

The KEYSTONE

The ORGAN of the JEWELRY & OPTICAL TRADES

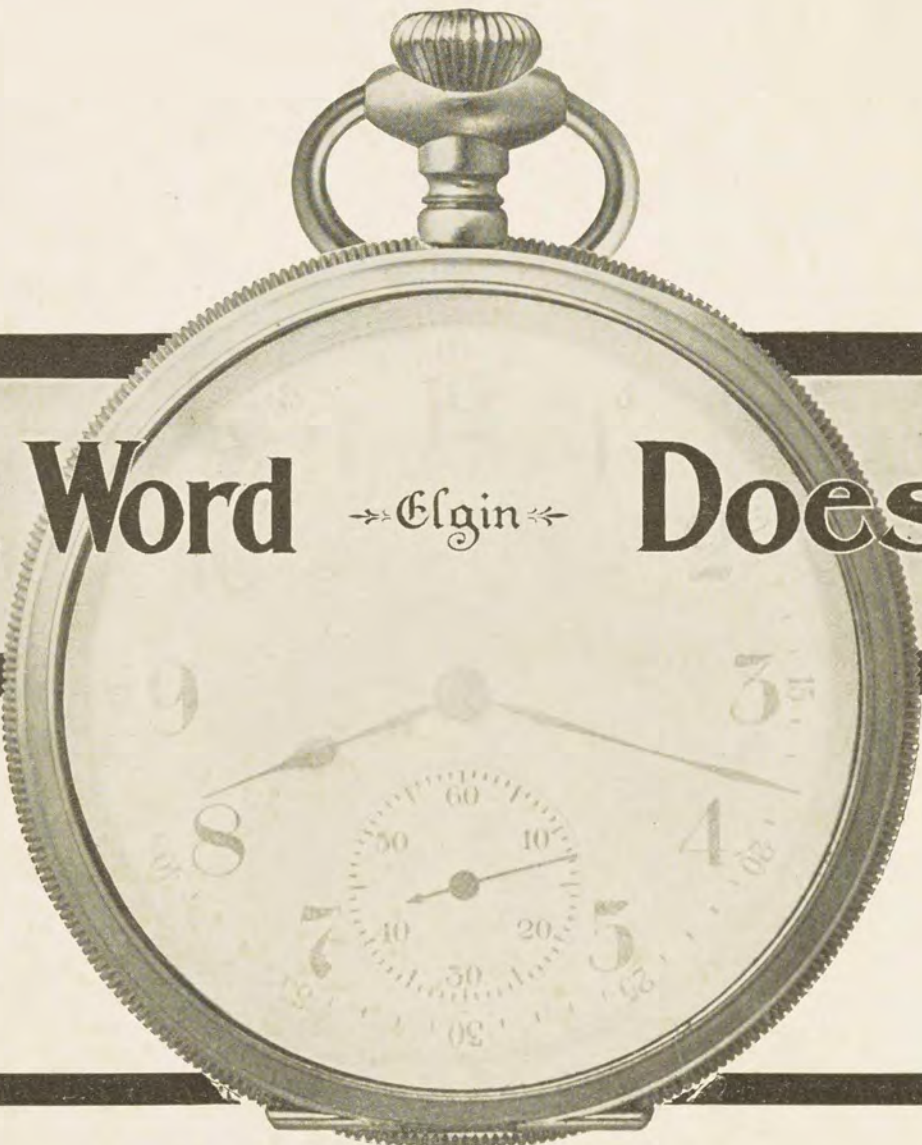


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BY THE KEYSTONE PUBLISHING CO.
PHILADELPHIA

Vol. 28

April 1907

No. 4



That Word → Elgin ← Does It

The millions of Elgin movements made since 1867 have caused the word Elgin to become a synonym for the highest accuracy and reliability in timekeepers. The most isolated dweller in the humblest hamlet has heard of the Elgin Watch and knows that it is the Standard. That is why the

ELGIN WATCH

sells itself, for all that most buyers need be told about a watch is that it is an Elgin. Make yours an Elgin store.

See Jobbers' List for prices or write the Company.

Every dealer is invited to send for the Elgin Art Booklet, "Timemakers and Timekeepers," illustrating the history and development of the watch.

ELGIN NATIONAL WATCH COMPANY,

Factories, Elgin, Ill., U. S. A.
General Offices, 131 Wabash Ave., Chicago.

New York Office, 11 John Street.
San Francisco Office, 206 Kearny St.

F&B.

A FINISHING TOUCH



can be given to the dainty summer costume, by the use of a

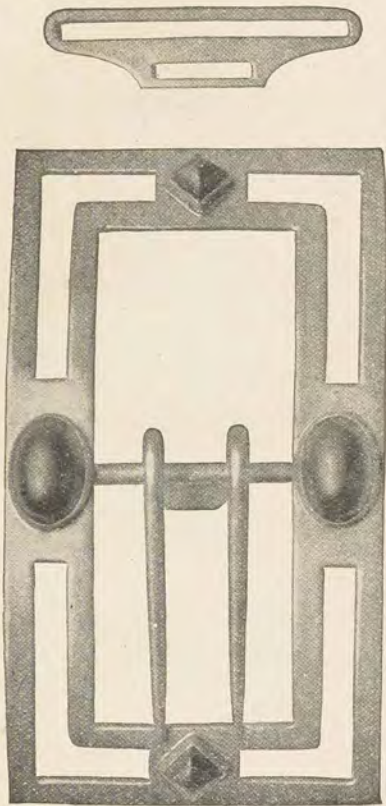
CHOICE BELT BUCKLE

We are showing herewith two styles from our large and attractive line.

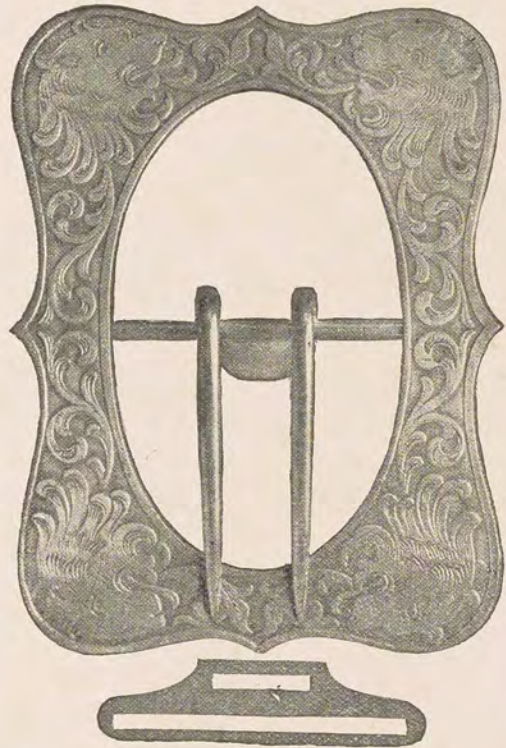
There is also presented a new pattern of the square-edged

ARMLET

the extraordinary sales of which have already proved its popularity.



No. 3094. O. E. Buckle, set with Jade
No. 3094½. O. E., with Pin-stem, set with Jade



No. 3429. Sterling Buckle
No. 3429½. " with Pin-stem
No. 3431. Rose Buckle
No. 3431½. " with Pin-stem



Invisible Joint Bracelet

No. 655. Half Chased, Rose Finish, 6¾ gage
No. 667. " " " " 7¼ "
No. 679. " " " " 7¾ "



No. 771. Indian Cross, set with Pearls.
No. 772. Indian Cross, Red Enamel.



No. 777. Rose finish, set with 2 Brilliants and Ruby, Grecian Border.
No. 778. Green finish, set with 2 Brilliants and Ruby, Grecian Border.



No. 3713. Old English finish
No. 3714. Roman finish



No. 771. Rose finish, Grecian Border.
No. 772. Green finish, Grecian Border.



No. 769. Rose, Green and Red. 1 Brilliant.



No. 3700. Roman setting, Amethyst Stone, 2 Baroque Pearls.



No. 3725. Old English



No. 3726. Veil Pin, O. E., plain
No. 3727. " " Roman
No. 3732. " " O. E., engraved



No. 3740. Chatelaine Pin, Rose finish, Baroque Pearl in center, set with Brilliants.



No. 2877. Rose and Purple finish.
No. 2879. Rose and Purple finish, with stone.
No. 2900. Rose finish, no stone.



No. 2925. Rose finish, 4 Brilliants.
No. 2924. Rose finish, size larger.
No. 2926. Rose finish, size smaller.

Theodore W. Foster & Bro. Co.

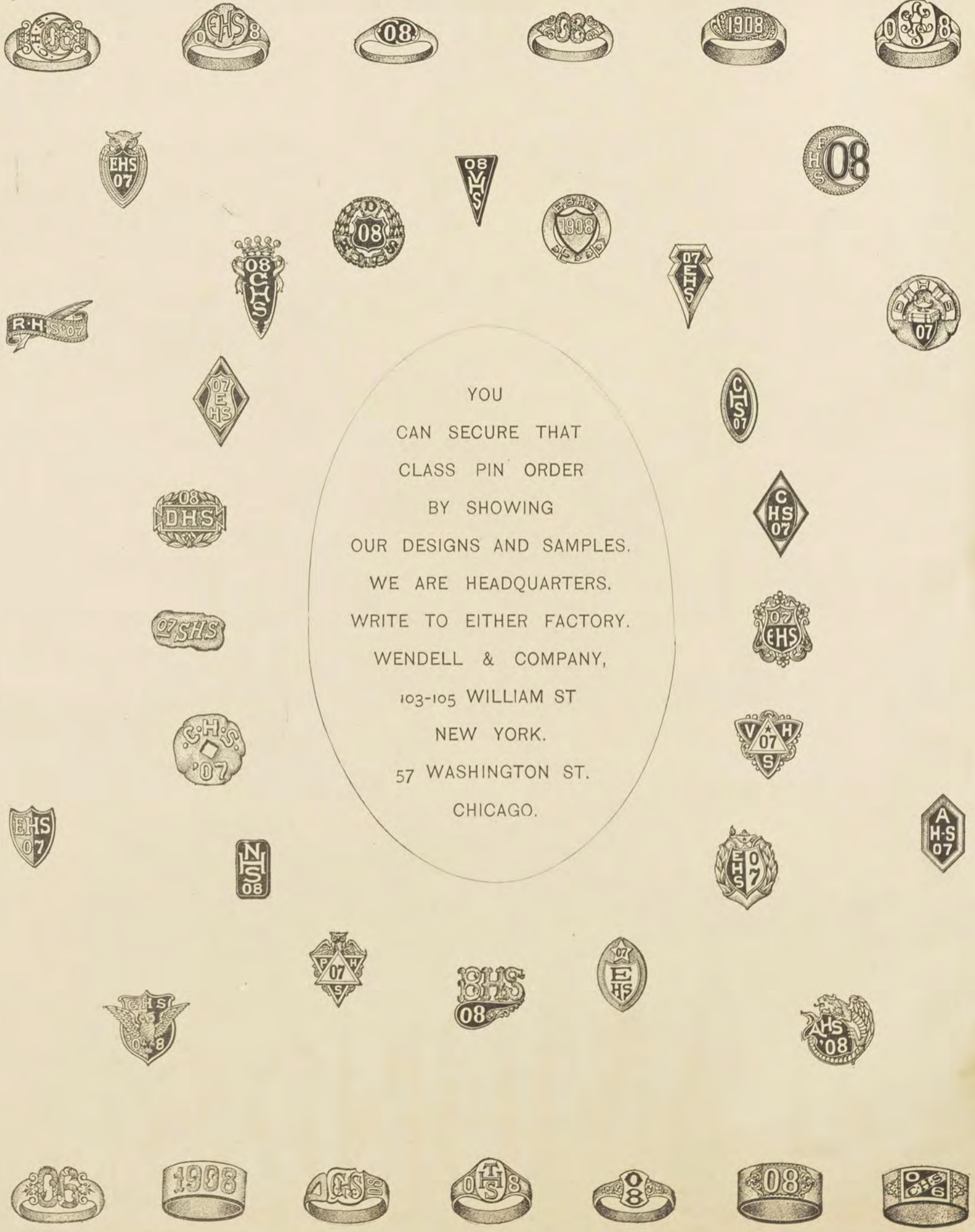
MANUFACTURING JEWELERS and SILVERSMITHS

100 Richmond St., Providence, R. I.

New York
13 Maiden Lane

Chicago
Heyworth Building

Canada
Kingston, Ont.



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.

Here are shown our four special designs of Crescent 14 K. Filled Cases.

These are made for ourselves *only*, and we especially recommend them to the trade.



Diagonal Band



Fleur-de-lis

563
Made in 0, 12 and 16 size, in polished and roman basine, and the Fleur-de-lis in engine-turned, as well.



Leaf Top & Bottom



Large Leaf

Be exclusive, and put in a line of these beautiful designs for the spring trade.

Can be had ONLY from The Non-Retailing Co. Jobbers in Watches and Chains Lancaster, Pa.

2 Tulpstraat
AMSTERDAM

ESTABLISHED 1866

12 MAIDEN LANE (One flight up)
P. O. Box 1625 NEW YORK

Lissauer & Company
IMPORTERS

TRY US ON

DIAMONDS

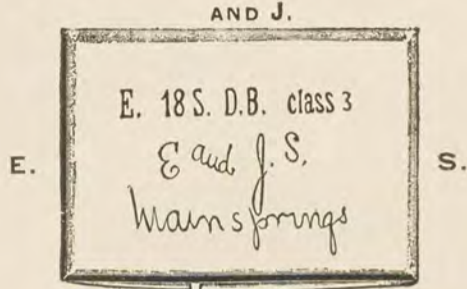
WE WILL REMOVE TO 52 & 54 MAIDEN LANE ABOUT MAY 1

ORDERS
ARE
SOLICITED
EITHER
DIRECT
OR
THROUGH
OUR
TRAVELERS

Selection
packages sent
to responsible
jewelers
Complete
Line
Watches
and
Jewelry

MAINSPRINGS

The kind that have a durable elasticity and finest temper and insure satisfaction. The mark **E. & J. S.** signifies best quality.



E. & J. S. MAINSPRINGS

These springs have satisfactorily stood the test of time. They are coiled and packed one-half dozen in a package and each spring wrapped in anti-rust paper. Each wrapper is marked with style, width and strength of spring it contains.

Price, per dozen, \$1.25
Price, per gross, 14.25

Many first-class watchmakers use these Springs with splendid results. Send us a trial order



U. S. R. SPECIAL MAINSPRINGS

A well-tempered, finely-finished mainspring used by many watchmakers to the exclusion of all other makes. We keep them for all the leading makes and sizes of American watches.

Price, per dozen, \$1.25
Price, per gross, 13.50

Try E. & J. S. Jewels and Balance Staffs

and we are confident that you will use them again.



E. & J. S. Balance Jewels



E. & J. S. Balance Staffs



Eagle Brand Jewels

Prices of Genuine Factory and E. & J. S. Brand of Balance Staffs and Jewels per dozen

			Genuine Balance Staffs	Genuine Balance Jewels	E. & J. S. Balance Staffs	E. & J. S. Balance Jewels
Elgin,	all sizes,	7	\$1.50	\$2.00	\$1.00	\$1.50
"	"	15	2.00	2.00	1.00	1.50
"	"	17 and 19	3.00	2.00	1.00	1.50
"	"	21 " 23	4.00	2.00	2.50	1.50
Waltham,	"	7	1.50	2.00	1.00	1.50
"	"	15	2.00	2.00	1.00	1.50
"	"	17 and 19	3.00	2.00	1.00	1.50
"	"	21 " 23	4.00	2.00	2.50	1.50
Illinois,	"	7	2.00	1.50	1.00	1.50
"	"	15	3.00	2.75	1.00	1.50

Eagle Brand Jewels and Balance Staffs

for the cheaper grades of watches.

All Sizes 75 cents dozen

We are also prepared to fill orders for E. & J. S. Jewels and Balance Staffs by pivot size for all makes and sizes of American watches.



SUPERIOR SPECIAL MAINSPRINGS

A fine spring with rounded edges, correctly gaged for length, width and strength. In fact, it is as the name implies, an exceptionally fine quality mainspring.

Price, per dozen, \$1.00
Price, per gross, 11.25

SPRINGS

For good-grade, moderate-priced mainsprings, the "Superior" and "Hercules" are unexcelled

All prices less 6 per cent. discount for cash



HERCULES MAINSPRINGS

A reliable spring, suitable for the cheaper grades of watches. Accurately gaged and made for all staple sizes and styles of American watches. Price, per dozen, \$.75
Price, per gross, 8.75

SPRINGS

Our Mail Order Service

will bring you prompt returns of your orders, and you will find that we fill them correctly. We carry practically everything in Tools and Materials; our prices being always low. If you have not received our new catalogue, ask us for a copy. We send it free of charge on receipt of your business card.

E. & J. SWIGART, Cincinnati, Ohio



Convert your old gold, Silver & Sweepings into Immediate Cash!

¶ There's ready money—not a trifle, but a substantial amount—in the scraps around your store, the old and battered jewelry, dilapidated watch cases, sweepings, filings, anything that has a trace of gold or silver.

¶ If you do not think it worth while, or if you have any feeling of distrust as to returns, follow the example of thousands of your brother jewelers and send us a trial order. This will remove your distrust, clinch your confidence and put money in your pocket.

¶ Uncle Sam, who has ways of finding out and who sells to the highest bidder, sends us his sweepings. So do all others who are thoroughly posted. So will you. Nothing but conscientious attention and satisfactory returns could have made our business what it is to-day.

