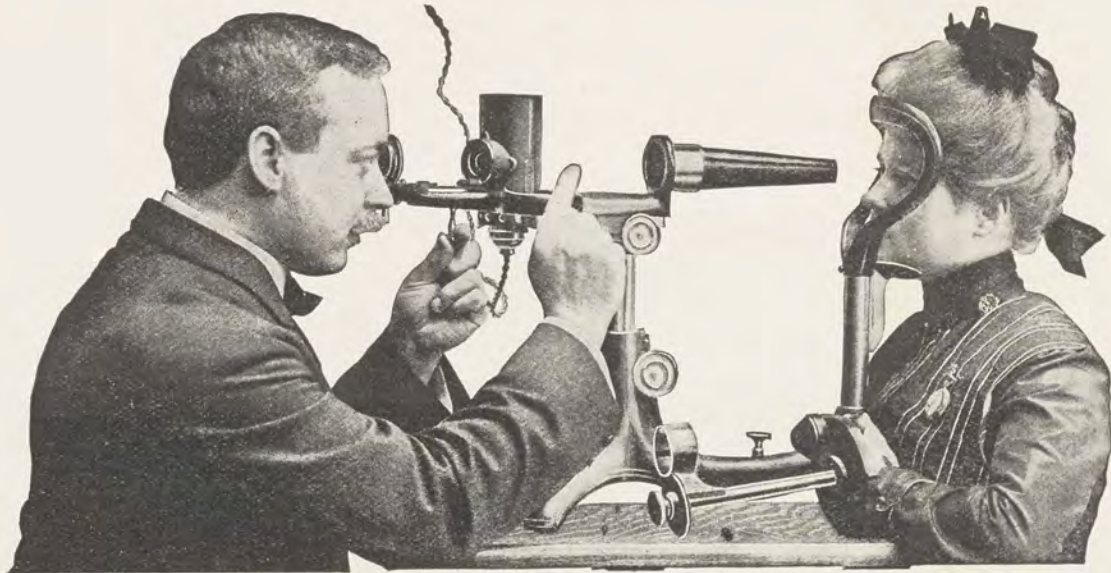


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Reviews of Current Ophthalmological Literature of the World

Eyestrain and Nervous Disorders. A Reply to Dr. Dana's Critical Paper

Not long ago we reviewed in these columns a paper of Dr. Dana, in which he severely criticized the view that eyestrain could be responsible for almost every ailment of the human flesh. At that time we stated that, in our opinion, many ophthalmologists were going too far when they accepted the assertions of Dr. G. M. Gould without a great deal of reserve, but that at the same time there could be no doubt that many cases with nervous disorders could be improved very frequently by the correction of their refractive errors. We now reprint here an editorial from the August number of the *Ophthalmic Record*, which appears to come from the pen of Dr. Francis Valk, of New York, and, on the whole, agrees with the views expressed in these columns:

In a recent editorial in one of our medical journals we find this statement: "Of late the view has been widely and insistently promulgated that eyestrain is responsible for many, if not the majority, of the physical ills to which flesh is heir." The writer of this would decidedly object to any such sweeping statement as that, nor can he see any reason why it should be made in a reputable medical journal. As this editorial is read it seems to have been based upon a sort of one-sided symposium on eyestrain at a meeting of the ophthalmic section of the New York Academy of Medicine, held under the auspices of the academy itself. The writer was present at that meeting, and as far as his remembrance extends the discussion was not participated in by any very prominent ophthalmologist. The papers read were by two neurologists and only one by an oculist. Furthermore, as one listened to the reading of the papers and to the discussion that followed, the entire spirit of the occasion seemed to be of a certain levity, rather out of place in a scientific meeting, which was principally directed against the writings of one member of the profession who has been perhaps too extravagant in his published work, and whose enthusiasm over some of his wonderful cures has led him to make very extravagant claims which others have not been able to find or fulfill in their ophthalmic work. The remarks of the speakers would have led a hearer to suppose that this gentleman was a leader in the profession of ophthalmology, and that his teachings were the principles of that branch of medicine at the present time, but this writer seriously objects to any assumption of that sort, and that Dr. Dana's concluding "pungent" remarks as quoted in the same paper: "The psychosis connected with eyestrain is that shown by a group of oculists who have become obsessed with the idea that eyestrain forms the background of most pathological conditions," has no justification in the work of the best oculists, nor can it be considered as the true conception of this subject by the oculist of the present day.

Ophthalmology, in its best sense, is a true science, in which I am inclined to think we are yet on the threshold, particularly so in reference to the motility of the eyes, and if this work is yet in an experimental stage, then any such extravagant solution as is implied in the editorial referred to finds no justification in the opinion of this writer. But what was the evident conclusion of Dr. Dana's

paper on that occasion? It seemed to me that in reference to the minor psychoses, eyestrain may play a very important part, even sometimes as a direct factor in certain mental conditions, and that it frequently is a contributing cause, inasmuch that, in many reflex conditions referable to the head, eyestrain, either refractive or muscular, is frequently the only cause. But all this does not imply that we have a pathological condition present. I think this may be considered as the view of most oculists in this country, and the proposition "that it is a potent factor in many serious diseases" is simply a supposition that must exist in the mind of one who has not informed himself of the true work that the oculists are now doing. This writer would assure him that the oculists of the present day are not vexed with the idea that eyestrain is the cause of any pathological conditions, but that they are trying to know just what influence an eyestrain, either refractive or muscular, may have on the minor psychoses, either primary or secondary, and simply according to the limits to which Dr. Dana himself accepts, as he has acknowledged that some cases of minor psychoses may be due to the eyestrain.

One of our most prominent alienists stated to this writer that he did believe that eyestrain may have some influence on certain conditions, but put great stress on this remark: "When there is eyestrain!" Now, who shall settle that question, the oculist or the neurologist? The matter will eventually adjust itself to the true value, and until that time comes it will be well for most of us to restrain our views until we know what the correction of eyestrain will and will not do. F. V.

What are the So-called Reflexes which can be Properly Referred to Eyestrain?

This interesting question was discussed at the last annual meeting of the American Ophthalmological Society, at Boston, Mass. Dr. Lucien Howe, Buffalo, stated in his paper that he had sent out 206 letters, in which he had asked prominent ophthalmologists regarding the reflexes which should be properly referred to eyestrain, and had received 105 replies. He considered the criteria by which to decide whether or not a given symptom might properly be regarded as of reflex origin and divided the reflexes into three groups: those which manifested themselves in the eye itself, those that showed themselves in the accessory muscles of accommodation, and finally those which occurred in other portions of the body. The doctor stated there was still a great deal of confusion, especially regarding the systemic reflexes, and that twenty of his conferees had not seen any of these reflexes. He thought it very desirable that there should be a more accurate definition of symptoms and disease, and that there should be perfect agreement about definite criteria in this direction. He believed that there was great need of a patient investigation of the subject, instead of the dogmatic statements which were simply repeated so frequently. This somewhat negative attitude of Dr. Howe was to some extent counterbalanced by Dr. B. Alex. Randall, of Philadelphia, who stated that he was not

prepared to bring forward statistics, nor to make any startling assertions with regard to reflex disturbances due to eyestrain, but he was very confident of the existence of such conditions; anatomical lesions in retina, the chorioid and other portions of the eye, as well as various reflex neuroses, as a result of eyestrain. He had never seen epilepsy cured by this relief, but he had seen it so mitigated that patients practically ceased to have attacks. He thought that if those who doubted would consider the matter further and carefully, they would recognize that such things do exist.

A Worm in the Anterior Chamber of the Eye

That sometimes an insect will succeed in laying an egg in the eye, is again shown by the following interesting case of Dr. Ewetzkzy. His case was that of a boy of five and a half years, who had signs of inflammation in one eye, lasting for a week, and relapsing for a short time, after a month's free interval. Four months later there was found episclear injection, particularly below, with opacity of the corresponding segment of the cornea, posterior synechia, contracted pupil, which did not react to atropine, and in the lower portion of the anterior chamber a worm, which moved actively, although not directly visible. After the operative removal of the worm, which was found to be the larva of a fly of undetermined species, recovery rapidly took place. E— considers it possible that the larva was that of *hypoderma bovis*, a fly that is found on the skin of cows.

"Ophthalmic Neuro-Myology"

The writings of Dr. G. C. Savage are not new to the readers of these columns. His latest contribution to ophthalmology treats of the normal and abnormal actions of the ocular muscles from the brain side of the question in a small volume of 220 pages. He here restates and upholds his former views about the rotation of the eyeball. It seems to the reviewer that the author's views suffer very much from the assumption that the eyeball is a mathematical sphere, which makes him utter such statements like the following (page 5): "Since the equator is a line equally distant at all points from the two poles, the equatorial plane must be at right angles to the axis and must cut it at its central point. This point in the eye is the center of rotation." Now the question is, not where the center of rotation ought to be, but where it really is. This can be established only by experiments, such as have been made by Donders, Volkman, Mauthner, etc., and these have shown that this point lies one to two millimeters behind the center



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Folding, $1\frac{5}{8}$ in. dia.
Concave mirror, $\frac{3}{4}$ to 2 in. dia.
Throat Mirrors, plane mirror, $\frac{1}{2}$ to $1\frac{1}{4}$ in. dia.
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Reviews of Current Ophthalmological Literature of the World

(Continued from page 1747)

of the optic axis, and that besides with the elevation of the visual plane the point of rotation recedes somewhat from the cornea. It will not do, therefore, to simply postulate that the center of the axis must be the center of rotation when experiments have shown the incorrectness of that view. But the book makes very interesting reading, especially about the innervation of the different muscles, and though it cannot be said that all the views expressed there rest on a firm experimental basis, the reader interested in this subject will peruse the book with great benefit. Thirty-nine full page plates and twelve other figures illustrate the views of the author, and a good index of ten pages makes reference to a special subject an easy matter. The book can be had from this office on receipt of publisher's price, \$2.50.

Regarding a Universal Agreement as to the Determination of the Visual Acuity

Lately, in the *Zeitschrift f. Aughk.*, Dr. E. Landolt, the celebrated ophthalmologist, contributes a lengthy article regarding this important subject. He defines the visual acuity as the ability of the human eye to recognize two points as separate under the smallest visual angle. The smallest interval which two points on the human retina may have without being united into one single sensation is called the *minimum separabile*, and the angle which is formed by the two lines connecting these two retinal points with the nodal point of the eye is called the smallest visual angle. If we want to judge the visual

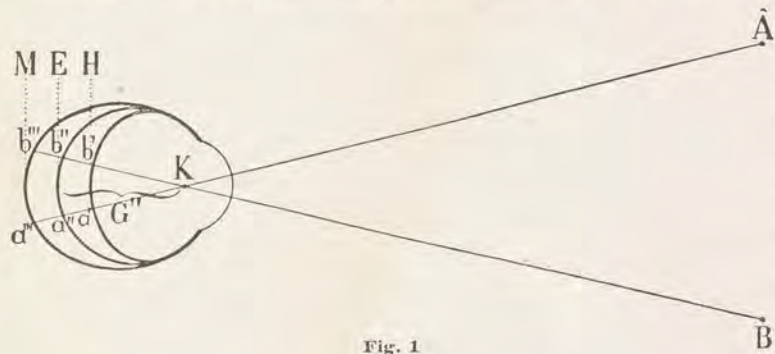


Fig. 1

acuity by the smallest visual angle, AKB in the figure, we must not forget that in differently constructed eyes the same angle covers a greater retinal area in myopia and a smaller one in hypermetropia than is the case in emmetropia. But if we remember that in axial ametropia the correcting glass, if placed at the anterior focal point of the eye, that is about thirteen millimeters before the cornea, brings the nodal point so much forward in hypermetropia, or so much backward in myopia, that now in the corrected eye the distance from retina to nodal point is the same as in emmetropia, it is evident that the same retinal area corresponds to the same visual angle and that therefore the latter can be taken as the measure of the visual acuity of the eye.

This is well explained by Fig. 2, the upper diagram for hypermetropia and the lower for myopia.

The visual acuity is, of course, inversely proportional to the visual angle, and the question now is what angle must be taken as the unit. Hitherto, according to the recommendation of Snellen and Giraud-Teulon a visual angle of one minute has been taken as the unit, but in order to avoid

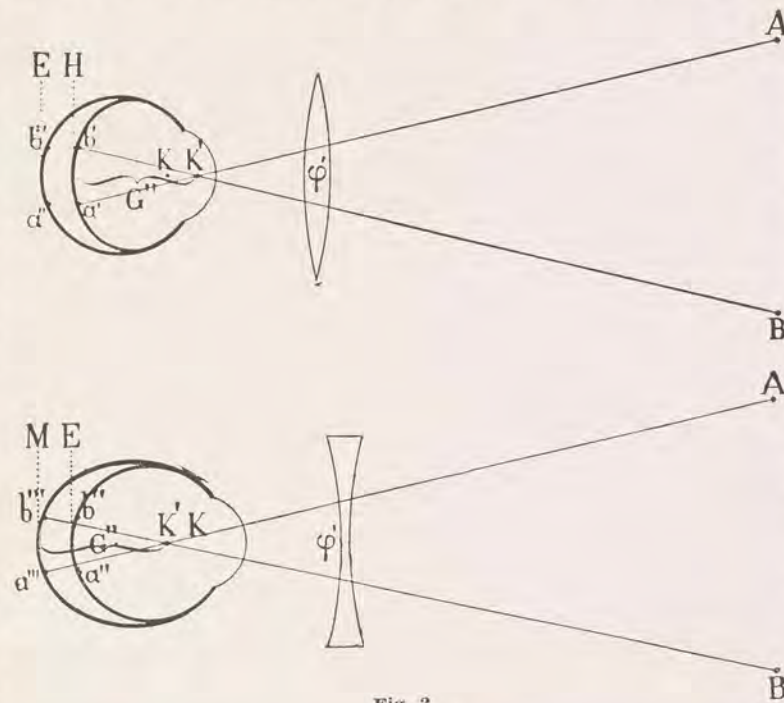


Fig. 2

fractions Dr. Landolt recommends that we take a unit ten times smaller than before, so that what now is called a visual acuity of $\frac{1}{10}$, would then be called 1.

After discussing the different objects used by different authorities to test the visual acuity, the doctor recommends his broken rings (Fig. 3), which have been described in a former issue of THE KEYSTONE, as the best opto-types. These rings he takes with a diameter five times larger than the breadth, and the interrupted space is as long as the ring is wide, forming therefore almost a square. Landolt has used them very successfully in his own practice since several years.

Regarding the progression according to which the different optotypes should be arranged, whether this should be a geometrical or an arithmetical progression, the doctor advises the individual refractionist to follow his own judgment. There should, however, be more uniformity regarding the illumination of the test types, and the doctor thinks that in the present condition of science it



Fig. 3

should not be difficult to soon propose an artificial illumination which overcomes all the difficulties hitherto encountered.

New Observations on the Process of Accommodation

It cannot be said that the process of accommodation has been explained satisfactorily in every detail. At present there is still going on an ardent fight between the followers of Helmholtz and those of Tscherning with regard to this matter. Not long ago we reported in THE KEYSTONE how the objections of Hess had been refuted by Tscherning, but now Dr. Hess again brings forward observations which seem almost fatal to the views of Tscherning, unless the latter can again adduce different testimony in his behalf. The experiments and observations of Hess are as follows:

1. Tscherning found that the radius of the anterior surface of the lens in air did not correspond to that of the accommodating lens, so that the form of the latter could not be accepted as representing equilibrium. Hess now shows that the relative increase of weight of the lens after extraction (transition from water to air) produces a change of form which cannot be made to apply to the lens, surrounded as it is by water.
2. Tscherning produced an increased curvature of the anterior pole of the lens by traction on the zonule of the isolated lens of the ox and dog. Hess proves by examination of the anterior lens reflex that when the lens of man or apes remains in connection with the ciliary body, traction on the zonule decreases the curvature of the pole, while relaxation of the zonule increases it.
3. Tscherning explains the sinking of the lens in accommodation as a sinking not of the entire lens, but of the free lens mass in the capsule, in consequence of relaxation of the posterior capsule, when the anterior capsule is stretched. Hess was able to show in a patient with brown punctate opacities on the anterior surface of the lens, that these points participated in the sagging of the lens, so that the anterior capsule must be concerned, as well, in this movement.

Views of Well-known Ophthalmologists Regarding the Use of Atropine for Determining the full Correction of Myopia

At the last meeting of the Société Française d'Ophtalmologie, Dr. Bourgeois spoke extensively about the full correction of myopia. After giving an analysis of all the former work regarding the full correction of myopia, and after stating the views of many members of the society whom he had questioned upon the subject, he gave his own conclusions from his practice. As they do not differ from those prevalent in this country, and frequently given here in these columns, we shall not restate them here. The doctor, however, in his paper also

(Continued on page 1753)



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Clinics in Optometry

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Hyperphoria

A. H. J., thirty-seven years of age, a machinist by occupation, complains of headaches at times and a soreness and aching in eyeballs. In reading he must make a conscientious effort to adjust his eyes for the print. Has felt for some time that his eyes needed attention, but has simply neglected the matter. Has never had his eyes examined, and has never worn glasses.

We find the acuteness of vision a little better than normal, as he is able to name about half the letters on the No. 15 line. In ascertaining his range of accommodation, we find that by an effort, he is able to read the smallest print as close as 8 inches and as far away as 28 inches.

These findings practically exclude myopia and astigmatism, and narrow the refraction down to a choice between emmetropia and hypermetropia. How are we going to determine which of these two conditions is present? The most practical and easily applied methods at our command are the trial case and the retinoscope.

In using the test lenses the diagnosis of hypermetropia depends, of course, upon the acceptance of convex lenses for distant vision, while the rejection of the same would indicate emmetropia.

We place a pair of + 1 D. lenses before his eyes, knowing that if vision equals $\frac{20}{40}$ or better, with such lenses, hypermetropia is present. In answer to our question as to whether he can see the same line, patient replies in the affirmative. Mark you, we do not ask if the glasses make vision better; this is not the proper form of question when the vision is already normal. In myopia, and even in astigmatism, where the vision is greatly impaired, and where our effort is exerted to raise it to normal, we very properly ask patient if such and such lens improves vision, and whether one is better than the other. But in hypermetropia when the accommodation is able to maintain the vision at the normal standard, there is no question of improving vision by convex lenses, but rather the ability to see through convex lenses as well as without them.

Patient tells us he is able to see through these lenses very clearly, naming the same letters as before; this proves hypermetropia, and in order to determine its amount, we increase the lenses .50 D. at a time until + 2.50 D. is reached, which produces a notable blurring of the letters. We therefore estimate the probable amount of hypermetropia at 2 D.

Having thus determined the condition of refraction with both eyes together, we now proceed more carefully to measure the amount of defect, by testing each eye separately.

As is our usual custom in hypermetropia, we use the fogging system. We place

+ 5 D. lens in front of the right eye, with which even the No. 200 letter is illegible. We partially neutralize with concave spheres, commencing with - .50 D. and increasing .50 D. at a time, each change of lenses producing a still further improvement of vision. In this method of testing, where the vision is so greatly fogged by the strong convex lenses, it is perfectly proper to ask as we place the concave lenses if they improve vision, as our effort now is to raise the vision to normal in spite of the convex lenses.

When we reach - 2 D. the vision has become normal, some of the letters in the No. 15 line being again legible. The result of - 2 D. placed over + 5 D. is + 3 D., which represents the amount of hypermetropia we have uncovered. We repeat the same test with the left eye, where we find 2.50 D. of hypermetropia.

We will now turn to our test by the retinoscope. The direction of movement of the shadow in both eyes is unquestionably "with." This may mean either emmetropia or hypermetropia. In order to determine between these, we place + 1 D. lenses before the eyes; if these neutralize the movements, emmetropia is present. But if the movement is still "with," the refraction is hypermetropic.

In this case we find the movement is still in the same direction, thus classing the refraction as hypermetropic. We now measure each eye separately, increasing the strength of the convex lens as long as the movement continues "with," and we find that a + 4 D. neutralizes the movement in the right eye, and a + 3.50 D. in the left eye. We subtract 1 D. to allow for the distance at which the test is made, the result being exactly the same as that found by the trial case.

This is quite a marked amount of defect, and it imposes a tremendous tax upon the accommodation, which at this age is scarcely able to bear it. A hypermetropia of this amount at this age would be sufficient to account for the headaches, the aching in eyeballs and the effort required to adjust the eyes for reading.

But we must not be content to stop here, we have finished only half our examination, and as conscientious optometrists we are bound to make the examination of each case thorough and complete.

We therefore pass on to an investigation of the muscular equilibrium, for which we depend on the use of the Maddox rod. This is placed before the left eye in a horizontal position, causing this eye to see a vertical streak of light. In answer to our questions as to which side of the light the streak appears and how far from the light, the patient tells us about a foot or more to the left. This being on the same side as the eye over which the rod is placed, indicates esophoria, and is correctible by prisms, bases out, the amount of prism required being the measure of the esophoria, which in this case we find to be 8°; in other words, a prism of this strength is required to bring the streak up to the light. While we would expect to find some esophoria in a case of hypermetropia like this, we are scarcely prepared to find so much.

We now turn the Maddox rod around to the vertical position, when the image formed in this left eye will be a horizontal

streak of light. We ask the patient if this streak is above, below or through the light. He answers that it is away below, at least six inches. This indicates a hyperphoria of this eye and is corrected by a prism, base down. The degree of prism required to bring the streak up to the flame will be the measure of the hyperphoria. We commence with a 2° prism, which brings the streak somewhat closer, but still considerably below. We increase to 3°, then to 4°, and then to 5°, when patient tells us the streak is now through the light. We make the entry in our record book L. H. (the abbreviation for left hyperphoria), 5°.

This throws a new light upon the case, and instead of being one of hypermetropia with its accompanying esophoria, we are inclined to regard the hyperphoria as the essential feature of the case.

I have seen the statement made by an optical writer that in high convergent strabismus there is almost always in addition an upward deviation of the squinting eye. I have not been able to verify this statement in my own experience, but it is well for you to bear in mind the possibility of such connection. This may serve to explain the hyperphoria in this case occurring in connection with a marked degree of esophoria.

A hyperphoria of 1° is capable of giving rise to asthenopic symptoms; much more so than an equal amount of esophoria or exophoria, and therefore this form of deviation calls for our careful consideration.

The average strength of the vertical muscles is scarcely more than 2°; a hyperphoria of 1° is one-half the total strength of these muscles, and hence it can be easily understood why a hyperphoria of this comparatively small amount is such a disturbing factor.

The external and internal recti, on the other hand, are much stronger, and besides the action of these muscles is influenced by the effort of accommodation. This explains why a higher degree of exophoria or esophoria produces much less marked symptoms of asthenopia. And then again, we can at least partially correct the former with concave lenses and the latter with convex lenses, through their action on the accommodation, but we have no such means of influencing the hyperphoria.

When we come to inquire into the etiology of hyperphoria, the only explanation that can be given for its occurrence is that the balance of power between the superior and inferior recti muscles of one eye differs slightly from that of the other.

Hyperphoria may be latent just as hypermetropia is latent. It is that portion of the anomaly which the observer fails to find. What is latent at one time to one man, is manifest to another under other conditions. A relatively greater amount of defect may be latent in the superior and inferior recti than in the external and internal recti, for the reason that the latter in the performance of their functions are alternately converging and diverging the optic axes, while the superior and inferior recti are never called upon to produce any change in the relative position of the two optic axes. Whatever position they assume, they must not deviate from the same horizontal plane; consequently, the impulses to the vertical muscles become more

(Continued on page 1753)

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Clinics in Optometry

(Continued from page 1751)

fixed, and for this reason defects in these muscles are less likely to manifest themselves.

The treatment of hyperphoria may be optical or surgical. In the higher degrees of hyperphoria, an operation may be advisable, if the symptoms are of sufficient gravity to justify operative interference, either tenotomy of the superior rectus of the hyperphoric eye or advancement of the inferior rectus. But even in these cases we would advise a trial of prisms first, in order to note their effect. If prisms do not afford a fair measure of relief, there is always room for doubt whether an operation will be any more successful. For it must be remembered, that the existence of a hyperphoria cannot by any means be accepted as positive proof, that this is the cause of the headache, or asthenopia or other reflex nervous disturbances of which the patient may complain.

In the optical treatment of hyperphoria, some interesting questions arise in the prescription of the correcting prisms. In cases of 1° of hyperphoria a single prism suffices, and the question occurs over which eye it shall be placed. If the vision of one eye is decidedly poorer than the other, we preferably place the prism over the more defective eye. In cases where the vision of the two eyes is about equal, it has been customary to place the prism over the left eye.

Now, my experience has been that a prism, base down, is not so comfortable as one base up. In other words, the raising of objects by the base-down prism is apt to cause more disturbance of vision than the lowering effect of the base-up prism, probably because the lines of vision are more often and more naturally below the level of the eyes than above.

For this reason, unless there are indications to the contrary, I think it is better to place the prism base up over the cataphoric eye rather than base down over the hyperphoric eye. For instance, in a case of right hyperphoria of 1° , instead of ordering prism base down over right eye and raising the vision of this eye to the level of the other, I would order prism base up over left eye and thus lower the vision of this eye to the level of the right.

There are other indications for varying the position of the prisms, as, for instance, the following: A case of left hyperphoria, of which 1° is shown, when the Maddox rod is over the right eye, and $1\frac{1}{2}^\circ$ when over the left eye. In this case the right eye is probably the fixing eye, and a prism of 1° , base up, over this eye would be likely to cause more disturbance of vision (at least, when first worn) than one of base down over left eye, for obvious reasons.

The necessity of prisms for the correction of hyperphoria is often easy of demonstration. While the patient looks at the test card through his refractive correction, a vertical prism in its proper position is placed over one eye and then in a moment reversed, when the patient can quickly decide which position is comfortable and which disturbing to vision. In the absence of such indications, that is, if patient is unable to decide

which position is comfortable, a prism would be of doubtful value.

When the hyperphoria is 2° or more, it is customary to divide the prism between the two eyes, base down before one eye and base up before the other. This applies to the case under consideration, and we will order 2° base up right eye and 2° base down left eye, thus depressing the image of one eye and elevating that of the other, in this way restoring the visual lines of the two eyes to the same level.

We are now ready to order the glasses for our patient. We must, of course, prescribe for the hypermetropia, but as he has never worn glasses we cannot make them too strong. Nor do I think it well to order a full correction for the hyperphoria. The esophoria for the present can be safely ignored. With these considerations our prescription will read:

O. D., + 2 D., sph. \ominus prism 2° , base up,
O. S., + 1.75 D., sph. \ominus prism 2° , base down,

which we will direct to be set in spectacle frames and worn constantly.

Reviews of Current Ophthalmological Literature of the World

(Continued from page 1749)

referred to the use of atropine and reviews the French status as follows: The majority of ophthalmologists is opposed to the use of atropine or any other cycloplegic for the determination of myopia. The speaker himself has never employed it, and expressed his opinion that the so-called spasm of accommodation, which is adduced as the reason for atropine by its users, was very rare and only found in nervous and hysteric persons. He further states that Dianoux, in his writings, also rejects the use of atropine and mentions Tscherning who also denies the existence of a spasm of accommodation, and who has explained the decrease of the myopic refraction after the use of atropine by the weaker refraction of the more peripheral parts of the optic system of the eye. Sulzer likewise objects to the systematic use of atropine, and Koublis is of the same opinion. Dr. Bourgeois finally observed that for purposes of refraction, atropine should only be used in such cases where there was a great difference between the objective and subjective tests, and that for the treatment of myopia it should be employed only in cases with grave complications like detachment of the retina.

Have Certain Congenital Affections of the Eye their Cause in Strong Impressions Made upon the Mother before Birth of the Child?

Dr. H. Derby, of Boston, in his paper before the last meeting of the American Ophthalmological Society, cited a number of coincidences of this kind, which embraced various forms of congenital disease.

In the discussion Dr. Herman Knapp, New York, said that in 100,000 private patients he had never seen a case that would remotely strengthen such a hypothesis.

Dr. E. E. Holt, Portland, Me., reported a case of a boy, twelve years old, brought to him with no eyes. The mother informed him that the child had been born without any eyeballs. Inquiry elicited the information that, when about three months pregnant, men were digging a cellar at the house and a little child came out on a pile of sand, and the workmen, not seeing it, threw a shovelful of earth in its face. The sight of this accident, the mother believed, was the cause of her child having been born without eyes.

Dr. Walter Pyle, Philadelphia, had examined nearly all the records of maternal impressions from the time of Hippocrates down and failed to find any scientific evidence at all.