¶ Send us your stuff, and you can depend on absolute justice.

¶ Returns for sweepings within five days of receipt. Returns for old gold and silver made same day as received. Consignments held subject to your acceptance, and returned at our expense if offer should prove unsatisfactory.

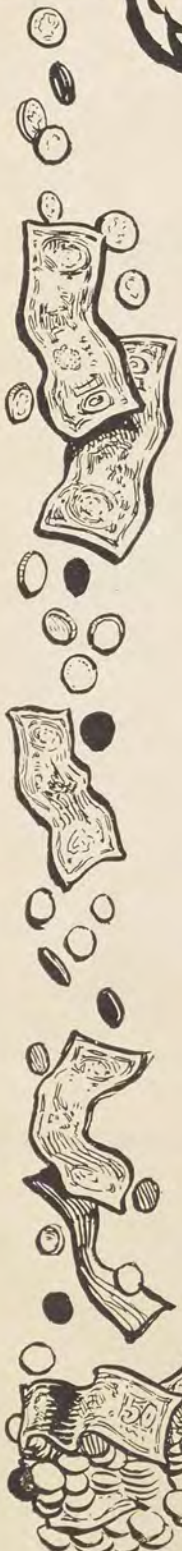
¶ Drop us a line and let us start in together at once.

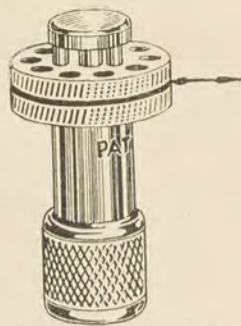
GOLDSMITH BROS.

SWEEP SMELTERS, REFINERS AND ASSAYERS

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

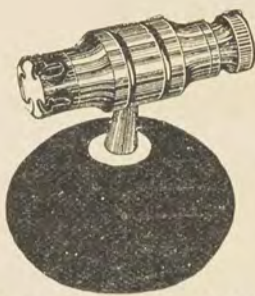
CHICAGO





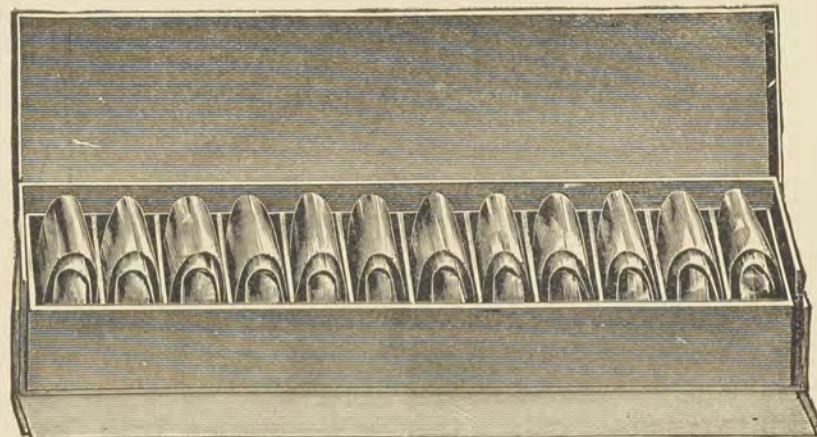
Patent Hand Broaching Device

Most practical tool for broaching out all kinds and sizes of watch hands and seconds or any other small article which requires broaching of hole. You cannot damage or break the hands while broaching. Nickel plated. Price, \$1.00.



Patent Upright Roller Remover

Flat bottom, which sets firmly on the bench. You cannot break pivots with this tool as it is very easily adjusted for any size from jewel series to the largest size. Single or double roller. Nickel plated. Price, \$2.25.



THE BEST IS THE CHEAPEST

Why the "LAFAYETTE MAINSPRING" is superior

- 1st—It is guaranteed to be made of the Best Steel.
- 2d—It is made by Skilled Hand Labor.
- 3d—Each Spring is wrapped in Oil Paper and Silver Foil, which packing positively avoids exposure to the moisture of the air, and therefore all danger of rust is prevented.
- 4th—Each Spring bears a Metal Tag, indicating the watch it is intended for, which accuracy is warranted.
- 5th—Each dozen is put in a neat Box, having twelve partitions, one for each spring, so the handling of several springs at one time is avoided.
- 6th—The finish of the "Lafayette Spring" is, like its quality, superior to any in the market.



Fleming's Patent Corrugated Case Springs

These springs can be fitted without filing, to all makes of cases. Made for thick and thin model cases, in both lifting and lock. Beware of base imitations. See that the box bears the name of "Fleming's Patent Corrugated Case Spring." None genuine except those with the name "Fleming" on.



No. 122. Improved Jewel-Locking Tweezer. Nickel-plated. Price, 60 cents



No. 113. Patent Non-Magnetic Tweezer. Made of pure German silver, highly polished, 75 cents

If your Jobber cannot supply you with the above tools, please write us and we will give you the names of Jobbers who can.

Henry Zimmern & Co., Inc. Sole Agents, 77 John St., New York

J. P. WADELL SHOW CASE & CABINET CO.

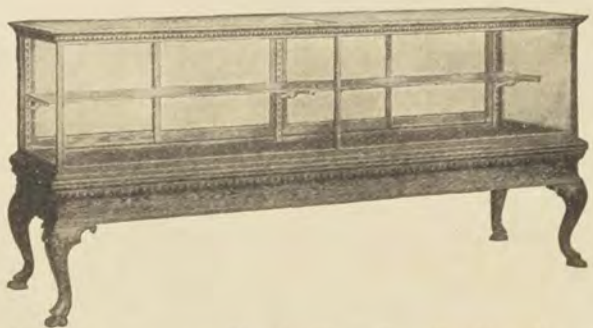
Dept. D Detroit, Mich.

Manufacturers of

Modern Show Cases and Jewelry Store Fixtures

DESIGNS AND ESTIMATES FURNISHED

We have purchased the entire stock of the Mancha Show Case Co., and are closing out the show cases at special prices



Above cut represents Mancha Show Case Co. Case No. 22

WRITE FOR PRICES



OUR ELECTRO-PLATING SALTS when dissolved in water make a plating solution at once ready for work and of always correct shade. Know that we are the originators and manufacturers of the

DARK GREEN GOLD SALTS (Antique) AND OTHER SHADES OF GREEN

.. Likewise the ..

ROSE AND ORANGE ROSE GOLD SALTS used for single and double gilding, and of all other shades now on the market.

Our Jeweler's Model Electro-Plating Outfit contains the batteries, plating salts for one quart roman gold, half gallon silver, half gallon copper, one gallon jeweler's potash, and instruction book on electro-plating.

Write for circular

U. S. ELECTRO-CHEMICAL CO.

H. HIRSCHBACH, PROP.

78 Lafayette St. New York (formerly called Elm)

When a Customer

wishes to sell you any lot or single piece of mounted diamond jewelry—large or

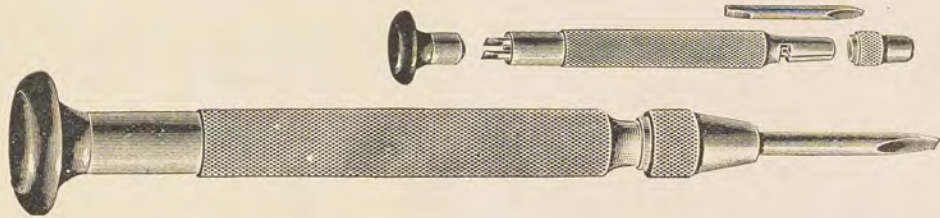
small—do not turn him down absolutely, send the goods to me for a

Spot Cash Offer

and save all trouble and worry. We pay all express charges and insure the goods in transit. We have been in the business right here for 16 years, and can give the very best references as to responsibility on application. Offers and valuations furnished promptly. See ad. on another page of this issue. Write for further information.

J. J. COHEN, 1011 Chestnut Street PHILADELPHIA, PA.

**Spectacle
Screwdriver No. 108**

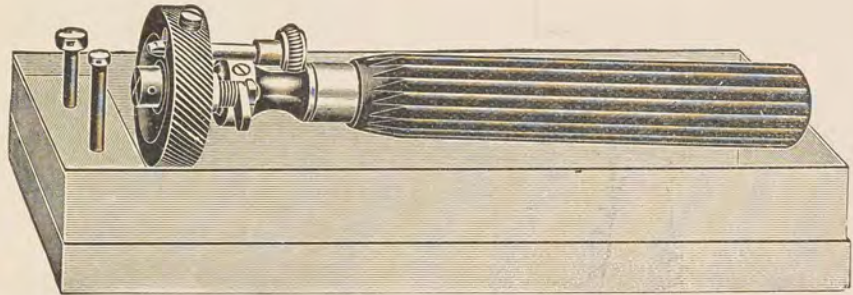


Nickel plated, rubber top; three interchangeable blades with assorted points.

Price each, 65 cents



Pendant-Set Stem and Sleeve Combination No. 16
Consisting of two dozen most useful sizes and styles. Per set, \$2.25



Improved Ides Pattern Mainspring Winder
of superior quality, aluminum heads to reduce weight. Three arbors (interchangeable) to take all sizes of mainspring. Price each, \$1.50

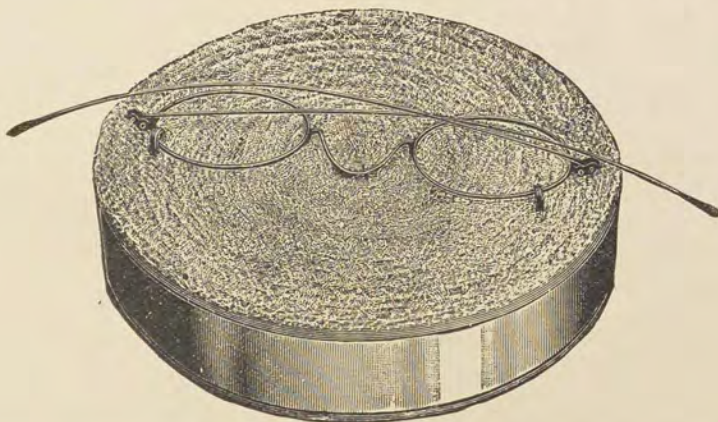
"National" Watchmaker's Eyeglass

Slanting design of frame is most desirable, as it is very comfortable and easy to hold; further, it shuts out the light from the side. Perforations near the lens will prevent lens from sweating.

Prices { Focus 1", 50 cents
1 1/2", 45 "
2", 40 "
2 1/2 to 5", 35 "



The **"Perfection" Soldering Block.**



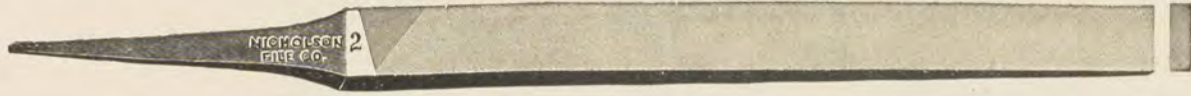
This is the only Asbestos Soldering Block that work can be pinned on, as it takes pins readily, and will outlast dozens of charcoal blocks.

Price, 50 cents

For sale by all Jobbers in the United States and Canada

HAMMEL, RIGLANDER & CO.

47 AND 49 MAIDEN LANE, NEW YORK



EXTRA **X** ★ **F** FINE



SWISS PATTERN FILES

FOR WATCHMAKERS, JEWELERS, FINE TOOL MAKERS, DIE SINKERS AND OTHERS
WHOSE WORK REQUIRES GOOD TOOLS



THEY ARE SUPERIOR TO ALL OTHERS OF DOMESTIC OR FOREIGN MANUFACTURE
ASK FOR OUR CATALOGUE

NICHOLSON FILE CO.

PROVIDENCE, R. I., U.S.A.

LIQUID AMBER
THE JEWELERS CEMENT



Get the Genuine

Don't accept cheap substitutes;
there is nothing else so good.

Sold by every Material Dealer in America

Price, 25c.

Sussfeld, Lorsch & Co.

Wholesale Distributing Agents
37 Maiden Lane, New York



SAMS' FLUX
is the best for hard soldering

SAMS' SAFETY

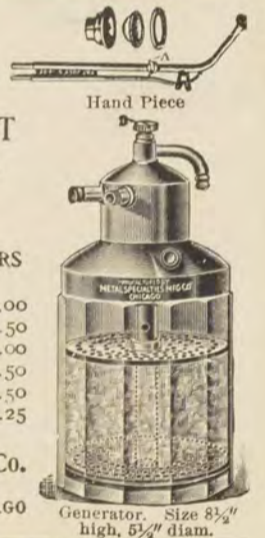
BLOWPIPE OUTFIT
FOR JEWELERS

The original Sams'—
Greatly improved

FOR SALE BY ALL JOBBERS

- Outfit complete . . . \$13.00
- Outfit without bellows, 8.50
- Generator (B) . . . 6.00
- Blowpipe (A) . . . 2.50
- Foot Bellows (C) . . . 4.50
- Sams' Flux25

Metal Specialties Mfg. Co.
(Sole Mfrs.)
18-24 W. Randolph St., CHICAGO



Generator. Size 8 1/2" high, 5 1/4" diam.

A. M. CHURCH

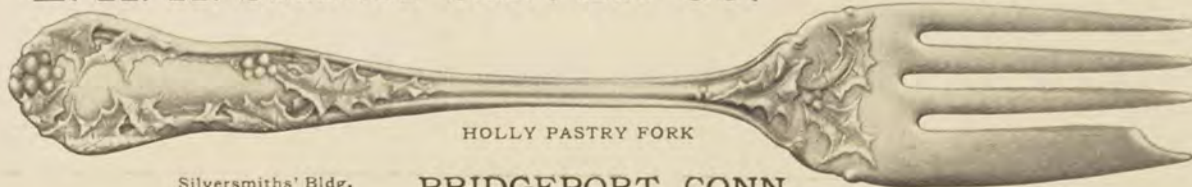
WHOLESALE DEALER IN AMERICAN AND SWISS WATCHES

509 Chicago Savings Bank Building

72 E. Madison Street

CHICAGO

E. H. H. SMITH SILVER CO.



HOLLY PASTRY FORK

Silversmiths' Bldg.
Chicago, Ill.

BRIDGEPORT, CONN.

Manufacturers of

Sterling Effects
in Plate

SEND FOR OUR NEW CATALOGUE

Our Up-to-Date 1907 MODEL ELECTRICAL SPECIALTIES

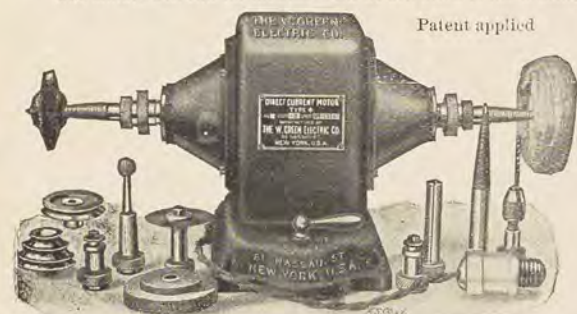
For Silversmiths, Platers, Watchmakers, Jewelers, Opticians, Dentists and for all trades and purposes
All warranted for one year after shipment. (Will last a lifetime)

Manufactured by **The W. Green Electric Co.,**

Address all correspondence to
New York Office and Salesroom,
81 Nassau St., New York, U.S.A.

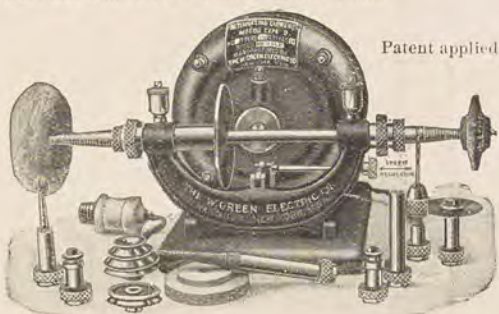
Factory
Meriden, Conn.

The design and improvement of these machines make a distinct advance in electric art and the most casual inspection will demonstrate without question that we are ten years ahead of all competition in perfection of design, workmanship and efficiency.
Variable speed, adjustable polishing, buffing, drilling, grinding, sawing, turning and lapping electric lathe motors with our new interlocking and adjustable chucks, made from 1/4 to 3 H. P.
Combination of seven lathes in one at price of one. A simple, clean, convenient and entire workshop in itself. Dust-proof, air and water-tight. Can be attached or detached in one minute to any electric light socket. Are always ready for immediate use, no further adjustment required.
Our motors will run for months with no attention to the bearings or brushes and run cool under all condition of load.



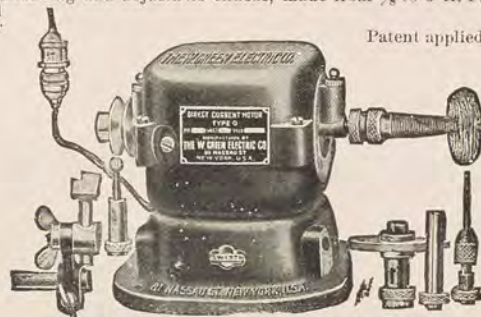
Showing our 1907 model, noiseless, fully enclosed, Direct-Current Motor Lathes, Types 2, 4 and 6, 1-6 to 1 H. P., 600 to 3500 R. P. M., with controller or speed regulator in base as shown in cut. Dust-proof, air and water-tight, no oiling or lubricating necessary ball thrust bearings, strongest motor made, with brush and buffing wheels on spindles in position. Drilling, grinding, burr, emery, sandpaper and saw chucks; also spindles, single and three-cone pulleys, lap, grindstone, adjustable plug and cord—all used in connection with our motors. All chucks interlocking and adjustable to either right or left side of motor.

For further description and price-list, write for Bulletin 500



Showing our latest model, Alternating-Current Lathes, Types 9 and 11, 1-5 to 3-4 H. P., with ten or more variable speeds as desired, 700 to 3500 R. P. M. No pulleys, belts or other complicated attachments; dust-proof, air and water-tight; ball-thrust bearings; substantial, convenient and simple. Speed changed in one second by a simple turn of regulating screw as shown in cut. With brush and buffing wheels on spindles in position; drilling, grinding, burr, emery, sandpaper and saw chucks; also spindles, single and three-cone pulleys, lap, grindstone, adjustable plug and cord—all used in connection with our motors. All chucks interlocking and adjustable to either right or left side of motor.

For further description and price-list, write for Bulletin 515



New Adjustable, Combination Electric Polishing, Buffing, Drilling, Grinding and Power Motor Lathe, Type O, 1-8 H. P. Made for Direct Current only. For light work.

Absolutely guaranteed, instantly attached or detached to any electric light socket, always ready for immediate use, no further adjustment required.

Made in order to meet the demand of those who realize the great saving of time and money effected by the electric buffing, grinding and polishing lathe, but from the character of their work, or amount of investment required, or because their work is very light, do not feel warranted in purchasing an outfit as large as our 1-6, 1-5 or 3-4 H. P.

This motor combination comprises: Type O motor with switch for starting and stopping, buffing spindle, grindstone chuck, power pulley, adjustable plug and cord, which set will be found sufficient for moderate requirements.

52 to 110 volts, price of above combination \$23.00



Patented in the United States and all Foreign Countries
Cut illustrates Types 16A to 16D

Our 1907 Model, Self-Oiling, Plating Dynamos for Gold, Silver, Nickel and Copper Plating, etc.

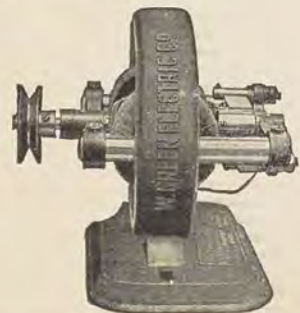
Made according to requirements, from 4 to 10 volts; 6 to 100 amperes. Will deposit, corresponding to size, 3 to 100 dwts. of gold per hour; silver, nickel and copper in accordance.
Cost to run, 1 to 5c. per day, according to size.
Dynamos Type 16A to 16D includes pulley and arrangement for belt tightening.

Complete F.O.B. New York, as follows:

Type of Dynamo	Output in Amperes at 4 to 10 Volts	Amount of Gold in Dwts. deposited per hour	Capacity of Silver in Quarts	Capacity of Nickel in Gallons	Capacity of Brass and Copper in Gallons	Horsepower required to drive Dynamo	Approximate Shipping Weight in lbs.	Price
18	8	6	30	40	15	1-8	18	\$13.50
16A	10	10	100	90	50	1-6	50	25.00
16B	20	18	200	150	90	1-5	70	32.00
16C	30	30	280	280	150	1-4	100	54.00
16D	50	50	360	500	350	1-2	150	69.00



The fac-simile photo, reproduction which we submit of complete outfit, viz.: DYNAMO, MOTOR and TANK has been designed to enable operators to arrange THEIR DYNAMO for plating purposes.



Cut illustrates our new powerful low voltage, shunt-wound dynamo, Type 18.



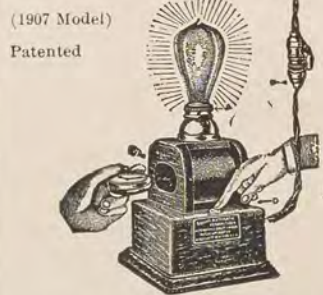
Patented in the United States and all Foreign Countries

1907 Model PLATING DYNAMOTORS. A Plating Dynamo and Power Motor combined in one, self-operated by any Direct Current, Light or Power Circuit. (No motor, belts or pulleys required.) Fully warranted. For Gold, Silver, Nickel and Copper Plating, etc. Wound to run on 110, 220 or 500-volt circuits. Will deliver to the tank a 4 to 10 volt current for plating, exactly like the regular Plating Dynamos. Cost to run, 1 to 5 cents per day, according to size. Complete ready for use (F. O. B., N. Y.) as follows:

Type and Size of Dynamo	Plating End Output in Amperes at 4 to 10 Volts	Amount of Gold in Dwts. deposited per hour	Capacity of Silver in Quarts	Capacity of Silver in Square Feet per hour	Capacity of Nickel in Gallons	Capacity of Brass and Copper in Gallons	Approximate Shipping Weight in pounds	Price 110 Voltage (For 220 Voltage add 10%)
17A	1 to 5	6	60	3 1/2	53	30	70	\$39.00
17B	2 to 10	11	120	6 1/2	90	50	110	56.00
17C	3 to 15	15	160	9	160	85	130	80.00
17D	4 to 25	25	220	15	275	200	225	96.00

Green's Electric Combination Automatic Demagnetizer

For Alternating and Direct Current



Simply attach instrument to electric light socket. Press the button, withdraw the watch—the demagnetizer does the rest. Time, 3 seconds.

For Combination, Direct and Alternating Currents Complete, \$12.00
For Alternating Current ONLY, \$5.00
Full instructions accompany each instrument

New "REVERSIBLE" Electric Power and Lathe Motors

(replacing footwheels and other obsolete methods), made for Direct and Alternating Current. For Watchmakers' Lathes, Jewelers' and Opticians' Drills, Grindstones, Dental, Laboratory and other small machinery.

Constructed of best material, fully enclosed, workmanship perfect in every detail, fully warranted and a fit accessory in appearance and finish for the finest watchmaker's lathe. By its use work can be accomplished with an accuracy, economy and saving of time heretofore unknown, also undivided attention given to work in hand with no cumbersome foot power or other uncertain and old-fashioned methods to distract attention.

Our New Starter, Reverser and Speed Regulator

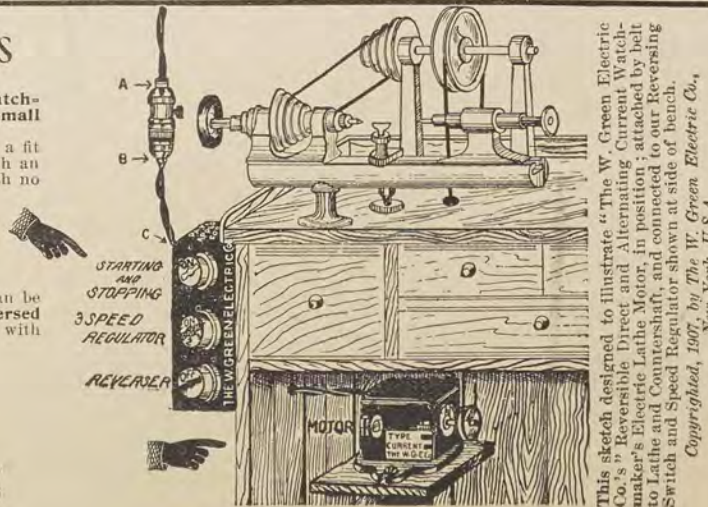
mounted on iron base, ready for use, as shown in cut, quickly attached or detached to electric light socket, can be arranged in any convenient position by the operator and run from 1000 to 2500 R. P. M. and instantly reversed while still running. Speed as low as 100 R. P. M., obtained by connecting with countershaft. Diagram sent with each outfit.

NOTE—In ordering, be particular to give exact voltage required, and if Alternating, the cycles.

Net Price, F. O. B., New York

Type 12, Direct Current, 52 to 110 volts (See cut) \$17.50
Type 15, Alternating Current, 52 to 110 volts 22.50

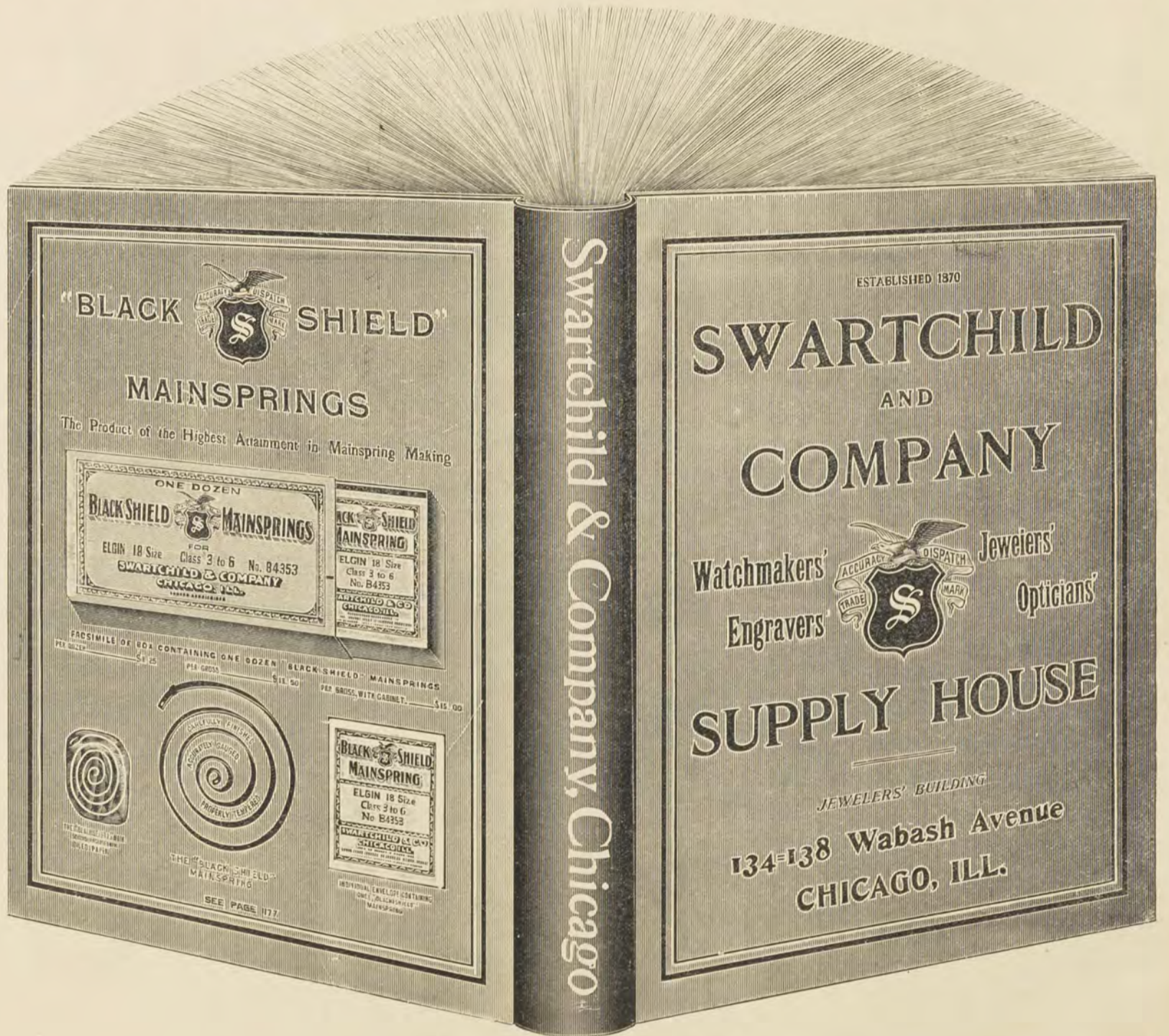
EXTRAS: Only necessary for special purposes } Combined Reverser, Starter and Speed Regulator (see cut) \$8.00
Adjustable plug and 11 feet reinforced covered wire attached ready for use, .75



This sketch designed to illustrate "The W. Green Electric Co.'s" Reversible Direct and Alternating Current Watchmaker's Electric Lathe Motor, in position; attached by belt to Lathe and Countershaft, and connected to our Reversing Switch and Speed Regulator shown at side of bench.
Copyrighted, 1907, by The W. Green Electric Co., New York, U.S.A.

Our ⁴⁴⁰ Double-Sized _(13½ x 10¼ inches) Page **Catalogue**

Sent Gratis (Express Prepaid) Upon Your Application



(Above fac-simile is less than half-size)

Carefully Indexed

20,000 Illustrations

Complete in Every Detail

No Watchmaker, Jeweler or Engraver can afford to be without it

WRITE FOR A COPY AT ONCE



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

571
**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

SUSSFELD, LORSCH & Co.

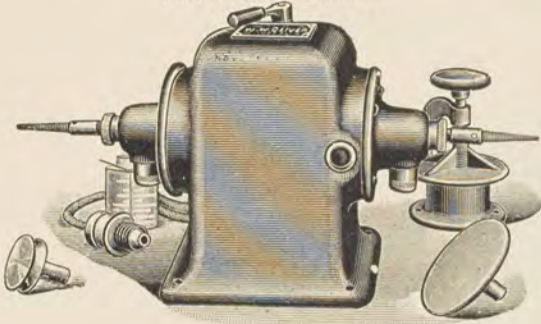
Wholesale Agents

PARIS
21 Rue de l'Echiquier

NEW YORK
37 Maiden Lane

The Jewelers' Motor Polishing Heads

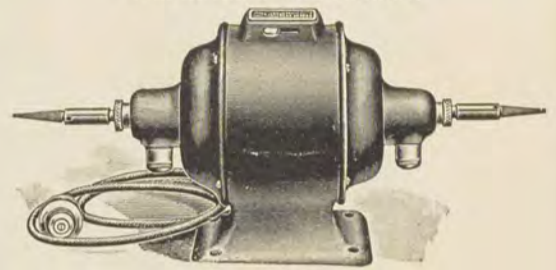
FOR DIRECT CURRENT



- 2 Brush Chucks
- 1 Pulley Chuck for connection with a dynamo
- 1 Disk Chuck, mounted with carborundum cloth

These Heads are the result of many months' study and thought. They embody all the essential features necessary for strictly high-grade, efficient and durable machines. With each machine can be furnished

FOR ALTERNATING CURRENT



- Assorted carborundum cloth on paper disks
- 1 Screw Press for use in mounting disks
- 1 Can of Cement

READ WHAT ONE OF THE MANY USERS OF THESE MOTORS SAY ABOUT THEM:

HAGER & HETSCH
Manufacturers of Fine Jewelry and Diamond Setters

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

Gentlemen:—Your letter of the 5th inst. received. Yes, we have been using two (2) of your 1-5 horse-power Motors for the past nine months, and will say that we consider them perfect. We had some little trouble with them at first, but will say frankly that said trouble was due mainly through our inexperience with Motors. Having become accustomed to them, we certainly would not be without them, as we do not think we could possibly find any Motor more suitable for our line of business.

Very respectfully,

Louisville, Ky., Jan. 9, 1906.

HAGER & HETSCH.

Our No. 5 Bulletin (just issued) will give a full description as to dimensions, prices, etc. Do not fail to send for it.

W. W. Oliver Manufacturing Co., Manufacturers
1490-1492 Niagara St., BUFFALO, N. Y., U.S.A.



ALUNDUM CUTS

WHY? Because of its extreme sharpness. It is hard, too, and absolutely pure and uniform. The purity and uniformity of this economical and efficient grinding substance are under absolute control.

Norton ALUNDUM Stones for Glass Cutting Purposes hold a miter three times as long as blue stones. They are free from hard and soft spots, sand holes and other defects common to natural stones. Booklet 388 tells all about them.

NORTON COMPANY

Main Works, WORCESTER, MASS.

Niagara Falls

New York

Chicago

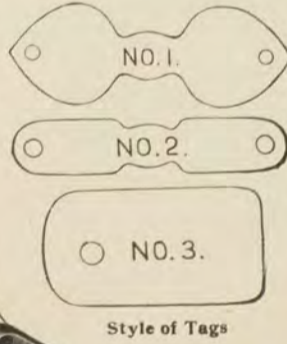


"THE" Machine for Tagging Rings, etc.

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

Pat. applied for

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

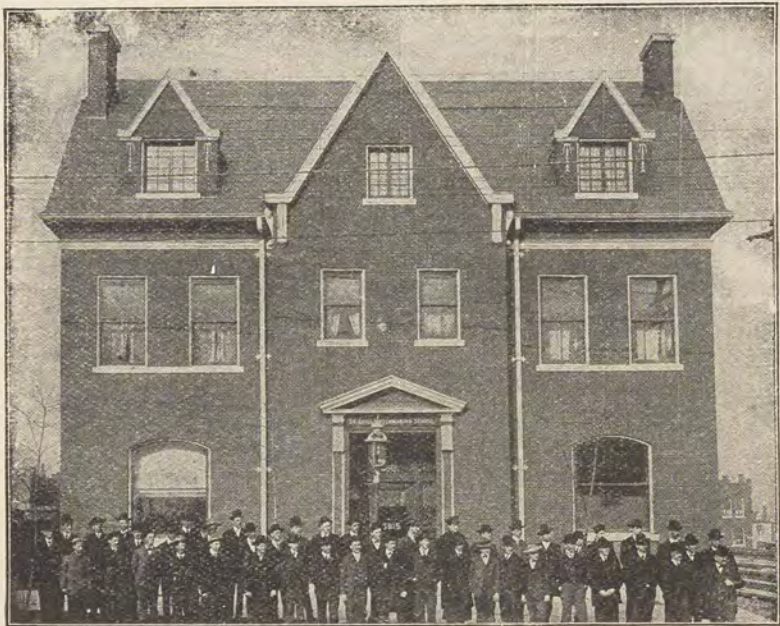


COMMUNITY SILVER ORDERS



IN THE POPULAR "CLASSIC," "FLOWER-DE-LUCE," "AVALON," "WINDSOR" and "TIPPED" DESIGNS, FILLED THE SAME DAY AS RECEIVED, FROM THE LARGEST STOCK TO BE FOUND ANYWHERE

**H. S. MEISKEY COMPANY
LANCASTER, PA.**



SUCCESS is the best recommendation a school can have

That the **ST. LOUIS WATCHMAKING SCHOOL** is the most successful school in the United States is attested to by a growing patronage that has now exceeded our most sanguine expectations, and continuously growing patronage we deem of all testimonials the most substantial.