Dr. Lucien Howe, Buffalo, thought the negative evidence which could be obtained by examining the pupils of blind asylums of importance. A repetition of changes would often be found in two or more of the same family. If due to maternal impressions, the mother would have to have had the same impression before the birth of each child.

Packing Exposed Photographic Plates

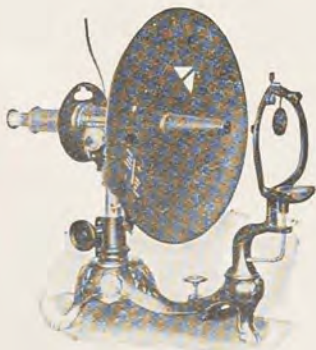
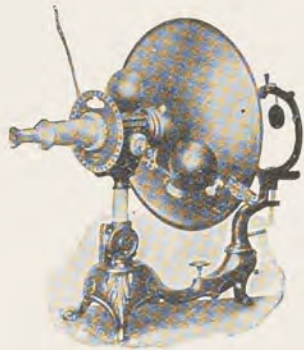
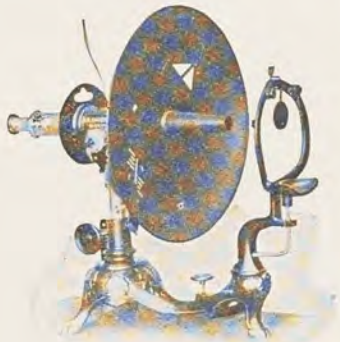
At a meeting of one of the London societies a member said that recently he packed a number of exposed plates in tinfoil, and at the same time another set in simple paper. On proceeding to develop those in the tinfoil, nothing but the ghost of an image could be obtained; while those in the paper, treated in every way the same, and exposed under the same conditions, were quite satisfactory. The statement was followed by considerable discussion, without any satisfactory suggestion as to the cause of the fading of the image. Tinfoil, as is well known, is not always or often all pure tin, and as Russell has shown that quite a number of metals give off a vapor that acts injuriously on the latent image or on the sensitive film, it may be that to some of those mixed with the tin, is to be attributed the evil.

Photography in the Russo-Japanese War

A Tokio correspondent of our contemporary, *Photographie Française*, sends to that journal some interesting notes on the use of photography by the Japanese. For some years the headquarters staff of the Japanese army have been studying the subject, and have founded an army photographic service corps. Folding film cameras are used, and the films are developed at the rear of the advance line, and positive films quickly sent to the front. Light bamboo stands are used, and most of the cameras are fitted with telephoto lens, which, however, only gives a magnification of eight diameters. Cameras are attached to captive and free balloons, and special orders have been to the aeronauts to destroy the films and cameras in case of capture. Photography is also used to duplicate the orders of the day, and the microphotographs of these are carried, it is stated, by the Chunchuses and Chinese under their nails, between their toes, up their nostrils, and even in their stomachs. In the latter case, it is stated that the document is hidden in a small ivory tube, which the porter swallows if he thinks there is a chance of his being captured, the ivory resisting the gastric juices, and thus preserving the document. When the microscopic document arrives at its destination, it is enlarged by projection and copied, as was done in the Franco-German war of 1870.

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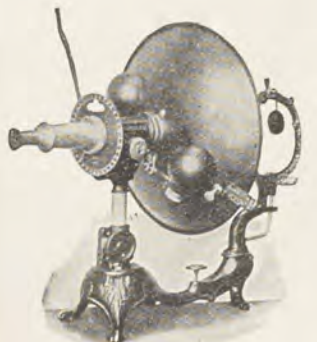
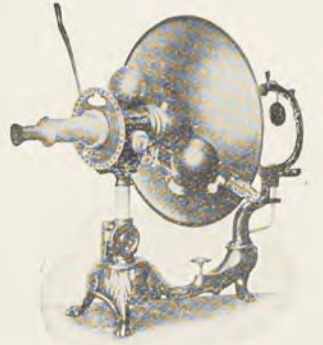
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Optical Questions and Answers

Subscribers wishing inquiries answered in this department must send name and address—not for publication, but as an evidence of good faith. Questions will be answered in the order in which they are received. No attention will be paid to anonymous communications.

To enable us to answer questions satisfactorily and give proper advice in the management of cases submitted to us, it is essential that we be furnished with a complete history of each case and accurate information on the following points:

1. Age. (If not possible to give exact age, always approximate.)
2. Have glasses been previously worn? How long and what number?
3. Visual acuteness of each eye, and what improvement glasses afford.
4. Range of accommodation (without glasses and with them).
5. Evidence of astigmatism (as shown by radiating lines).
6. Test for muscular insufficiency.

"L. L. E."—(1) *What would be the focal power of a lens that would focus rays of light coming from 20 inches to a point at 13 inches?*

(2) *In all cases of retinoscopy, where the operator is seated one meter from the patient and a plus 1 D. lens stops the shadow, the patient is considered an emmetrope, and would it not be the same in myopia?*

(1) 5 D.

(2) In myopia of 1 D. the far point is at 40 inches and the emergent rays would exactly focus on the retina of the observer seated at this distance. Therefore, there would be no movement of the shadow, or, in other words, it is neutralized by the myopia. From an emmetropic eye the rays emerge parallel, and in such a case it requires a +1 D. to focus them on the observer's retina and to stop the movement. This demonstrates the difference between the movement in emmetropia and low myopia. In the latter case the +1 D. lens would cause the shadow to go against, which would indicate the opposite condition of refraction. It is not often we meet with myopia of exactly 1 D., and therefore we usually find some movement of the shadow: if with, it is either emmetropia, hypermetropia or myopia of less than 1 D.; if against, myopia over 1 D.

"F. P. S."—*Lady came to me a few days ago who had her eyes dilated with atropine and fitted with glasses fifteen years ago. They worked fine until about six months ago. Since that time a traveling oculist changed the lenses but failed to benefit her in the least. I tried testing her eyes. A +.25 D. and +5 D. look almost the same to her. I think I will have to have a physician dilate her eyes again. Please advise me in this matter, also how to proceed after they are dilated.*

Our correspondent's description of this case is so indefinite that we find ourselves unable to offer any intelligent advice. In fact, he has failed to give us information on any of the six points asked for at the head of this page. In order to form a proper conception of this case, we must have definite information on the following: Age; if possible, the number of the lenses which she wore for so many years with comfort; the visual acuity of each eye and the strongest convex lenses accepted by distant test; near point without glasses, or if unable to read with unaided eye, then the near point with that convex lens with which she can read comfortably; evidence of astigmatism as shown by any of the customary tests.

Reference is made to the fact that this lady previously had her eyes dilated; now, it should be borne in mind that atropine is used not for the purpose of dilating the pupil, but the main object in view is to place the accommodation at rest. The dilation of the pupil is an incidental effect, or a side issue it may be called, which is of no value in determining the condition of the refraction by the trial case.

The statement that "a +.25 D. and a +5 D. look almost the same to her," indicates a lack of understanding of the principles involved. If the visual acuity is impaired, we find the strongest convex lens that raises it to normal. If the vision is not impaired, then we seek the strongest convex lens with which the No. 20 line can still be plainly seen. If a +.25 and a +5 are the same, then we keep on increasing the strength of the lenses until we reach one which begins to blur the vision. After atropine is used, the test is made in the same

way. If hypermetropia is present, the use of the drug reduces visual acuity and the strongest convex lens that restores it to normal will be the total error.

"O. F. S."—*Will you please give me a few words of explanation as to how to measure the pupillary distance of eyeglasses? Is the frame laid on the measuring card with the spring in a state of rest, or is it spread apart as it would be while being worn? If not asking too much, could you give an illustration how the frame should be laid on card for that and also for measuring "top and bottom of guards apart"? In measuring spectacles, what is meant by "bridge in" and "bridge out"?*

In order to measure the pupillary distance of eyeglasses, or rather the distance between the optical centers of the lenses, they must necessarily be laid on the measuring card in the same position as when on the nose of the wearer. It is obvious that such distance could not be correct if taken with spring at rest. It can be easily seen about how much the nose spreads the guards, and then they can be laid on the card in a like position. At the same time and in the same way the frames can be laid to measure the distance between the top and bottom of the guards.

But, after all, there is no exact and practical way of measuring the face and nose for the eyeglasses. The only way it can be done satisfactorily is by trying them on the face, and for this purpose it is necessary to have a set of samples, comprising different sized lenses, different lengths of studs, different styles of springs and different kinds of guards. These can be tried on in turn until the one is found that suits the patient best, as to holding the lenses in proper position and with guards that are comfortable and that will not easily shake off.

No matter how careful the measurements for eyeglasses, they cannot be strictly accurate, and hence when the finished product is ready to be handed to the purchaser the guards must be adjusted so that the pressure on the sides of the nose will be uniform along their whole length, or perhaps a shade closer at the tops of the guards. At the same time it must be seen that the lenses are not allowed to droop.

By "bridge in" and "bridge out" is meant the inclination of the bridge. This is a most important part of the measurement, so that the lenses may be held at the proper distance from the eyes. The desideratum is to get the lenses as close as possible, just so they escape the lashes. Sometimes the nose is flat or the lashes long, which calls for inclination of bridge back. Sometimes the nose is prominent and lashes short, when the inclination of bridge is front. This also can best be determined by a set of sample frames.

"A. G. P."—*Man, age thirty-seven, musician, was fitted fifteen years ago with: R. E. - .75 \ominus - .25 ax. 90°; L. E. - .50 \ominus - .50 ax. 180°. He wore this combination for about five years and then discarded the glasses except for very fine print, or where the light was bad. He came to me complaining that his sight was getting poorer and that his eyes became inflamed and painful whenever he caught cold or used them to excess. I have no dark room and have to depend entirely upon my trial case. I made the following examinations: Muscle test at 20 feet. He could overcome 15° base in, 16° base out. With Snellen's chart: R. E. $\frac{20}{40}$, with -1.50 \ominus - .37 ax. 125° $\frac{20}{40}$; L. E. $\frac{20}{40}$ with -2 \ominus - .50 ax. 30° $\frac{20}{40}$. Vision, both eyes without glasses and using accommodation $\frac{20}{40}$ and part of $\frac{20}{30}$. Without accommodation (i. e., with 10° prism base in), $\frac{20}{40}$ dim. What I want to know is how to account for the axes of the cylinders changing 25° in fifteen years. Does astigmatism in myopes change with the progression of the myopia? Owing to the change in the position of the cylinders, I was particularly careful on this point but found that with the axes, as in his original prescription, vision both eyes was only $\frac{20}{30}$ dim.*

Cases of astigmatism are frequently met with in which the location of the axis of the correcting cylinder varies from time to time. It is not impossible for the curvatures of the cornea to change,

and it has been found that this occurs most often in uric acid patients. We have to take things as we find them even though we cannot always offer a plausible reason for certain changes.

We feel that we must question the result of the muscle test in regard to the overcoming a 15° prism base in. This is almost an impossibility unless there is an evident strabismus, of which we have no account. The power of abduction is normally from 6° to 8°; it would be unusual at 10°, exceptional at 12°, and almost impossible at 15°. Why was not the Maddox rod used in addition to the duction tests?

The formula mentioned may represent the error of refraction and afford good distant vision, but such glasses will scarcely answer for reading. If this man has been reading without glasses, his accommodation has been but little used and is, therefore, weak. Under these conditions, at this age, he could not be expected to read through full correction concave lenses.

"C. J. W."—*Lady, about thirty-three, has worn glasses for several years, is troubled with bad headache and neuralgia. Vision, R. E. $\frac{20}{40}$, L. E. $\frac{20}{20}$. Has been wearing, R. E. +1 \ominus +1 ax. 75°; same in left. With these vision in R. E. is $\frac{20}{40}$; in left no better than without any. I gave her a thorough test and found vision as follows: R. E. +1 sph. \ominus 1 cyl. ax. 75° $\frac{20}{40}$ at 20 feet. L. E. +2 cyl. ax. 105° \ominus 3 cyl. ax. 15° brought vision down to $\frac{20}{40}$ at 20 feet. I had these glasses ground and she could see perfectly in them, but wouldn't wear them, said they made her dizzy; so I put a plano in left eye and she got along better, but still had attacks of headache. Has been wearing a grab front over distance glasses, +2.50 for reading; she accepts this all right. About ten days ago I gave her another pair of glasses, the same for R. E. and reducing L. E., had it ground +1 sph. \ominus 1 cyl. ax. 15°. This she is wearing, sees well, but still has headache. I couldn't find any muscular trouble. What do you think is the matter?*

This is a most interesting case and one that will tax the skill of an expert optometrist. A large part of the trouble is doubtless due to the anisometropia. Now, each case of anisometropia must be studied by itself; there is no rule that can be laid down for the management of these cases.

Inasmuch as there is a considerable myopic element in the left eye, the question occurs as to whether this eye may be used preferably for close vision, and the right eye, which is entirely hypermetropic, be used for distant vision. This is a point that must be definitely determined in order to arrive at a proper understanding of the case. Not only must each eye be examined separately to measure the error of refraction, but the accommodation must be measured in the same way.

The fact that a +2.50 sphere must be added for reading in a patient aged thirty-three, indicates an error somewhere. At this age the glasses that correct distant vision should suffice for reading, otherwise we are led to suspect that the distant correction is at fault or that there is probably considerable more hypermetropia present than is indicated by the distance correction.

The effort should be made to give the left eye as near a full correction as can be borne; just what lens should be prescribed is a matter that can be determined only by actual trial. But whatever lenses are given, it would be well for her to have a pair with the full correction, which she should wear for a short period each day, gradually increasing the length of this period until the time will finally come when the full correction lenses can be worn constantly. The writer has often been surprised that glasses of widely different focus, which at first could scarcely be tolerated for a moment, were finally after patient perseverance worn with entire comfort and relief.

It is possible that stronger glasses may be required for reading, and if so the added lenses will probably be different for each eye. But it is more than probable that the distance glasses fail to represent the hypermetropic defect, which may be one reason for a continuance of the headaches.

Our correspondent says he couldn't find any muscular trouble; did he use the standard tests, and with care? In a case like this, where one eye is so different from the other, there is usually some latent deviation.

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A Method of Measuring Latent Hypermetropia

By A. E. BLACKMAN, Castle Forbes Bay, Huron, Tasmania

THIS method is by fogging, in which the lessening of the lens power is not made by sudden steps, but continuously, as if we had an elastic lens, whose surface could be flattened slowly and without gradations.

Let E be the eye under examination, RP the usual position of the refracting plane of a spectacle glass before the eye. AL a large achromatic aplanatic lens (the more nearly it is so, the better the result) of one meter focal length. Let Φ be the focus for parallel incident rays of this lens. The achromatic aplanatic lens is supported by a stand, which slides along a graduated bar to or from the patient's eye, so that its axis corresponds with the line between the eye and the center of the card of test letters at twenty feet distance as usual.

The lens itself is fitted into a metal ring, which has two pivots diametrically opposite each other; these pivots take bearing in holes in a second ring, which can be turned round in its own plane, like a wheel—it sliding in the ring of the support. This allows us to tilt the lens about its diameter which has the pivots, and by turning around the lens, its ring and pivots and the ring into which they take bearing, we can bring the tilting axis of the lens to any position in the common plane of the supporting rings; by means of springs the lens is held to this same plane and a projecting lever is the means by which a tilt of the lens can be made in any axial position.

By looking at the diagram it can be seen that the virtual focal length of the lens is the distance of the focus Φ from the virtual refracting plane RP —the focus Φ moves with the lens and is always one meter distant from it.

The lines running parallel to one another and towards the lens, as indicated, are representative of the parallel rays from a point upon the distant test card. Those that pass through as continuous lines represent the rays as they are converged after refraction by the lens; the dotted lines represent the course the rays would have taken had the lens not been there. Now suppose that the rays had reached the virtual refracting plane RP in the parallel condition shown in dotted lines, and had there met a lens which refracted them to Φ , that is to say, had met a lens whose focal length were equal to the distance of Φ from the plane RP ; the result is the same as far as the eye is concerned as if they had passed through the lens AL only—it being in its present position. As we move the large lens AL from the eye, we lessen the virtual focal length, which is the distance between Φ and the plane RP —this being always equal to one meter, less the distance between the plane RP and the lens AL .

If we allow one-third of an inch for the usual distance of the refracting plane of a spectacle glass from the cornea, we can easily graduate the slide, which carries the large, movable lens, so as to indicate all virtual dioptric powers of the lens from 1 to 20 D., without running any risk of being anything appreciably out. We can provide a chin-rest and lens-holder to keep the correct position of a trial lens before the eye, if wanted, in the course of the test. This also guarantees the correct position of the patient's eye, the chin-rest, etc., being supported by the same bar that carries the sliding support of the lens.

Having a person seated, and one eye covered as usual by an opaque disk, we place the lens at a distance from the patient, which fogs the eye. Suppose the scale indicates 6 D. Without disturbing him we slowly move the lens towards his eye; he begins, he says, to see the test letters at twenty feet more distinctly; we ask him to be as restful as he can. This we do to encourage the relaxation of the ciliary muscle as much as possible; we can

direction, then a line at right angles to this direction represents the position of his eye's meridian of deficient refraction, because the lens augments the meridian at right angles to its axis of tilt. We can now place a plus cylinder in the lens-holder in front of his eye, with its axis parallel to the tilting axis of the lens AL , and we can change this for another stronger or weaker as indicated by further rotation of the lens about the axis of its pivots, until we get a cylinder in the holder which makes it impossible to make any improvement by tilting. Maybe alter the position of the large lens a little. Thus we are enabled to measure his astigmatism as well as his hypermetropia; the lens in the holder will be the measure of the former, and the large lens' position upon the graduated bar that of the latter.

The advantages of this method over the usual fogging system are that, the patient being undisturbed during the changes of dioptric power aiding that of his eye, and the eye not receiving rays of suddenly changing degrees of convergence, there

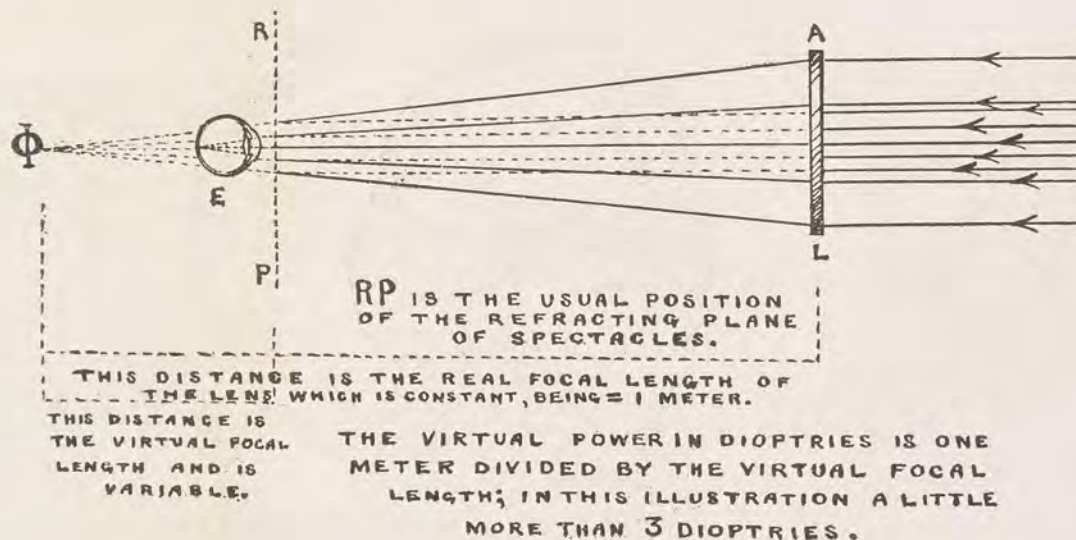
is a far greater chance of completely relaxing the ciliary muscle: we simulate the changes of convergence of rays upon the retina which are brought about by the crystalline lens itself, and must leave the eye doubtful whether the changes are due to its own muscular alterations or to outside changes, and in that way the eye is led to co-operate in a most subtle manner—especially must this be the case, when making the small finishing changes.

I do not know whether this method

may or may not be already known to the readers of THE KEYSTONE, but I think it a duty which every optician owes to his profession to exploit for the benefit of all such discoveries or new methods as he may unearth in his researches.

Plant Photography

If photographs of a germinating seed were taken by the cinematograph at regular intervals during many days until the seed had germinated and sent up its seed leaves, the photographs could be thrown on the screen and spectators could see the earth raised up by the swelling seed, the seed-coat thrown off, the seed leaves emerge, and the first leaves burst forth. A recent lecturer explained some first experiments made with a film cinematograph in which there were defects, as the film would not stand the damp of the greenhouse. More successful were experiments made with the kammatograph, in which the photographs are taken on a glass disk. The disk, 12 inches in diameter, was suspended in a metal ring and coated with a sensitive emulsion. It was put into the machine, which was light-proof, and by means of a handle rotated, so that every part of the plate was exposed before the small oblong opening in front of the lens and the photographs appeared in a spiral on the disk. In many stages of the process a photograph taken once every quarter of an hour was found sufficient.



lessen the illumination perhaps a little (should his pupil appear at all contracted) in order to take away any need of nervous supply by the third nerve, which acts upon the circular contracting fibres of the iris and upon the ciliary muscle as well. This gives him the very best conditions for relaxation of the muscle of accommodation, and consequently enables the optician to get as great a measure of the latent hypermetropia as is possible by fogging.

Suppose we stop finally at 3.50 D. on the scale as being the first place where the patient can distinctly read the same line of test letters that he could read without the lens AL , supposing, without this lens, he has had his manifest hypermetropia corrected by a lens placed in the holder, if necessary; which lens should be removed during the fogging. Then 3.50 D. is the measure of his total amount of hypermetropia. If 1 D., say, was the measure of his manifest defect, then 2.50 D., or the difference, is the measure of the latent error.*

We can also make use of the tilting of the lens to detect any astigmatism; should we find his vision improved by a tilt about any particular axial

* The writer here forgets that the + 1 D. lens enlarges more or less, according to its distance from the eye, and that the image will appear larger with the correcting lens AL than with the usual lens at RP . Allowance should be made for this fact, which will make the latent hypermetropia appear higher than it really is.—Ed.

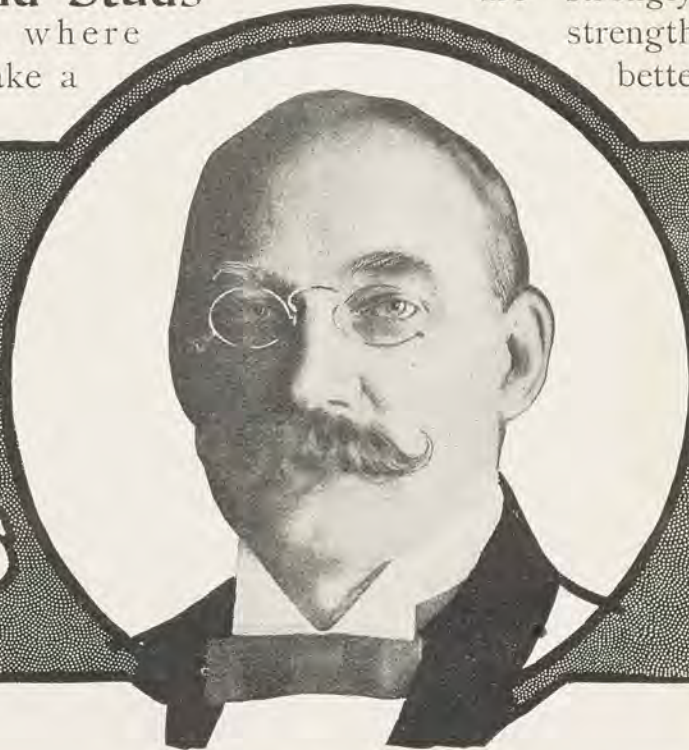
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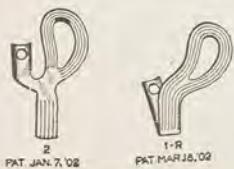
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(Continued. Part X)

It is this angle, indeed, by which we define the axis of rotation, for there are an infinite number of diameters in Listing's plane about which the eyeball might rotate, but only one for each specified angle from the vertical, though we need to take account of whether the inclination is positive (to the patient's right) or negative (to the patient's left).

From V , drop the perpendicular Vm upon On . Then mCn gives us the angle of false torsion required; for nC is the position of the generating line at the close of the rotation, and shows the new position of the vertical diameter of Listing's plane, while the plane mCV is the vertical plane passing through the center of motion and the point of fixation, the angle between these two being the angle of torsion.

It is evident that the plane mCV is a vertical plane, since it passes through the vertical line VC .

It is equally easy to prove that the plane mCV , if prolonged, would pass through the fixation point, for it is perpendicular to the plane nOC , to which the line of fixation is also of necessity perpendicular, and they both pass through C ; therefore, the line of fixation must lie in the plane, and conduct it, so to speak, to the fixation point.

Taking VC as unity—
 Since $OV = \sin I$
 and $\frac{Om}{OV} = \cos R$
 $\therefore Om = \sin I \cos R$
 Moreover, $OC = \cos I$
 $\therefore \frac{Om}{OC} = \frac{\sin I \cos R}{\cos I} = \tan I \cos R$
 But, $\frac{Om}{OC} = \tan (I - x)$
 $\therefore \tan (I - x) = \tan I \cos R$
 Or, $x = I - \tan^{-1} (\tan I \cos R)$

Putting this into language:—The false torsion is equal to the angle from the vertical, or from the horizontal, of the axis about which the eye rotates, less the angle whose tangent is the multiple of the tangent of the inclination of the axis of motion with the cosine of the angle traversed by the line of fixation.

The following short table will give an idea of the amount of false torsion which takes place on looking in any diagonal direction midway between any two of the cardinal directions.

Since the greatest false torsion of which the eye is capable occurs at the extremities of these diagonals, we may see at once that it does not ever much exceed 10° .

ROTATION ABOUT AN AXIS 45° FROM THE HORIZONTAL.

Degrees	5°	10°	15°	20°	25°	30°	35°	40°	45°
Torsion	$6\frac{1}{2}'$	$26'$	1°	$1^\circ 47'$	$2^\circ 49'$	$4^\circ 6'$	$5^\circ 40'$	$7^\circ 33'$	$9^\circ 44'$

Azimuth and Altitude.—The ocular motions can, for exact work, be analyzed with reference to three principal axes, a vertical axis, a horizontal axis and an antero-posterior axis.

When the eye looks directly upwards or downwards it rotates round a horizontal (or transverse) axis.

When it looks directly to the right or left, it rotates round a vertical axis.

These will be recognized as the cardinal movements of the eye.

In astronomical language, we might call the upward and the downward motion, "motion in altitude," and the motion to right or left, "motion in azimuth," these being the terms that would be used were the eyes two telescopes.

Motion in *azimuth* may be illustrated by that of a weather-cock: it is motion about a vertical axis.

Motion in *altitude* may be illustrated by a piece of cannon, or by a toilet looking glass: it is motion about a horizontal axis.

It will be seen that the cardinal motions of the eyes are those of either pure azimuth or pure altitude.

When the visual axis, however, is directed obliquely to an object, altitude and azimuth are combined. What is so wonderful is that they are combined in the same proportion at every instant during the motion, so that the visual axis instead of first moving sideways, and then up and down, moves at once by the shortest route into its new position.

An astronomer would direct his telescope by first moving it in azimuth and then in altitude, but this is far too clumsy a plan for the eye, since it means two motions instead of one, and a longer route instead of the shortest.

The visual axis, therefore, sweeps along whatever incline plane is common to its initial position and its new position, and loses no time (Fig. 16). It is evident that in motion of this kind the globe

must rotate about an axis perpendicular to this inclined plane, an axis, therefore, which is neither horizontal or vertical, but somewhere intermediate. All the same, it can be described in terms of its component azimuth and altitude as if it had reached its new position like a telescope. The horizontal component of the motion is the azimuth, and its vertical component the altitude.

When motion is to the right from the initial position, the azimuth is by astronomers called positive—when to the left negative.

Similarly, motion upwards gives positive altitude, and motion downwards negative.

In analyzing any motion, it is a good plan to adhere to the rule of allowing azimuth the first place, or preference, over altitude, so that, for instance, a motion of $(-20^\circ + 10^\circ)$ means that there is negative azimuth of 20° with positive altitude of 10° , or, in other words, the eye looks 20° to the left and 10° upwards.

For ordinary clinical work, however, it is well to substitute for motion in azimuth, motion "to right and left" (*dextroductio* and *laevoductio*), which leaves it an open question whether it is about an axis strictly vertical, or with an inclination forwards or backwards. For motion in altitude, *elevation* and *depression* are suggested as terms which do not bind us too closely.