Many of our present students are sons of fathers that attended our school twenty years ago, which certainly is proof that we give our students entire satisfaction.

Now is the best time to enter our school, and if you wish to become an expert in the various branches of the jewelry business write for our new catalog, which will give you some valuable information.

ST. LOUIS WATCHMAKING SCHOOL, ST. LOUIS, MO.

A NEW TOOL
Culman Jewel-Setting Cutters

Simply a set of drills which can be made larger or smaller as needed: a very useful, practical tool for setting jewels, countersinking, turning out barrels, centers etc.

Handier and more rigid than tools costing ten times the amount; no shattering or lost motion between feed screw and cutter.

Made to fit tailstock of Webster-Whitcomb and Moseley No. 2 lathes.

Order through your jobber, **\$3.00** per set

Set your own jewels and save time and money

CULMAN BALANCE CHUCK

For refinishing Balance Pivots without removing the Hairspring or Roller, and protecting them while the Pivots are being polished.

Over 1000 Sold the First Year

Practical, safe, true and the greatest time-saver ever offered to the practical watchmaker. **Price, \$3.50** Order from your material jobber

C. CULMAN, Maplewood, Mo.

Removed to Maplewood for more room, more light and better facilities

Enormous Profits in Post Cards

Provided You Display Them Well

The amount of space occupied in displaying an assortment of Post Cards will pay more profits than most dealers receive from a space twice as large with other lines of Merchandise.

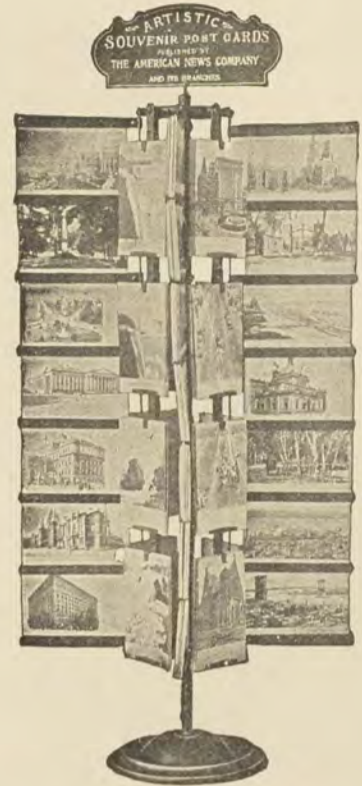
If your space is limited, discontinue a less profitable line; it will pay you to give your thought and space to Post Cards. Large profits are insured.

We here show an illustration of our patented and **IMPROVED PARAGON REVOLVING POST CARD DISPLAY STAND**, constructed entirely of Gun Metal Steel. It is the handsomest and most effective stand on the market.

The Stand is 36" high and 16" wide, the frame revolves smoothly and easily on a solid steel rod, seventy-two different cards are displayed at the same time. Capacity of the Stand is 1500 cards.

To introduce our High-Grade Cards to all dealers, we offer the Stand and the following special line of Cards:

50 Fancy Cards, New Spring Designs	} All of National Interest
50 Embossed Fancy, Assorted "	
50 Good Luck	
50 Embossed Flag and Presidential Cards, Assorted	
50 Slate Cards	
50 Assorted Copies of Dresden Gallery	
100 Black and White, Assorted Views	
100 Poly-Chrome (Colored) Cards, Assorted Views	
100 Litho-Chrome	
200 Comic Fortune Telling	
200 " New Spring Designs	
1000	



1000
High-
Grade
Post
Cards
and
Paragon
Rack
Only
\$10.00
F. O. B
New York

We are the **largest importers** of Views, Birthday, Easter and Fancy Post Cards and confine ourselves to the **Highest Grade** only.

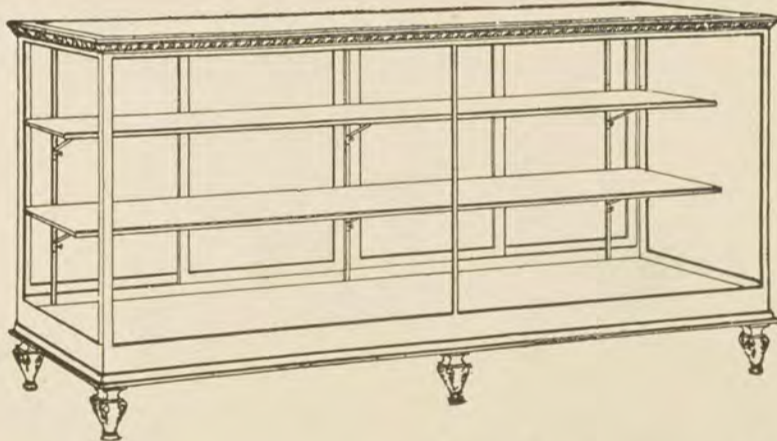
As a special inducement, we will select views of your locality as near as possible if you will so request.

We shall be pleased to answer your inquiries and to fill carefully all your orders.

Post Card Department
Desk 1

THE AMERICAN NEWS COMPANY

NEW YORK, N. Y.



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.

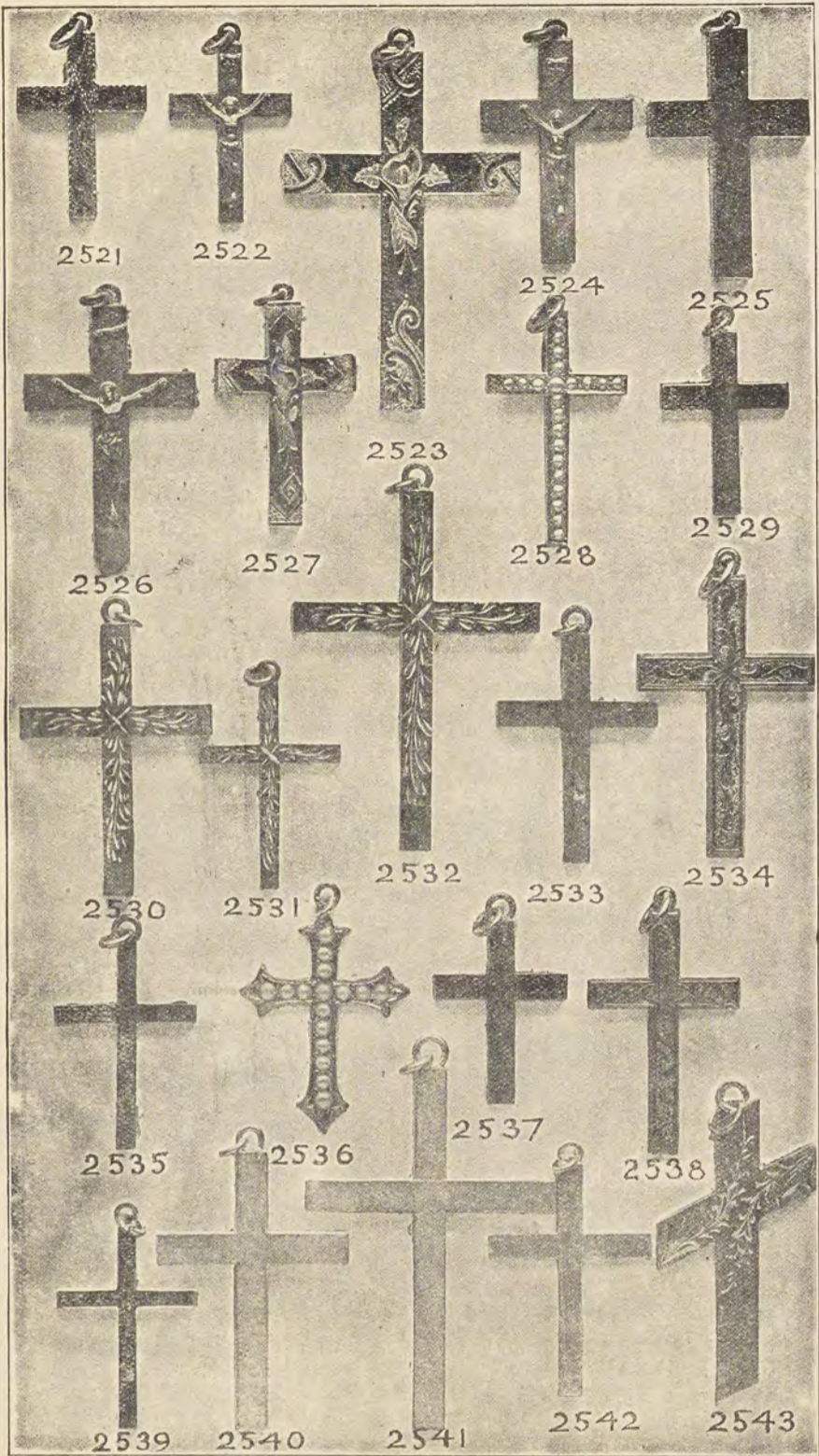
105 E. Lake Street, CHICAGO, ILL.

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



R., L. & M. Friedlander

WHOLESALE JEWELERS

30 Maiden Lane

NEW YORK CITY

THIS IS THE SEASON FOR

CROSSES

Our stock of **CROSSES** is large and varied.

We have them diamond-set from

\$5 to \$100

We can also offer you a fine variety of designs in GOLD, GOLD FILLED and SILVER.

And last, but not least, **CROSSES** SOLIDLY SET with Emeralds, Rubies, Sapphires, Amethysts, Topazes, etc.

Send for our Watch and Jewelry Catalogues

R., L. & M. FRIEDLANDER

Wholesale Jewelers

30 Maiden Lane

NEW YORK CITY

CANDO

SILVER POLISH

IS THE BEST

not only for the consumer but also for the JEWELER to sell

PAUL MFG. CO., Boston, Mass.



H. KROLL & CO.

MAKERS

36 & 38 John Street
NEW YORK



*Mountings that help sell
Diamonds*

The "Bryant" Rings.

TO THE RETAILER:—If you expect to stay where you are and hold the old trade, you can not afford to sell second-class goods.

The BRYANT RINGS will hold the old customers, and every ring you sell will be an advertisement that will attract new ones. They are the Best Made and Best Known Rings in the market.



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

JEWELERS' SAWS

Joh. Zeuner, of St. Goar, Germany, is famous as the maker of

THE BEST SAWS

and has appointed us his SOLE AGENTS for the UNITED STATES AND CANADA

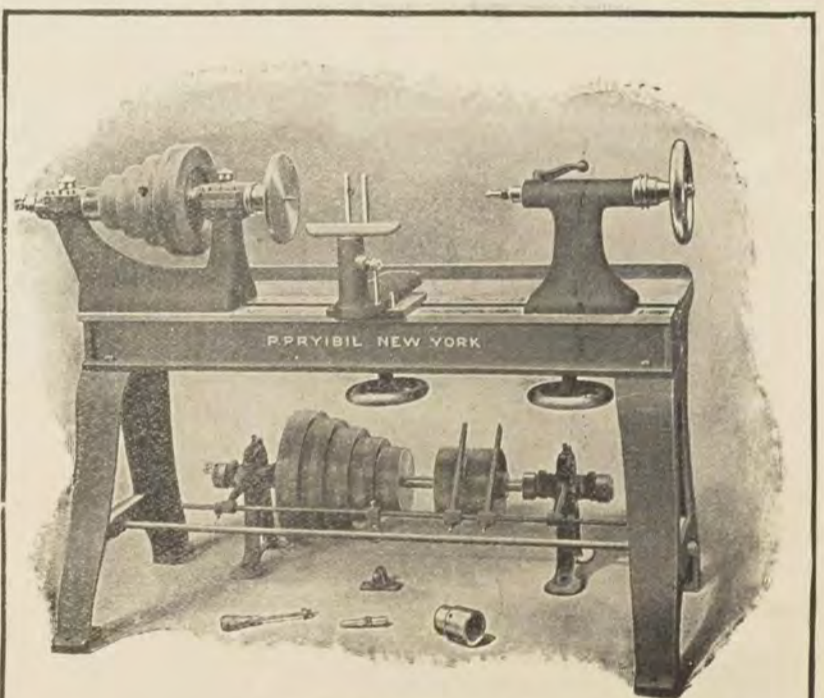
Ask your Jobber for **ZEUNER SAWS** if you want **THE BEST**

or write to us

When in need of **Fine Files**, kindly remember "**American Swiss**"—our own make

E. P. REICHEL & Co.

23 John Street, New York



ABOVE CUT SHOWS OUR

METAL SPINNING LATHE

We manufacture these lathes in sizes from 12-inch to 44-inch Swing, and can equip sizes 18-inch and larger with our Chucks for oval work

WRITE FOR CATALOGUE

P. PRYIBIL, 512-524 West 41st Street, NEW YORK

SOME SMALL TOOLS

Manufactured by

Hardinge Bros. 1034-1036 Lincoln Ave. CHICAGO, ILL.



Saw Arbor and Saw
Arbor fits No. 38 Wire Chuck
Price of arbor, with 5/8-inch saw 50c.
" " 5/8-inch saws per dozen, assorted 25c.



Staffing Steel
Drawn to Exact Staff Temper
Price, 18 pieces, assorted 50c.



Taper Reamers
For any standard size watchmaker's lathe
Price \$1.00



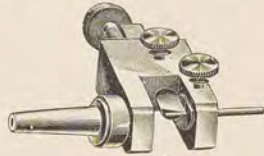
Dead Center Wheel
Price \$2.50



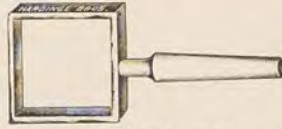
Taper Blank
Brass or Steel
Price, . . . 8c. each
" per doz. . 75c.



Spectacle Milling Tool
Made in three widths
Fits No. 38 wire chuck
Price, set of three . . . 65c.
" singly 25c.



Box Tool
Price \$3.00



Open Tailstock Center
Price \$1.75

Our tools are first-class in every respect and fully guaranteed. Our **Wire and Wheel Chucks** are excelled by none. Made for all standard sizes of watchmakers' lathes, and the price is 60 cents each.



Work Carrier
Price 75c.



Ball-Bearing Thrust
To prevent lathe spindle from binding
Price \$1.50



Hardinge Roller and Hand Remover
Price, with 6 caps \$2.00
" plain 1.75
" caps only50



Tempered Pivot and Drill Wire
50 assorted pieces, .010" to .100"
Price, in box, as illustrated \$1.00



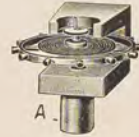
Pendant Bow Milling Tool
For milling ends of watch bows and counter-sinking cases
Price 50c.



Centering Tool
Price 50c.



Arbor Squaring Device for Vise
Price \$2.50



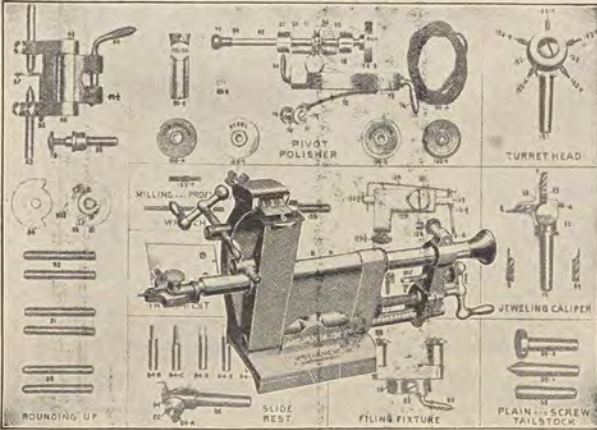
Roller Remover
For Staking Tool
Price 60c.



Cement Brasses
1/4" to 2" diameter
Price, 5c. to 50c.

We make a specialty of nickel plating and repairing any make of watchmakers' lathes and guarantee a first-class job.
Pyrography: We are manufacturers of high-grade platinum pyrography points and sundries; also first-class complete outfits.
We repair any make of pyrography point or bulb.
Write for our No. 5 Catalog and Pyrography Booklet

Clement Combined Lathe Attachment



Fitted to any Lathe
Complete as shown
\$40.00
strictly Net
New Catalogue
just out
Fully Illustrated
Attachment sent
on Trial Free
W. D. CLEMENT
Waltham, Mass

THE HOLE saves MUCH time in sharpening; keeps the point flat; insures much more even temper.
THE STEEL is made special with the proper per cent. carbon and other ingredients to insure the very best cutting edge that can possibly be produced.
THE TEMPER; these gravers are all hardened by our hard-tough-even tempering process which insures the hardest, toughest and evenest temper that can be produced. Many sizes will be made—only one size now ready for delivery.
Temper perfectly even all through; yes through a thousand gravers; by our process it cannot be otherwise. **Price 25 Cents.** From your Jobber or direct; postage 1 cent.



Clement Hollow Graver



WE BUY

Old Gold and Silver Filings, Polishings, Sweeps, Hand Washings, etc. We will make accurate valuations and hold consignment subject to your acceptance. If valuation is not satisfactory, we reship to you at our expense.