Helmholtz's Plan of analyzing the ocular motions was to consider the fixation plane (in which both the fixation lines lie) as first elevated or depressed, above (brow-wards) or below (chin-wards) its "initial position," by an angle called the "elevation angle" of fixation. Then, in this plane, the angle between its mesial line and the fixation line was called the side-turning angle. By this plan, however, the altitude of the fixation line steadily lessens as the lateral deviation increases, and it was partly its adoption which led to the apparent discrepancy between Helmholtz's laws of false torsion and those in the text-books. It may be illustrated in a simple way by a weathercock with a bent stem, as in Fig. 17, where motion



Fig. 17 Varying altitude (to illustrate torsionless motion according to Helmholtz).



Fig. 18 Constant altitude (to illustrate torsionless motion according to Donders).



Fig. 19 No altitude

in azimuth and in altitude are compounded. Fig. 19 illustrates pure motion in azimuth, and Fig. 18 motion in azimuth with a constant altitude, as in Donders' plan.

Since many of our tests are conducted with the patient facing a flat wall, it may be well to point out in what respects the two plans differ with reference to such a plane surface.

By Helmholtz's plan, horizontal lines on the wall represent lines of elevation of the visual plane, and if each is marked in tangents of degrees to right and left of a central zero, these represent the amount of lateral deflection. If, however, the lateral deflection take place first, during the primary position of the fixation plane, then elevation and depression of this plane makes the fixation line describe a hyperbolic curve on the wall, with its concavity outwards.

By the other plan, lines of equal altitude on the wall are hyperbolic curves with their concavity upward when the eyes are elevated, and downward when depressed; but when the eyes are first deflected to the right or left, elevation or depression makes the fixation line describe vertical lines on the wall.

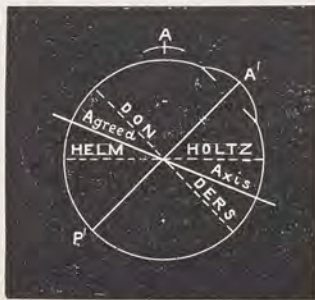


Fig. 20 Horizontal section of an eye abducted from A to A' , to show the author's conception of the difference between the laws of false torsion formulated by Helmholtz and Donders.

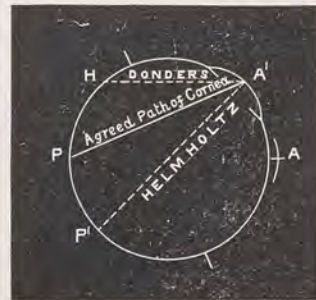


Fig. 21 Side view of an eye, seen in (orthographic) projection against a vertical plane, superducted from A to A' , the three circles being projected as straight lines, to illustrate author's conception of what would be the path of no torsion according to Donders, and what would be the path of no torsion according to Helmholtz, while the actual torsion is as if the cornea pursued the intermediate path towards P .

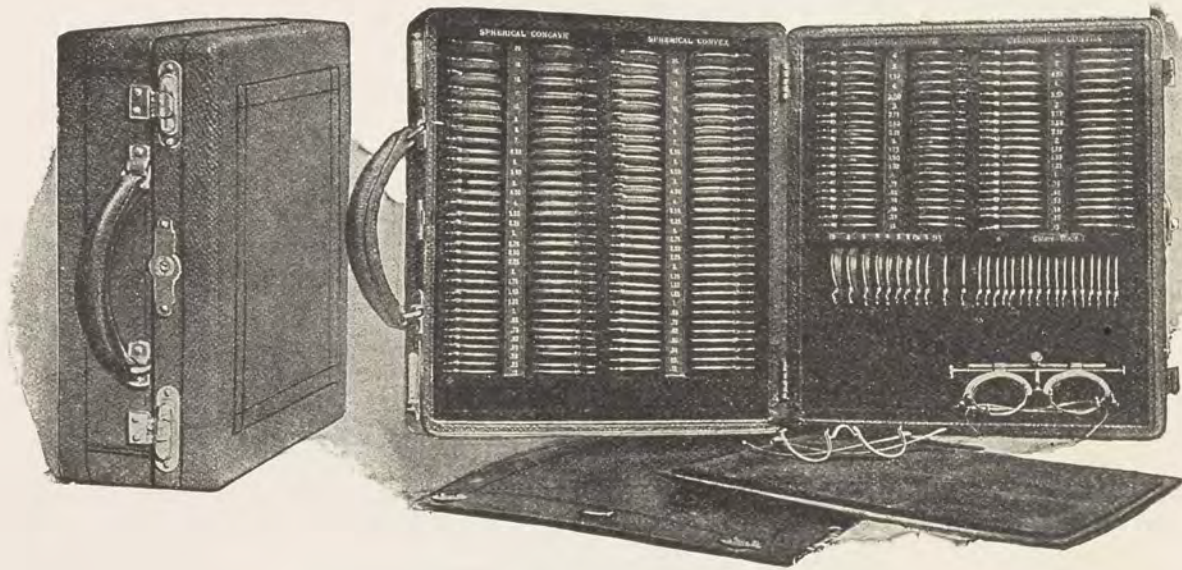
In Figs. 20 and 21 I have represented graphically the different points of view taken by Helmholtz and Donders. Fig. 20 is a horizontal section of an eye, viewed from above, and abducted from A to A' . The diameter which I have named "agreed axis" is the one about which rotation would produce exactly the false torsion which all observers are agreed upon.

[TO BE CONTINUED]



Fig. 16 To show how the eye reaches any new position by the shortest possible route.

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A New Instrument

To Shorten the Subjective Branch of Refraction and to Make it More Accurate

By J. N. RHODES, M. D., Instructor in the Ophthalmological Department of the Philadelphia Polyclinic Hospital and College for Graduates in Medicine, in the "Ophthalmic Record"

I PRESUME it is the custom of most refractors to use minus and plus lenses alternately before a patient's eye when nearing the point of correction to see whether he will choose a weaker or a stronger glass. Such, at least, was the method I was taught at the Polyclinic Hospital years ago, and moreover, such is the method being taught there to-day.

It was while as an assistant at the hospital that I first felt the want of a lens holder in subjective refraction. When I would want a pair of plus and minus 0.25 lenses they could not be found. One or both might be in use, that is, might be in the trial frame, or they might be in use by some brother assistant or student. The truth was, as far as the hospital was concerned, they were eternally misplaced.

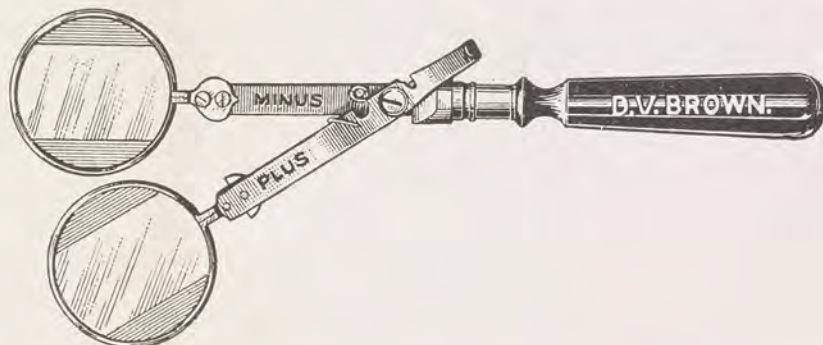
One day I thought of using a pair of hemostatic forceps to hold the two lenses, and upon trying it found that it answered well enough, but the rings of the shanks were in the way. Then I tried riveting the handles of the two lenses together, but I found them too short, consequently my hand would continually get into the patient's range.

I then had constructed by D. V. Brown, 736 Sansom Street, Philadelphia, the instrument as shown in the cut. This instrument is six and one-half inches long, and contains a plus and minus lens of the same relative strength, that is, a plus 0.50 sph., and a minus 0.50 sph., or minus and plus quarters. The long straight shank has the minus lens attached to it and the short shank carries the plus lens. The short shank is movable and is held in place by a spring, but when its upper short end is pressed upon it it rises up parallel and directly over the long shank, and consequently the lenses neutralize each other, thus making a third glass. I also use a pair of cylinders fastened to the same kind of shanks, which neutralize themselves in the same manner. The axes of the cylinders, as seen in the cut, are placed parallel with and straight out from the shanks; they might, however, with equal advantage, be placed at right angles. The lens rings I have made one inch and a quarter in diameter. Every test case of lenses should contain at least two sets of spheres and two sets of cylinders, *i. e.*, one pair of half diopters and one pair of quarter diopters of both spheres and cylinders.

After using and testing this instrument for a long time, I believe it to be just a little less important than Jackson's cross-cylinders. It shortens the time consumed in refraction exceedingly and renders the result far more accurate. Indeed, after a case has been shadow-tested, it rarely takes over five minutes with each eye to finish the refraction by this method. Really, I am sometimes ashamed to take the patient's money, so quickly is the refraction completed. Owing to the short time it takes with this instrument and system, nervous and even illiterate women answer promptly and correctly, and thus are not tired out and sent home

to their beds for a couple of days, as is quite often the result by the generally used method.

This instrument has caused me to entirely change my method of case-testing. It has been my custom—and it seems to be the custom now in general use—to hold a minus and plus lens in my fingers before a patient's eye alternately and ask: "Which is better, this or this?" From the nature of the question the patient is bound to answer: "This." Could anything be more indefinite? The patient instantly forgets which *this* he means, and the refractor is only a shade less dumb. With this instrument in my hand I now say to the patient: "Fix your eye on the first letter of the lowest line you can read, for I am going to place three glasses before you and I want you to tell which is best: first, second or third?" It will be seen that the question is definite and that the answer cannot help but be. I do not always ask them to take the first letter in the lowest line they can read; sometimes I have them take the last, or a special one in the line, but I invariably have them fix their attention on a certain letter; in fact, I occasionally restrict their attention to a certain part of a letter, as for instance the cross of an A. If the patient, having been examined before and remembering his former



catechism, begins to answer: "The first is better, doctor," or "this is better," or any other remark, I quietly but firmly break in and say: "Answer only *first*, *second* or *third*, please, and we will progress much faster and obtain better results." Even when only two glasses are used, or when using the cross cylinder, there is no earthly reason why a refractor should not say: "Which is better, *first* or *second*?" And make the patient strictly confine his answer to *first* or *second*.

I make it a habit to use this instrument always one way, that is to say, that I always begin by holding the plus before the eye first, and then minus and then neutralize. Sometimes, instead of neutralizing I just let the minus glass pass below the trial frame and ask: Third? The patient never seems to realize the difference between that and the neutralized lenses. Then, too, I often use only the minus and plus alternately at first, and use the third or plain glass when I am on the "knife edge." If I suspect my patient is trying to lead me astray, of course I vary my movements. It is a good thing, however, to have and to stick to a regular system.

It is surprising how much quicker one can come to accurate results by using this lens holder. Its long handle enables one to keep out of the line of vision, and so quickly can one change from minus to plus or neutralize that the patient can instantly and accurately judge which is best.

If there are any left who do not use the cross-cylinder test, they can much shorten their work, and I humbly add, make it decidedly more accurate by using these cylinders. I frequently use

two cylinders in a hemostatic forceps when I want to use higher ones than I have on my instrument, but, of course, they cannot thus be neutralized, yet, as I stated above, the third one can be made by passing the lens beyond the eye.

It seems almost unnecessary to show how the instrument acts, or rather how it brings the result, as, except for the third glass, it acts, of course, the same as though they were held in the fingers. We will suppose that a given eye needs a plus 1.25 sph. to correct it, and you have in the testing frame before it a plus 1.50 sph. This is evidently a plus 0.25 D. too strong. Now, if you place the half diopter sphere before him and ask: "Which is best, *first* (+ 0.50 sph.), or *second* (- 0.50 sph.), or *third* (plano)? He will instantly choose *second*, because it is self-evident that the plus 0.50 sph. made it three-quarters of diopter too strong, while the minus 0.50 sph. made only an error of a quarter of a diopter. The plano, it is apparent, makes no change. Continuing the examination by reducing the lens a quarter you have in the trial frame his exact correction and he is unable to choose between the *first* or *second*, as both make it worse, but at once accepts the *third* or neutralized glass, which as will be understood, makes no change.

By this method of refraction one need never ask leading questions. The fact is, it never should be done. What a common thing it is to hear a refractor ask: "Better on or off?" Now, if an opinionated person is being examined, especially an old one, who thinks he can see well enough with the glass before him, and fears that if it is taken away it cannot be found again, he is sure to answer: "Better off," because he has made up his mind to stick to that glass through thick and thin; but with the first

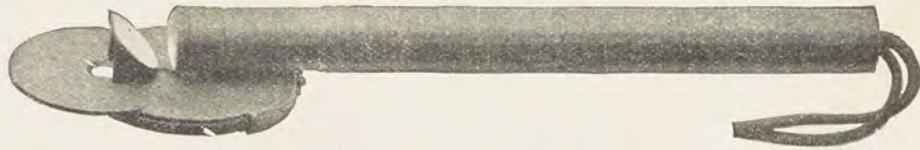
second or third testing system he will answer the question: "Which is better, on or off?" without knowing it.

I never ask a patient to judge between two lenses when there is only a slight difference. To illustrate: I will suppose a patient's true correction is plus 2.00 sph. I do not hold before him a plus 2.25 sph. and then a plus 2.00 sph. and ask him to choose between them, because it is a difficult and nerve-harrowing task. I put either one of them in the trial frame and have the patient quickly select the correct one by the use of my instrument. I wish to call the attention to the fact that it always magnifies the error. In the case given above, if I use the half diopters, in the plus test it triples the error, and in the minus test it halves it. If I use quarters, in the plus test the error is doubled, and in the minus test it is exactly right, so that the patient has an easy task to judge between the proper correction and plus 0.50 sph. added. The cylinders act the same as the spheres.

Anyone using this instrument and carrying out this system will be surprised to find out how much shorter will be the time consumed in refracting each case, and what I believe is more to the point, he will not have his patients go away half sick, complaining to everyone they meet, and dreading the day when they will need to return.

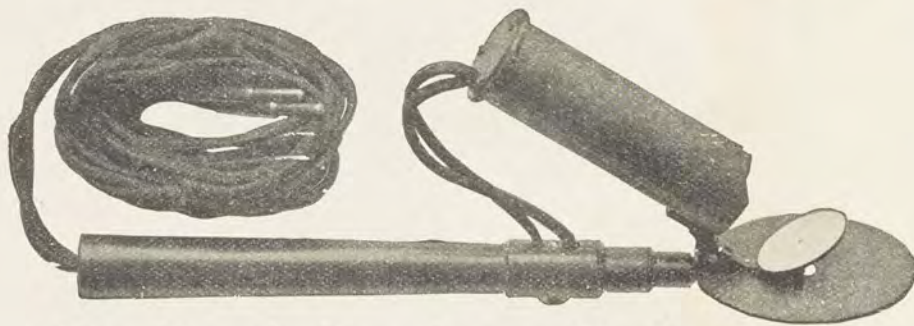
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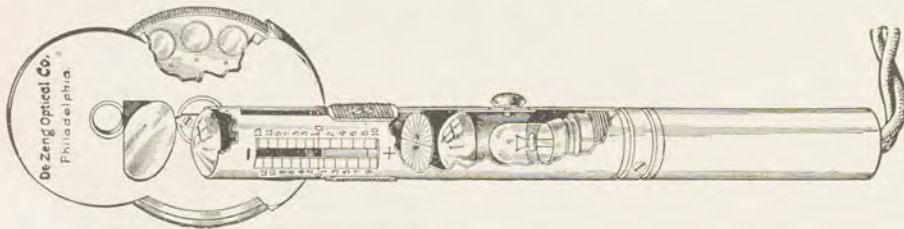
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Optical Organizations

NATIONAL

American Association of Opticians (1898)
 B. B. CLARK, President, Rochester, N. Y.
 WM. E. HUSTON, Secretary, Kansas City, Mo.
 Meets annually. Next meeting to be held in Rochester, N. Y., in 1906.

Worshipful Company of Spectacle Makers (England) (1629)
 HON. ALBAN G. H. GIBBS, M. P., Master.
 COL. T. DAVIES SEWELL, F. R. A. S., Clerk, Guildhall, London, E. C., England.

British Optical Association (1895)
 M. W. DUNSCOMBE, F. R. O. A., President.
 J. H. SUTCLIFFE, F. R. S. L., F. R. O. A., Secretary, 17 Shaftesbury Avenue, London, W., England.

Canadian Association of Opticians (1896)
 F. E. LUKE, President.
 H. J. GIEGER, Secretary and Treasurer, Toronto.

Scottish Optical Association (1903)
 JAMES CHALMERS, President, Springburn, Glasgow.
 D. L. MURRAY, Secretary, 621 Duke Street, Glasgow.

The Australasian Optical Association (1904)
 H. A. BARRACLOUGH, B. O. A., President.
 A. A. C. COCKS, B. O. A., Secretary, Sydney, N. S. W.

Phi-Omicron Fraternity (1904)
 JOHN C. EBERHARDT, President.
 C. S. HART, Secretary, Lynn, Mass.

The Optical Specialists' Association of America (1904)
 J. C. CLARK, President, Sioux City, Iowa.
 G. E. BOYCE, Secretary, Waterloo, Iowa.

American Association of Wholesale Opticians (1893)
 J. T. BRAYTON, President, Chicago, Ill.
 A. REED MCINTIRE, Secy., 723 Sanson St., Philadelphia, Pa.
 Next meeting in New York, in 1905.

INTERSTATE

New England Association of Opticians (1894)
 ALBERT A. CARTER, President, Boston, Mass.
 G. A. BARRON, Secretary, 3 Winter St., Boston, Mass.
 Meets third Tuesday of each month, except July and August.

Northwestern Optical Association (1901)
 J. W. GRAINGER, President, Rochester, Minn.
 E. C. ROBERTS, Secretary, Red Wing, Minn.

STATE

Pennsylvania Optical Society (1895)
 H. E. HERMAN, President, Williamsport, Pa.
 C. A. LONGSTRETH, Secretary, 228 Market St., Phila., Pa.

New York State Optical Society (1896)
 W. W. BISSELL, President, Rochester, N. Y.
 ROGER F. WILLIAMS, Secretary, 455 Main St., Buffalo, N. Y.

Indiana Optical Society (1896)
 J. H. ELLIS, President, South Bend, Ind.
 MISS MARGARET J. ERISMAN, Secretary, Lafayette, Ind.

Michigan Society of Optometrists (1896)
 P. SCHOLLER, President, Hancock, Mich.
 E. EDNER, Secretary and Treasurer, 105 Western Avenue, Muskegon, Mich.

Iowa Optical Society (1897)
 E. F. RENAUD, President, Keokuk, Iowa.
 B. M. BILLS, Secretary, Vinton, Iowa.

Illinois Optical Society (1898)
 GEORGE A. ROGERS, President, Chicago, Ill.
 O. J. HALBE, Secretary, 501 Trude Building, Chicago, Ill.

California State Association of Optometrists (1899)
 F. W. LAUFER, President, Oakland, Cal.
 ALBERT J. SCHOHAY, Secy., 308 Hayes St., San Francisco, Cal.

Washington Association of Opticians (1899)
 H. CLAY EVERSOLE, President, Seattle, Wash.
 LEANDER BUTT, Secretary, 715 First Ave., Seattle, Wash.

Granite State Optical Association (1900)
 L. E. WHITE, President, Concord, N. H.
 W. E. BURFEE, Secretary, Manchester, N. H.
 Meets third Wednesday of January, March, May, September and November.

Wisconsin Association of Optometrists (1900)
 A. J. STOESEL, President, Milwaukee, Wis.
 E. E. THOMAS, Secretary, Milwaukee, Wis.

North Carolina Optical Society (1900)
 F. W. MAHLER, President, Raleigh, N. C.
 SAMUEL RAPPORT, Secretary, Durham, N. C.

Minnesota Optical Association (1900)
 J. M. CHALMERS, President, Lake City, Minn.
 C. A. SNEEL, Secy., 608 Nicollet Ave., Minneapolis, Minn.

Maine Association of Opticians (1901)
 H. E. MURDOCK, President, Portland, Maine.
 ROBERT B. SWIFT, Secretary, Portland, Maine.

Tennessee Optical Society (1901)
 H. J. COOK, President, Knoxville, Tenn.
 GEO. R. CALHOUN, Secretary, Union and Summer Sts., Nashville, Tenn.

Colorado Optical Association (1901)
 R. B. FINCH, President, Denver, Colo.
 R. H. BIEGL, Secretary, 636 Sixteenth St., Denver, Colo.
 MISS E. H. CHAPMAN, Cor. Secy., 1655 Welton St., Denver, Colo.

Kansas Association of Opticians (1901)
 F. W. HUNT, President, Burlingame, Kans.
 H. T. CORSON, Secy. and Treas., Kansas City, Kans.

Missouri Association of Opticians (1901)
 C. M. WHEELER, President, Columbia, Mo.
 ELMAR H. SCHMIDT, Secy. and Treas., Washington, Mo.
 Next meeting, May 8, 1905, in Kansas City.

Virginia State Optical Association (1902)
 W. WAYT ROYALL, President, Martinsville, Va.
 JOHN W. BUCHANAN, Secretary, Richmond, Va.

Ohio Optical Society (1902)
 F. W. WALLIS, President, Columbus, Ohio.
 EDWIN L. JONES, Secretary, Sandusky, Ohio.

Kentucky Optical Society (1902)
 L. J. BACKUS, President, Louisville, Ky.
 A. S. REEVES, Secretary, Winchester, Ky.
 Next meeting in Georgetown, October 17, 1905.

North Dakota Optical Association (1903)
 CHAS. G. CONYNE, President, Mandan, N. Dak.
 W. R. BLAKELY, Secretary, Grafton, N. Dak.

New Jersey Optical Society (1903)
 FREDERICK H. HEWLETT, President, Paterson, N. J.
 J. J. HARTMAN, Secretary, 16 Howard St., Newark, N. J.

South Dakota Optical Association (1903)
 WILLIAM H. FRITZ, President, Sioux Falls, S. Dak.
 D. G. GALLEIT, Secretary, Aberdeen, S. Dak.

Texas Optical Association (1903)
 WEST CATHCART, President, Galveston, Texas.
 B. R. STOCKING, Secretary, Belton, Texas.

Rhode Island Society of Optometry (1903)
 WALTER BLAKE, President, Providence, R. I.
 G. FREDERIC BEANE, Secretary, 139 Mathewson Street, Providence, R. I.
 Meets first Monday of each month.

South Carolina Optical Society (1903)
 W. E. AVERY, President, Columbia, S. C.
 M. R. ABBE, Secretary, Columbia, S. C.

Quebec Optical Association (1904)
 R. DE MESLE, President.
 P. G. MOUNT, Secretary, cor. St. Denis and Dorchester Sts., Montreal, Quebec.

Georgia State Optical Association (1904)
 C. E. FOLSON, President, 28 Whitehall St., Atlanta, Ga.
 C. H. KITTRELL, Secretary, Dublin, Ga.

Opticians' League of the State of New York (1904) (Dispensing Opticians)
 E. B. MEYROWITZ, President, New York City.
 A. SHAW, Secretary, 1145 Broadway, New York City.

Louisiana Optical Society (1905)
 LOUIS CLAUDEL, President, New Orleans, La.
 S. P. SCHUESSLER, Secretary, Baton Rouge, La.

Nova Scotia Optical Society (1905)
 A. C. WHITTEKER, President, Halifax, N. S.
 G. A. BURBRIDGE, Secretary, Halifax, N. S.

New Mexico Association of Optometrists (1905)
 OTTO G. BEBBER, President, Albuquerque, N. Mex.
 GEO. F. EVERETT, Secretary, Albuquerque, N. Mex.

LOCAL

Central New York Optical Society (1895)
 H. C. WATTS, President, Syracuse, N. Y.
 JAMES HOLDEN, Secretary, Syracuse, N. Y.
 Meets third Thursday of each month.

New York City Optical Society (1897)
 E. LEROY RYER, President.
 R. M. LOCKWOOD, Rec. Sec., 119 W. Fifteenth St., New York.
 Meets second Wednesday of each month.

Rochester Optical Society (1897)
 HARRY M. BESTOR, President, Rochester, N. Y.
 C. I. SUMERISKI, Secretary, Rochester, N. Y.

Utica Optical Club (1901)
 RICHARD PERLEN, President.
 C. T. EVANS, Secretary, Utica, N. Y.

Chicago Optical Society (1902)
 W. F. NEWCOMB, President, State and Adams Sts., Chicago, Ill.
 O. J. HALBE, Secretary, 501 Trude Building, Chicago, Ill.

Niagara District Optical Society (1902)
 JONAS HOUSE, President, Welland, Ont.
 F. G. DUNLOP, Secretary and Treasurer, St. Catharines, Ont.

Optical Society of Western New York (1903)
 ROGER F. WILLIAMS, President.
 ERNEST V. SYRCHER, Secretary, Buffalo, N. Y.

Seattle Optical Society (1903)
 CHARLES G. HOLCOMB, President.
 LEANDER BUTT, Secretary and Treasurer, 715 First Ave., Seattle, Wash.

Los Angeles Association of Opticians (1903)
 FRED. DETMERS, President.
 F. LEE FULLER, Secretary, Los Angeles, Cal.

The Pueblo Optical Association (1903)
 OREN H. HENRY, President, Pueblo, Colo.
 JAMES A. HOWARD, Secretary, Pueblo, Colo.

Lowell Optical Society (1903)
 F. C. CUFF, President.
 J. A. McAVOY, Secretary, Lowell, Mass.
 Meets second Thursday of March, September, November.

Southern Tier Optical Society of New York (1905)
 F. E. ROBBINS, President, Elmira, N. Y.
 F. A. JORDAN, Secretary, Elmira, N. Y.

Optical Trades Association (1905) (New York City)
 F. D. SCHMIDT, President, New York City.
 JOS. FRIEDLANDER, Secretary, 8 Maiden Lane, New York City.

Detroit Optometry Club (1905)
 A. W. KLUDT, President.
 FRED. R. PRESTON, Secretary, 42 Mott Ave., Detroit.

Southern California Optical Society (1905)
 L. APPEL, President.
 T. N. DYSCHUS, Secretary, Los Angeles, Cal.

The Eyes of School Children

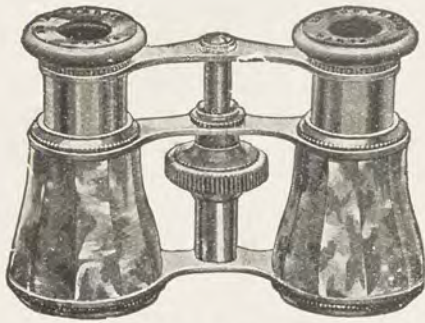
THE widespread and intensifying interest in the matter of school children's eyes is a happy development, credit for which is mainly due to the refractionists. At the time of reopening the schools last month, many of the leading journals of the country devoted editorials to the subject, impressing on school boards and parents alike the necessity of attention to the eyes of the children before allowing them to enter upon their studies. The persistent advertising of the opticians did more to bring about this reawakening than all the statistical compilations of the medical press, and oculists cannot fail to recognize in this salutary publicity an agency for good, of which they are deprived by their ethical ban on advertising.

Now that medical men, refractionists, school boards and the public are alive to the importance of the subject, the next step is to evolve a plan for the proper examination of the school pupils' eyes. Past experience has proved that a slipshod, unprofessional examination by the teachers is a comparatively useless and a very dangerous makeshift. It has been tried both in the United States and England and found wanting. In a letter to a British exchange, a Manchester optician criticises very forcibly the system of examination by teachers recommended by the medical officer of the education committee of that city. He writes:

Though the testing is desirable, the scheme has very serious defects; one of the worst, probably, being that the schoolmaster might pass as normal cases of really defective vision. In one case, at least, this was what actually took place.

(Continued on page 1767)

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New Apparatus for Photographing the Fundus of the Eye

SOME time ago we called attention to the attempts made to photograph the interior of the eye, especially to those of Dr. Professor Dimmer, who at that time had succeeded in producing excellent pictures of the eye-ground of cats. Since that time Professor Dimmer has made several improvements in his apparatus, so that he now can photograph the fundus of the human eye in an instant. We give here a translation of the description of the apparatus as given by Professor Dimmer:

In my paper read before the last Congress of Ophthalmology I mentioned that as I had entirely got rid of the ocular reflexes and succeeded in getting a sufficiently large field of view, nothing remained for me to do beyond obtaining photographs with still sharper definition. My endeavors were crowned with complete success, and to-day I am able to lay before you a collection of photographs which show a marked advance as regards sharpness of detail, so much so that almost all the minutiae seen with the ophthalmoscope can be seen in the prints. This success was not due to any improvement in the apparatus, but to the fact that the exposures were practically instantaneous. The duration of exposure, which formerly took one-fifth of a second, or longer, is now reduced to one-sixteenth—one-eighteenth of a second, or even one-twenty-fifth. In order to reduce the time as much as this I found it a *sine qua non* that the whole of the light which emerged from the half of the pupil should be concentrated on to the photographic plate.

The accompanying diagram shows my apparatus as I now use it. The arrangement by which I have got rid of the confusing reflexes and flare is by placing a plane mirror *S*, Fig. 2, exactly in front of the patient's pupil at an angle of forty-five degrees with the optical axis. This mirror receives the whole of the condensed light from the source *L*, and reflects it into the eye through half the pupil, so that the light which passes out of the remaining half of the pupil is alone employed to form the image. In order to obviate the formation of reflexes near the edge of the mirror, due to half of the pupil being hidden, half of the camera objective is blocked out by an opaque diaphragm *O*₂. This lens *O*₁ is a Zeiss planar objective of 160 mm. focus. In the diagram the light from the lower half of the pupil will pass through the upper half of the planar lens, while the light proceeding to the lower half of the planar is screened off by the diaphragm. It will be noticed in this my last model that the very large aperture of the planar $f/4.5$, which I may

add is 45 mm. in diameter, takes in the whole of the rays emerging from the half pupil, so that none is wasted. The image of the half pupil formed by the first objective *O*, is, of course, half-moon shaped, and so large that in my former instrument the decentered lens (an astigmat of only 19 mm. diameter) invariably cut off a portion of the light.

The frosted screen used in the illuminating apparatus is now abandoned, so that the image of the electric arc *L* is formed in the plane of the open diaphragm *D*. From this diaphragm an inverted image of the illuminating system *B* is formed in the half of the pupil reflected in the mirror *S*, by which means the area of the background of the eye which appears in the photograph, and no other part, will be illuminated.

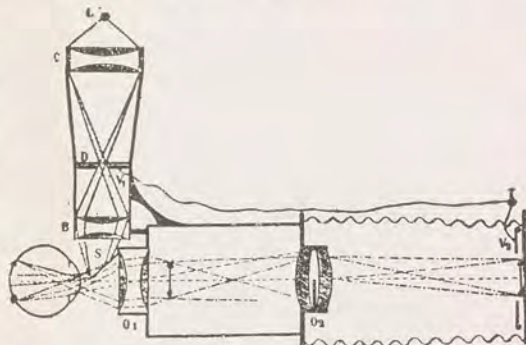


Fig. 2

The shutter *V*₁ lies immediately behind the diaphragm *D*, while the second shutter *V*₂, which I have changed to a roller blind, lies just in front of the plate *P*. By means of a mirror (not shown in the figure) the image of the fundus can be observed up to the very moment of exposure. A squeeze of the rubber ball *T* causes the mirror to flap up, and at the same moment both shutters, controlled by a single wire, are opened and closed again by an electric current. The eye is thus exposed a trifle longer than the plate, *i. e.*, about one-eighth second.

The front part of the instrument between the two objectives must never be touched. The focusing due to anomalies of refraction in the examined eye, is obtained by racking the focusing screen *P* in or out, as the case may be.

The position of the eye to be examined is obtained by getting the patient to fix the image of a flame (seen in a mirror placed before him) with his other eye, or else by means of a cross wire placed in the illuminating zone, which is observed by the patient with the eye about to be photographed. By this latter method a patient possessing only one eye can have it photographed.

In emmetropia the image taken by the direct method has a diameter of about 30 mm. The original negatives show an enlargement of three diameters, so that the largest picture shows a magnification

of 10 to 11 diameters. I have shown that by lateral and vertical movements of the patient's eye a much more extended area can be photographed. This extension, after repeated trials, is found to be about 10-12 times the diameter of the disk in the meridional line. The construction of the instrument has been undertaken by the firm of Zeiss, which has met my wishes in the fullest way, so that all the requirements necessary have been carried out and no further adjustment or alteration in the illuminating apparatus has been found to be needed. The two large tubes,* one of which contains the condensing lenses for illumination, the other the two sets of objectives for the camera, are firmly fixed to each other, but, nevertheless, are capable of coarse and fine adjustment for the eye. All that is necessary to take a picture is to adjust the arc light (which is identical with that employed by Zeiss for his projection camera), so as to illuminate the fundus to enable the image to form a focus on the plate in the camera slide. Last year I used a Nernst lamp, but this I have been able to replace by the more powerful arc light, so that a photograph can now be taken in an instant even by the merest tyro.

*These tubes are indicated in the diagram. The entire apparatus is very massive and heavy, being about five to six feet in length. The wheels in the apparatus are attached to long screws, which enable the instrument to be raised or lowered, turned laterally, or moved nearer to or further from the patient's eye, whereby much time is saved, as the adjustments can be instantly effected.

Single Lens versus Anastigmat in Photography

That a single lens of sufficiently long focus is infinitely superior to the most expensive anastigmat listed for any particular size of plate in landscape work, says *The Amateur Photographer*, is capable of demonstration, as we have often shown; and therefore we are always glad when we can quote an opinion in support of our own on the subject by one whose work is pretty well up to the top. Such is the statement of J. H. Field, of Berlin, Wisconsin, in an address before the twenty-fourth convention of the Photographers' Association of America, the whole of which is well worth quoting, although we have only room for the following:

"One does not need an expensive camera or costly lens, although there are times when they come handy. A camera with a generous length of bellows so one can use a long focus lens—say, of about fourteen or fifteen inches for a 5 x 7 plate, make a very good combination; and other sizes in proportion. Personally, I prefer a single lens used at full opening; and if the picture be too sharp (as it generally is), a judicious use of two or three thicknesses of celluloid or bolting cloth between negative and printing paper will work wonders."



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PHILADELPHIA

The Eyes of School Children

(Continued from page 1763)

A girl whom I had fitted and who saw barely $\frac{5}{21}$ in the left eye without glasses was passed as normal (vision in right eye was $\frac{5}{8}$), and was told she could see as well without glasses as with, giving the girl, of course, the impression that the glasses were useless. She was tested with both eyes open, as were all the rest. How the medical officer hopes to obtain "results carefully and accurately," as the circular states, by such means, I do not know. Perhaps he does. Anyhow, the teachers would certainly prefer to be left alone with their teaching and leave optology to the optologist or oculist.

And we are sure that American teachers, cognizant of their inability as eye specialists, would prefer to leave optometry to the optometrists or oculists, as the case may be. This question of school children's eyes is one which has an exceptional interest for the opticians, in that their profession and the public good would be equally benefited by its proper solution.

New England Association of Opticians

The New England Association of Opticians held its regular monthly meeting at Young's Hotel, Boston, Mass., on Tuesday evening, September 19th. Dr. Wm. L. Ripley, assistant professor of Physiology at Tufts' College Medical School, Boston, was the speaker of the evening. His subject was "Physiology and Neurology of the Eye." The remaining lectures of the season will be delivered by members of the association. A large attendance at forthcoming gatherings is therefore anticipated, as the subjects to be treated are interesting and have a direct bearing upon the practical work of the optician. Llewellyn A. Webster, of Metford, Mass., was admitted to associate membership.

Rochester Optical Society

The above society after first partaking of a dinner at the Masonic Club, held its regular meeting at the offices of Clark & Bowen, Rochester, on Tuesday, September 12th. After preliminary business had been disposed of, the question of an educational campaign for the coming year was considered. Mr. Bausch proposed, Mr. Clark seconded and it was carried that a committee be appointed to make arrangements for a series of lectures, the first to be delivered at the next meeting. The president appointed Messrs. Bausch, Bissell, Benedict and Clark as a committee with power to act in this matter. An application for membership was received from J. A. Burchard, which was read and referred to the executive committee. The meeting then adjourned.

Optotypes for Determining the Sight of Myopic Eyes

To measure the sight of myopic eyes in the remotest point there exist small optotypes by Pflüger and also by Bjerke. Koster did not find these very satisfactory, so he tried, states G. F. Rochat, in the *Ophthalmoscope*, to get better results by photographing on glass; the difficulty was to reduce print to a sufficiently small size and yet get clear and sharp photographs. The letters must be very small indeed, for to measure full sight in the

p. 2 of a myope of 20 D., the letters must not exceed 0.075 mm. (for they should be seen at 5 cm. under an angle of 5 minutes). The optotypes, as photographed on glass, are protected by a metal frame, and should be read against the sky. Their distance from the eye can be measured on a metal rod, along which a small "visir" is movable. The letters are small that a non-myopic examiner cannot control the patient's reading. Therefore, the same letters have been photographed on a larger scale for the ophthalmic surgeon's use.

Diamond Anniversary of J. J. Bausch

J. J. Bausch, of the Bausch & Lomb Optical Company, Rochester, N. Y., recently celebrated his seventy-fifth birthday, and one of the most notable features which marked the occasion was the presentation to each employee of the company, including those attached to the New York, Boston and Chicago offices, of a sum equivalent to one week's wages.

Mr. Bausch is in the truest sense a pioneer of the optical industry in the United States, and has



literally grown up with the business. He is a native of Suessen, Wurtemberg, Germany, and his early life was spent in the employ of his brother, a maker of and dealer in optical goods. He came to this country in 1849, and the American optical industry being still in embryo, he gave his attention to wood turning, which business he pursued for sometime both in Buffalo and Rochester. The accidental loss of two fingers, however, rendering further progress in this line impossible, Mr. Bausch, then more sure of his ground and more favored by the continuous advance in science and mechanics, turned again to the optical trade, purchased a photographic studio in Rochester, which he conducted in partnership with his compatriot, Henry Lomb. Thus was laid the foundation of one of the largest and most important optical and manufacturing concerns in the world.

The subsequent history of the firm has been one of uninterrupted growth, increase of output and enlargement of interest and productive and distributive facilities. The original partnership has been welded with the passing of years, but the business has also had the benefit of fresh energy and younger blood, as witness the following active members of the firm in addition to its patriarchal founders: Messrs. Henry, William and Edward Bausch; Carl F., Henry C. and Adolph Lomb and W. Drescher.

For a man of his activities, Mr. Bausch wears his seventy and five odd summers well. THE KEYSTONE joins his numerous friends in wishing him many more years to enjoy the ample fruition of his labors.

Affection of the Light-sense in Myopia

Dr. Seggel was the first to draw attention to the fact that the light-sense shows a marked decrease in all forms of myopia, even if not accompanied by visible ophthalmoscopic changes. In his latest contribution he refers to the examination of nearly three hundred school children, and finds his former surmises amply corroborated. Most impaired is the faculty of central perception of light as tested with Treitel's test (a modification of Förster's photometer), in which he uses, states R. Gruber in the *Ophthalmoscope*, a small white square of 3 mm., instead of Förster's black lines and notes—the smallest aperture of the diaphragm, 3 mm. in a normal eye—necessary for its determination. Seggel finds that even very small degrees of myopia lead to decrease of perception of light, which attains exceedingly low figures in the higher forms of myopia ($\frac{5}{2}$ of the normal between 7 and 9 dioptics).

Decrease of vision in failing light is a well-known symptom of declining age, but this must, of course, be much more marked if, as in myopic subjects, this failing of the light-sense dates from the years of youth. It is also important to know that the hemeralopia in myopics is least troublesome in reading, which remains satisfactory even in bad light, while they experience great difficulty in finding their way in the twilight. Hypermetropics, on the other hand, require strong light for reading, not because they are hemeralopic, but so as to derive the benefit of a contracted pupil. Seggel concludes that his results revealing diminished light-sense in even low myopia prove that myopia implies a morbid affection of the neuro-epithelium, and that, therefore, its progress and spreading should be checked by all possible means.

Cliffs of Glass

While on his way from Chicago to Philadelphia, the other day, says the *Saturday Evening Post*, a traveler was interested to observe, along the line of railroad where it ran through the Alleghanies, odd-looking little factories nestled here and there at the feet of tall cliffs. By inquiry he ascertained that these were glass mills, engaged in getting the raw material out of the quartz rocks. The cliffs, he was informed, were cliffs of glass, practically, and the work done consisted in blasting the stuff out, heating the fragments of quartz red-hot, then throwing them into cold water (which causes them to split into small pieces), and finally grinding the material to powder, in which shape it was shipped to the glass-makers, who converted it into glass by melting it in a furnace and adding the proper ingredients. Such glass, said the person who knew, was only fit for bottles and other inferior uses, fine glass being made from clear quartz sand, of which large deposits are found in some localities.

The conductor on the train, who joined in the conversation, remarked that railroad ties, cheap and decay-proof, were being made of glass, and quoted a scientific passenger who had told him the time might yet arrive when people would ride in glass cars over glass rails, watching the glass telegraph poles fly by at seventy-five miles an hour, and even crossing rivers by glass bridges upheld by glass piles. The traveler replied thoughtfully that already glass piles were used for supporting docks and piers, being decidedly preferable to wood for the reason that they are rot-proof, and in addition cannot be attacked and riddled by the destructive teredo.

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If you give your customers a choice of bifocal glasses, they are pretty apt to choose the kind without lines—“Invisible” Bifocals—

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There is nothing in the whole line of optical goods more satisfactory FOR THE DEALER TO SELL than

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The Great German Eye Water
(From the formula of Dr. Agnew) is the best, simplest and most effective preparation ever compounded, for inflammation of the eyes or eyelids, Conjunctivitis, Blepharitis or scaly eyelids, burning, smarting or itching of eyes. Its antiseptic properties destroy the germs and prevent acute inflammation. The phenomenal success of this Eye Remedy, has encouraged several opticians, (would-be) eye specialists and “home-made” Doctors to put upon the market Eye Remedies of divers kinds, and by extensive advertising attempt to divert the attention of the trade from a valuable Collyrium that has been used for years in nearly every hospital in the world, to remedies of which little is known, except by the advertisers, but the many opticians who have sold the German Eye Water for 20 to 25 years will attest to its value and recommend no other. Dr. Agnew's portrait is on every box. Get the original. Sold on its merits.

A handsome Show Case with your order for three dozen bottles. Also your special label on bottles if six dozen are ordered, and express paid to all parts of the United States. Price, \$1.63 per dozen, \$19.50 per gross. Order from your jobber or direct from the proprietor.

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ALL EYE WATERS OF ANY VALUE ARE EYE REMEDIES

WHAT IS A REMEDY? Any substance or preparation used with the view of curing or allaying morbid action. As it would require many of the valuable pages of THE KEYSTONE to publish the testimonials received from dealers and users of The Great German Eye Water, I refer dealers in optical goods to a few of the leading opticians in different parts of the country, selling this remedy, some of them for more than 20 years. This remedy is NOT for sale in drug stores, but by the optical trade EXCLUSIVELY. NO COCAINE in this formula.

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PRESCRIPTION

Work With Us is a

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This Department Contains All

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Needed to Turn Out Orders

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Photographing Pictures

TO produce a really good copy of a photograph or print, writes Percy J. Slater in the *Focus*, often appears one of the most difficult of photographic operations with which the average worker is acquainted, but with reasonable care, and attention to details, good results may readily be obtained, even by a beginner.

Reproducing a Picture

In the first place, it should be carefully borne in mind that when copying we are not photographing an actual solid object, but merely the representation of the object, printed on paper or other support. The subject may perhaps be a landscape, but to attempt to photograph the print under the same conditions, and in a similar manner to the actual landscape, would certainly mean failure. Whilst the landscape proper consists of various planes, the print consists of one plane only, the original planes of the landscape being represented by a series of gradations, ranging from almost white paper to black, or other colored deposit. When photographing the print we are at the same time photographing the surface of the paper upon which it is made, and it is through ignoring this fact that failures sometimes are due.

For instance we have, say, to copy a photograph printed upon a rough paper. If we set up the print and camera, and make an exposure without taking any special precautions as to the lighting, we shall be almost certain to obtain a negative in which the grain of the paper is very pronounced. Although we should probably scarcely notice the grain of the paper on the ground-glass screen while focusing, the lens transmits its light and shade on to the sensitive plate with unerring accuracy.

Best Cameras for the Work

As in all special photographic work, there are certain types of cameras which are more suitable for copying purposes than others, and while practically any stand camera may be used for the purpose, and even many hand cameras, a camera of the square bellows pattern is preferable to one fitted with tapering bellows. It should be fitted with rising, falling, and cross fronts, and be rigid and firm, and fairly heavy. If a very light, conical-bellows form of camera is used, it should be clamped to a heavy base-board, or weighted in one way or another, in order to insure the utmost rigidity. Double-extension bellows are necessary when a copy as large as the original is required, unless one is able to shorten the focus of the existing lens by means of a supplementary lens. By using such a supplementary lens, or magnifier, a camera with a comparatively short

pull of bellows may be pressed into service, but I always prefer to use a lens of fairly long focus when possible.

The Lens to Use The lenses should be carefully selected, and single or other lenses likely to produce distortion should on no account be employed for copying, especially when straight lines appear on the print. The modern anastigmats give the finest results, and I advise all those who possess one of these to use it in preference to any other lens for all copying purposes. A good rectilinear, by a reliable maker, will also give reliable results, though it may sometimes be necessary to stop down to $f/11$ or $f/16$, to secure marginal definition. Never use a smaller diaphragm than is absolutely necessary—personally, I generally use $f/8$.

Whilst a specially constructed stand is a great convenience, it is not an absolute necessity. A board measuring, say, 5 feet long by 18 inches wide, will be a valuable assistance to those who do not possess a proper stand. On this board the camera may be moved backward and forward, taking care that the focusing screw is just off the board, or the camera will be tilted. A drawing-board may be employed for holding the print to be copied. The print should be affixed to the board by means of drawing-pins, and as near to the right end as possible. The left end of the board may then be firmly sandwiched between six or eight 5 x 7 boxes, filled with waste negatives or anything weighty. The drawing-board will then stand firmly at right angles to the board or table on which it is resting.

Obtaining the Required Size

One is sometimes recommended to measure the distance from the copy to the diaphragm of the lens, and again, from the diaphragm to the focusing screen, in order to obtain the required size. I find, however, that racking the camera to longer or shorter extension, and adjusting the distance between the camera and the print to be copied, is much quicker, and a far more certain method of obtaining the desired size. To focus the print, the camera is racked out to what is judged to be the correct extension. By slowly sliding the camera backwards and forwards, and examining the focusing screen the whole of the time, the correct focus is readily obtained. If the image appears rather too small, the camera is extended rather further; if too large, the focusing screen is racked slightly nearer to the lens. In any case, the final focusing should be done by moving the camera itself, and not by manipulating rack and pinion.

To prevent the grain becoming unduly prominent in the negative, the lighting must receive very careful attention. A strong side

or top-light throws any grain into bold relief, which in the negative appears very much exaggerated. If the work is being done indoors, the window should be at the back of the camera, so that the light strikes the print fully at right angles. Any side light should be cut off from the print by means of pieces of card-board or sheets of paper. I find that an out-door light produces the best results, being more diffused than an ordinary indoor lighting. To reflect and counteract the strong top-light, a piece of white paper may be laid on the board or table, close to the drawing-board holding the print. A sheet of white tissue paper, arranged to form a canopy over the print, will be found most useful for making the light still more diffused. A shady spot should, of course, be selected for the purpose.

Copying Glossy Prints

When copying glossy prints, or prints under glass, reflections often cause trouble and annoyance. To avoid them, see that the brasswork and all bright portions of the camera are covered up as much as possible. It is a good plan to employ a fairly large sheet of cardboard or other material with a dark, dead surface, in which a hole has been cut for the lens alone to protrude.

For copying old and faded photographs, the image of which has changed to a pale yellow color, slow, ordinary plates should be employed. It is surprising what really good results one can obtain from some of the old faded prints one is asked to copy. The yellow image, being of a non-actinic color, makes very little impression on an ordinary plate, therefore good contrast is secured.

If, however, the paper itself should become yellow, or if we are copying an engraving on toned paper, it will be necessary to use an isochromatic plate, preferably with a pale yellow screen. If an ordinary plate is employed, the high-lights will be lacking in density.

The Exposure Important

The exposure should always be as accurate as possible, as upon this generally depends the character of the resulting negative. Personally, I find the use of a Watkin's meter of great assistance in ascertaining the required exposure. In calculating the exposure when copying equal size, one important factor must be taken into consideration, viz., that the exposure with any given stop must be quadrupled. When the camera is used at double the normal extension, $f/8$ really becomes $f/16$, $f/11$ becomes $f/22$, and so on. If in doubt as to the exposure, it is always better to err slightly on the side of over rather than under-exposure.

In conclusion, I would advise the use of backed plates for copying, as for all other work.



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the wrong lens is what the
Ametropometer
Guarantees to the Optician

It also saves time, which means more profit to you on your work.

You cannot afford to overlook anything which increases your profit and at the same time guarantees your accuracy. It costs you nothing to INVESTIGATE.

Full information free on receipt of your address.

The price is \$20.00 net.

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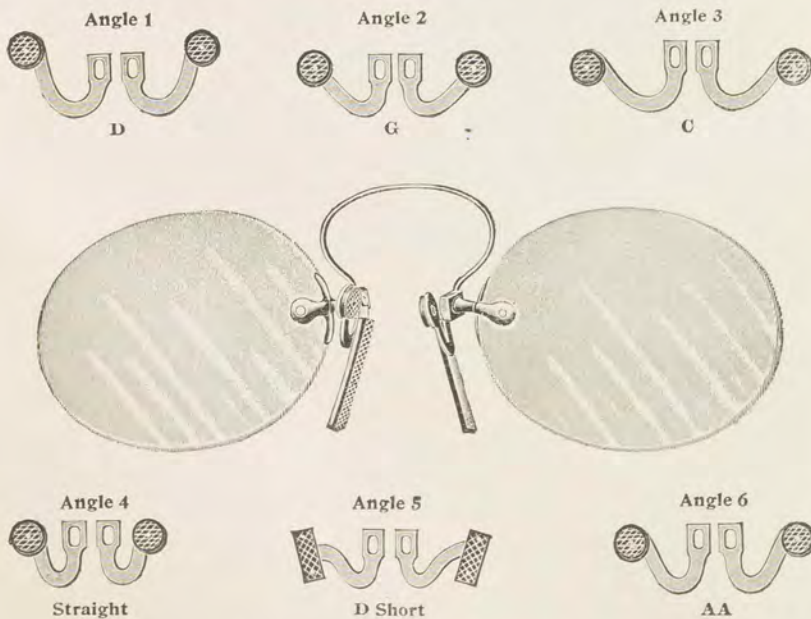
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Gentlemen:—After giving your Ametropometer ten days' trial I find it satisfactory. Will send check in a few days.
Yours truly, J. P. WEAVER.

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Yours truly, H. R. DANIELS.

Independent Safe Guard

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The Latest and Rightly Named

THE SAFE GUARD applied to any guard and the glasses are always safe

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HELLO! HELLO!

Give me 1054 John, New York. Something to talk about.

The New Oval Center

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Made in any form of Concave Lenses, Spherical, Sphero-Cylinder and Cylinder, or any of the above forms in Toric Lenses.

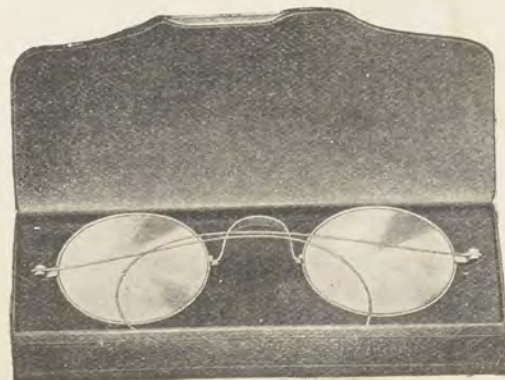
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We also carry a complete line of { AMERICAN OPTICAL CO. STEVENS & CO. and BAUSCH & LOMB OPTICAL CO. } Frames and Lenses

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"HUB CASE" with Lip Fastener



A well-made case in three grades of leather.

Made in two sizes for eyeglass and one size for Riding Bow Spectacles.

Manufactured and patented by

Hub Optical Case Co.

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Ask your jobber for New Prices on above cases. Send 10c. for sample.

Frame Fitting and Adjustment

As the mechanical part of the refractionist's work is quite as important as the strictly professional part, being essential to the success and completeness of the latter, it behooves the aspiring optician to thoroughly master the mysteries and niceties of correct frame fitting and adjustment. Though we have frequently covered this subject in these columns, our readers will find much that is instructive and useful in the following contribution by Lionel Laurance to the *London Watchmaker, Jeweler, Silversmith and Optician*:

Points for Consideration

Not only should lenses selected for the correction of refractive errors be those best suited for the purpose for which they are needed, but the frame in which the lenses are mounted should be that which keeps the lenses in front of the eyes in the needed position. The frame must also be comfortable, becoming in appearance and possess sufficient durability.

There are many points for consideration in connection with the fitting of frames, and none should be given attention to the exclusion of others—a fault which, however, is not of infrequent occurrence. Finish and temper may perhaps, for instance, be thought of more importance than a proper interpupillary distance. Quality is of primary importance, because no frame of pure quality can maintain its shape for any length of time. A frame of "quality" also is lighter and more elegant; and this applies, therefore, generally to the whole stock of the optician. In other words, goods of poor quality should not be stocked by the progressive and up-to-date optician, and it is necessary to have the requisite assortment of dimensions in each line of spectacles kept, and a full variety of styles of eyeglasses. And even then, since the variation in the human face is great, in order to fit successfully a spectacle or eyeglass, some slight adjustment of the frame may also be needed, and the knack of adjusting a frame is one that, while not difficult to acquire, needs practice.

In order that lenses may have the effect intended and achieve fully the benefit which should be derived from their use, their centers must be so placed that the lines of vision pass through them; otherwise there is the effect of lenses combined with prisms, which may produce a condition of heterophoria. They must be so placed that their refracting planes are at right angles to the lines of vision; for if they are oblique thereto, sphericals have the effect of sphero-cylindricals and artificial astigmatism is produced; while lenses possessing a cylindrical element have the latter altered by the obliquity of position.

Conditions thus produced by mal-position of the lenses are rectified only by undue action of the external motor muscles in the former, and of the ciliary in the latter case. Again, if the lenses are too far away from the eyes, their effect is that of stronger or weaker lenses than those which are supposed to be prescribed.

Artificial Astigmatism

So that no prism effect be produced by the lenses, the optic axis of each lens must correspond to the visual axis of the eye for which it is supplied; the frame must be neither too wide nor too narrow, too high nor too low. Due attention is more often given to the correct horizontal location than to the vertical, but actually the horizontal muscles are often more capable of adapting themselves to slightly-decentered lenses than are the vertical muscles, for even if de-



Lionel Laurance

pression or elevation of the chin is resorted to in order to neutralize the effect of lenses which are too high or too low, artificial astigmatism is produced by the obliquity of the lenses to the lines of vision.

A frame required for distances only should have such an interpupillary distance that the lenses are centered for the eyes adjusted for vision of a distant object. The height of bridge should fulfill the same conditions, and the plane of the lenses should be perpendicular to that of the ground. Lenses are, however, seldom needed for viewing distant objects only, for instance, as for theaters, etc.; distance glasses are generally those required for constant wear as distinct from close work.

The eyes are constantly being rotated in various directions, so that if there is coincidence of the visual axes, in their primary position, with the optic axes of the lenses, there is some decentration of the lenses for every secondary position of the visual axes. Such decentration is, however, not usually of material importance, for both lenses act with prismatic effect, up or down, as the two eyes rotate in the vertical plane, and with the

effect of a prism base in for the one and base out for the other lens as they rotate to the right or left, so that little, if any, inconvenience is felt from such decentring, unless the difference between the lenses is considerable. Only when convergence is brought into action, is the decentring, due to the fact that mounted lenses have a fixed interpupillary distance, likely to cause any inconvenience.

The Action of the Eyes

Glasses, therefore, for constant wear, should be centered, not for the primary position of the visual axes, but for the position of general employment of the eyes, so that decentration may be, generally, as small as possible when the glasses are in use. The average business or professional man is more often occupied in viewing near objects and those situated below the level of the eyes than objects which are at the same level or above. The eyes are turned downwards when walking or driving, reading or writing, and when engaged in practically all near work in which the hands are engaged, so that the eyes are generally in a state of convergence, and lowered when the ordinary individual is engaged in his daily occupations. Also with a frame whose height of bridge is adapted for "distance" on looking downwards, without depressing the head, the lower part of the eye-wire is liable to interfere with vision.

Therefore, a frame required for constant use should be, as to height, adapted for a position which is between that for "distance" only and that for near work only, or about 2 mm. less than for the former. And in order that the plane of the lenses may be at right angles to the visual axes, they may, with advantage, be slightly tilted so that the upper edge is the more advanced. The interpupillary distance for constant wear, however, as a rule, should be as for distance.