WE PAY FOR OLD GOLD:

22 K. 88c. per dwt.	12 K. 48c. per dwt.
20 K. 80c. " "	10 K. 40c. " "
18 K. 72c. " "	8 K. 32c. " "
16 K. 64c. " "	6 K. 24c. " "
14 K. 56c. " "	4 K. 16c. " "

MARKET RATES FOR SILVER AND PLATINUM

Try us and you will appreciate our Squareness, Promptness and Accuracy

T. B. HAGSTOZ, LTD., Main Office, 709 Sansom St., Philadelphia, Pa.
SMELTERS, ASSAYERS, REFINERS

WE SELL

Gold, Silver and Platinum, various qualities, rolled flat or drawn to wire of any gage.

PRICES OF ALLOYED GOLD:

10 K. 50c. per dwt.	14 K. 66c. per dwt.
12 K. 58c. " "	16 K. 74c. " "
	18 K. 82c. per dwt.

Gold and Silver Solder, either from formulas furnished or our own. "T. B. H." Alloy, 25c. per oz. Guinea Gold, 75c. per lb. Shot Copper, 40c. per lb. We will send tables for alloying without charge. They save figuring.

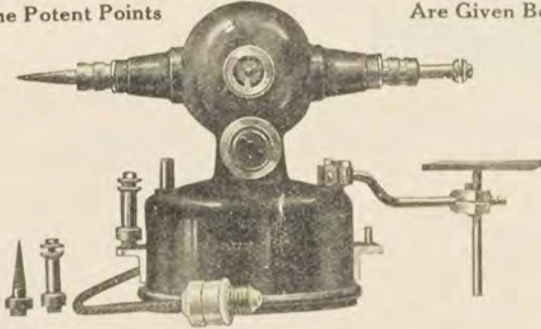


Something New



H-C Multi-Speed Lathe Motors Both Direct and Alternating Current FOR JEWELERS

Some Potent Points Are Given Below



These motors embody many important advantages not found in our former styles nor in any other make on the market.

Note the following points of superiority—

- ☐ Wide speed variation—any speed between 300 and 3600 by simply turning a handle.
- ☐ Long heavy shaft supported to the end, for polishing interiors of deep vessels.
- ☐ Shaft is hollow sufficient to allow rods 6" or 8" long to be held in adjustable chuck.
- ☐ Tool or hand rest has universal adjustment and may be used on either side of machine.
- ☐ Rack on motor base for holding idle chucks.

Also Notice—

- 1-6 H. P. capacity
- Dust and moisture proof
- Full power of motor on all speeds
- Attach to lamp socket by cord and plug
- Flexible shaft can be easily attached
- Large assortment of accessories

These Motors Are Guaranteed for One Year



—Accessories—

Two buffing chucks; three grinding chucks; single groove pulley chuck; flat pulley chuck; three-groove pulley chuck; adjustable drill chuck; saw chuck; sandpaper chuck; plug and cord; special long chuck for extra deep interior polishing; flexible cable chuck; extra chucks if desired.

Write for Bulletin and Prices

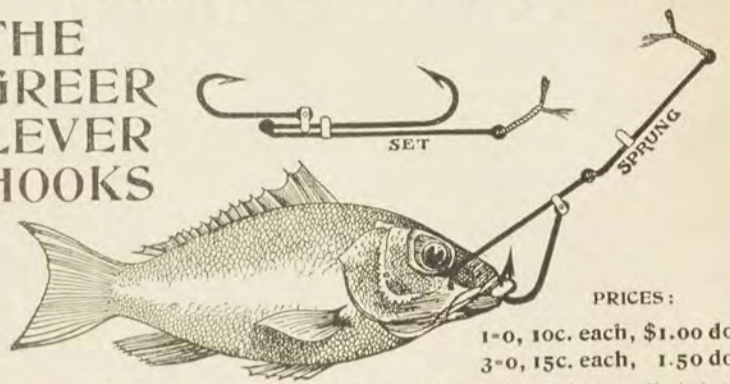
The Holtzer-Cabot Electric Co.

Boston (Brookline) Mass.
Chicago, Illinois



FISHING MADE EASY, by Using

THE GREER LEVER HOOKS



THE BEST FISH HOOK ON EARTH for Sea, Lake and River Fishing. No losing bait. Nor coming home without your largest fish. No breaking loose or tearing out. No one can afford to fish without one. No springs to get out of order. It is simple and strong, being a lever, the harder a fish pulls the stronger it will hold him. It is easily adjusted to all kinds of fishing by sliding the little clamp on the rod. You will find our hooks fine for fishing through the ice. Use our hook the same as you would any common bait hook and you will find that you will lose very few fish, it is impossible for a fish to cut the line with our hook. We claim for the lever hooks that a fish does not have to be hooked on the bait hook to get him, if he pulls on the bait the larger hook will spear him. Made in two sizes only, 1-0 and 3-0. If you cannot get them from your local dealer order direct from us.

What About

Greer's Improved Long Sliding Soldering Tweezers

"A Good Thing" Say Those Who are Using Them



MADE EXPRESSLY FOR JEWELERS

Jewelers will find these Tweezers very useful for either hard or soft soldering small articles such as studs, scarf pins, hat pins, button backs, pin tongues, dial feet, etc. Try them. If you cannot get them from your dealer order direct from us. They are 5 1/2 inches long and nickel plated.

Price, 50 cents

Manufactured by GREER MFG. CO., Atlanta, Ga.

LEARN ENGRAVING FOR \$5.00



Specimens 1/2 size

Our home course of instruction, also gravers, pad, holder and tool sharpener, marking point, dividers, oil stone, plates, rings and thimbles to practice on and four sets alphabet sheets. Instruction sheets are by an expert working engraver. Hundreds have been taught by our method and course. The price, \$5.00, also includes one copy of our "Monograms and Alphabets" book.

Book of Testimonials Mailed on Request

1220 Monograms

Every possible combination alphabetically arranged in our

"Monograms and Alphabets"

book, in script and block monograms and script, Roman, old English, block, German, Greek, Hebrew and ornamental alphabets. The only up-to-date complete book of its kind in the market.

Price, One Dollar, postpaid. SEND CASH—NO CHECKS

"Your instructions are as plain as if a good engraver were standing over my shoulder and telling me what to do. I could do pretty good work after one week's practice."
RAY C. BASSETT, Woonsocket, S. Dak.

American School of Engraving
45 Maiden Lane, New York, U.S.A.

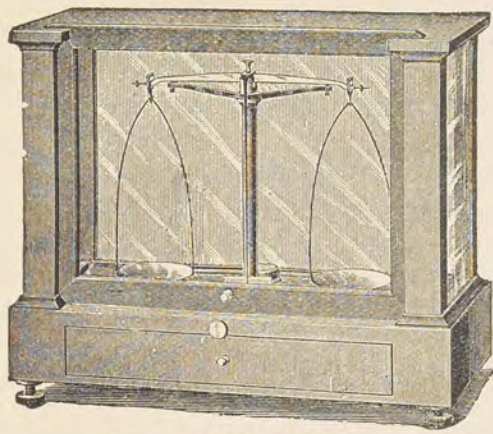
HERMAN KOHLBUSCH, SR.

MANUFACTURER OF

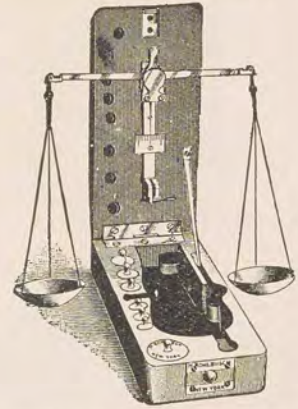
Fine Balances and Weights

FOR EVERY PURPOSE
WHERE ACCURACY IS REQUIRED

194 Broadway, New York, N. Y.



No. C. DIAMOND BALANCE



UPRIGHT POCKET DIAMOND SCALE

SEND FOR CATALOGUE

NEW K. & D. ROLLER AND HAND REMOVERS

WITH PARALLEL JAWS

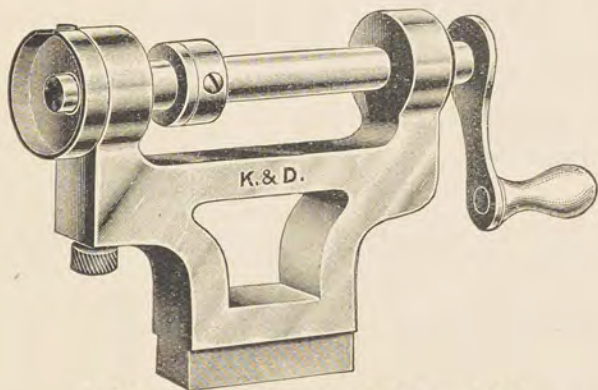


No. 150 L. (Lever Action)



No. 150. (Screw Action)

These tools are exceptionally well made and finished, and have all of the modern requirements in their make-up. They will remove successfully either double or single rollers of any size; the only tools of their kind with parallel adjustable jaws. Roller rests flat on inside of jaws which obviates danger of breaking pivots. They have four plungers, two for removing watch hands; plungers are fitted with taper (no screws) and are easily and quickly changed with pin, as illustrated. Recess in end of handles for extra plungers. The jaws open and close by turning knurled disks either way.



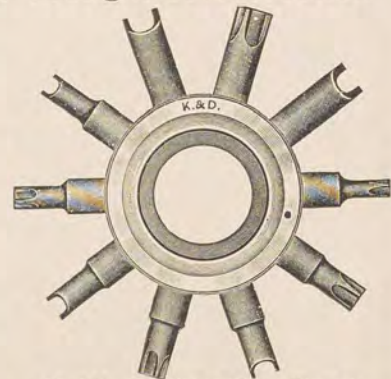
NEW MAINSPRING WINDER FRAME

No. 125A. Three Arbors. Nine Barrels. Price . . . \$2.65
No. 125. One Arbor. Six Barrels. Price . . . 1.50

The K. & D. Original Ten-Prong Sleeve Wrench

The best of its kind made

Drivers are made of tool steel accurately fitted to the different sleeves of all American watches and are correctly shaped and properly tempered for strength. Drivers interchangeable with our No. 139 and No. 144 sleeve wrenches, a desirable feature for the jobber and watchmaker; the most simple and rigid of fastenings. All genuine tools stamped K. & D.

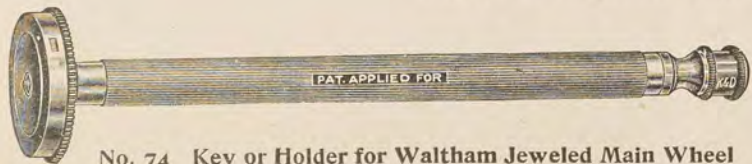


No. 145 Ten-Prong Sleeve Wrench



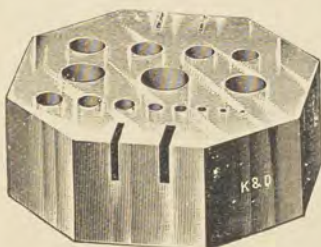
No. 310 IMPROVED SENSIBLE HAND REMOVER

The quickest working and only practical tool for removing watch hands. Does not break dials.



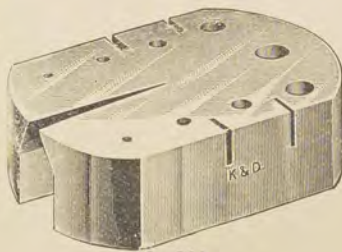
No. 74 Key or Holder for Waltham Jeweled Main Wheel

No. 74. 16 Size. Key or Holder for Waltham Jeweled Main Wheel Arbor.
No. 74A. 12 and 14 Size. Key or Holder for Waltham Jeweled Main Wheel Arbor.



No. 85A

The V in this Staking Block will be found useful for driving out of the wheels, escape and other pinions of American Watches, for pivoting. Milled slots in blocks are for driving out joint pins of Watch cases or Brooches.



No. 86A



No. 36C

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For removing Pinions from Escape and other Small Wheels.



No. 305

Roller Remover Stump for Staking Tool V-Stump
Removes all sizes of Rollers.



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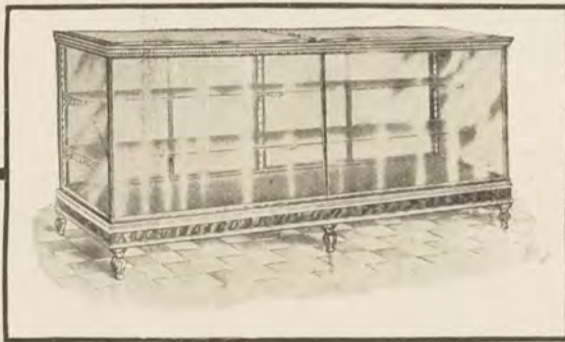
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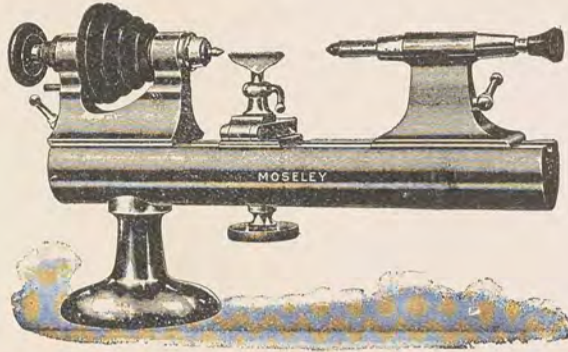
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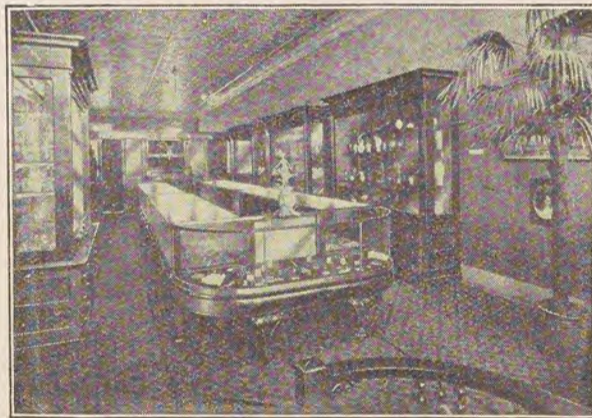
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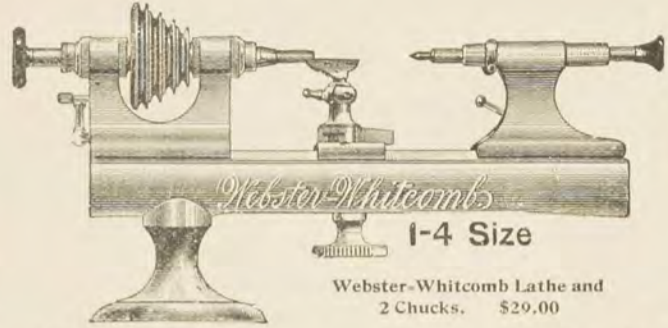
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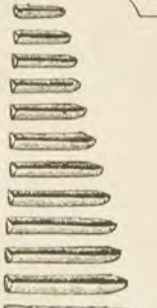