A frame for close work only, supplied for hypermetropia or astigmatism, should be studied as if for constant wear, for the non-use of the lenses for distance is merely a concession. For presbyopia the frame should be adapted for the position of the eyes when adjusted for reading, so that the distance between the centers is shorter and the bridge higher than for "constant" use.

Frequently the distance of the center of each eye is at a different distance from its corresponding side of the nose. Should the difference be small, and especially for presbyopic glasses, it can be ignored, but for constant use it may need to be considered. Saddle or W bridges and some forms of eyeglasses can be easily adjusted by increasing the angle of the spur on the one side or the other.

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Optical Aids

Gone to success on the wave of good opinions of Physicians, Opticians and the People

Murine rapidly reduces an Inflamed Eye to its normal condition preparatory to its proper measurement for Glasses.

Murine Clears the Transparent Media and obviates the use of a dangerous Mydriatic.

Banene Stimulates the Blood Supply which nourishes the Eye, removes Floating Spots, strengthens vision, and with Murine greatly aids those wearing Glasses, hence their value to the Optical Profession.

THE maximum per cent of those ordering Glasses seek your aid only after continued urgings from over-worked and defective Eyes—urgings that have left inflamed tissue and local irritation. Correct Eye Defects with Properly-fitted Glasses. Correct Effects of Defects with *Murine*.

Properly-fitted Glasses and Murine Promote Eye Comfort

Banene

This preparation should be in the hands of every Refractionist

STIMULATES the circulation of the blood supply that nourishes the Eye, clears the retina of congestion, removes the causes of floating spots, dimness of vision, cobwebs, and an inability to wear glasses with comfort.

Banene absorbs opacities of the Crystalline Lens—Cataract and in many cases renders an operation unnecessary



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A REMEDY FOR THE EYELIDS

Restores lost Eyelashes and promotes a healthful growth. Cures Cysts, Styes and Ulcers



THE Eyelashes often fall out in consequence of neglected disease, both at their roots, and of the Lubricating Glands which open near them, resulting in a thickened and crusted condition. This condition is intensified by an *Error of Refraction*, and properly-fitted Glasses should be worn in addition to applications of *Murine* and *Murine Eye Salve*.

NOTE—The law does not confine the sale of these preparations to any class. Jewelers and Opticians have a right to sell them, but not the right to compound or administer.

The Murine Eye Preparations are sold by all jobbers. The Murine Eye Remedy Co., Chicago, will gladly supply attractive Office Pictures, Booklets and Circulars when desired

"THERE IS ALWAYS ONE BY WHICH THE REST ARE MEASURED"

MURINE RELIABLE EYE REMEDIES

Trade Price List



	PER BOTTLE	WHOLESALE	WHOLESALE
	RETAIL	PER DOZ.	PER BOTTLE
No. A—MURINE—Regular size	\$.50	\$ 4.00	\$
No. B—MURINE—Special or Opticians' size	1.25	7.20	.60
No. C—MURINE—1-pound bottle for Physicians' dispensing	8.00	72.00	6.00
No. D—MURINE—½-pound bottle for Physicians' dispensing	5.00	48.00	4.00
No. E—MURINE EYE SALVE—(Unquentum Hydro-Murine)	1.00	7.20	.60
No. O—OXIDO-FLARINE—(Salve)	1.00	7.20	.60
No. F—GRANULINE	1.50	10.80	.90
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No. Z—MURINE—Trial size. Per gross			\$28.80

This size has no price printed on label or package.

Send for 48-page book which gives full description and directions for the entire "MURINE OPTICAL AID FAMILY."

We supply, when desired, Show-Cases holding two dozen Murine, Celluloid Easels, beautiful Lithographs, Circulars, also attractive Window Displays, and Books on home treatment for Eyes, with your card on cover.

Granuline

FOR old and chronic cases which have resisted the ordinary methods of treatment and where most positive action is desired; Granulated Lids, Spots, Scums, and Opacities on the eyes. *Granuline* is Absorbent, Tonic, Antiseptic, Astringent and Antiphlogistic. It is a valuable collateral to *Murine* in Eye cases.



Crowned— not with Jewels but with *Plaudits of the People—Laurels* justly earned as the "Best Eye Treatment." Safe and pleasant. Used in the eyes of *Infant or Adult*. A never failing source of *Relief*. **Murine Eye Remedies** have cured thousands and will cure you.

New Apparatus to Detect Malingering

A new apparatus to detect malingering was recently presented by M. Bouchart, at the meeting of the Paris Ophthalmological Society. The inventor remarks that we have various means to employ with subjects who claim to have one good eye and one poor eye. But as regards those who declare that both eyes are amblyopic, it is more difficult to verify the truth or falsity of their statements. The apparatus consists of a box, 50 x 20 x 7 centimeters. The sight-hole comprises a short tube, closed by a plane glass to keep out dust, and has grooves for the correcting lenses. It contains four mirrors, three of which are movable and controlled by keys on the outside, as in our illustration. Duplicate types of four graduated lines are placed at *O* and *O'*, illuminated by openings in the box.

The four tests provided for are, according to Dr. C. H. Beard, best made as follows: The three movable mirrors are placed in their working positions. The subject is asked to call the letters he sees through the sight-hole. By a subtle movement of its key mirror 1 is turned down, leaving 2 to catch the image. The subject again reads. Mirror 2 is then brought into its position of repose, leaving 3 working. The third test is made. For the fourth test the movement of the third mirror is very slight—only about 15°—just enough to throw it out of the line of types *O* and in line with the reflection of *O'* in the fixed mirror. Between each test the box, which is held in the examiner's hands,

either be sincere or reply at random. If his replies are false their non-concordance reveals it. The principle of the mechanism is by a box of such small dimensions to give to the object viewed an apparent distance much inferior to the real. The subject is thus led to approach the truth more closely than in processes of examination where he can appreciate the actual position of the test objects.

Terson, for such tests, in preference to a complex apparatus, cuts out the letters of an ordinary test chart and glues them, all mixed up, but in lines, upon a piece of cardboard. The subject is asked to read this chart, and the results carefully noted. Some simulators will read the smallest letters as well as the largest when thus in lines. Lastly, he is made to read the same letters as they appear on the original chart. Adler, in 1896, devised a similar scheme, but caused the normal chart to be read first. Terson, however, deems it better to entrap the simulator at the very outset—especially one who is seeking a personal injury indemnity.

Mounting Photographs

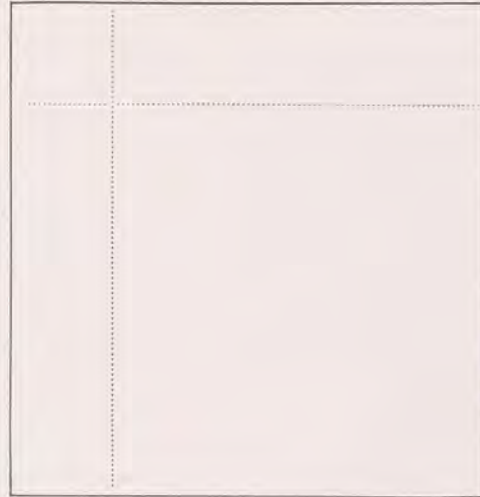
It is the little things—the attention to minute details which tend to comfortable working and success in photographic matters, and when we discover an easy means of accomplishing an awkward little bit of manipulation, it is well to remember the dictum of the famous Captain Cuttle, "When found make a note on."

The particular note which appears last on the tablet of our memory refers to a dodge for mounting photographs so that they shall appear on a definite place upon the mount, and also be perpendicular with its edges. Once upon a time we should have written, "The middle of the mount," for then it was the fashion to follow the example of the engraver, and to place the picture in the center of the space upon which it rested, or, in some cases, perhaps a trifle above the center. But "other times, other manners"—in the present day, as far as one can judge by examples which have been thought good enough to hang up for public exhibition, there seems a tendency to glorify the mount at the expense of the picture, and instances are not wanting in which a quarter-plate eccentricity is mounted in the corner of a vast expanse of dark cardboard. One is tempted to exclaim with the poet, "Oh, monstrous! But one half-penny-worth of bread to this intolerable deal of sack." Only one can understand the temptation of a bibulous person to spend more of his substance on good wine than he does on the staff of life, while it is difficult to imagine the condition of mind which exhibits a broad area of cardboard as a work of art. But as these things do happen, we may

suppose that there is some reason for them, and our only regret is that in many cases the cardboard, being the most interesting portion of the exhibit, should be burdened with any photograph at all.

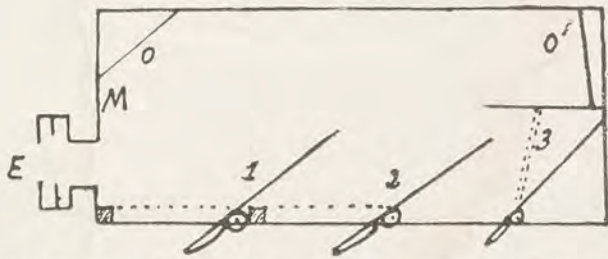
Of course, it is a dark mount which we have in view, for no one nowadays uses a light one. It must be dark brown, or dark green, or dark neutral tint, without any distinctive color. It would be easy enough to get our picture in the center of it if we could mark it with pencil or chalk, but such marks are prone to permanence, and one hesitates to venture upon them. The temporary guide which we suggest is made with removable pieces of sewing cotton, and the procedure is the simplest thing in the world. Let us cite a case, as the lawyers say.

We have a 10 by 8 print, or enlargement, and we have elected to mount it on a dark brown card which measures 18 by 14 inches, and further, we have decided that it shall occupy the center of the card. We take two pieces of sewing cotton and tie one



piece across the mount lengthwise and the other piece crosswise, and when this is done we must, by the help of a foot rule, make them occupy definite positions on the mount. Take the longer one first. As our print is 8 inches broad, and the mount is 14 inches, there is clearly 6 inches to spare, which will allow a margin of 3 inches on each side. Our cotton thread must, therefore, be placed at 3 inches from the edge of the mount, in order to indicate the place where one edge of the picture should rest. We can now adjust the other thread, which is tied across the smaller diameter of the card. Here the difference between the size of the print and the mount is 8 inches, and we must, therefore, fix our cotton at 4 inches from the edge of the mount. Take care that both threads are strictly parallel with the nearest edge of the card. You can then cover the back of your print with adhesive and drop it in its place on the mount without the smallest difficulty. Cut away the cottons directly this is done and smooth the print down the usual way. It will be seen that any eccentricity in the way of mounting can be carried out by this method, and so we commend it to all workers—sane or otherwise. In the annexed diagram the dotted lines indicate the guiding threads.

—Photographic News.



O O', test types; *M*, fixed mirror; 1, 2, 3, movable mirrors; *E*, sight-hole

is removed from the examined eye, under some pretext, in order to manipulate the key. Each time also the results obtained are noted. The distances at which the images are viewed are 40, 60, 100 and 150 centimeters. The gamut of visual acuities comprises many degrees between $\frac{1}{5}$ and 1, as shown by the following:

	1st line.	2d line.	3d line.	4th line.
Test I. V. =	$\frac{1}{15}$	$\frac{2}{15}$	$\frac{1}{10}$	$\frac{1}{15}$
Test II. V. =	$\frac{2}{15}$	$\frac{1}{5}$	$\frac{2}{15}$	$\frac{1}{10}$
Test III. V. =	$\frac{2}{3}$	$\frac{1}{3}$	$\frac{1}{5}$	$\frac{1}{3}$
Test IV. V. =	1	$\frac{1}{2}$	$\frac{1}{3}$	$\frac{1}{4}$

The subject is placed in a predicament. Being unable to judge as to the responses that would be favorable to his case he must

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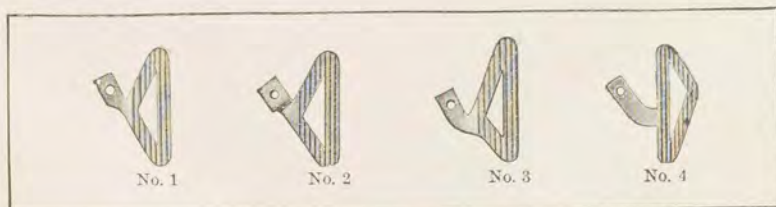
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Frame Fitting and Adjustment

(Continued from page 1771)

The distance between the lenses and the eyes depends on the projection of the bridge. The effective power of the lenses in relation to the eyes is changed as this distance is greater or smaller.

The Ideal Retinal Image

The size of the ideal retinal image is that which obtains in emmetropia, and this result is corrected ametropia also, when the lens is in the anterior focal plane of the eye or, say, 13 millimeters from the cornea. For this, lenses should, usually, be as near to the eyes as the lashes and brows permit, but they must not touch the lashes, which is annoying and causes the glasses to become smudgy and obscured. Also the prismatic effect produced when the eyes are rotated from the primary position depends on, and is smaller as, the distance between the lenses and the eye is less.

It is essential, in theory at least, that the two lenses should be in the same plane, so that the one be not farther from the one eye than from the other. This is not always possible, as it frequently occurs that the one eye is more deeply set in its socket than the other. If a spectacle frame, owing to the sides not being true, or the bridge too shallow; or an eyeglass, owing to the placquets being out of place or unsuitable, causes the two lenses to become oblique to the visual axes a horizontal cylindrical effect is produced on sphericals, or the effective power of cylindricals is changed, and if the one lens is higher than the other owing to rotation of the frame, a vertical prismatic effect is engendered, and, in the case of cylindricals, the axes are not in the required meridians; therefore, care must be taken that the frame is so adapted that the long diameter of the lenses is at right angles to the plane of the nose.

The Bridges

A bridge, if too thin, is liable to indent the skin of the nose, especially if the lenses are heavy. The angle of the flat of the bridge-wire should be neither too horizontal nor too vertical, but rest on the nose the whole of its depth; the usual angle is about 45 degrees to the plane of the lenses. The bridge should be of such a width that, if the frame be worn constantly, its weight is partly supported at the sides, and not wholly on the crest of the nose. The C bridge is better for the presbyope, and may be fairly thin and wide enough to move freely up and down the nose. The constant-wear bridge should be "spread," and fit so snugly that it will not pass below the thick part of the nose.

The frame should be just sufficiently wide for the sides to be free from contact

with the sides of the front of the head, but, if too wide, the frame is unbecoming. Straight sides must be long enough to maintain a fair hold behind the ears, and curled sides must be just long enough to obtain security without pressure on the nose. They should be fitted to the curve of the ears, and, if necessary, any difference in the height of the two ears must be allowed for.

In an eyeglass the top spring must be neither too long nor too short, or the lenses will not set horizontally, and the grip is either too weak or too strong. If the grip is too weak the eyeglass is insecure; if too strong it produces soreness at the sides of the nose and may be the cause of headaches. Placquets must correspond in curve to the sides of the nose, as it is by full contact, rather than pressure, that security of hold is obtained. The length of placquets and their inclination both in the plane of the nose and in that of the face, are matters of importance. Where the two sides of the nose differ, fixed placquets are preferable to those which rock. A fair degree of tension at the top of the placquets and the tops resting behind the brows are necessary to prevent an eye-glass from tilting forward or sliding off upwards.

The size of the lenses is a matter of importance, both for the effect on appearance and because of their optical properties. The requisite size depends chiefly on the interpupillary distances, also on the width of the head and that of the nose. All people cannot be suited with the same sized lenses, and although the 1 "eye" is a fair average size, it is too large for some and too small for others, and both the 2 and 0 "eye" are necessary for the stock of the optician who wishes to be all up to date in frame-fitting.

The Frames

A frame should be becoming to the wearer as well as be comfortable and fairly secure. For appearance sake an eyeglass is always preferable to a spectacle, and for convenience it is often so, it being more easily portable and more easily put on and off, and it does not cause an appearance of increased age. With a knowledge of how to fit placquets, there is hardly a nose that cannot be comfortably suited with some form of pince-nez. Consideration of the cosmetic effect of frames has great influence on the success of the optician's business, and many people will wear pince-nez who refuse to wear spectacles.

It is better to select a frame from stock for the individual customer. If this is not possible, a frame or frames, as near as possible to what is needed, should be found, and the measurements taken from it or them; any necessary allowances being made for those details which are not exact, the required frame can be ordered.

In the opinion of the writer the best, and indeed the only practical rule, for taking measurements for frames from the face itself, is the "Orthos," when such measurements are necessary.

Taking Measurements

In the following description of how to take measurements of the face and head, it should be remembered that right and left of the *rule* are respectively to the right and left of the optician, while right and left of the customer's *face* are respectively to the optician's opposite hand.

The interpupillary distance for "distance" and "constant wear" is obtained by directing the customer to look straight into the optician's left eye, the rule being held horizontally with the projection directed downwards and with the right edge of the projection bisecting the right pupil. Then the customer is directed to look into the optician's right eye, the rule not being moved. The interpupillary distance is then indicated by the number, on the lower scale, just above the center of the left pupil. The full distance between the centers of the pupils, when the eyes are at rest, is thus found, the average being about 60 millimeters.

When the distance of the two eyes from the center of the nose is unequal, this is measured for each separately to the center of the nose, that of the right when looking at the optician's left eye, and *vice versa*. The reading for the right eye is made to the right of the projection, when its right edge bisects the right pupil; that for the left eye is made to the left when the right edge of the projection bisects the left pupil, both readings being on the lower scale. The interpupillary distance for presbyopia is found similarly when the customer is looking at the center of the optician's face. This is usually about 4 millimeters less than for "distance."

The Height of the Bridge

The height of the bridge is obtained when the customer is looking straight forward. The rule is held horizontally, with the lower edge placed on the bridge of the nose. The height is taken on the projection on a level with the center of the pupil, if for distance only; at the bottom of the pupil if for constant wear, at the bottom of the iris if for presbyopia. The height for presbyopia is some 4 millimeters greater than for constant wear.

When the two eyes are of unequal height the distance is taken for each separately and the one lens decentered to the extent of difference. If the bridge should be below the centers of the eyes, the rule is held horizontally with the lower edge bisecting the pupils, and with the projection directed downwards at the right side of the nose; the

(Continued on page 1777)

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Frame Fitting and Adjustment

(Continued from page 1775)

distance is then read on the vertical scale at a point on a level with the bridge of the nose.

For the projection of the bridge the optician stands to the left of the customer's head; the rule being horizontal, with its lower edge resting against the bridge of the nose, the projection pointing inwards at the left temple. The reading is taken on the vertical scale at a point level with the tips of the lashes. The lashes of the one eye usually project more than the other, so that this measurement must be taken on both sides, and the frame made for the greater projection. The lenses should be as near the eyes as possible. For presbyopic glasses, the projection of the bridge is of little importance.

When, owing to the nose being flat, the bridge has to be set back of the plane of the lenses, the projection is placed on the bridge of the nose, and the reading on the vertical scale is taken at a point level with the tips of the lashes.

For depth of the bridge the rule is placed with the projection at the side of the nose, and the necessary length of spur is taken on the vertical scale, at a point level with the bridge of the nose. The facial width is obtained by placing the rule with the projection pointing backwards near the left temple. The dimension is taken on the lower scale near the right temple, or the distance to the middle of the nose may be taken and this doubled. The facial width is usually about 45 millimeters greater than the full interpupillary distance.

The width of nose for a spectacle bridge, or for the distance between the placquets of an eyeglass, is found by placing the rule horizontally with the edge of the projection pointing downwards at the right side of the nose. The distance on the lower scale is read to the middle of the nose, and being doubled gives the width. Or the required bridge can be obtained from the standard spreads of the rule. For distance and constant use the spreads should be selected which so fits the thin part of the nose that it will not pass over the wider part, while for presbyopia, that should be selected which will just freely slide over the wider part of the nose.

The length of a curl slide is found by placing the projection at the back of the ear, and the reading on the lower scale is taken at a point level with the tips of the lashes. The usual length is about 100 millimeters and the total length of the side is about 50 millimeters greater.

The length of a straight side is obtained by placing the right edge of the projection at the side of the head where the tip of the side should rest, and the reading is taken on the lower scale at a point level with the tips of the lashes. The average length is about 130 millimeters or about 30 millimeters greater than that from the tips of the lashes to the back of the ear.

What is the Most Expressive Title for a Refracting Optician?

A large number of American refracting opticians are now using the word "Optometrist" to designate their calling. In England many of the refractionists use the word "Optologist" for the same purpose. Some philologists contend that neither word expresses fully the work of the eye-examining, prescribing and spectacle-furnishing optician. A professor of Cambridge University, England, who is an accomplished philologist, has furnished the following interesting contribution to the literature on the subject:

I would recommend as the most appropriate titles for a sight-testing optician (1) OPSIOLOGIST or (2) OPTHALMICIAN. OPSIOLOGIST [ὄψις (*opsis*), "sight," and λόγος (*logos*), "science"] should mean "one skilled in the science of the eyesight," or "an eyesight specialist," *i. e.*, "a sight-testing optician"; *cp.* physiologist [φύσις (*physis*), "nature," and λόγος (*logos*), "science"]. The word opsiologist is (1) philologically sound, (2) new, (3) euphonious, (4) comprehensive, (5) not too long.

OPHTHALMICIAN [ὀφθαλμικός, "of or pertaining to the eye"] should mean "one versed in matters pertaining to the eye," and, like opsiologist, is (1) philologically sound, (2) new, (3) euphonious, (4) comprehensive (5) not too long. But it should be noted that optician from meaning "one versed in optics" (Sir Isaac Newton was called "the Great Optician" in a work dated 1687) has come to mean "a maker of or dealer in optical instruments." On the analogy of optician, the word ophthalmician would possibly suggest in many minds merely "a maker of or dealer in medicines or instruments for the eye," and a sight-testing optician is a great deal more than that. Those who feel any doubt about the connotation of ophthalmician would be quite safe in adopting opsiologist.

OPTOLOGIST should mean, since it is derived from ὀπτός (*optos*), "seen," and λόγος (*logos*), "science," "one skilled in the science of things seen." Some would-be humorist, who says he knows "a little" Greek and Latin, forgetting the proverbial danger of a little knowledge, has rushed into the columns of a contemporary with the dogmatic assertion that optologist can only mean "a wise cook." There is a Greek word ὀπτός (*optos*), "roasted," "broiled," "baked"; and by the analogy of other compounds with -logist a word might be coined, *viz.*, opto-logist, with the meaning, "one skilled in the knowledge of things roasted, broiled, or baked," *i. e.*, "an epicure," rather than "a cook." But there is no derivative meaning "a cook" formed in Greek from ὀπτός

(*optos*), "roasted," the Greek word for a cook being ὀψοποιός (*opsopoios*); nor is there any derivative in English from ὀπτός (*optos*), "roasted"; hence all analogies would lead us to connect optologist with "things seen," or "the vision." The word should be rejected as being (1) ambiguous, (2) philologically objectionable, if taken to mean "one skilled in the eyesight."

My attention has also been drawn to the word OPTHALMIATER [ὀφθαλμός (*ophthalmos*), "eye," and ἰατὴρ (*iater*), "healer"]. It

is not quoted in the Standard Dictionary, while the great Oxford English Dictionary gives it as "rare," and as meaning "an ophthalmic surgeon," "oculist," the latest quotation given being 1852, *Jerden Autobiog.*, II, 71. "A glorious quack oculist, or 'ophthalmiater,' as he styled himself." The word has some associations of quackery that do not commend it as suitable for the genuine eyesight specialists, and these gentlemen do not usually profess to heal the eyes.

I would add to my note on OPTIST that the word is not only philologically objectionable, but it has recently been used of one who makes and inserts artificial eyes, in contradistinction to the optician whose business is with the natural eyes; and optist originally meant "an optician." An optist is described in "Horn and Robotham," *Gale Lang. Unl.* lxxvi, § 769 (dated 1639), as one who "frameth spectacles and perspective glasses" (*v.* Oxford Eng. Dict.).

The terms OPSIOMETRIST, OPTOMETRIST and OPTHALMOMETRIST, as referring merely to the measuring of the vision, do not seem to be comprehensive enough for the modern sight-testing optician.

Instantaneous X-Ray Photographs

The long exposures required in X-ray photography have been a great disadvantage in its use for practical purposes. After many experiments, however, Prof. Rieder and Dr. Joseph Rosenthal, of Munich, have succeeded in taking instantaneous X-ray photographs. The apparatus used includes strong electric currents, especially good X-ray tubes, very sensitive photographic films and intensifying screens. Photographs of the human chest were taken in less than a second, the patient ceasing to breathe in the meantime.

Taking photographs between heart beats was another important experiment tried. The period of exposure required was measured by a contrivance consisting of a wooden disk, thirty-nine inches in diameter, and covered with lead. A sector, one-seventh of the entire surface, was cut from the disk. The object to be photographed and the sensitive plate were placed behind the disk and the X-ray apparatus in front of it. The disk was revolved on its center once in a second, and the open place in it exposed the plate to the rays just one-seventh of that period.

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Optical Notes

✿ S. R. Peck, manager of the Pacific Optical Co., Seattle, Wash., has lately been in the East for one month, having visited Southbridge, Mass., Providence, R. I.; Philadelphia, Pa., and New York City.

✿ H. W. Liggette, optician, with J. N. Mulford, 294 Main Street, Memphis, Tenn., has recently been on a tour in the Eastern States. While in Philadelphia, Pa., he visited the factory of The Keystone Watch Case Co.

✿ E. Kirstein Sons Co., Rochester, N. Y., have issued their 1905 catalogues and price-lists, consisting of a prescription catalogue, a Shur-on catalogue and price-list and a price-list of spectacle and eyeglass cases. These compilations are all handsomely printed and illustrated, and should prove very useful for immediate reference. The case price-list comes appropriately in the form and appearance of one of the articles with which it deals.

✿ Robert V. Lee, late of 2054 Clark Avenue, Cleveland, Ohio, and his associate, O. H. Perry, expect to engage in the optical business at Coshocton, Ohio, in the near future. It is their purpose to equip their parlors in the most modern fashion.

✿ Glines & Griffin is the name of an optical firm which has opened with ample facilities at 10 Main Street, New London, Conn. This firm carries a line of kodaks and supplies, and also makes a feature of developing and printing for amateurs, to which end it has installed a dark room for photographic processes. It has likewise put in machinery for automatic edge-grinding and compound work.

✿ Silbert Bros., wholesale and manufacturing opticians, of Buffalo, N. Y., have consolidated their offices at 482 Washington Street, where they possess improved facilities for the conduct of their growing trade. Hitherto they have had an office at 520 Main Street, and another at 482 Washington Street.

✿ One of the exhibits that attracted much attention at the Minneapolis convention of the American Association of Opticians was that of the Eye-Fix Remedy Co., Detroit, Mich., which was represented at the convention by Dr. F. T. Leys, salesman, and F. J. Grewe, manager of the company. An illustration of the exhibit is shown herewith.

✿ George A. Barron, 3 Winter Street, Boston, Mass., has invented a new axis chart that is of great convenience to opticians in making their lenses, and also in frame fitting, as the chart not only gives the axis of the lens, but the height of the bridge and other measurements needed in fitting up lenses and frames. Mr. Barron is distributing these cards without charge to his patrons in the trade, and also selling them to the wholesale trade for distribution among their customers.

✿ Wm. A. Copeland, of Martin, Copeland & Co., Providence, R. I., optical manufacturers, left recently on a trip to England and the Continent. Mr. Copeland may look over trade conditions a little, but the trip is mainly one for recreation and pleasure.

✿ Mr. Mansfield, for seven years connected with the Globe Optical Company, of Boston, has started in the optical business at 272 Boylston Street, under the firm-name of Harbach & Mansfield, successors to Herron & Harbach, formerly on Dartmouth Street, Boston.

✿ W. Arlo Moore, optician, has severed his connection with C. M. Banks, the Wilmington, Del., jeweler, and has accepted a position with E. H. Schaefer, of Beaver Falls, Pa. Mr. Moore had been connected with the jewelry and optical business in Wilmington for a number of years. His friends wish him success in his new sphere.



Exhibit of the Eye-Fix Remedy Co., Detroit, Mich., at the Minneapolis Convention

✿ B. Mayer, 6 East Baltimore Street, Baltimore, Md., was by an oversight referred to in our last issue as a wholesale and retail optician. Mr. Mayer is not a retail optician, his business being solely wholesale, importing and manufacturing. He is the inventor and sole maker of a one-piece invisible bifocal, patented August 29, 1905. His new catalogue has recently been issued, and is a useful book for the trade, especially in the matter of prescription work.

✿ Joseph Anspach, senior member of Anspach Bros., the well-known optical firm of 595 Broad Street, Newark, N. J., was one of those killed in the elevated railroad accident in New York City on September 11th. It had been Mr. Anspach's custom to go from New York to Newark each day, as he and his family had closed their summer home at Avon and had been temporarily living in New York City, while the house which he had temporarily leased at Belleville Avenue, Newark, was being made ready for occupancy. Mr. Anspach was only thirty-four years old, and prior to going into business with his brother in Newark had been with E. B. Meyrowitz, of New York. His death recalls the fact that the late Oscar Meyrowitz, of that firm, came by his death some years ago under similarly sad circumstances in the collision which occurred in the New York Central Railroad tunnel. Mr. Anspach was a member of the Newark Board of Trade.

✿ Andrew V. Brown, son of D. V. Brown, wholesale and manufacturing optician, Philadelphia, Pa., who takes an active interest in local politics, was honored at the recent City or Reform Party Convention, by a number of votes for the position of City Commissioner. Mr. Brown's affiliations are naturally with the new party which, aided by the reform administration, is doing such commendable work for the purification of city politics.

✿ The tenth annual outing of the employees of the Globe Optical Company was held at the Riverside Recreation Grounds, Auburndale, Mass., Saturday afternoon, September 16th. They were joined by the employees of the Boston Optical Company, whose outing was set for the same day. The programme of the afternoon included tennis, bowling, billiards, pool, canoeing and a ball game between the teams representing the store and the factory. The few little showers during the game

did not dampen the ardor of the players, who played a full nine-inning game, with the final score 13 to 8 in favor of the store team. At 5:30 the company of Globe and Boston employees and friends, numbering about 125, sat down to a banquet, which was served in the large dining-room overlooking the Charles River. Before dinner was served, the guests listened to a vocal selection by the well-known Commonwealth Quartette, which was so well appreciated that an encore was demanded. After the banquet the company again scattered to the bowling alleys, pool room and music room, while others took

canoes and went down river to Norumbega Park. Those who found their way to the music room were entertained with several selections by the Commonwealth Quartette, and with solos by the quartette members, two of whom are among the Globe employees. At a late hour the combined party took a return train for Boston, unanimously expressing thanks to the Globe and Boston companies and declaring it a most delightful outing.

Write for free catalogue of the National College of Optics, Cedar Rapids, Iowa. —*Adv.*

New York City Optical Society

A meeting of this society was held in Parlor D. R., Fifth Avenue Hotel, on September 13th, when Wm. Sesmick and W. A. Johnson were elected to membership. A report was received from the banquet committee outlining the arrangements for the annual banquet of the society, which is scheduled to take place in November. The scientific feature of the meeting was a paper by R. M. Lockwood, on "Fitting Eyeglasses from Sample Eyeglass Frames and Mountings."

"I am most interested in optics. I hope soon to abandon everything else except optical work and expect to see *The Keystone* keep up to its present and past high standard of excellency."—*L. Burkett, Optician, Abbeville, Louisiana.*

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Send for list of Jobbers TO-DAY—NOW—use a postal and mention THE KEYSTONE.

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St. Louis, Mo.

Watch for the Ear Guard News in next month's Keystone. Look for my name in the index.

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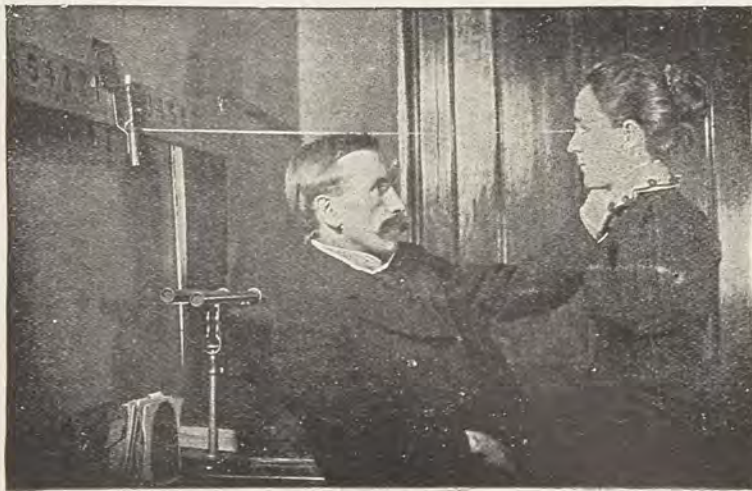
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The Keystone

19th and Brown Streets, Philadelphia, Pa.

The Minnesota State Optical Association

The fifth annual meeting of the Minnesota State Optical Association was held at Builders' Exchange Hall, St. Paul, Minn., September 5th and 6th, and proved one of the most instructive meet-



President J. W. Brown

ings the association has ever held. The papers, being more in the nature of leaders for discussion, brought out some very valuable pointers. The discussion of "What I Learned at the Meeting of the American Association," brought Messrs. Harper, Hitchcock, Snell, Millard, Upham and Ostrem to their

feet, and all agreed that the clinic led by Dr. Chalmers Prentice was worth a great deal to the students, and by experiment each was able to report some very peculiar results. Personal experiences were presented where cures had been stumbled on with the use of spheres only, and there is no doubt that proper refractive correction will greatly aid the physician in making cures of cases that do not seem to get along with medicine only.

S. B. Millard's paper, "Robbing Peter to Pay Paul," with photographic and blackboard demonstration, was discussed thoroughly. This was a case of a young man, twenty-one years of age, subject to spasms and who had lost control of his tongue and palate, had taken treatment from physicians and was finally given the rest cure for three weeks, being kept in a dark room from which he came out much improved but soon began to fall back into his old ways. When he came into Mr. Millard's hands, after bringing his patient up to a proper refractive correction, he was finally cured of his spasms, and is now going to night school and progressing very favorably.

The following officers were elected for the ensuing year: President, J. W. Brown, Ortonville, Minn.; first vice-president, I. M. Radabaugh, Hastings, Minn., re-elected; second vice-president, H. O. Schlender, Springfield, Minn.; secretary, C. A. Snell, Minneapolis, re-elected; treasurer, E. W. Kittredge, Minneapolis. F. A. Upham, St. Paul, was elected to the board of directors for four years, and S. B. Millard for three.

Before election, President Chalmers made a neat little speech, in which he thanked the association for its indulgence in putting up with him for two years, and hoped they would be as courteous to his successor. Mr. Chalmers also gave the association a few pointers in what he thought they should do in the future. His address was well received, and a vote of thanks given him for his able handling of association matters.

A telegram was received from President-elect Brown, stating that it was impossible for him to be in time for the meeting, but he would meet any members desiring to see him on Thursday morning upon his arrival in the city.

The reports of the secretary and treasurer respectively were received, and ordered to be placed on record. The treasurer reported a balance of \$133.80 on hand with all bills paid.

The report of the legislative committee was also placed on record. The membership com-

mittee reported that more new members were admitted during the past year than for any single year previously, except the first and second of the society's existence.

F. W. Seaman, St. Croix Falls, Wis., was elected a member.

Vice-president Radabaugh on taking the chair made an appropriate speech, in which he called attention to the fact that the real work and success of the association lay with the members and not with the officers, who were only the instruments to carry out the wishes of the members, and that each and every member should and must put forth an earnest effort if they would have a strong and successful association.

A vote of thanks was tendered treasurer De Mars for his able attention to duties during his two years in office.

Mr. De Mars then presented a paper on the "Nerve System" and the application of the rule that "the eyes are the expression of the bodily ills," which brought forth quite a discussion.

A motion by Mr. Straub, that this association establish a circulating library for the use of its members, was unanimously carried. It was moved and carried that a committee of three be appointed to establish rules, receive donations of books, make recommendations and report at the next meeting. The chair appointed C. A. Snell and S. B. Millard, Minneapolis, and Geo. T. Hartmann, St. Paul, to constitute this committee.

A vote of thanks was extended to all trade journals that have aided the cause of optometry by their liberal space given to all things optical and to the Minnesota State Optical Association especially.

Article V, section 1, of the by-laws was amended to read: The annual meeting of the association shall be held in the month of February of each year, subject to the call of the board of directors, signed by the president, was carried, all agreeing that State fair week was too busy a week during which to hold an annual meeting.

A vote of thanks was ordered to be sent to the Builders' Exchange for allowing the free use of their beautiful hall for the meetings of the association.

C. H. Nerbovig then gave a review of the paper read by him before the American Association. Mr. Nerbovig stated that he did not intend to re-read his paper, but was there to discuss and answer questions. With the aid of a blackboard he was kept busy for an hour and fifteen minutes answering and explaining whatever questions were brought out in the discussion. He gave some very instructive demonstrations, and all left the hall at the conclusion of his talk with the idea that just such discussion is what makes an optical meeting a success. "These meetings are too valuable to miss, and I promise I will not miss any more," was the way one member put it who had missed the last three meetings.

The two important features of the meeting were the changing of the date for the holding of the annual reunion to February, allowing Twin City members a better opportunity to be present, and the resolution to establish a circulating library. The carrying out of this latter idea is in the hands of a capable committee, who are expected to report progress at the next meeting of the association.

Secretary Snell was re-elected to the office he has held since the organization of the association. On being called on for a speech, said his only reason for accepting was that he was interested in the success of the profession, and furthermore, no one else seemed to want the salary.

The New President of the Minnesota Optical Association

J. W. Brown, of Ortonville, Minn., the newly-elected president of the Minnesota State Optical Association, is one of the most active and progressive optometrists in the State. Mr. Brown is a native of Minnesota, having been born in the Southern part of the State in 1870. When but four years of age, his parents moved to a farm near Ortonville. In 1883, he moved into the then village of Ortonville, and entered the store of his elder brother, J. O. Brown, to learn the watch and jewelry trades, and also take advantage of the better schools there. In 1887, he graduated from the first high-school class ever graduated in Ortonville, and afterwards opened a jewelry business of his own. He soon became interested in optics, a science for which he seemed to have a special liking, and has taken several different courses in his desire for higher optical knowledge. Mr. Brown is a charter member of the American Association of Opticians and of the Minnesota State Association of Opticians. He is also a member of the Physiological Section of the first-named body. His able work as chairman of the membership committee of the Minnesota State Association during the past year, brought his executive ability to the attention of its members.

Minnesota State Board of Examiners

The Minnesota State Board of Examiners in Optometry, will meet at the old State capitol, St. Paul, on October 25th and 26th, for examination of applicants for license to practice optometry in the State. A class of fifteen to twenty is expected by Secretary Snell. Any optometrist having evidence of illegal practice, is requested to apprise the board, as every effort will be made to suppress such operations.

Chicago Optical Society

At the regular monthly meeting of the above society, held in quarters of the Jewelers' Club, 218 State Street, Chicago, Earl J. Brown, M.D., made a proposition to deliver a series of lectures covering the Anatomy, Histology and Diseases of the Eye, the inaugural one to be delivered during the last week in September, and the final one during the first week in December, just before the busy season opens. The members present considered this a very liberal offer, and one which every optician in the city should take advantage of. Accordingly the initial talk was delivered at the close of last month, and will be followed by others. These lectures afford a valuable educational opportunity, of which non-members of the society, as well as members, are eligible to avail. The circular announcing the course has this to say: "Particular attention will be given to the practical side of the subject, and quizzes will be conducted each evening, so that all may thoroughly understand the work. An engrossed certificate of attendance will be presented to each one who attends the course.

Dr. Brown gives his service gratis, but it will be necessary for the society to make a small charge to cover expenses, such as hall rent and lights, etc. The charge has been placed at the extremely low price of five dollars for the whole course.

It makes no difference whether you are a member of the society or not, you are earnestly solicited to send in your application for a course ticket.

Kindly let the secretary know at once if you accept the proposition."

The address of O. J. Halbe, the secretary-treasurer, is room 408a Trude Building, Chicago.

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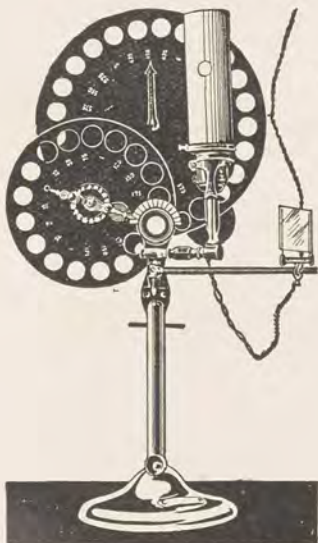
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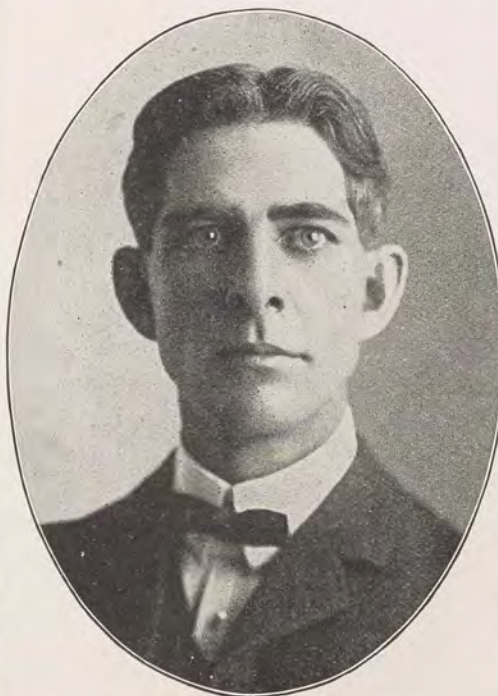
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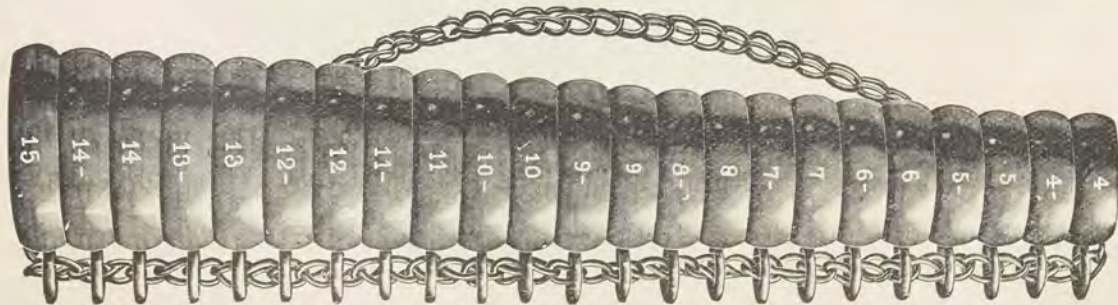
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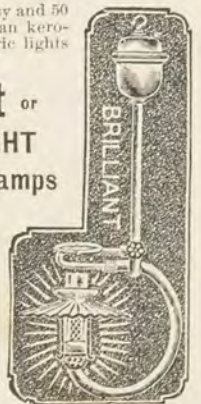


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No. 12	Gold	Price	per doz.
No. 13	Gold	Price	per doz.
No. 14	Gold	Price	per doz.
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No. 19	Gold	Price	per doz.
No. 20	Gold	Price	per doz.
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No. 22	Gold	Price	per doz.
No. 23	Gold	Price	per doz.
No. 24	Gold	Price	per doz.
No. 25	Gold	Price	per doz.
No. 26	Gold	Price	per doz.
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No. 38	Gold	Price	per doz.
No. 39	Gold	Price	per doz.
No. 40	Gold	Price	per doz.
No. 41	Gold	Price	per doz.
No. 42	Gold	Price	per doz.
No. 43	Gold	Price	per doz.
No. 44	Gold	Price	per doz.
No. 45	Gold	Price	per doz.
No. 46	Gold	Price	per doz.
No. 47	Gold	Price	per doz.
No. 48	Gold	Price	per doz.
No. 49	Gold	Price	per doz.
No. 50	Gold	Price	per doz.



In future

The Improved Separable Collar Buttons

will be known by the signature on the card of

O. W. Young

All others are imitations and are an infringement on patents. All infringements will be prosecuted to the full extent of law.

O. W. YOUNG & CO.
Manufacturers

Office, 483 Ogden Avenue, Chicago

J. BULOVA CO.

51 & 53 Maiden Lane, NEW YORK

Our patent fastening on all rings. Can be applied to any ring.

Globe Lever and Globe Link Lever Button Back. For hard soldering. Can be applied to any button.

Write for our New Catalogue of Rings

When writing to advertisers, kindly mention *The Keystone*

SOUVENIRS!

CATCHY ENGRAVING

in SPOON BOWLS at Popular Prices

Sample initial order, per doz.
Buildings \$3.00
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Artistic Monogram and Letter Engraving. **Reliable Plating.**
Drop postal for price-list.

ULLSTROM & CO.
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F. C. KLEIN EMIL KLEIN

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Steam Rapidity

DIAMOND CUTTING

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1. Snap complete
2. Outside of Snap
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The E. P. H. Patent

Non-pull-out Neck Chain Snap is a patented snap that insures the wearer against loss of

CHAIN or CHARM

for it positively will not pull out.

Made in 10 and 14 Karat Gold
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Can be had of the following Wholesale Selling Agents:

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BOSTON

	Small	Large	per doz., net
14 Karat	\$7.00	7.50	" " "
10 Karat	6.00	6.50	" " "
Gold Filled	2.00	2.25	" " "

Jewelers Having Tortoise Shell Goods

that have become dull, can have them repolished and made as bright as new, at a small expense, by sending them to the manufacturer.

WM. K. POTTER, PROVIDENCE, R. I.

When I Started a Jewelry Store

I wanted a way of guaranteeing watches that would satisfy the customer and safeguard myself. I devised such a guarantee and had a few blanks printed. Some people who saw them wanted some, so I had them copyrighted and have since sold a good many. They are "Guarantee for Sales" and "Guarantee for Repairs," put up in books. Either kind costs: No. 2 size, 2 to page, \$1.00; No. 3 size, 3 to page, \$1.50; No. 5 size, 5 to page, \$2.25. The No. 2 size can be expressed or mailed for 10 cts., the No. 3 for 15 cts., and No. 5 for 25 cts. You can buy them from your jobber or from me.

Harry Emrie, Cincinnati, Ohio

Jewelers' Show Cases



Our Small ROSEWOOD MOULDING STEEL LINED CASE

We Challenge the World to Produce a Better Case

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11 to 17 North Ann St.
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Makers of all Kinds of

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OUR MOTTO: The Best of Everything

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Watch Case Repairing

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Old English and Swiss Cases changed to fit American Stem-Wind Movements

Special Cases made to order in Gold and Silver for English, Swiss and American Movements

OLD CASES MADE NEW

F. H. JACOBSON CO.
209 State Street Chicago
Send for Our New Price-List

There is a Scarcity of Engravers

If you will attend our college now we will make an engraver of you before the holiday season.

THE PHILADELPHIA COLLEGE OF HOROLOGY

F. W. Schuler, Principal

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It would be a pleasure to fill your orders

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For Scarf Pins, Studs and Lace Pins. The most practical and only adjustable one invented.

HAIR CHAINS AND RING BRAIDS

MATCHED AND MADE TO ORDER GEO. SIEGFRIED 78 STATE STREET, CHICAGO



TRY THEM! Wells' Perfect Self-Conforming Ring Adjuster, cut from 10 K. gold filled stock.

BE A WATCHMAKER

EARN WHILE YOU LEARN Write for our Free Book, "How to be a Watchmaker."



ELK TEETH

and CLAWS OF EAGLE, MT. LION, LYNX, Etc. WHOLESALE

G. F. Wadsworth Watch Case Manufacturer and Repairer

Everything in the line of Watch Case Repairing, Gold and Silver Plating, Satin Finish, Engraving and Engine-Turning

MADE NEW Silversmiths' Building, 131-137 Wabash Ave. CHICAGO



WILLHELM K. SANDBERG Watchmaker to the Trade

Demagnetizing Watches a Specialty I give close, personal attention to repairs sent me.

MINIATURE PORTRAITS



Enameled on WATCH DIALS, CAPS and LIDS Plain and Colored Can be made from any photograph or print



We Teach Engraving by Correspondence

as well as giving personal instruction at our school.

THE AUBURN SCHOOL OF ENGRAVING

Souvenir Postal Cards



You will never regret ordering them. Jewelers who now carry them are buying in greater quantities than ever.

have the largest sale of any souvenir postals in the country. \$4 per 100, 75 assorted subjects, name of your city put on free, retail 10 cents.

GEO. GARTNER Medinah Temple, Chicago, Ill.

Small Advertisements

No advertisement inserted for less than 25 cents.

Under heading "Situations Wanted," ONE CENT per word for first twenty-five words.

Under all headings except "Situations Wanted," THREE CENTS per word.

Name, address, initials and abbreviations count as words, and are charged for as part of the advertisement.

To insure insertion money must accompany all orders for advertisements, and copy must reach us not later than the 25th of each month for insertion in the following month's issue.

If answers are to be forwarded, TEN CENTS in postage stamps must be enclosed.

The real name and address of every advertiser must accompany the copy of the advertisement.

Advertisers who are not subscribers must send 15 cents (special issues 25 cents) if they desire a copy of the paper in which their advertisement appears.

THE KEYSTONE 19th & Brown Streets, Philadelphia, Pa.

SITUATIONS WANTED

Under this heading, ONE CENT per word, for first twenty-five words.

ENGRAVER, young man, 27, wants position as engraver and salesman.

THOROUGHLY exp. graduate refractionist, expert frame fitter, lens-grinder and assembler.

BY a watchmaker and jeweler of 20 years' exp., position after November 1st.

YOUNG man desires steady position as watchmaker and engraver; has lathe and complete set of tools.

WATCHMAKER, 22 years' exp., desires to make change. Capable managing repair department.

WATCHMAKER and jeweler, 4 years' exp., can do watch and clock, hard solder.

WATCHMAKER, jewelryman, graduate optician and fair engraver, 22 years.

WATCHMAKER—thorough, practical, rapid and exp. Refs. and full particulars sent those having opening in Eastern States.

BY young lady as general letter and monogram engraver and saleslady.

FIRST-CLASS watch repairer, 11 years at bench, own tools.

WATCHMAKER, optician and salesman who can speak German.

YOUNG man, 3 years' exp., 23, as watchmaker and optician, moderate salary.

SCANDINAVIAN, age 30 years, want position to finish watchmaking.

BY watchmaker, jeweler, graduate optician, capable taking charge when necessary.

BY first-class watchmaker and engraver, near Kansas City.

EXPERT watchmaker, long exp. in all grades watches and clocks.

POSITION by an expert optician of exp. Doctors' refs. furnished.

AS watchmaker, jeweler and salesman, young man, 21 years' exp.

ENGRAVER, young man, wishes position, good letter and monogram engraver with 3 years' exp.

SITUATIONS WANTED

ARTISTIC, energetic young man, 22, desires position in New York or Brooklyn.

PERMANENT position by young man, age 24, watchmaker, engraver and graduate optician.

WANT a position or location in Illinois, by first-class watchmaker.

WATCHMAKER and jeweler, graduate optician and engraver. Permanent position.

COMBINATION bookkeeper and salesman; 26 years old, married, use no tobacco or liquor.

WATCHMAKER wants permanent situation. Do some engraving.

GRADUATE optician wishes a position as refractionist. He understands refraction thoroughly.

YOUNG man, with 2 years' exp. as watchmaker and jewelry repairer, wishes position in a Western State.

WATCHMAKER, engraver, optician, fair jewelry repairer, 18 years' exp.

WATCHMAKER and engraver, with lathe and tools, desires a steady position.

AS traveling salesman for jewelry or kindred line about Jan. 1st.

YOUNG man having taken course in watch school wishes store exp.

WATCHMAKER, engraver, optician, Nov. 1st, 10 years' exp., capable managing Iowa pref.—town 5000 inhabitants.

POSITION as traveling salesman for optical firm. I have been in the wholesale and retail business for 11 years.

WATCHMAKER and optician of highest qualifications desires to correspond with responsible house needing first-class services.

FIRST-CLASS watchmaker, with tools, desires permanent position with reliable house.

POSITION wanted by young man as watch, clock, jewelry repairer and engraver.

REFRACTIONIST of ability, long exp. fitting most complicated cases, practical watchmaker, good salesman.

BY watchmaker and engraver, 12 years' exp., have full set of tools, no bad habits.

YOUNG man wishes to finish trade under good workman. Prefer Indiana or Illinois.

OPTICIAN, first-class, all-around shop man, capable doing only A No. 1 work.

BY engraver and assistant watchmaker, moderate exp.; will accept moderate salary.

BY good engraver, can do lettering, monograms and spoon bowl engraving.

BY engraver with only moderate exp., willing to accept moderate salary.

EXPERT watchmaker, optician, stone-setter, good jeweler and engraver.

YOUNG man wants position as watchmaker. Can do plain engraving; has full set of tools.

BY all-around manufacturing jeweler, stone-setter, with first-class retail jewelry store.

SKILLED optician and engraver wishes remunerative position until Jan. 1, 1906.

BY young lady as general letter and monogram engraver. Willing to wait on trade.

SITUATIONS WANTED

MANUFACTURING jeweler, who does diamond setting and enameling. Have rolls, lathes, etc. Desire to work for some retail store. Box 1256, Los Angeles, Cal.

BY expert watchmaker and fair engraver. Age 35. Capable taking full charge and waiting on trade. All refs. Box 66, Greenville, Norwich, Conn.

WATCHMAKER, engraver and jeweler—an expert on all 3 branches. Have my tools; best ref. West pref. Address, "F," South Oil City, Pa.

A GRADUATE of McCormick's wishes, or desires, a situation with a first-class optical house on a salary or percentage. Address, "F-315," care Keystone.

BY competent Italian watchmaker, letter and monogram engraver, perfectly familiar with complicated Swiss work. 25 years of age, married, good refs., and complete tools. Demand good salary and position in Los Angeles or San Francisco, Cal. Address, S. Randazzo, 820 Missouri Ave., Kansas City, Mo.

HELP WANTED

UNDER THIS HEADING THREE CENTS PER WORD

WATCHMAKER and jeweler, must be good salesman, in a small town of 2500, in Maine. Steady job. "P 897," care Keystone.

ENGRAVER for 30 days from Dec. 1, '05 to Jan. 1, '06. August Jacobs, jeweler, Quincy, Ill.

WATCHMAKER and engraver at once. Will pay \$20 a week for first-class man. Permanent position. Refs., sample engraving, photo, first letter. Married man pref. L. A. Ott, Mansfield, Ohio.

MAN who is good watchmaker and engraver, between age of 25 and 40; good appearance; must not chew tobacco or use liquor. Salary, \$20 to \$22 per week. Position permanent. Ref. and sample of engraving with first letter. L. Lechenger, 419 Main Street, Houston, Texas.

GOOD, reliable watchmaker and jeweler—need not be engraver or optician, must be salesman. Wages, \$15 per week. J. W. Hansen, Princeton, Ind.

WATCHMAKER, first-class workman; good habits; \$20. W. R. Hale, Greenville, S. C.

TWO manufacturing jewelers wanted. Must be first-class on new work. State wages expected, also full description of yourself and abilities in first letter. Good refs. indispensable. Jessop, San Diego, Cal.

FIRST-CLASS watchmaker, engraver and optician wanted. Must be fine on high-grade watches. State wages expected, also a full description of yourself and your abilities in first letter. Jessop, San Diego, Cal.

A TRAVELING salesman for Pennsylvania, New Jersey and Delaware; experienced in watch and jewelry jobbing line. Address, "W 270," care Keystone.

TOOL and material clerk with exp. First-class Northwestern house. Full particulars and salary wanted first letter. Refs. required. "H 269," care Keystone.

FIRST-CLASS engraver, watchmaker and jewelry repairer; experienced. State full particulars. For a good town in Michigan. Address, H. F. Hahn & Company, Powers Building, Chicago.

POSITION is open to a young man, single and of good habits, as a clerk in a Western wholesale tool and material house. State exp. and give refs. Address, "Ward & Company," room 1201 Heyworth Building, Chicago.

ENGRAVER, at once, to do trade work. Must be good at lettering, cyphers and monograms on jewelry and silverware. Address, "C 268," care Keystone.

A GOOD engraver and repairer of jewelry. A steady position. Estberg & Sons, Waukesha, Wisconsin.

GOOD letter and monogram engraver, who understands clock work thoroughly to assist in watchwork. Salary, \$15 per week. Ref. and sample of engraving in first letter. Address, "Jeweler," 1031 Up. Third St., Evansville, Ind.

FIRST-CLASS watchmaker. Apply by letter to James H. Kelly, care of the Bailey, Banks & Biddle Company, 1218 Chestnut Street, Philadelphia, Pa.

A FIRST-CLASS watchmaker and engraver; one that can do hard solder work. Address, The Pollock Jewelry Co., Oklahoma City, O. T.