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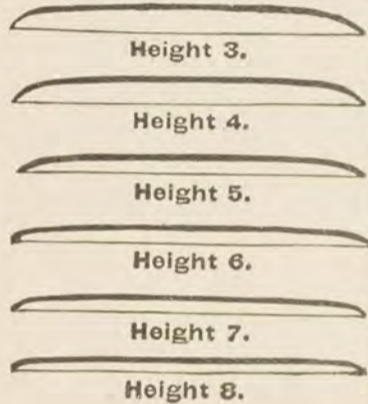
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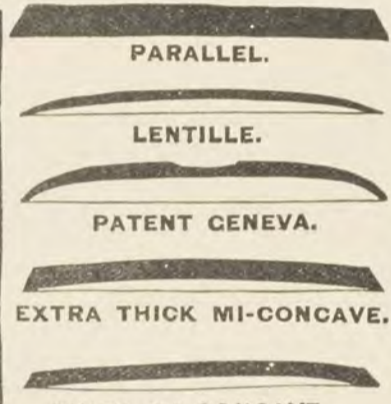
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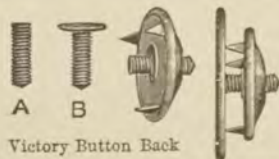
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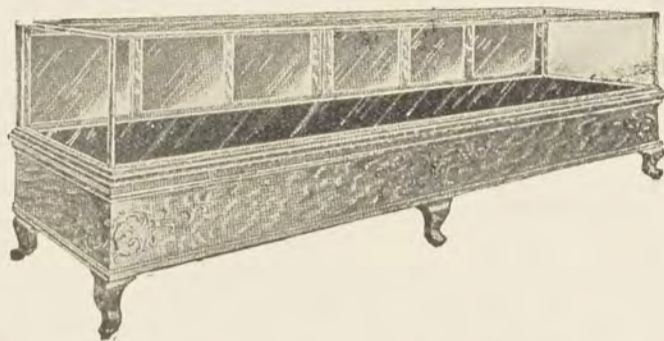
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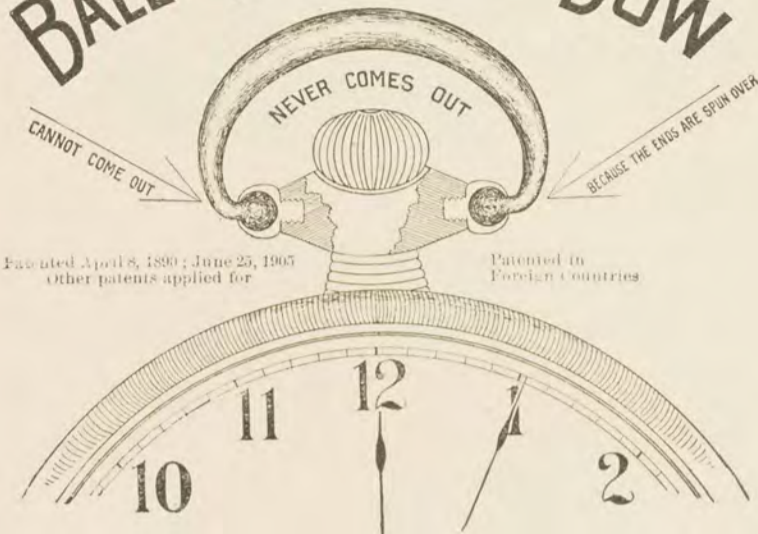
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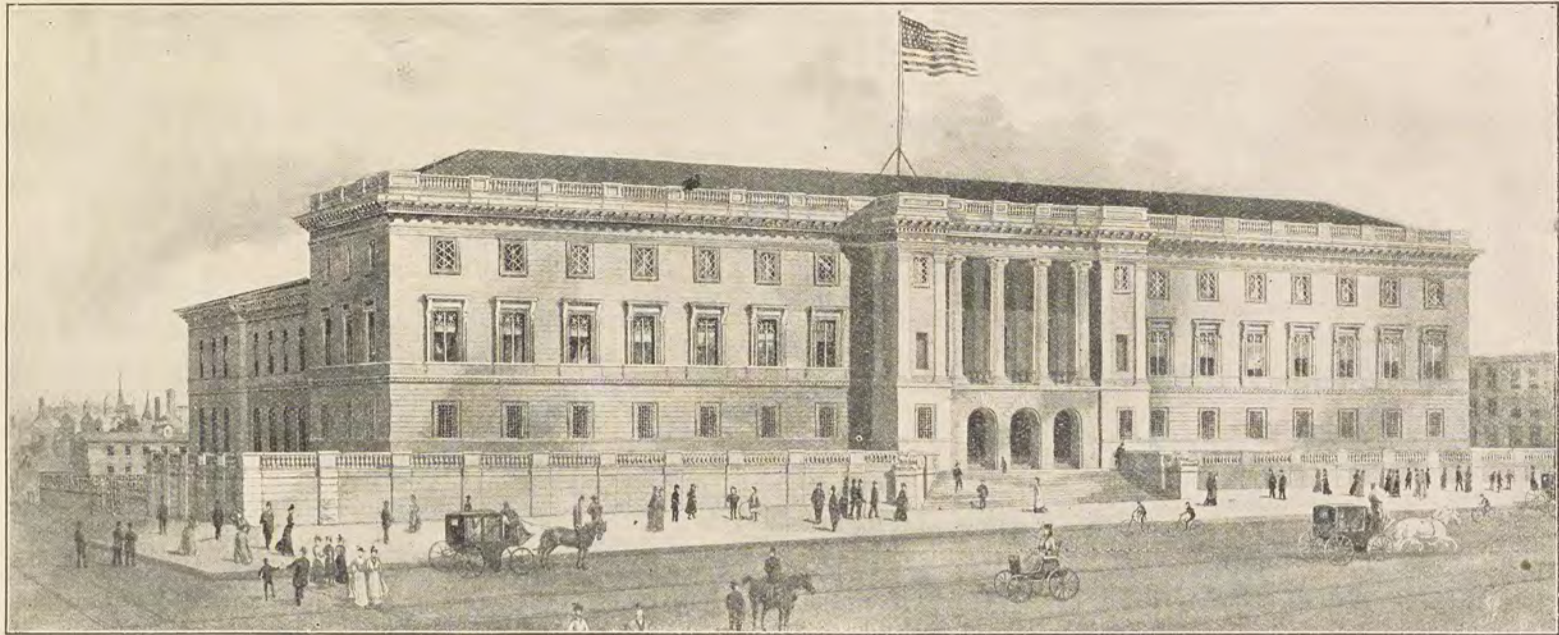
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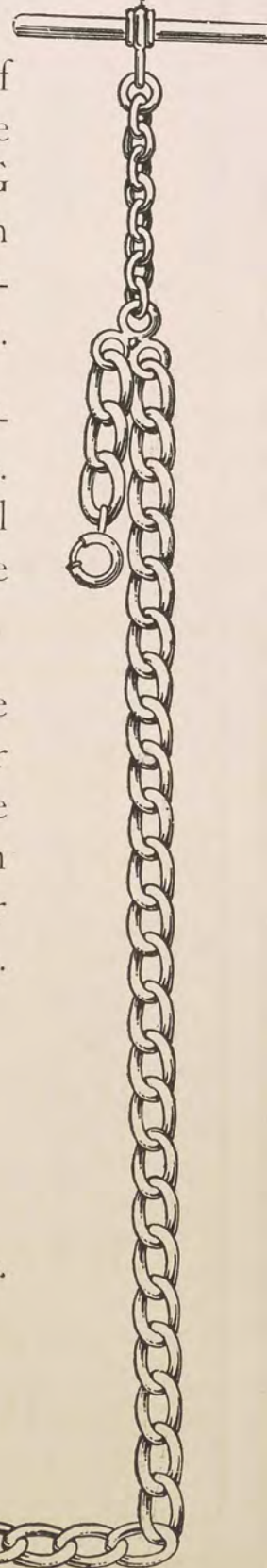
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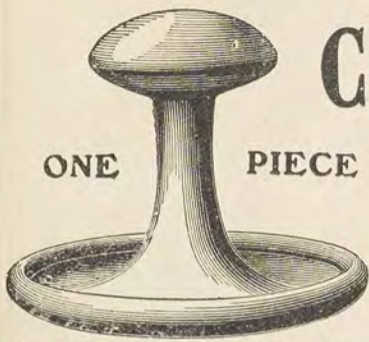
Krementz

Collar

Buttons

and Studs

ONE PIECE



The Standard American Collar Button

Made of one piece of metal; the following illustrations show the KREMENTZ process of manufacture

First this disk :

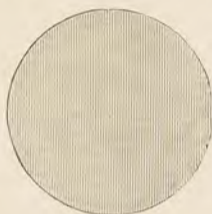


Fig. 1

Is stamped into this shape :



Fig. 2

Then fashioned like this :



Fig. 3

Rapid and repeated blows by powerful hammers, in a machine of almost human intelligence, coax it into this shape :



Fig. 4

Another machine turns up the edges :



Fig. 5

The next operation rolls them over :



Fig. 6

Then the head is shaped :



Fig. 7

After which the button is polished.

If we cut the finished collar button in half, we notice that the metal in the shank has been thickened and toughened, strengthening it where the most strain comes. This is a sectional view of the Kremenz One-piece Collar Button.



Fig. 8

Send for booklet, "The Story of a Collar Button"

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KREMENTZ & CO.

in their Factory

NEWARK, N. J.

PARK BROS. & ROGERS
20 Maiden Lane, New York
Selling Agents to Jobbing Trade



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The Evening Bulletin of Philadelphia

on Friday, March 1, 1907,
devoted a column and
three-quarters to

The Silver Standard

the little magazine pub-
lished by the Meriden
Britannia Co. to advertise
its well-known

1847 ROGERS BROS.

Silver-Plated Flatware

The *Bulletin's* article is
reproduced below:

Men and Things

THE Meriden Britannia Company pub-
lishes a little bi-monthly periodical
called "The Silver Standard," a
series of collated facts concerning
the condition of the country in 1847
—the year when the company was
established. That the purpose of the
periodical, as frankly stated, is an ad-
vertising one, is not a reason why the
excellent and interesting compilation of a
large variety of highly instructive and
curious citations which illustrate the con-
ditions of American life at that period
should be precluded from consideration.
As gathered into a bound volume they go
far to make a sort of cotemporary picture
of the current ideas, customs, peculiari-
ties and events three score years ago.
These have been obtained from various
sources of information, particularly news-
papers and magazines, and principally in
the form of fugitive paragraphs; they re-
flect the very spirit of the time, and they
indicate how public men and the every-
day writers of that period, when James
K. Polk was President, were profoundly
impressed with the thought that they were
living in an unexampled age of wonders
and of progress. With what apparent
elation, for example, it was expressed that
the three great projects of the day which
were then in contemplation were a rail-
road from Lake Michigan to the Pacific,
a canal across the Isthmus of Suez, and a
canal across the Isthmus of Darien or
Panama! How many of the publicists
and promoters of 1847 were evidently
moved, as the live men of our time sim-
ilarly are, to look forward to the realiza-
tion of great plans of human progress—
plans which have long become, for the
most part, to us the commonplace realities
of our existence? * * * * *

Horace Greeley, then thirty-six years of
age, was writing with rapture of the mar-
vels of science and the progress of civil-
ization—of railroads, of electric telegraphs,
of steam printing presses, and of fast
steamships. "There are a thousand miles

of telegraph," he wrote, "in
alone. I sit in my work-
room in New York and write out a questi-
onnaire for my friend in Cincinnati or Rich-
mond, and his answer is laid on my table
in the course of two hours thereafter.
The delay in twice crossing the Atlantic
in a steamship is a serious accident
"the many serious accidents
taken place in our country."
On one occasion it was remarked, a
lively and enterprising
man thought that, while a telegraph
message was flashed away as in an in-
stant, he was to be content with riding
thirty or forty miles an hour
to get a glimpse of the postal
office. The statement that a short
trip fitted up with a postal office
on the road between Boston
and Hampshire cities, for the
purpose of paring the delivery of mail

What little places then, a
comparatively, were some of
of our time! Chicago had
of about 17,000, but a writ-
er is quoted as having descri-
bed progress during a few years
which had not only aston-
ished but had excited great inter-
est. Paul, then a frontier set-
tlement of a hundred inhabitants, Chi-
cago, Detroit, with 18,000, was
Cleveland had less
than 10,000, Atlanta, which was about
to be incorporated. San Fran-
cisco had come to be known
as having 450 American inhab-
itants, 300 were estimated to be
born in Cincinnati, and its
growth of Cincinnati, he
led by its people with
it was believed that in
at least 100,000; its future
was agricultural, commercial
and an emporium of the
country. Cunniff predicted, and it
was a mathematical forecast of 4,000,
for the year 1910. * * * *

In the political life
of that Secretary of the
Interior, Walker was calling
attention to the question; John C. Cal-
houn, then President, was
nominated for the President
of the Senate, and President
was going sharp criticism
of the heroes of the Mex-
ican war. "forgotten and
who, ragged, sunburnt
toiling without pay
the sands of New Mex-
ico, glove politicians, el-
derly of Pennsylvania ave-
nue, the offices?" Henry
years of age, had ju-
stice at Lexington, and
an "eloquent warn-
ing" on the verge of four se-
venty with the hope that
years before him, all
in the year follow-
ing, radical reform in
ment was agitated
that the service was
and more costly than
seems to have been
the immigration of
100,000 immigrants
of New York alone
275,000 in a year
fourteen li-
ons," said a
great mass of for-
eigners are English, Scot-
tish, German. The
largest frac-
tion of her Eng-
lish subjects
causes of the in-
famous of the
Ireland, together
parts of Europe
pers, who under the
took advantage in such a crisis to fill their
vessels with paupers, the diseased and
criminals. A cotemporary picture is given
of the arrival of an immigrant ship, and
the scene differs in no essential particular
as regards the crowds, the confusion, the
variety of costumes, and the apparent ca-

gerness of the newcomers from that which
we may now see in the summer months on
the arrival of almost any big Atlantic
liner. * * * *

Here and there some ray of light is shed
upon the morals and manners of the day.
Thus an investigator of the sick list at
West Point showed, according to the sur-
geon, that the trouble, was due to the in-
ordinate use of tobacco and the wearing of
tight pantaloons. In Connecticut the man-
ager of a strolling company of players had
been fined for causing "certain females
dressed in women's clothes to whirl around
swiftly on one foot with the other extend-
ed at right angles and in a horizontal posi-
tion." Elsewhere it was said that the cus-
tom of sending valentines on the 14th of
February had been so abused as a means
of offering gross insult that some refined
people would not accept such missives at
all, no matter how costly. It was remark-
ed of Charles Dickens's "Notes on Ameri-
can Travel" that the features of the book
that struck the reader's mind most were
its "inanity and imbecility." An English
periodical reproved the ladies of New York
for "the abominable practice of chewing
the gum of the spruce fir;" the "National
Era" expressed the opinion that as a rule
married women should insist upon going
with their husbands to Washington, and
Mr. Longworth, of Cincinnati—probably
kinsman of the present Nicholas Long-
worth—stated that he had made 6,000 bottles
of champagne from his last season's vintage
of Catawba grapes. The ten-hour system
for workingmen, it was observed, at some
places where it had been introduced, had
produced no loss to contractors and other
employers; and it was noted among the
changes in fashion that our countrywomen
now were as lovely in nine-penny calico as
they had formerly been in Canton crapes.

Occasionally there is a reference to Phil-
adelphia. A wood-cut picture of the build-
ing of the Academy of Natural Sciences,
at the northwest corner of Broad and
George (Sansom) streets is presented as it
stood in 1847. There is a tree on the south
side of the Academy; two ladies in vol-
uminous skirts together with some gen-
tlemen are seen on the corner where the
Union League now is, and on Broad street
a team of mules are pulling for dear life,
a train of cars, the first marked "Balti-
more 11-13." The weather in Philadelphia,
on the seventh of January, 1847, was re-
ported to be so pleasant, that farmers be-
gan ploughing, and the steamboat Bal-
loon was advertised to make a pleasure
excursion to Gray's Ferry. About this
time, according to an excerpt from the
"North American," "the Mall Pilot Line
made the passage from New York to this
city on Tuesday evening in the unprece-
dented quick time of three hours and fifty
minutes. This is the quickest trip ever
made from New York to Philadelphia by
a train of passenger cars." In the same
year it was announced that there had been
discovered here another Tom Thumb, then
one of Barnum's most popular attractions.
"Mr. J. A. Thomas, residing on Beaver
street, Philadelphia," it was stated, "has
a match for Tom Thumb in the person of
Miss Lizzie, who is being represented as
eight years old, measuring about twenty-
five and a-half inches in height and
weighing about thirty pounds. There is a
peculiarity in her conformation by means
of which she is enabled to put her feet
upon her shoulders and also to arise from
a sitting position on the floor without
using her hands to aid her and without
bending the joints of her knees." * * * *

And so we have been running along fr
a sort of touch-and-go at the big and the
little things in this sotsam and jetsam;
but it is curious that of those "great
projects" of the long ago of 1847, we have
still to make that Panama Canal a fact.
PENN.

Choose
Silver
of
Quality

Yet not
alone is this
sufficient. It
is the rare
combination of
time-proven
quality with
artistic patterns
of such merit as
to excite admira-
tion that makes
the famous

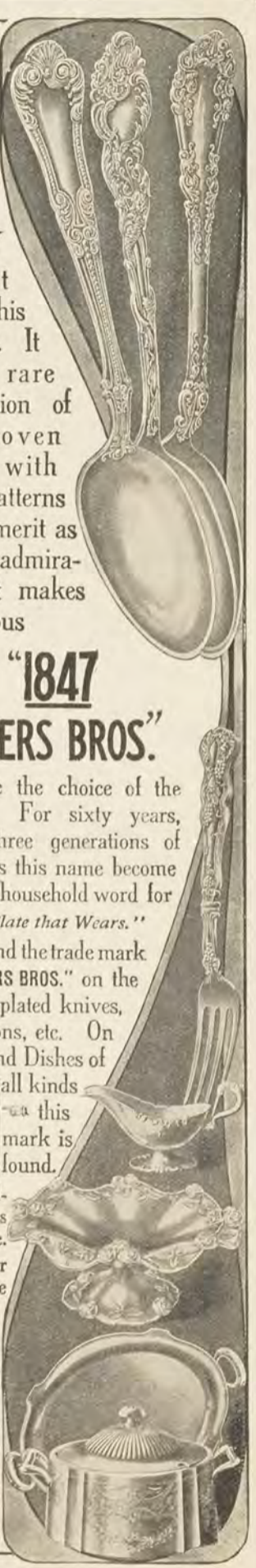
"1847 ROGERS BROS."

Silverware the choice of the
majority. For sixty years,
through three generations of
service, has this name become
a familiar household word for
"Silver Plate that Wears."

You will find the trade mark
"1847 ROGERS BROS." on the
best silver plated knives,
forks, spoons, etc. On
Tureens and Dishes of
all kinds
this
mark is
found.

Sold by lead-
ing dealers
everywhere.
Send for
Catalogue
"66"

MERIDEN
BRITANNIA
CO.,
Meriden,
Conn.
(International
Silver Co.,
Successor)
SAN FRANCISCO
CHICAGO



OUR ADVERTISING
makes an impression—an impression
in your favor, if you handle
1847 ROGERS BROS.
ware



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.

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THE KEYSTONE

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

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Table of Contents on page 591
 Index to Advertisers on page 735

Our Table of Contents

OUR readers will doubtless notice a slight change in the familiar appearance of this page, due to the fact that the Table of Contents which heretofore occupied this column will be found on page 591 of this issue (the second page preceding this title page), and on the corresponding page of succeeding issues. Owing to the growth in the contents of our journal, the wider scope of the articles, their permanent practical value and the habit of referring to them now being cultivated so assiduously by the trade, we found it necessary to make the Table of Contents more complete than was possible with the limited space available on this page. The change will give our readers the advantage of a complete index and greater facilities for reference. The index to advertisers will be found as usual on page 735, the second page preceding the back cover, and the corresponding page of succeeding issues. A glance at the contents of this issue alone will reveal the wide and comprehensive scope of the field covered by this journal and the interesting and practical character of the articles.