WATCHMAKER wanted, first-class workman. Steady position and good salary in Philadelphia. "M 263," care Keystone.

REFRACTING optician; one that can take charge of small business in New England town. Must do plain watch, clock and jewelry repairing (no engraving), must wait upon customers, be neat, of good address and not a drinking man. Age from 25 to 50 years; American pref. State wages expected, with refs. in first letter. "M 267," care Keystone.

GOOD watchmaker and engraver. Send ref. and state salary. Permanent position for the right man. Chas. F. Miller, Cairo, Ill.

MATERIAL clerk. Young man with exp. as watchmaker to fill material orders; good opportunity for advancement. Address, in own handwriting with ref., "S 264," care Keystone.

AT once, assistant watchmaker, plain engraver. Address, Lock box 254, Parsons, W. Va.

YOUNG man that is both druggist and jeweler. Permanent position, good salary for the right man. Frank Hillix, Weston, Mo.

HELP WANTED

TRUSTWORTHY man to manage branch office and distributing depot for large manufacturer. Salary to start with, \$1500 first year, and extra commissions and expenses. Applicant must have good ref. and \$1000 cash; capital secured. Exp. unnecessary. Ad., "Manager," P. O. box 613, Detroit, Mich.

AT once, young man, plain letter and monogram engraver who knows something of watch, clock and jewelry repairing, and desires to learn more under competent watchmaker and diamond-setter. Steady position to right man Town 6000 pop.—Western New York. "T 259," care Keystone.

FIRST-CLASS engraver and jobbing jeweler. Sober and reliable. To the right man a good salary. Pleasant and permanent position with man who has served 20 years at the bench and can appreciate good workman. Extremely healthy city—no fever here. Silas A. Burgoyne, 10 S. Royal Street, Mobile, Ala.

GOOD watchmaker and engraver; must be honest, young man of good habits and appearance; good ref. required. State exp. and salary expected to start. M. J. Scudder, 107 Main Street, Bradford, Pa.

OPTICIAN and jeweler. Good wages. D. McGruer, Hannah, N. Dak.

WATCHMAKER and engraver, able to do jewelry repairing; must have own tools. State salary, single or married, age, sample of your engraving and refs. in first letter. P. O. Box 286, Lexington, Ky.

A FIRST-CLASS watchmaker (one who can engrave preferred), to go South at once. Must be A1 workman, honest, strictly sober, industrious and own tools. \$20 per week to begin with and more if after fair trial you are worth it. Send refs. and photo in first letter, also state whether married and age. H. E. Adams, Tampa, Fla.

WATCHMAKER, jeweler, engraver, to take charge repair department. \$20 to \$25 per week. Fine town, 7000 population; best climate, none more healthful. Permanent position. Send refs., samples engraving, full particulars first letter. Duke Jewelry Co., Fayetteville, Ark.

SURFACE grinders on optical lenses. Exp. Good wages. Apply to F. A. Hardy & Company, 131 Wabash Ave., Chicago, Ill.

WATCHMAKER and plain engraver wanted at once. Permanent position. Must be well up on watch work. Salary, \$18. Address, Whaler's Jewelry Store, Miami, Fla.

AT once, watchmaker and engraver, first-class, good work; best all-the-year climate in the world. State particulars first letter. Send samples. Robert J. Taupert, Las Vegas, N. Mex.

RITMELSS worker, permanent position to right party. Give age, exp., ref. and salary wanted. The Kennedy Optical Co., Detroit, Mich.

WATCHMAKER and engraver. Must be ready to take position at once. Must be able to do good watch work and artistic engraving. Permanent position to right man. Clean linen and neat appearance demanded. Send sample of engraving and full statement of ability in first letter. Don't take position if you cannot do good work. State age and if married. \$20 per week. The F. O. Brooks Jewelry Co., Madison, Ind.

FIRST-CLASS jeweler and engraver; must be first-class on cluster work, must not chew tobacco or use liquor. Send sample of engraving and ref. with first letter. Salary \$25 per week. Address, L. Lechenger, Houston, Texas.

GOOD watchmaker and engraver for the largest store in Virginia. Permanent position to right party. Salary, \$20 to \$25 per week. Apply, Heyman & Kramer, 65 Nassau Street, New York City.

STRICTLY first-class jeweler, engraver and salesman wanted for Atlanta, Ga. Must have exceptional refs. as to character and ability. Wages, \$25 per week; permanent. Address, "K 292," care Keystone.

YOUNG man as assistant watchmaker, who is also good at jewelry repairing. State refs. and salary wanted. J. S. Pfeiffer, Parsons, Kans.

UP-TO-DATE watchmaker, jeweler and optician. Fine opportunity for a good, all-around man. Refs. required. Cohen & Heilborn, Lincoln, Nebr.

AT once, good German jeweler and optician, who will make himself useful all-around in drug and jewelry store. Address, "S 288," care Keystone.

AT once, a first-class watchmaker and engraver. Steady position for the right party. A. Jonas & Sons, Established 1863, 122 W. Federal St., Youngstown, Ohio.

YOUNG man with 2 or 3 years' exp. at watch, clock and jewelry repairs and pretty fair salesman. Kuhn, jeweler, 1748 Chouteau Ave., St. Louis, Mo.

WATCHMAKER and jeweler with drug exp. Steady job for right man. Give refs. C. H. Blanchaine, Ossian, Iowa.

YOUNG man to do clock and jewelry repairing and help wait on trade. Chance to finish trade with good firm. Salary, \$8 a week. State age and exp. Ross J. Haseltine Co., Kokomo, Ind.

FIRST-CLASS watchmaker, salesman; permanent position in leading store in city of 40,000 pop. within 70 miles of Philadelphia. Good salary to right man, with best chance for advancement. Best refs. required; give full particulars. "B 308," care Keystone.

HELP WANTED

YOUNG man who can engrave some and do plain watch work. Send sample of engraving and state wages. Ehrichs', Jewelers, Lynchburg, Virginia.

A GOOD, reliable watchmaker, engraver and optician. Must be a man of good address. Will pay good salary. Refs. must be unquestionable. Address, "L 293," care Keystone.

WATCHMAKER to take charge in small town in North Carolina, one who understands optical work. \$65 per month to start. Address, M. J. Averbek, 19 Maiden Lane, New York City.

WATCHMAKER and jeweler. E. J. Avery, Grand Haven, Mich.

GOOD watchmaker and jeweler, help as salesman. Steady work, short hours, good town and schools, cheap living. \$10 to start. "S 301," care Keystone.

A FIRST-CLASS engraver, clock and jewelry repairer and assistant watchmaker. Single man preferred. Give exp., ref. and state salary wanted in first letter. Must be a hustler. Permanent situation. M. H. Bell, Kalamazoo, Mich.

WATCHMAKER, jeweler, engraver and assistant salesman. Permanent situation to competent man. T. A. Mauch, Yazoo City, Miss.

SALESMAN—Leading Eastern wholesale watch house wants representative (Jan. 1st) for Pittsburgh and contingent territory, and South. "W 261," care Keystone.

WATCHMAKER, jeweler and clock repairer and engraver. Salary, \$20 to \$25, according to ability. Address, with refs. and sample of engraving, J. Lowinson, Birmingham, Ala.

COMPETENT jeweler and clock repairer; permanent situation. W. H. Appel, Allentown, Pa.

EXPERIENCED letter and monogram engraver; good, permanent job. Address, "W 311," care Keystone.

FIRST-CLASS watchmaker and engraver, do some jewelry work. Man to demand good salary. Send ref. first letter. Thos. Van Auker & Co., 516 Pearl St., Beaumont, Tex.

A FIRST-CLASS watchmaker to have charge of a retail store for a manufacturing corporation. One who would take stock preferred. "B 309," care Keystone.

WATCHMAKER, good engraver and salesman; steady job. Town 5000. Ed. J. Niewohner, Columbus, Nebr.

IMMEDIATELY, first-class, all-around workman to take charge our prescription department. Must thoroughly understand lens drilling, mounting, frame bending, surface and edge grinding. Good pay and permanent position. Wholesale only. Dallas Optical Company, Dallas, Tex.

FIRST-CLASS watchmaker, jeweler, engraver—high-class, experienced man. City of 20,000 pop. Permanent position to good man. State age, exp., salary, ref. and full particulars first letter. C. W. Se Legue, Logansport, Ind.

ENGRAVER—steady, reliable young man who can engrave, to learn watchmaking, optical and stone-setting business. First-class opportunity to complete trade. Fleming Bros., Eau Claire, Wis.

AN exp. traveling salesman with a trade following can find a good opening with a Chicago wholesale jewelry house in Iowa and Nebraska territory. Address, "Norton & Company," room 1201 Heyworth Building, Chicago.

BY Chicago wholesale jewelry house, an exp. traveling salesman for Southwestern territory. A good opening. For particulars, address, "Anderson & Co.," room 1201 Heyworth Building, Chicago.

FIRST-CLASS mfg. jeweler and stone-setter. Permanent position. Send particulars, salary expected and ref. I. A. Scribner, Green Bay, Wis.

AT once, a good watchmaker, do not want man to wait on trade. State age, married or single, exp. and salary. Harvey Fritz, Oil City, Pa.

WATCHMAKER, strictly honest and first-class salesman, to demonstrate the Clement combined lathe attachment in St. Louis, W. D. Clement, Waltham, Mass.

WANTED, expert watchmaker, optician, plain engraver; permanent position; salary, \$20 and percentage on optical work to start with; best refs. required. The Plaut-Cadden Co., Norwich, Conn.

A BRIGHT young mechanic, with some knowledge of watchwork and wishing to be an expert, can find an opening by addressing with full particulars. George Winning, room 1201 Heyworth Building, Chicago.

WANTED

UNDER THIS HEADING THREE CENTS PER WORD

JEWELER'S safe, large size. I. B. Powell, Greenwich, N. Y.

ONE Clement combined lathe attachment. L. M. Watson, 500 Washington St., Boston, Mass.

ENGINEER'S Y level or transit. L. P. Arnold, Carlisle, Ark.

W-W, wheel-cutting attachment, index plate, index pointer, idler pulley. J. Freistadter, Waltham, Mass.

GENEVA retinoscope and ophthalmoscope combined—must be in first-class condition. Send lowest price. C. S. Hayes, Norfolk, Nebr.

WANTED

NO. 1 Oliver drop press. E. S. Smith, Olean, New York.

GOOD second-hand Eaton & Glover engraving machine. J. A. Power, Owingsville, Ky.

WALNUT roll-top watchmaker's work bench. Address, "S 294," care Keystone.

ALL kinds and sizes Elgin, Waltham, Hampden, Hamilton, Illinois, Rockford movements; filled, silver, nickel cases, at bargain prices. Send complete list what you have. Mrs. N. H. Allen, Box 273, Tecumseh, Okla. Ter.

LENS-EDGING outfit, mounted wheel, lens-cutter, drill and motor. State lowest cash price first letter. Box 121, Anacortes, Wash.

AMERICAN lathe, staking tool, watch sign, watch glasses; no old stuff. Box 420, Boyne, Michigan.

WANT good watch sign, 24 to 30 inch. Wm. Conrad, Wapello, Iowa.

GENEVA office trial case, Nos. 905, 901 preferred. Must be complete and price right. Lee Thompson, Andrews, Ind.

FOR SALE

UNDER THIS HEADING THREE CENTS PER WORD

STORES, STOCKS AND BUSINESSES

THE best jewelry store and business in the Cripple Creek gold mining district. Cash business, \$25,000 to \$30,000 annually. A1, clean stock, invoice about \$20,000; can reduce to about \$10,000 in 60 days. Big repair trade, railroad inspector. Up-to-date fixtures. A money-maker. Established 10 years. Owner must give up indoor work. Address, "C 184," care Keystone.

SELL jewelry stock and rent space. "Druggist," 11500 Michigan Avenue, Chicago.

BUY jewelry store, including fixtures, safe, tools and location. Chas. W. Thexton, 530 W. Sixty-ninth St., Chicago, Ill.

JEWELRY and music store in live, new town for sale. Terms on part. Owner gone to settle an estate. "DeClark," Emmett, Idaho.

STOCK and fixtures, Eastern Iowa town 800. All work one man can do. "H 316," care Keystone.

WILL purchase a long-established jewelry business in Rome, Ga. Store situated in the best retail district. Rome and Floyd County have a trading population of 40,000. The city is very prosperous. Cause of sale, owner's death. Address, C. B. Goetchius, Rome, Ga.

JEWELRY and optical stock and fixtures in good Ohio town, 40 miles south of Cleveland; also store and residence combined. W. W. Wells, Lodi, Ohio.

RETAIL jewelry store at Phoenix, Ariz.; capital of territory pop. 12,000; 3 railroads. Established business paying good profits. Desire to retire, reason for selling. Address, H. F. Vantilburg, Phoenix, Ariz.

CHICAGO jewelry store owner wishes to retire. Established over 24 years near prominent corner. Stock \$5000, can be reduced to suit. Repairs over \$200 per month. Lease to suit. "V 124," care Keystone.

LONG established jewelry business in Mt. Vernon, Iowa. Small, clean stock. Snap for good watch repairer and engraver. Other business demands my time and attention. J. S. Smith, Mt. Vernon, Iowa.

AT once, good-paying jewelry and optical business in up-to-date Wisconsin town of 3000 pop. Rich farming country. Great opportunity for right man; investigate. "H 279," care Keystone.

JEWELRY store in Austin, Pa., doing a good business. W. S. Warner, Austin, Pa.

WILL sacrifice good-paying jewelry business. Best location in Illinois town of 12,000. Will invoice \$4000, but will reduce. "H 271," care Keystone.

AN old-established optical business to settle an estate in Washington, D. C. Chas. Bauman, attorney, 323 1/2 St., N. W., Washington, D. C.

\$3000 BUYS one of the finest complete jewelry stores in Southeastern Missouri. This offer is open only for this month. You can step in and reap the holiday trade. Address, Geo. C. Hasslinger, Jackson, Mo.

JEWELRY and optical business—a money-maker. See my ad. in last month's KEYSTONE. Phil. Levy, Henderson, Ky.

\$400 TO \$500 buys jewelry and fixtures in good Iowa town of 1000 pop. Must sell at once. Good opening for young man. Address, Lock box 22, Paulina, Iowa.

GOOD-PAYING jewelry business in growing town of 3500. Stock and fixtures invoice about \$4000. Will reduce or give time. G. B. Jenison, Blaine, Wash.

PINE jewelry store, established for 25 years in city of 14,000 in North western Ohio. Address, "M 265," care Keystone.

\$475 BUYS a good-paying optical business in a town of 2300. Address, "Optometrist," box 226, Harrison, Ohio.

\$1000 CASH buys first-class, up-to-date jewelry stock and fixtures (no old stock) established 15 years. Good reason for selling. Very little competition; always has paid; a good thing. Present owner cleared \$500 above expenses first 4 months. No optician within 20 miles. Don't answer unless you mean business. Michigan town. "W 260," care Keystone.

(Continued on page 1790)

FOR SALE

STORES, STOCKS AND BUSINESSES

(Continued from page 1789)

A GOOD-PAYING business, \$10,000 stock and fixtures; Minnesota city, 10,000. Reason, dissolution of partnership. "C 291," care Keystone.

BARGAIN.—Good location in first-class Wisconsin town; pop. 8000. Old-established business; stock and fixtures can be bought cheap. Ad., L. J. Rusk, attorney, Chippewa Falls, Wis.

700 CASH if taken this month. Will buy first-class jewelry stock and fixtures, which will invoice \$6500. All goods are up-to-date—no old stock. Iowa county seat; best location in city. Do not write unless you have the cash and mean business. Address, "E 284," care Keystone.

ONLY jewelry, stationery, china and optical business in Iowa town, 800. Invoices about \$1500. Good crops. Nearest jeweler 12 miles. Address, "P 287," care Keystone.

JEWELRY store at a bargain. Stock and fixtures about \$4000. Store established 25 years; main street. A bargain for quick, cash customer. William A. Goldsby, 1514 Fourteenth Street, N. W., Washington, D. C.

1200 CASH takes jewelry business that invoices \$1800, no dead stock, in Southern Wisconsin town. No competition. Rich dairy country. Fine repair trade. Reason, failing health. "S 237," care Keystone.

4000 BUYS up-to-date jewelry store, fine fixtures, located in center of town of 15,000—Pennsylvania. Invoices over \$5000. Don't write unless you mean business. "M 297," care Keystone.

500 CASH will buy prosperous jewelry store in New York State. Climate suitable to a person with lung trouble. Ad., "R 298," care Keystone.

200 BUYS souvenir spoon factory in Western city. Sales, \$1500 to \$2000 a month. Can be raised easily to \$3000 or \$4000 with same line. A fine opportunity. Address, "D 299," care Keystone.

1000 OR less, only jewelry store. Work for one man. Farm and dairy country. Write if you mean business. Haistead, Davis City, Iowa.

RAILROAD fare to Little Rock, providing you purchase our entire lot of store fixtures, consisting of 6 12-foot wall cases, 1 mirror cabinet, 1 plain cabinet, 10 show cases and tables, 1 round horseshoe case and table, 2 umbrella cases, show case trays, etc. All for the sum of \$625 spot cash. Address, Albert Pfeifer & Bro., Little Rock, Ark.

ONLY jewelry store in Illinois city of 3000, doing business over \$4000 annually. 6% discount now, or 10% discount Jan. 1st. Fine chance; about \$1800 required. "C 302," care Keystone.

IOWA. Jewelry-music store; town of 2600 pop. Stock and fixtures about \$3000; can reduce. No gold brick. Write for particulars. "M 304," care Keystone.

PROSPEROUS jewelry business in thriving county seat, Iowa town 5000; paved streets, otherwise up-to-date. Stock and fixtures invoice about \$4500. Will take \$4000 cash if taken quickly; especially good opening. Repairs, \$100 per month; light competition. Reason for selling, other interests. Write for particulars. "G 303," care Keystone.

GOOD-PAYING jewelry business in Northern New Jersey town of 5000 inhabitants for a man with \$3500, cash money. Receipts, \$5000 per annum. Up-to-date stock. Good reasons for selling. Now or Jan. 1, 1906. Address, "A. F.," 91 Park Avenue, Irvington, N. J.

JEWELRY and optical business in Northern New York mfg. town. Bargain if taken at once. "D 313," care Keystone.

JEWELRY and optical store. Fine stock and fixtures. Invoice about \$2500, at a genuine bargain if sold at once. Fine location, rent low. Reason, poor health. P. O. box 536, Southington, Conn.

JEWELRY and optical store. Best location on main street; city Northern California. Pop. 12,000. Price, \$2500. Must sell; reduce stock if necessary. Reason, poor health. For further particulars address, "P 314," care Keystone.

GREAT opportunity for jeweler and optician. On account of other business which requires my immediate attention I am discontinuing the jewelry business and offer my fixtures complete or in part at a great bargain. Safe alone cost \$1000 to install. Fixtures complete, making liberal discounts, amount to \$950. Will sell for \$700. Best location in city. No better opportunity offered to the man that wishes to start for himself. Send for list. Geo. E. Holmes, Lock Haven, Pa.

SOUTHERN Michigan. Stock, \$3000; with fixtures, fine business; city 30,000 pop. 1200 to 1500 residences built this year; great manufacturing town, up-to-date stock. Cash or good security. Other business forces me to sell. "B 253," care Keystone.

HAVE 2 stores, can't attend both. Will sell Circleville store, bargain if taken at once. Population 7000; yearly profit \$3500. Can reduce stock to \$2000. Holiday business will pay for it. \$1000 down, balance easy, or discount for cash. L. W. Lewis, Circleville, Ohio.

FOR SALE

UNDER THIS HEADING THREE CENTS PER WORD

MISCELLANEOUS MERCHANDISE AND EQUIPMENT

AT a bargain, a Pinkham & Smith toric lens-grinding machine, almost new. Address, "W 180," care Keystone.

MARINE chronometer, made for Riggs & Bro. Very close timekeeper. Address, "H 189," care Keystone.

NO. 2 Francis engraving machine, type and attachments, good condition, \$60. E. B. Smith, Santa Ana, Cal.

92 FOR nickel-plated eagle watch rack, holds 50 watches, used 1 year. W. G. Frederiek, Sioux Falls, S. Dak.

IN A1 condition guaranteed, ophthalmometer and adjustable stand. Best offer accepted. Box 598, Dunkirk, Ind.

COMPLET set of watchmaker's tools, almost new. Also books on watchmaking and electro plating cheap. Address, "J 289," care Keystone.

MOROCCO pocket trial case, \$12.50, cost \$22.50. Traveler's case, \$28.50 cost \$35. Retinoscopic mirrors, 75 cents and \$1. Creighton stone on Webster stand, \$20. 1 h. p. gas engine, \$50. Remington typewriter, \$35. H. Brodhuu, Wilkes-Barre, Pa.

WIGHT engraving machine with four sets of type, \$10. Also small polishing lathe with stand complete, \$5. Both in good order. Particulars on application. W. Ware, Waverly, N. Y.

WEBSTER-WHITCOMB lathe, tailstock, countershaft, foot wheel, universal face-plate, Jacot pivoting lathe, all bench tools, 21 chucks, 2 staking tools, all kinds of material. Address, H. Funcke, Empire Building, Pittsburg, Pa.

REGULATOR, 3 eight-foot oak cases, tables and trays. Will sell all or part. A bargain. Cole & McElwain, Atlantic, Iowa.

FRESH water pearls, baroques and slugs, right from the river. Phil Levy, Henderson, Ky.

EATON & Glover engraving machine, new model, first-class condition. \$65 takes it, full outfit of type. J. E. Miller, Glen Campbell, Pa.

880 GENEVA retinoscope and ophthalmoscope used three months, \$60. L. J. Weiler, Carbondale, Ill.

EATON & Glover engraving machine, only used 6 months, positively good as new, all appliances. Will forward promptly to first person sending me check for \$35. Ray Call, Waynesburg, Greene Co., Pa.

TRIAL case, practically new; cost me \$45, will sell for \$30 if taken at once. Write for further particulars. "K 257," care Keystone.

TWENTIETH century polishing lathe, \$9; No. 16 metal watch sign, 22 inch, \$7; Leather telescope, sample case, with trays for watches, rings, jewelry, etc., lock straps, made to order, \$12; DeZeng refractometer, \$25; Nacher trial case, \$15; book of monograms, cost \$15, \$3; first money received gets the article. F. O. B. The S. T. Little Jewelry Co., Cumberland, Md.

FINE English regulator, 8 foot tall, carved case, mercurial pendulum, silver dial. Cost \$350. Don't miss this chance. Can be bought cheap. Address, "Z 296," care Keystone.

FULL set of watchmakers' tools and material good as new; invoice at \$221. A bargain to the first man for \$150. Ed. G. Nix, 111 North Jefferson Street, Huntington, Ind.

A 20TH Century engraving machine, 5 sets of type. E. S. Smith, Olean, N. Y.

ONE 9 x 36 foot-power screw-cutting lathe, same as new. J. A. Power, Owingsville, Ky.

A FEW second-hand show cases and tables, also a few second-hand travelers' trunks. Benj. Allen & Co., 131-137 Wabash Ave., Chicago.

JENKS' engraving block, complete outfit Strong's metal transfer type. C. Gaide, Fort Wayne, Ind.

"LITTLE Giant" melting furnace, perfect condition, almost new, \$9. J. W. Spence, Racine, Wis.

FRANCIS engraver, 3 fonts type and attachments. H. L. Dodge, Anacortes, Wash.

FOR SALE OR EXCHANGE

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11 HOUSES, rent for \$125 per month, price \$7000; 5-roomed modern house, rents for \$15 per month, price \$1250; 7-roomed house, rents for \$25 per month, price \$2000. Will exchange any of the above for stock jewelry of equal value. Write for particulars, giving descriptions of stock. Will. S. Wood, Cripple Creek, Colo.

W-W, slide-rest for shotgun or rifle. W. Kante-huer, West Branch, Mich.

EXCHANGE \$7 foot-wheel for "Hornike's Engravers' Text-Book." J. F. Cole, McKinney, Collin County, Texas.

TWO jeweler's cases, solid cherry, 12 x 3 feet each, plate glass fronts and ends, mirror between (5 x 3) cases, compartments and pulls; made in sections. Cost \$1500. Photograph. Will sell cheap or trade for diamonds. Emmett Beckley, St. Joseph, Mo.

740 ACRE farm near Norfolk, Va. Splendid dark soil, good climate; 600 acres improved—balance pasture. Twenty-five thousand dollars (\$25,000) for farm, crops, teams and implements. Will take good stock of jewelry, \$20,000 to \$40,000. B. L. Scott, box 150, Holland, Mich.

FOR SALE OR EXCHANGE

A \$75 REGINA music box. Take \$50 in watches. John Pruett, Rockville, Ind.

ALL copies of THE KEYSTONE from February, 1895, to March, 1906. Would accept good Marlin or Stevens' 22 calibre repeating rifle. W. S. Simmons, Massena, Iowa.

MY jewelry business in central part of Pennsylvania, established 38 years, worth \$12,000, for sale or exchange for farm or unencumbered city real estate and cash. Can reduce stock if desired. "S 276," care Keystone.

PRISOPTOMETER, lens-measure watch sign, spectacle case, staking tools, watch glass and cabinet at half price, or exchanged for card index cabinet, 4 to 8 drawers. Clark Bros., St. Cloud, Minn.

TO exchange diamonds for spectacle and eye-glass frames and uncut lenses. C. S. Apple, Statesville, N. C.

A 1905 model Cadillac automobile, 10 horse-power runabout, in use only 3 months. Will exchange same for diamonds or watches. Address, Lochman Bros., Springfield, Ill.

ONE Culbertson's prismscope and one Johnston's dioptric eyemeter to exchange for a good perimter. "V 258," care Keystone.

STOCK of jewelry, with tools and fixtures; about \$2000. Iowa county seat. Will sell cheap and give terms, or take small income property. Rare chance. R. R. Craig, Okaloosa, Iowa.

WHAT have you to trade for a lot of Wm. Rogers' "Eagle" brand fancy flatware. Aid Bros., Gallatin, Mo.

ELECTRIC train, complete outfit for window display, worth \$18, to trade for engraving block and tools. C. L. Spencer, Blanchard, Iowa.

865 BICYCLE, with coaster brake, perfect order; Geneva lathe, good order, 9 wire chucks and foot-wheel to trade for trial case and things optical. J. P. Inman, Midland, Texas.

CASH register and coaster brake bicycle. "H 316," care Keystone.

50 ACRES of mineral land in a Colorado gold camp. Address, "C," box 54, Salida, Colo.

CLEAR 160 acres farm land in Comanche Co., Kans., for jewelry store. Address, Miller Optical Co., Kingman, Kans.

BICYCLE, Racycle Pacemaker, 112 gear, for Eaton & Glover engraving machine or trial case, in first-class condition. Louis Mackenzie, Pulaski, Tenn.

SPECIAL NOTICES

UNDER THIS HEADING THREE CENTS PER WORD

GET the people in your store. Have a Colonial glass sale. Read Franklin Glass Co.'s ad. on page 1676.

POR rent. Best located room for jewelry store, city of 30,000, Central Illinois; occupied by jeweler 30 years. Present firm now closing out business. Room will be vacated Nov. 1st. A chance of a lifetime for party wishing to invest from \$20,000 to \$30,000. Louis Foust, Bloomington, Ill.

FINE opening for jewelry store in growing Washington town. E. Andrew, Palouse, Wash.

WRITE for free catalogue of The National College of Optics, Cedar Rapids, Iowa.

GET the people in your store. Have a Colonial glass sale. Read Franklin Glass Co.'s ad. on page 1676.

MONEY loaned to jewelers. Write for information. The Collateral Loan and Banking Co., 143 Euclid Avenue, Cleveland, Ohio

MAKE a specialty of good straight legitimate watchwork. L. E. Winslow, 407 Masonic Temple, Chicago.

GET the people in your store. Have a Colonial glass sale. Read Franklin Glass Co.'s ad. on page 1676.

BEST balance staffs on the market. Made by an Elgin staff-maker. From \$1.13 to \$2.70, net. Cash with order. Money refunded if not satisfactory. Best balance jewels, \$1.35. Tarbox & Gordon, Omaha, Nebr.

BEWARE of second-hand Clement combined lathe attachments offered for sale. They are old models; they sell them to get our latest. See our ad. in this number. W. D. Clement, Waltham, Mass.

GET the people in your store. Have a Colonial glass sale. Read Franklin Glass Co.'s ad. on page 1676.

LIFE scholarship in our college, including diploma and highest degree, for only \$7.50. See our advertisement, page 1744, and write for new prospectus. South Bend College of Optics.