Another Year of Prosperity Assured

AS this issue of our journal and the springtime will greet our readers about the same time, it is most gratifying to us to be the bearers once again of a message of unqualified good cheer and hopefulness for the commercial year just opened. In every branch of the trade, from factory to retail counter, there is at present a degree of activity that exceeds even that of the prosperous springtide of last year. From the watch and case factories, from the jewelry manufacturing centers, from the silverware and novelty plants—in fact, from every supply source of the different varieties of goods handled by the jewelry trade, come similar reports of extensions, improvements and a flood tide of orders that is taxing productive capacity to its fullest extent.

The predictions of the few incorrigibly pessimistic, that the reaction from the upward trend of trade would almost certainly take place during the present year, are already utterly discredited. That eminently conservative and reliable authority, *Bradstreet's*, in its latest review of the situation, says: "The volume of spring trade will almost certainly exceed even that of last year. Improvement is reflected all around, even in the Northwest, which appears to be getting back to normal conditions. In fact, doubt as to the future is no longer in evidence in the great producing sections of the country. At some points in the West, sales of goods on spring account are fully 10 per cent. above those of last year; while fall business thus far placed is also in excess of that at this time in 1906. Collections continue to improve, especially in the Southwest, which is due to the fact that country merchants are discounting bills."

This view of the situation is corroborated by the latest review of R. G. Dun & Co., which says, "Many dealers have underestimated spring requirements, and urgent demands are now being made upon jobbing houses. In addition to current trade, there is a volume of preparation for later seasons that maintains activity at manufacturing

plants, the high prices readily paid testifying to the fact that confidence remains unshaken. One of the best features of the situation is the steady improvement in mercantile payments despite the unsettled conditions of the money market."

Commercial statistics for the season are even more convincing than mere general statements. We find, for instance, that for the week ending March 23d, the latest for which we have the records, that business failures in the United States numbered 157 against 170 in the corresponding week of 1906; 204 in 1905, and 215 in 1904. These figures prove unmistakably the continued upward trend. It is now universally conceded, even by the constitutionally pessimistic, that there is unlikely to be any turning of the tide of prosperity during the present year except in the untoward event of poor crops, of which there is no symptom at this time.

Startling Activity Among Jewelry Thieves

THE quick-witted army of thieves and swindlers who make the jewelry trade their special prey, have manifested in recent months a startling degree of activity, and their efforts have been marked by a degree of success that is well calculated to arouse the jewelers to a proper appreciation of the dangers from this source which beset the trade. It would appear as if mere warnings were utterly ineffective in impressing the trade with the necessity of extreme precaution unless accompanied by some extraordinary coup, which the most indifferent cannot fail to ignore. This latter was furnished a few weeks ago in Houston, Texas, when a cool-headed thief succeeded in getting away with \$50,000 worth of diamonds in a manner chiefly remarkable for its sheer simplicity.

FROM the long accounts of the robbery published in the daily press, we cull the following facts: The man who is suspected of the theft visited the store and informed

the clerk who waited on him that he had a diamond which he wished to duplicate. He wished to examine some loose diamonds in order to make his selection, and the clerk, who noticed nothing remarkable in his would-be customer's appearance, sent for the firm's box of diamonds which contained gems to the value of \$50,000. The visitor closely examined several of the stones, stating that the fact that his own diamond was soiled considerably interfered somewhat with his making a correct duplication. He suggested the advisability of having his own gem polished and departed, saying that he would return the following day with his wife, in order that she might aid him in the selection, intimating that the gift was for her. The box was then replaced in the safe, and the transaction was over for the time. When the box was again removed from the safe for the purpose of making a sale to another customer, it was discovered that the trick of substitution had been very cleverly worked, the thief taking the box of diamonds and leaving one very similar in appearance filled with paper.

The consternation which followed this discovery may well be imagined. A reward of \$5000 for the capture of the thief, or the recovery of the gems, was promptly offered by the house. This was later increased to \$10,000, and still later to \$15,000—the reward now available “and no questions asked.” Up to this writing, however, there is no trace of the thief—who is, no doubt, a past-master in his art and had studied the situation thoroughly before making his successful attempt.

There is an impressive object lesson in this robbery which no jeweler can well lose sight of. The very simplicity of the method adopted is really its most remarkable feature, and a similar attempt by the same thief, or some other of his ilk, may be made at any time or anywhere, as the members of this fraternity have a genius for moving swiftly and turning up at the most unexpected places.

THIS, indeed, was only one of a number of daring robberies perpetrated on members of the trade in recent months. In one of the most crowded portions of the big city of Los Angeles, Cal., and in broad daylight, two highwaymen with revolvers held up a jeweler and his clerk, and succeeded in purloining goods to the value of \$2500, none of which have, so far, been recovered. The robbers in this case would seem, also, to have thoroughly studied the situation in advance, as their visitation took place while the jeweler and his clerk were transferring stock from the show cases to the safe.

In wide-awake New York City a jeweler

was swindled out of goods valued at \$1000, on March 20th, by a time-honored trick, which is still worked successfully. The goods were brought by request to a Brooklyn address by the jeweler and his salesman. Here the latter were met by the prospective purchaser, who left them comfortably seated while he took the goods to “show them to his wife in another room,” and did not return. It afterwards transpired that the man had just rented the rooms, possibly for this purpose.

As the success which has attended a great number of the recent robberies will, no doubt, stimulate the audacity of the light-fingered fraternity, it behooves the jewelers to have an extra care, and for themselves and their salesmen to take every possible precaution to frustrate the skilful operations of the talented and nery robbers who now infest our cities.

World-Famed Horologist Passes Away

ONE of the most eminent, if not the most eminent, of the world's horologists has passed away in the person of Jules Grossmann who died on February 27th, at Locle, Switzerland, having attained the ripe old age of seventy-eight years, and after a life of incessant industry and remarkable achievement. The deceased was born near Berlin, Germany, in 1829, and began the career in



Jules Grossmann

which he was to achieve so much fame, when fifteen years old, as an apprentice to a watchmaker in his native town. The young apprentice revealed in his work not only aptitude but genius, and soon developed an insatiable thirst for knowledge in his chosen art. Acting on this desire, he first went to Berlin, later to Great Britain and finally to Switzerland, utilizing every moment of his wanderings in the acquisition of scientific knowledge and practical experience. In time his eminence as a horologist became recognized, and many were the honors conferred on him as the value of his researches and discoveries became better understood. Early

in his career he realized that a thorough knowledge of mathematics would be necessary to the attainment of his ambition and this knowledge he proceeded to acquire. The one aim he constantly kept in view was a reconciliation of practice and theory and to this end he labored persistently and with complete success.

IN 1867, although a foreigner in Switzerland, he was selected as a delegate to the Universal Exposition at Paris to study horological questions. In the same year the Communal Council, of Locle, appointed a special committee to prepare plans for the establishment of a horological school, and Mr. Grossmann was made an advisory member of this committee. The position of director was thrown open to competition, but as none appeared who seemed to have the necessary attainments, the committee requested Mr. Grossmann himself to accept the position. This he did, and thus was given an opportunity to continue his researches under the most favorable circumstances. Under his directorship, the Locle school became world-famed and its work was awarded the highest honors at all the great International expositions, Mr. Grossmann himself being honored by special medals as the one to whom the glory and triumphs of the school were chiefly due.

SOME years ago an investigation was made by the Swiss government of the various systems of horology taught in the schools of that country, and it was decided that it would be to the advantage of the industry to establish one uniform system which would be thorough and perfect. The work of devising and compiling this system was entrusted to the able hands of Jules Grossmann and his son Herrmann, whose well-known scientific attainments and teaching experience had peculiarly fitted them for the task, and the result is a system of horology that surpasses in scope, cleverness of treatment and scientific worth, any previous treatise on the subject. This treatise is the now well-known “Lessons in Horology,” the first volume of which, translated into English, has appeared in this journal and is now published in book form. The two remaining volumes are being translated with all possible celerity and will be published in due course, giving to English-speaking students of horology the advantage of this masterly treatise.

The world of horology gladly pays tribute to its departed genius who devoted his life and his talent to this specialty, making all humanity his debtor. It is noteworthy the distinction that has come to the name of Grossmann in this special branch of scientific research.

The Myth of Manufactured Diamonds

ONE of the most distinguished of the world's scientists, especially in the field of chemical research, has passed away in the person of Prof. Henri Moissan, of Paris, who died recently. Professor Moissan was probably most widely known for his success in producing by artificial means microscopic particles of diamond. Though this achievement was more spectacular than useful (he himself never claiming that diamonds of sufficient size to be of commercial value could be manufactured), the fact did not prevent sensational writers of the daily press from exploiting it in such exaggerated form as might well have demoralized an industry surrounded by less strict regulation than the production and marketing of diamonds. Other achievements which helped to distinguish him in the world of science were the isolation of fluorine and the chemical investigations which made the manufacture of acetylene practical and commercially profitable. Only last December he was awarded the Noble prize for his valuable researches and discoveries in chemical science, and it is to be regretted that so brief a period was left him for the enjoyment of this well-merited distinction.

AS to the manufacture of diamonds it is interesting to recall Professor Moissan's own description of the experiment as published in this journal at the time of the discovery:

I use a small oven formed of two blocks of limestone, one fitting on top of the other. Both blocks are hollowed out in such a way that when they are adjusted there is in the center a small cylindrical cavity. Two grooves leading to the lower half of this cavity are tunneled out in the block. The two stones are encased in iron. Next, two electrodes, connected with a powerful generator, are pushed into the groove until they touch a cylindrical charcoal crucible which has been fitted into the cylindrical cavity. I next fill the little charcoal crucible with broken bits of iron and carbon of sugar, and place it in the oven, wherein is generated a heat of from 4000 degrees to 5000 degrees C. As is well known, molten iron in solidifying, exercises a pressure against anything in which it may be enclosed, and the more rapid the solidification the more intense the pressure. To obtain this pressure the crucible with molten contents, is removed from the oven and plunged in water. This is only the first part of the operation. The diamond is formed in the center of the solid iron, but removing it is a very delicate task which takes nearly three weeks, and which is brought about by means of different acids.

The diamond particles which I have thus produced can be seen only by the aid of a microscope, my largest crystal being scarcely a millimeter. My discovery has no commercial significance, being simply a scientific demonstration.

Summing up the result of his own experiment Professor Moissan said: "Les diamants que j'ai pu préparer au moyen du tour électrique sont très petits mais ils coûtent beaucoup plus cher que les diamants naturels." (The diamonds which I have been able to prepare by means of the electric

oven are microscopic and cost much more than the natural diamonds.)

THE possibility that diamonds can ever be manufactured in such size and quantity as to be used in commerce is so remote as not to merit consideration. Indeed, the present remarkable stability of the diamond market is likely to be maintained indefinitely. The probabilities are that this stability will be affected neither by such demoralization as would result from manufactured diamonds, nor, on the other hand, by the paralysis which would result from the early exhaustion of the diamond supply, the possibility of which is now so much exploited in the daily press. It has been reiterated time and again that the diamond output of the De Beers Consolidated Mines will, in all probability,



M. Moissan fishing the minute diamond particles out of the last solution of the iron

become exhausted within a dozen years. This ridiculous assertion does not seem to cause much disquietude among those best informed on the subject. It would seem, indeed, from official reports of the output of the various mines owned by this company that there is not only no likelihood of a scarcity in the near future, but every indication of a well-regulated increasing supply. At the last meeting of the shareholders, Col. D. Harris, the chairman, discussed the rumors of the predicted exhaustion, denounced them as entirely unfounded and gave facts and figures to show that the supply is abundant and likely to remain so. After explaining the productive capacity of the mines, Colonel Harris said: "I have no hesitation in saying that the De Beers Co. will be largely producing diamonds at the end of the present century, long after those self-constituted experts and prophets are able to deceive the public to further their own ends."

It is to the interest of the trade to enlighten the public as to the unfounded

character of such rumors, and to do what they can to sustain the present strength of the diamond market, which is proving so profitable to the entire trade.

Production of Gold Still Expanding

A SUGGESTIVE fact in connection with the present prosperous industrial conditions all over the world is the continued material expansion in the production of gold. A report before us from South Africa gives the January production of gold in the Rand district of the Transvaal as \$11,687,000. As each month in recent years has shown an expansion over the preceding one in the output of the Rand mines, the prospect is that the total product of that field for the present calendar year will amount to not less than \$150,000,000 and probably exceed that total. The Rand, as our readers are aware, is the most productive of the world's gold fields. It contributed last year about \$119,000,000 to the world's product of the yellow metal. The United States held second place with an output of \$96,000,000, with Australia a good third. As the total gold production for 1906 was about \$400,000,000, and as the principal gold fields are increasing their output yearly, the probabilities are that the total gold yield for 1907 will considerably exceed \$425,000,000. The fact is worthy of mention that since 1896, when the free-silver question was so vigorously agitated, the output of gold has actually doubled, eliminating without further argument the, at that time, formidable free-silver problem.

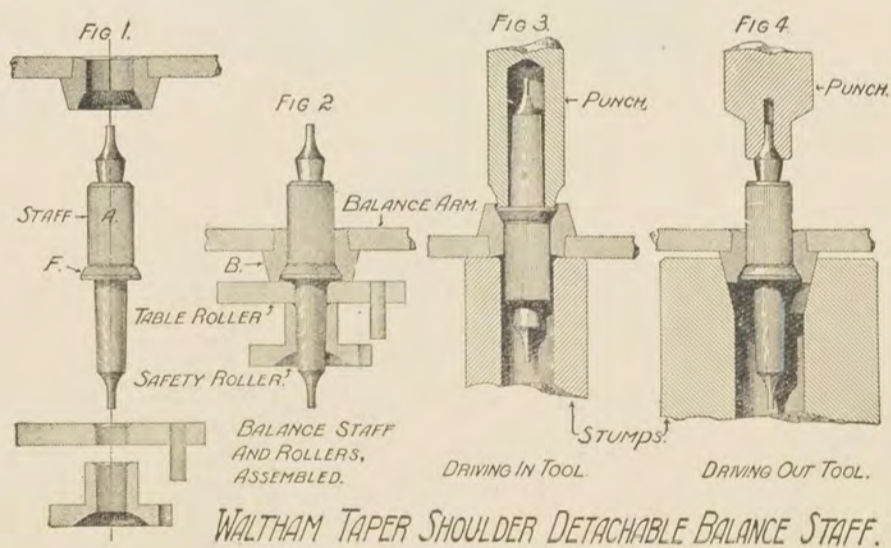
AS bearing on the increasing production of gold in the United States it is worth recording that some time ago the largest single shipment of gold ever made was sent from the camp at Goldfields, Nevada, which now claims the distinction of being the largest gold-producing center in the world. This shipment amounted to 47¾ tons of concentrate, and the ore, upon being refined, yielded gold and silver to the value of \$584,246, after the payment of the charges for preliminary treatment. Deducting from this the assaying, refining and express charges, the net return of the shipment was \$574,958. The question now is not whether there will be a sufficiency of gold, but rather whether there may be in time such an abundance as will destroy its present use as a basis for currency and a general standard of value. This possibility, however, is too remote to merit serious discussion at this time. It is estimated that the proportion of the total output of gold used in the arts is one-fourth.

Waltham

Patent Taper Shoulder Detachable Balance Staff

Used in O size 1900, 12 size Model B and 16 size 1899 Waltham Movements

This is an improved form of a detachable Balance Staff that is certain to appeal to the watchmaker, as it admits of easily and quickly changing a staff without bending the balance arm or throwing the balance out of shape. The bevel seating in the hub "B" fits precisely the taper shoulder "F" on the staff, thus insuring a level balance. To drive out an old staff, we recommend using a tool as shown in figure 4; to put in a new staff, a punch as shown in figure 3, bringing the tapered shoulder on the staff to its bearing in the hub. Tools designed for these staffs can be obtained from watch tool manufacturers in sizes to fit regular staking tool sets. The blue steel hub should always be left in the balance arm when changing a staff.



Waltham Watch Company

Waltham, Mass.

"April Fool!"

WE are as yet so near to April First—"All Fools' Day"—that we may still hear the echo of the laughter of the ubiquitous small boy who played his pranks on solemn citizens and shouted "April fool!" at his hapless victims.

Some of us who heard the "April fool" salute must have felt accused far more acutely by our consciences than by the unknowing small boy; for indeed each one of us is more or less of a fool at one time or another. It becomes us to separate ourselves from our foolishness, if we can; therefore, on this timely occasion, let us schedule some of the most glaring follies of the merchant, in hope that the recital may bring about in us a resolve that *our* name shall not hereafter appear in the directory of fools.

When is the Merchant a Fool, in 1907?

In general, he is a fool when he fails to take account of the rapid development of the *broader mercantile spirit* and the mental attitude of the progressive merchant of to-day.

I. He is a fool if he has not mastered specifically, his business—if he does not know what to do and how to do it. The new conditions in trade impose new requirements on the trader. The intelligence and appreciation of the public have advanced to such a point in the past decade that a higher standard of ability than was required of the merchant ten years ago now obtains. Life is *intensified* in these latter days, and the merchant who is only half equipped with knowledge of his business is discriminated against. The half-finished watchmaker, the only-fairly-good engraver, will find nothing to do; as likewise the merchant who lacks training, or is not a student of conditions and tendencies, or has not kept abreast of the present scientific methods in trade. He must know his business.