GET the people in your store. Have a Colonial glass sale. Read Franklin Glass Co.'s ad. on page 1676.

BUSINESS NOTICES

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EQUIPPED to do particular jewelry and watch case repairing also special order work quickly. Benj. Gebhard, 735 Sanson, Philadelphia.

RUBBER stamps, 10c. per line. J. J. McClelland, mgr., 837 Market Street, Wheeling, W. Va.

BUSINESS NOTICES

SEND all your watch work directly to me and get it back when you want it and right. L. E. Winslow, 407 Masonic Temple, Chicago.

S WEINTRAUB, 129 S. Seventh, Philadelphia, diamond setting for the trade. First-class work. Prompt attention. Importer and dealer in rare gems and semi-precious stones.

IT makes no difference if you do not sell glass or china. If you want a leader to get the people in your store, read the Franklin Glass Co.'s ad. on page 1676.

ELGIN Horological School, the oldest and most practical school for watchmakers. Send for catalogue to Elgin Horological School, Elgin, Ill.

YOU are looking for a good reliable firm to do your watch work. Here is the place. W. K. Sandberg, watchmaker to the trade, 802 Columbus Memorial Building, Chicago.

HIGHEST prices paid for diamonds, old gold, broken jewelry, etc. New and second-hand watches bought and sold. Benj. Gebhard, 735 Sanson, Philadelphia.

IT makes no difference if you do not sell glass or china. If you want a leader to get the people in your store, read the Franklin Glass Co.'s ad. on page 1676.

WE make a specialty of changing old antique watch cases to stem-wind. Something that has been refused by others. Have had 40 years' exp. and can guarantee satisfaction. N. J. Felix, 18 John Street, New York.

IT makes no difference if you do not sell glass or china. If you want a leader to get the people in your store, read the Franklin Glass Co.'s ad. on page 1676.

NOTICE.—I have moved from 727 Sanson Street to 807 Sanson Street, Philadelphia, where I will continue to buy all kinds of old gold and silver; also refine all kinds of jewelers' waste containing gold or silver. Send by mail or express and receive prompt attention. J. L. Clark. Established 1870.

WANTED, every one desirous of improving themselves in watch work, jewelry work and engraving, to address Bradley Polytechnic Institute, Peoria, Ill., for one of their latest catalogs. A postal card will get it. See ad. on page 1618.

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95c. FOR ingredients to make 2 quarts jewelry wash equal to any on the market. Contains no acid or poison. Will not injure the finest articles. Guaranteed satisfactory. L. D. Lord, Kirkwood, Ill.

IT makes no difference if you do not sell glass or china. If you want a leader to get the people in your store, read the Franklin Glass Co.'s ad. on page 1676.

THE Omaha Watch Repairing, Engraving and Optical Institute is noted for its expert instructors, who devote their entire time, ability and energy to the perfecting of their respective departments. They secure a grade of practical results that for thoroughness and excellency is not generally approached by other schools of this character. Our graduates excel in workmanship and give perfect satisfaction wherever employed. There is no better school to be found anywhere. This is a model, up-to-date institution. Write for prospectus. Dr. Tarbox & Gordon.

Too Late for Classification

HELP WANTED.—At once, exp. watchmaker and engraver, salary \$25 week. F. Midelburg, Charleston, W. Va.

HELP WANTED.—Good watchmaker, engraver. Permanent position. Baltimore. "V 317," care Keystone.

HELP WANTED.—Salesman wanted with well-established, high-class trade, to handle artistic sterling silver jewelry and novelties. Ad., "F 318," care Keystone.

HELP WANTED.—At once, first-class watchmaker, engraver, salesman, for responsible position. Good salary and permanent position for A1, all-around hustler. Send refs. and samples engraving, state salary first letter. L. W. Lewis, Columbus, Ohio.

HELP WANTED.—Experienced salesman of good address, with entree to best retail trade. Right man may acquire interest in business of old-established Newark firm. Address, P. O. Box 500, Newark, N. J.

WANTED.—Second-hand Francis engraving machine and type and attachments, first-class condition. No. 1, 2, 3. "T 319," care Keystone.

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If a customer should bring you any Diamond Jewelry or any Pearls to sell, and you do not care to buy them yourself, send them to

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Index to Advertisers

Abel Bros. & Co.	1594
Aikin, Lambert & Co.	1724
Albert Brothers	1606
Allen & Co., Benj.	1648, 1728 p
Allen-Newman-Wilmes Jewelry Co.	1744 k
Allsopp Bros.	1718
American Cuckoo Clock Co.	1688
American Electrical Novelty & Mfg. Co.	1622
American Oil & Supply Co.	1615
American Optical College	1783
American Silver Company, The	1684
American Waltham Watch Co.	1632
Apollo Silver Co.	1644
Ascheim, Jules	1744 e
Auburn School of Engraving, The	1788
Averbeck, M. J.	1602, 1617
Rach & Co., I.	1744 e
Baker & Co., Inc.	1615
Baltimore Optical Company	1765
Barnes Co., W. F. & John	1786
Barnhart, Lon	1791
Barrett Co., Geo. B.	1666
Barron, Geo. A.	1670
Bassett Jewelry Co., The	1716
Bastian Bros.	1623
Bates & Bacon	1700
Bauman Co., Sydney L. & Morris	1710
Bausch & Lomb Optical Co.	1748
Bay State Optical Company	1770
Bechtel & Co., Jos. B.	1609
Belais & Cohn	1603
Benedict Mfg. Co., M. S.	1738
Bergen Co., The J. D.	1637
Bergh, Edward	1783
Best Light Co., The	1718
Bigney & Co., S. O.	1728 b
Boston Optical Company	1774
Bowman's Sons, Ezra P.	1605
Bowman Technical School, The Ezra F.	1610
Boyce, John W.	1670
Bradley Polytechnic Institute	1618
Braitsch & Co., W. J.	1614
Braxmar Co., The C. G.	1597
Briggs & Dodd	1792
Brilliant Gas Lamp Co.	1786
Brown & Dean Company, The	1596
Bryant & Co., M. B.	1597
Buffalo Dental Manufacturing Co.	1594
Bulova Co., J.	1787
Canadian Horological Institute	1791
Carman Art Co.	1788
Chicago Commercial Association	1612, 1613
C-I Ophthalmometer	1776
Clark & Co., Inc., T. B.	1638
Clark & Son, A. N.	1603
Clauer Company, Calvin	1616
Clement, W. D.	1605
Codding & Hellborn Co.	1728
Cohen & Co., L.	1594
Cooper Diamond Co.	1696
Corning Cut Glass Co., The	1642
Cowan, Joseph	1670
Craft, W. H.	1610
Creed, A. L.	1791
Crescent Watch Case Co., The	1744 g
Crohn, M.	1788
Cross & Bequelin	1601
Crossman & Co., Chas. S.	1790
Crouch & Fitzgerald	1786
Culman, C.	1786
Cushman, W. F.	1768
Damm & Block	1601
D'Arcy Art Studio	1744 b
Dederick's Sons, James H.	1724
Dee & Company, Thomas J.	1700
Detroit Show Case Co.	1734
Detroit Watch Tool Co.	1744 j
Doran, Bagnall & Company	1744 d
Dorst Company, The	1736

Eaton & Glover Company	Inside back cover
Egginton Co., The O. F.	1640
Eisenstadt Mfg. Co.	1705
Electro Silicon Co.	1744 a
Elgin Horological School	1791
Elgin National Watch Co.	Inside front cover
Eliassof Bros. & Co.	1724
Emblem Jewelry Manufacturing Co., The	1670
Enrie, Harry	1787
Engel & Co., J.	1602
E. P. H. Patent Neck Chain Snap, The	1787
Eye-Fix Remedy Co., The	1748
E-Z-Floe Chemical Co.	1605
Fargo Company, The E. A.	1728 h
Feeley Company, The W. J.	1595
Felix, N. J.	1602
Fishei, Nessler & Co.	1686
Poster & Bro. Co., Theodore W.	1585
Fox Co., The Gustave	1595
Fox Optical Manufacturing Co.	1758
Frackman, S.	1646
Franklin Glass Co.	1676
Freund & Bro., Henry	1640 c
Freund & Sons, Wm.	1724
Friedlander, R., L. & M.	1668
Frink, I. P.	1744 j
Fry Glass Company, H. C.	1640 c
Fuller & Son Co., Geo. H.	1714
Gartner, Geo.	1788
Gehardt Bros.	1742
Geneva Optical Co., Chicago	1746
Geneva Optical Co., Geneva, N. Y.	1760
Ginnel & Company, Henry	1644
Glaser, Rohrer & Co.	1597
Globe Optical Company	1766
Goldsmith Bros.	1589
Goldstein Engraving Co., The	1724
Gorham Mfg. Co.	1628
Gotthold, Louis	1787
Gottlieb, A. L.	1783
Grand Rapids Show Case Co.	1678
Green & Co., W.	1593, 1787
Green's Electric Automatic Demagnetizer	1619
Gregory, A. E.	1784
Haman, Albert L.	1728 j
Hammel, Riglander & Co.	1591
Handel Company, The	1744 e
Harding, R. M.	1744 m
Hardinge Bros.	1690
Hardy, Eben	1670
Hardy & Co., F. A.	1752, 1754, 1762, 1764, 1776
Haskell, Fred. A.	1786
Hawkes & Co., T. G.	1639
Heintz Bros.	1711
Hennecke Company, C.	1744 i
Hering & Co.	1724
Hinsberger Cut Glass Co., Louis	1640 d
Hoare & Co., J.	1638
Hoffman Novelty Co., The	1714
Hold-On Clutch Co.	1646
Holland Pen Co., The John	1724
Homan Mfg. Company, The	1659
Hooper, H. J.	1744 l
Hornback & Co., Jos.	1607
Howard Clock Co., E.	1670
Howard Watch Company, E.	1664
Hub Optical Case Co.	1770
Hull Brothers Umbrella Co.	1726
Hurlbert & Sons, H. O.	1686
Ingersoll & Bro., Robt. H.	1702
International Silver Co.	1640 n
Jacobson Co., P. H.	1787
James Mfg. Co., J. H.	1605
Jessen & Rosberg	1605
Jette, A.	1791
Jewellers' School of Engraving	1619
Johnston Optical Co.	1770
Jorgeson & Company, F. C.	1787
Juergens & Andersen Company	1694
Katz & Co., Phillip	1787
Kaufman & Co., Louis	1694
Keller & Co., L. H.	1586
Kelly & Steinman	1642
Kendrick & Davis	1714
Ketcham & McDougall	1658
Keystone, The	1790, 1782
Keystone Watch Case Co., The	1590, 1662, 1663
King & Eisele	1797
King Optical Co., Julius	1756
Kirchner & Renich	1728 j
Kirstein Sons Co., E.	1750
Kleeman & Co., Wm.	1596
Klein School of Optics, The	1670
Klein & Bro., F. C.	1787
Knights & Co., C. H.	1728 i
Knoblock-Heideman Mfg. Co., The	1603
Kohner, Max	1608
Korones Bros.	1690
Krementz & Co.	1676
Krower, Leonard	1698, 1734
Kryptok Invisible Bifocals	1768
Kuehl & Co., Geo.	1609
Kunstatter Brothers	1674
Laforest, A. A.	1780
Langton, C. A. L.	1670
Landis School of Engraving	1728 j
Larter & Sons	1646
Lelong & Brother, L.	1608
Levy, Chas. M.	1742
Levy & Co., L. W.	1744 j
Lindenberg, Strauss & Co.	1672
Lindner & Co.	1788
Lindsey, H. B.	1785
Liquid Amber	1614
Littlefield Silver Co., L. A.	1744 d
Lowell, John S.	1670
Manning, Bowman & Co.	1658
Manor & McConnell	1744 l
Marsh & Co., C. A.	1728 j
Martin, S.	1785
Mason, Howard & Co.	1744 j
Matchless Cigar Lighter Manufacturing Co.	1614
Matsumoto, Ikko	1602
Mayer, B.	1782
Mayer & Co., Geo.	1774
McIntire, Magee & Brown	1764, 1766
Meiskey Company, H. S.	1617
Memphis Jewelry Mfg. Co.	1791
Meriden Britannia Co.	1624
Metal Specialties Mfg. Co.	1744 j
Meyer Jewelry Company	1698
Meyrowitz Manufacturing Co.	1752
Michigan Optical Co.	1780
Middletown Silver Co., The	1734
Mitchell & Tiltolton	1744 l
Monroe Co., The C. F.	1640 b

Moore & Sons, Jno. L.	1791
Morse School of Telegraphy	1791
Murine Eye Remedy Co.	1772
National Cash Register Co.	1718
National College of Optics, The	1779
National Phonograph Co.	1608
Netschert, Carl	1598
Netschert Co., Frank	1623
Newark Brush Company	1786
Newark Cut Glass Co.	1640
New-England Watch Co.	1687
New Haven Clock Co.	1702
New York Standard Watch Co.	1682
Nicholson File Co.	1587
Nivois, Victor	1744 n
Noble & Co., F. H.	1609
Noel & Company, Rudolph	1786
Non-Retailing Company, The	1587
Norris, Alister & Co.	1728 n, 1740
Northern Illinois College of Ophthalmology and Optology	1780
Noterman & Co., Jos.	1736
Ohio Flint Glass Company	1728 j
Oliver Manufacturing Co., The W.W. 1611,	1696
Omega Movements	1615
Oneida Community, Ltd.	1640 f, 1640 g
Oskamp, Nolting & Co.	1614
Ostby & Barton Co.	1709
Owens, J. B.	1784
Page-Davis Company	1791
Pairpoint Corporation, The	1640 b
Paroutand & Watson	1744 c
Paul Mfg. Co.	1744 j
Peerless Specialty Mfg. Co.	1782
Peters & Co., H. B.	1595
Philadelphia College of Horology	1792, 1788
Philadelphia Optical College	1760
Phillips & Co., Ltd., John	1694
Potter, Wm. K.	1787
Quaker City Cut Glass Co.	1640 a
Queen City Material Company	1619
Queen City Ring Mfg. Co., The	1708
Queen City Silver Co.	1640 e
Racine Jewelry Mfg. Co.	1786
Raven, John H.	1785
Reed & Barton	1640 a
Rees Engraving School	1595
Reichhelm & Co., E. P.	1603
Reinhard & Patterson	1786
Reis & Bro., G.	1622
Revell & Co., Alexander H.	1744 f
Rhode Island Ring Co.	1618
Richard & Co., C. B.	1786
Rivett Lathe, The	1610
Robert, Edmond E.	1676
Rochester School of Optometry	1774
Rockford Silver Plate Co.	1661
Rogers & Brother	1681
Rogers Company, Simeon L. and George H.	1660
Rothschild Brothers Company	1720
Rowley Ophthalmological College	1764
Roy Watch Case Company	1714
Sadler Company, The F. H.	1728 d
Sandberg, Wilhelm K.	1788
Scherer, August F.	1670
Schmidt, F. W. H.	1744 i
Schnitzer, Jr., & Son, F.	1670
Schwab & Bro., A. G.	1726
Scofield & DeWingert	1670
Seneca Falls Mfg. Co., The	1602
Sereomb Company	1718
Sessions Clock Co., The	1688
Sickles & Sons, M.	1620, 1621
Siegel, Rothschild & Co.	1694
Siegfried, George	1788
Simmons Company, R. F.	1630
Simons, Bro. & Co.	1730
Smith, Harry	1670
Smith & Co., Inc., Geo. W.	1728 h
South Bend College of Optics, The	1744 p
Southwestern Optical College	1783
Spencer Optical Company	1782
Sprague, A. E.	1791
Stahl, Chas. A., Jr.	1788
Stein & Ellbogen Company	1650
Steiner, Louis	1744 i
Stern Bros. & Co.	1657
Stern, M. E.	1770
Stern & Co., Louis	1706
Sternau & Co., S.	1740
Stevens & Company	1778
Stilwell, L. W.	1788
St. Louis Watchmaking School	1788
Stone's School of Watchmaking	1788
Stouffer Co., The J. H.	1640 d
Strauss & Co., Ignaz	1615
Sturdy's Sons, J. F.	1654
Sussfeld, Lorsch & Co.	1599, 1611
Swartchild & Company	1604
Swigart, E. & J.	1588
Tidd & Co.	1605
Tilton Optical Co.	1764
Trenton Watch Co.	1690
Trout & Co., Chas. L.	1647
Tuck & Sons, Raphael	1744 d
Turner, John F.	1784
Tyler, E. R.	1744 m
Uilstrom & Co.	1787
Unger Bros.	1685
Union Show Case Co.	1716
U. S. Electro-Chemical Co.	1594
U. S. Temples	1760
Wadsworth, G. F.	1788
Wagner Manufacturing Co.	1690
Waltham Clock Co.	1720
Warner & Swasey Company, The	1752
Webster, Arthur R.	1614
Webster-Whitcomb Lathes	1599
Weiss Jewelry Mfg. Co.	1732
Wells, Chester	1788
Wendell & Co.	1592, 1692, 1722, 1744, 1744 a
Western Clock Mfg. Co., The	1683
Wheeler & Co., Hayden W.	1642
White's Art Co.	1744 e
Wightman & Hough Co.	1690
Winslow, L. E.	1791
Winter Lumber Company, M.	1609
Witsenhausen, L.	1610
Wolcott Mfg. Co., The	1728 a
Wollstein, L. & M.	1614
Wood & Sons, J. R.	Outside back cover
Woodstock-Hoefler Watch and Jewelry Company	1678
Young & Co., Otto	1652
Young & Co., O. W.	1787
Zimmer & Co., Inc., Henry	1594

Mighty Men O' The Hammer



AMERICA'S BEST KNOWN AUCTIONEERS

The Man Behind the Gun or The Men Behind the Flag

When a firm holds first place for a period of more than twenty years, during which time hundreds of jewelry auctioneers have come and gone, it proves not only their commercial standing but their qualification as salesmen. The best reply that we can make to some adverse criticism that recently appeared in a trade journal relative to auctions, is our list of firms whom we have made sales for in years past who to-day are leaders in their various cities. Among the many are the Mermod-Jaccard Jewelry Co., St. Louis, Mo.; Chas. Crankshaw, Atlanta, Ga.; Wm. Beck, Sioux City, Iowa; A. M. Hill, New Orleans; Sigler Bros. Co., Cleveland, Ohio; G. A. Schlechter, Reading, Pa.; The Parmlee Bros. Co., Los Angeles, Cal.

It is not the business that makes the man, but the man that makes the business. Our methods are to-day as they always have been—to build up a firm's trade and obtain money at the same time by closing out undesirable merchandise on a commission basis. That we have been successful our credentials speak for themselves. The list below cannot be equaled by all others now engaged in the business combined.

REFERENCES

Geo. W. Winder, Troy, N. Y.
Chas. W. Crankshaw, Atlanta, Ga.
Geo. W. Biggs & Co., Pittsburg, Pa.
A. M. Hill, New Orleans, La., 2 sales.
Pairpoint Mfg. Co., Chicago.
A. Stineau, Cincinnati, Ohio.
Jos. W. Field, Galveston, Texas, 2 sales.
Roth Importing Co., Denver, Colo.
Albert Feldenheimer, Portland, Ore.
C. E. Buhre, Topeka, Kans.
H. J. Young, Joliet and Kankakee, Ill., 2 sales.
Sumner Bros. & Co., Cleveland, Ohio, 4 sales.
Geo. W. Myers, Meriden, Miss.
Geo. W. Kennedy, Des Moines, Iowa.
W. F. Main Co., Iowa City, Iowa.
S. H. Ives, Detroit, Mich.
R. E. Samson, Marion, Iowa.
Oscar Heinze, Quincy, Ill.
Lange Bros., Dubuque, Iowa.
Geo. Clark, Lorain, Ohio.
F. B. Lewis & Co., Cleveland, Ohio.
P. E. Kern, El Paso, Texas.
J. P. Stevens & Bro., Atlanta, Ga.
G. A. Schlechter, Reading, Pa.
Slides & Co., Owensboro, Ky.
C. D. Gardner, Manistee, Mich.
John B. Miller, Portland, Ore.
A. Schwaner, Beaumont, Texas.
J. M. Washburn, Celina, Ohio.
Cutting & Wilson, Winona, Minn.
W. H. Kelly, Carrollton, Mo.
W. E. Smith, Bellefontaine, Ohio.
L. Kaminiski, St. Louis and Galveston.
T. G. Burkhardt, Jefferson City, Mo.
Fussy & Blair, Missoula, Mont.
Geo. W. Meyers, Chattanooga, Tenn.
M. Zimmerman, Jeffersonville, Ind.
C. W. Ernsting, Gallipolis, Ohio.
W. A. Kirkham, Leavenworth, Kans.
Ash & Dembunger, Tacoma, Wash.
Barnett & Nonnenmacher, Columbus, Ohio.
A. M. Goldman, Seattle, Wash.

Lyon & Kylling, Danville, Ill.
M. Waunch, San Francisco, Cal.
Woodward, Smith & Randall, Colorado Springs, Colo.
Wilbur, Lanphear & Co., Galesburg, Ill.
Harry Harrison, Sault Ste Marie, Mich.
Sands & Fellows, Cedar Rapids, Iowa.
Leonard Krower, New Orleans, La.
W. K. Lippit, Norwich, N. Y.
W. J. Kelly, Oshkosh, Wis.
Ritter & Ryan, Muncie, Ind.
Amos Plank, Pueblo, Colo.
M. Greer, Iowa City, Iowa.
J. Albert Schirmer, Saginaw, Mich.
C. Ettinger, Cleveland, Ohio.
Rushmer Jewelry Co., Pueblo, Colo.
Freeman Jewelry Co., Atlanta, Ga., 2 sales.
Morris Benjamin, Denver, Colo.
Wm. Beck, Sioux City, Iowa.
Strow Bros., Fort Dodge, Iowa.
Sipe & Sigler, Cleveland, Ohio, 5 sales.
King, Moss & Co., San Francisco, Cal.
H. Simon, St. Paul, Minn.
Rodgers & Pottinger, Louisville, Ky.
Hanna & Eroe, New Castle, Pa.
D. H. McBride & Co., Akron, Ohio, 3 sales.
H. Koester & Co., Detroit, Mich., 2 sales.
H. Kline, Seattle, Wash.
J. L. Sievert, Springfield, Mo.
A. W. Ford, Freeport, Ill.
S. H. Dodge & Son, Ypsilanti, Mich.
C. F. Baldwin, St. Joseph, Mo.
David Goldberg, Helena, Mont.
Dolle Bros., Chicago.
Bonner Bros., Fort Worth, Texas.
Hart & Sturgis, Houston, Texas.
Carlton Jewelry Co., Kenosha and Racine, Wis.
Stewart & Prescott, Dallas, Texas.
Parmlee Bros. & Co., Los Angeles, Cal.
Clemens Hellebush, Cincinnati, Ohio.
P. H. Lachicotte & Co., Columbia, S. C.
Allen Bros., Savannah, Ga.

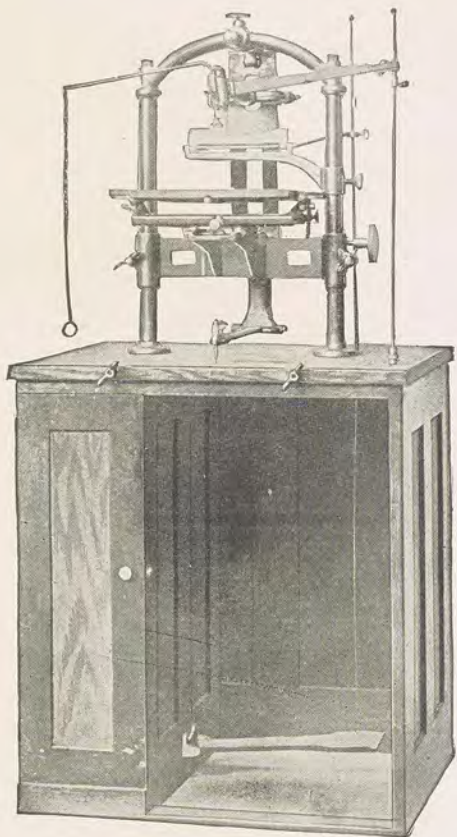
Duhme Bros., Cincinnati, Ohio
Geo. Chantler, Manistique, Mich.
C. H. Schiller, Utica, N. Y.
W. H. McKnight, Sons & Co., Louisville, Ky.,
dealers in art furniture, rugs, carpets, etc.
L. J. Marks, Kansas City.
Mermod-Jaccard Jewelry Co., St. Louis, Mo.
Robbins & Co., Fostoria, Ohio.
Geo. Nichols, St. Louis, Mich.
The J. Bolland Jewelry Co., St. Louis, Mo.
Threadwell, Fort Worth, Texas.
W. C. Ward, Winchester, Ky.
Waterhouse, Hamilton, Ohio.
Larue, Oskaloosa, Iowa.
Bailey & Co., Ottumwa, Iowa.
Becker & Lathrop, Syracuse, N. Y.
W. H. Muller, Denison, Texas.
Pittsburg Jewelry Co., Pittsburg, Pa.
J. W. Howard, Hastings, Nebr.
Barnett Jewelry Co., St. Louis, Mo.
L. R. Shumway, Rockford, Ill.
P. M. Younglove, Alpena, Mich.
Alfred Bourgeois, Jackson, Miss.
E. L. McDowell, Arkansas City, Kans.
C. D. Couse, Waverly, Iowa.
S. Smith & Co., Virginia City, Nebr.
Chas. Taylor, Steubenville, Ohio.
The Hight & Fairfield Co., Butte, Mont.
C. D. White & Co., Minneapolis, Minn.
L. G. Call, Waynesburgh, Pa.
The Max Rollins stock, Youngstown, Ohio.
P. L. Lowenthal, Bradford, Pa.
J. S. Baird, Watertown, N. Y.
A. M. Marwede, Alpena, Mich.
Mrs. Sarah Dickinson Wood, Niagara Falls, N. Y.
R. D. Worrell, Mexico, Mo.
Louis Reinheimer, Joplin, Mo.
Henry C. Briggs Estate, Howell, Mich.
R. Van Kuesin & Co., Savannah, Ga.
A. J. Renkl, Augusta, Ga.
The Sigler Bros., Cleveland, Ohio.
Margileth & McFarland, Springfield, Ohio.

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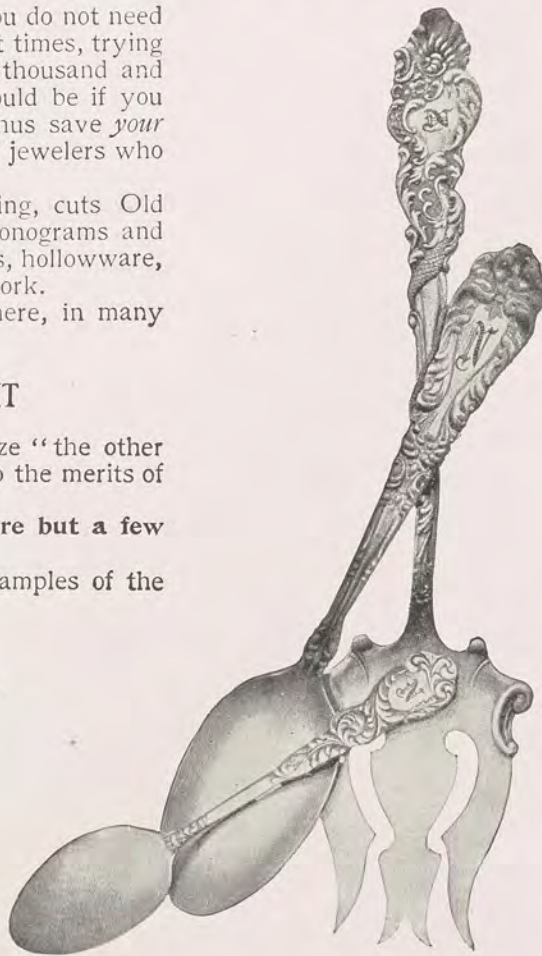
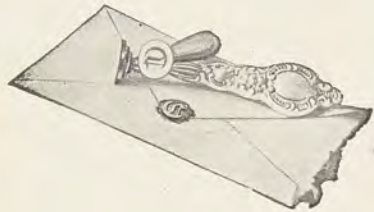
The trade will not fail to perceive the great benefit of obtaining the services of two lifelong experienced men at the cost of one. The audience never gets tired, each has his own methods, there is a change of voice and manner, also in case of sickness it is an invincible argument. We work in perfect harmony, and it makes a degree of success in sales never before known. We have proved conclusively it is the greatest combination of talent now available. The work speaks for itself. Every reference given above represents a successful sale made. We refer to the trade and its representatives throughout the country.

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