II. He is a fool if he ignores the ethics in trade competition. Each year sees an advance in the tolerance of the public on all questions of partisanship, religion or faith of any kind. There is a constantly increasing liberality of sentiment everywhere in the body politic. The merchant who runs counter to this sentiment and treats his competitor in the insulting and supercilious way of old is sowing dragons' teeth for his future harvesting. A proper respect for the dignities of the competitor is enjoined upon the merchant in this new era of enlightened public opinion.

III. He is a fool if he fails to advertise the virtues of his wares and the efficiency of his service. The number of stores that can run along in the groove of an old reputation without needing to invite a new public to join their "exclusive" following are few indeed;

prestige is soon dissipated, in these fast-moving times. Advertising has become a fundamental necessity in retail trade; the merchant who does the *best* advertising, other conditions being equal, will prosper most. A scientific study of the theory of advertising, and exceeding care in the practice of it, are essential to the safe and solid growth of the modern store.

IV. He is a fool if he does not recognize the increasing aesthetic appreciation of the public, and so ignores the demand that his store be made attractive to the eye. It is a historical fact that the "taste" of the American people has gone forward by leaps and bounds since the Centennial Exhibition of 1876; and to-day we are nearing the French standard of daintiness and artistic refinement. A dusty, mildewed store is now abhorrent to the delicate senses of the well-groomed woman; the right grouping of goods, a correct rendering of the color scheme and consistent arrangement of line, angle and curve appeal tremendously to her goodwill toward the merchant who thus caters to her sensibilities. The jeweler of to-day should be an artist in the setting out of his attractions.

V. He is a fool if he does not establish system in his business, however small the business. Orderly methods in conducting the business go with orderly arrangement of the goods and fixtures. A systematized plan makes for the comfort and satisfaction of the customer no less than for the peace of mind and profit of the merchant.

VI. He is a fool if he does not give much thought to the financing of his business. He must figure out the ultimate profit of "making the cash discount" on every discountable bill, if necessary by borrowing the money (on interest) to pay the bill. He must come to realize that his purchasing power is increased by his establishing a reputation as a prompt payer. He must make his account *desirable* to the jobber and manufacturer.

VII. He is a fool if he ignores the fact that the employer personally sets the pace for his helpers; he fixes the standard of conduct and efficiency by his own example. His habits of punctuality, politeness, neatness, dispatch, honesty and amiability will be reflected in those who serve him. He must see the advantage of a highly-disciplined body of helpers, but "wear the velvet glove over the mailed hand." He will realize that the best means to secure unswerving loyalty is by exchange of fair treatment; that judicious praise for things well done is returned in increased zeal and efficiency; and that the stream of help never rises higher than its own source.

VIII. Finally (though he is a minor fool for many minor reasons which would be scheduled if the space permitted), he is a fool

if he ignores the fact that, after all, merchandising and the accumulation of material wealth is not the real end and aim of life; that while money-making is a laudable, indeed a commanded, thing, yet there are other duties still more pressing upon the man who would live sanely and die happily; that the upbuilding of *character* is a more glorious achievement than accumulating a great estate; that the man who contracts his vision to the narrow groove of trade, instead of letting it rest now and then on the broad horizon of life, misses too much of the joys which come from the larger comprehensions; that a sense of the beauty in the sky and the trees, in the opera and the play, in the laughter and the grief of human creatures, is something too precious to be dulled by incessant thought on the day-book and the cash-drawer; that the daily history of the wide world presents food for the soul which even a bargain-purchase cannot alone satisfy; and that all folly is not foolishness.

The Squandering of Force

THE average merchant wastes an immense amount of vitality in worry over inconsequential no-account things. He allows his nerves to be fretted over the awkwardness or stupidity of a clerk, or an unreasonable customer, or a piece of bad news. Each time that he thus loses control of his "nerve" he loses just a fraction of vital force and strength and moves an inch farther along the path that leads to premature old age.

The average merchant puts too much of himself into unimportant things. He worries over a badly-fitting show-case door; gets a headache in lending his efforts to solving the trouble in a smoking lamp; is "just worried sick" over a failure to make a sale. Every such fretting is a direct tax upon the capital of the merchant's mental powers.

If men would only learn that it is not work, but worry, that kills! The trouble is that we do not give to each event its just value. We do not discriminate between essentials and non-essentials; we put the same amount of anxiety into determining the color of a curtain and deciding on a policy of business. We load a 10-inch rifled cannon when a pocket-revolver would be as effective. We go hunting humming-birds with siege guns instead of pea-shooters.

If we exhaust all our reserve forces over the petty affairs, what strength is there left for the big problems, the serious perplexities? "If thou hast run with the footmen, and they have wearied thee, then how canst thou contend with horses? And if in the land of peace wherein thou trustedst they wearied thee, then how wilt thou do in the swelling of Jordan?"

The Goods That Pay

the jeweler best are the readiest sellers.

The profitableness of a given line is determined by the *number* of articles sold—rather than by the margin of profit upon each piece.

For this reason, SIMMONS CHAINS are the most profitable chains you can handle.

Their chief selling points are:

Their Attractiveness—their beauty of design and finish appeal most potently to the eye.

Their Quality and undoubted dependability. They are as staple and standard as sterling-stamped silver.

Their Reputation—they are widely and universally known, both to the trade and the buying public.

Your Confidence in them; when you lay a Simmons Chain before a prospective customer, you unconsciously manifest a confidence in its positive worth and absolute reliability that counts more strongly in its favor than any amount of argument.

The jobbers have never shown anything finer in the way of watch and lorgnette chains than those comprised in the Simmons spring line

R. F. SIMMONS COMPANY
Main Office and Works, ATTLEBORO, MASS.

Salesrooms: 9-13 Maiden Lane, New York
42 Madison Street (Heyworth Bldg.), Chicago

The Retail Jeweler, his Shortcomings and How to Correct Them

A FRIENDLY critic is a most useful member of society, especially such a one as offers his criticisms on request of those whom he is expected to criticize. "To see ourselves as others see us" is at all times a chastening experience and must necessarily be productive of good. This thought occurred to us while scanning a paper read at the recent annual meeting of the Minnesota Retail Jewelers' Association by Geo. T. Hartmann, who enjoys an extensive acquaintance with the retail trade of the Northwest, and whom experience has made familiar with their merits which are many and with their shortcomings which he concedes to be comparatively few. There were several matters touched upon in this paper which are well worthy of the consideration of the trade at large, especially at this time when system and intelligence are so essential in the conduct of a retail business.

One of the points treated by **Delay in Sending Remittances** Mr. Hartmann was the necessity of promptness in sending remittances for goods purchased and stricter compliance with the terms as understood at the time of purchase. On the question of delay of remittance, he said:

This is a matter that has been abused more than any other in the trade, and in this connection I will recall for your benefit an object lesson I learned two days before Christmas last season. You well know that certain lines of goods were very scarce at that time. I happened to be in a jobber's office while he was opening his mail, and among other orders were four calling for a certain bracelet which had been a leading seller. Knowing his stock of this bracelet was low, he called his head order clerk and asked how many of these bracelets they had left. Being informed that three only remained, he said: "All right; fill these, and I will write this jeweler that we are all sold out."

As I am always looking for pointers, and being long acquainted with the jobber, I asked what decided the question for him. He told me in reply that one of the four *had* to be turned down, as he only had three on hand. "Now," said he, "one of these four always waits forty to forty-five days to remit. He then takes off the ten-day cash discount and sends me his personal check, which costs me fifteen to twenty-five cents for collection. It so happens that the other three remit promptly and send me their draft or money order, which costs me nothing. This being so, who should I turn down? Who is giving me a square deal? Whom should I favor as long as I am compelled by circumstances to discriminate?" I saw the point, of course, and I think you now see it.

His auditors, no doubt, appreciated the argument. Few of those who procrastinate in the matter of sending remittances realize how much it is to the detriment of their own interests to acquire a reputation for procrastination. There is no other mercantile qualification which appeals so favorably to the jobber as promptness in discharging obligations and strictness in adhering to the terms of sale. Reason suggests that the retailer who is prompt in his payments and manifests a sincere respect for his business agreements will be the first to be accorded whatever

favors the jobber may at any time be able to direct his way.

Memorandum Ordering

Another business practice which has developed to quite unexpected proportions in the jewelry trade was referred to by Mr. Hartmann as follows:

The most abused privilege ever allowed the retail jeweler is memorandum ordering. As originally intended, this was to be a matter of courtesy on the part of the manufacturer or jobber to the retailer to enable him to make a sale of goods he could not afford to carry in stock, generally something rarely sold and not a staple article. What has been the result? A request is made of the jobber for a memorandum package of chains, for example. No special kind of chain is specified. The jobber, who is good natured and wishes to be accommodating, sends an assortment of vest chains, pony chains, lorgnette chains, fob chains, neck chains, etc. All are shipped clean and fresh on new tissue and the memorandum bill is marked to be reported on in five days. The jobber waits eight days and sends a notice asking for a report within five days more. He sends another notice and finally gets the goods back but can scarcely recognize them. They are much soiled, with the cards marked with the cost and selling price, etc. He merely sends them to the recarding department and gets them ready for someone else. This is not all. He has sent out a package valued at \$100, and has sold two chains for about \$5 on which his profit is 20 per cent., or \$1 less the cash discount. He pays the charges for the return of the goods and has a profit, after deducting postage, etc., of about 20 per cent. Does it pay? How would you retail jewelers feel if you were treated in this way?

The practice of memorandum ordering has material advantages in that it greatly extends the aggregate of business transacted. An immense amount of sales which would not otherwise be made are the result of this mercantile practice. A jeweler will find it to his interest, however, not to abuse this privilege, as such abuse has caused considerable dissatisfaction among the wholesale trade, many of whom would favor an entire elimination of the practice.

Carelessness in Ordering

Another matter referred to by Mr. Hartmann, and which merits the consideration of the entire trade, is the gross carelessness sometimes manifested in ordering goods, and this carelessness is particularly noticeable in orders for material. As Mr. Hartmann truthfully stated, if it be considered how long it takes a clerk to select a piece of twenty five-cent material, where instructions are not properly given and suppose the work of selection takes twenty to twenty-five minutes with a profit of five cents on the order, how much can the jobber make on the deal? Said Mr. Hartmann:

A properly made out material order is the easiest thing in the world to fill, but how many such orders are made out properly? Not one in fifty. I have hunted through a whole page of manuscript and found on summing up that the best I could make of it was, "Send me half dozen balance staffs for an 18 size Waltham." This seemed easy enough and any material clerk could fill it *apparently*. A clerk who knew his business, however, would be unable to do so. In the first place, how many different kinds of Waltham, 18-size balance staffs are there? Just at present only thirteen in mostly four grades, making fifty-two kinds.

Mr. Hartmann paid a just tribute to the material clerk, whom he characterized as "one of the most abused mortals on earth," and recommended as a suitable epitaph for his tombstone this expression of martyrdom: "He died because of his unsuccessful efforts to please." The retailer is entitled to prompt and accurate service but he cannot expect such service if he is negligent in making out his order.

And not alone in the ordering of material is this carelessness manifested, but also in the ordering of staple stock, where there is less excuse for blundering. Mr. Hartmann said:

Here is a sample of an order that I have seen with many variations: "Send me one 16-size O. F. engraved, Boss 20-year case." Now, what is the matter with this simple-looking order? O. F. is always in jointed case. Then there is the screw back and bezel and also the swing ring or screw bezel cup case. Does your customer want a jointed case or one of the others? You all know how many jointed filled cases you sell.

Here is another urgent order: "Send without fail one O-size Waltham movement with a fancy dial. Rush it, as I must have it by return express." Here is another excellent chance for a mind reader. What grade is wanted, open-face or hunting?

These samples are sufficient to call your attention to one of the most common oversights of the retail trade. I would be pleased to hear that each of you should plan to keep track of your mistakes, using two columns, one marked "jobbers' mistakes," and the other, "my own mistakes." Charge yourself with the mistakes made in orders because they are not sufficiently definite, and see how the two columns will balance. The result may surprise you.

When it is considered that it is no special trouble to order correctly and that carelessness in this matter will not only cause delay, dissatisfaction and possibly loss; but that it will also leave an unfavorable impression on the mind of the jobber, who will naturally interpret such carelessness as an indication of lack of business methods on the part of his customer, it is surprising that any jeweler should be guilty of such negligence.

As to ordering, Mr. Hartmann gave his auditors the following excellent suggestions, and it would benefit every jeweler to peruse and act on them from this day forward:

Use nothing but an order blank to order by and keep a carbon copy of each order so that you can see at any time just what you ordered. Remember that while you know exactly what you want, the party at the other end must be told, so the order must be made plain. Start a new line for every article ordered, specifying exactly how many and just what you want, without more words than are necessary. If you want three 18-size open face, stem-wind, 7-jeweled, Elgin movements, all you need say is this: "Send three 294 Elgin," and that leaves no chance for doubt or argument. Always use the grade numbers where you can. Sign each order with your name and address, and also state how the goods are to be shipped. If by mail, specify whether by open mail, sealed mail or registered mail, and do not order goods sent by mail that are too valuable or too heavy. Use judgment. If the goods are to be shipped by express, state what express, as one express company may have its office next door to you, while another may be located a mile away. Your jobber does not know this, even if his traveling man has

been in your city. If you have anything to write outside of the order, use another sheet of paper so that your order will not have to wait until your letter gets through the office.

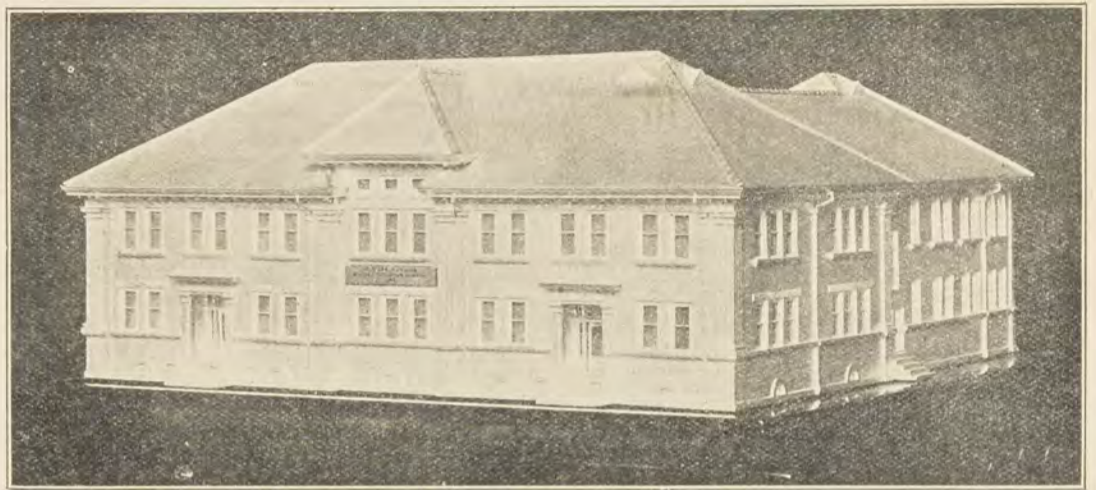
Mr. Hartmann took care to explain that the trade has made most remarkable progress in recent years in the direction of business system and that if the present rate of progress be maintained there will be little to find fault with in the near future. He laid special stress on the great advantage of securing the cash discount. He explained that 6 per cent. in ten days, 5 per cent. in thirty days, is the equivalent of 30 per cent. interest on the retailer's investment and that it is an inexcusable business blunder not to secure this discount, if at all possible, it being a first and by no means an immaterial profit on every piece of goods purchased.

One of the greatest benefits of trade associations is the instructions given and the lessons learned at the meetings, and we are gratified to see that the educational feature is being given more and more prominence at these meetings, as shown by the paper above quoted and others which appear in almost every issue of our journal.

Formal Opening of a Handsome Jewelry Store

THE formal opening is still growing in popularity with the trade. A recent event of this character which passed off with unusual success was the opening of the Ashby Jewelry Co., Colorado Springs, Colo., which was attended by fully five thousand people. The invitation was in the form of a card $4\frac{1}{2}$ by $3\frac{1}{2}$ inches, with wording as here shown.

The new store of this company is very attractive and has several unusual features, a description of which will interest our readers. As shown in the illustration, the popular horse-shoe arrangement of the cases has been followed with wall cases on either side running the full length of the store. In the front of the store and on the right hand side as one enters is an innovation which has



Miniature fac-simile in silver of Isidore Newman Manual Training School, New Orleans, La.

attracted much local attention. This is a "rest room," which has been specially furnished for the convenience of the public. There is a mahogany table, also mahogany chairs and a portable desk phone. Customers can rest in this cosy nook, telephone to their friends or write letters. At the rear of

very brilliant and impressive. The shelves are of plate glass and are at the back and side of the crystal room. In the ceiling, set in two ellipses, are 150 incandescent lights which, when lighted, give to the store a dazzling brilliancy. All the fixtures in the store are of solid mahogany and a handsome tile floor harmonizes with the general effect.

The visiting traveling men are especially enthusiastic over the new establishment, which they pronounce one of the handsomest they have ever seen.



THE ASHBY JEWELRY CO.
ESTABLISHED 1879
GOLD AND SILVERSMITHS
OPTICIANS ART AND CRYSTAL WARES
COLORADO SPRINGS

FORMAL OPENING
MONDAY, MARCH THE FOURTH
NINE O'CLOCK TO NINE O'CLOCK

YOUR ATTENDANCE WILL BE
APPRECIATED

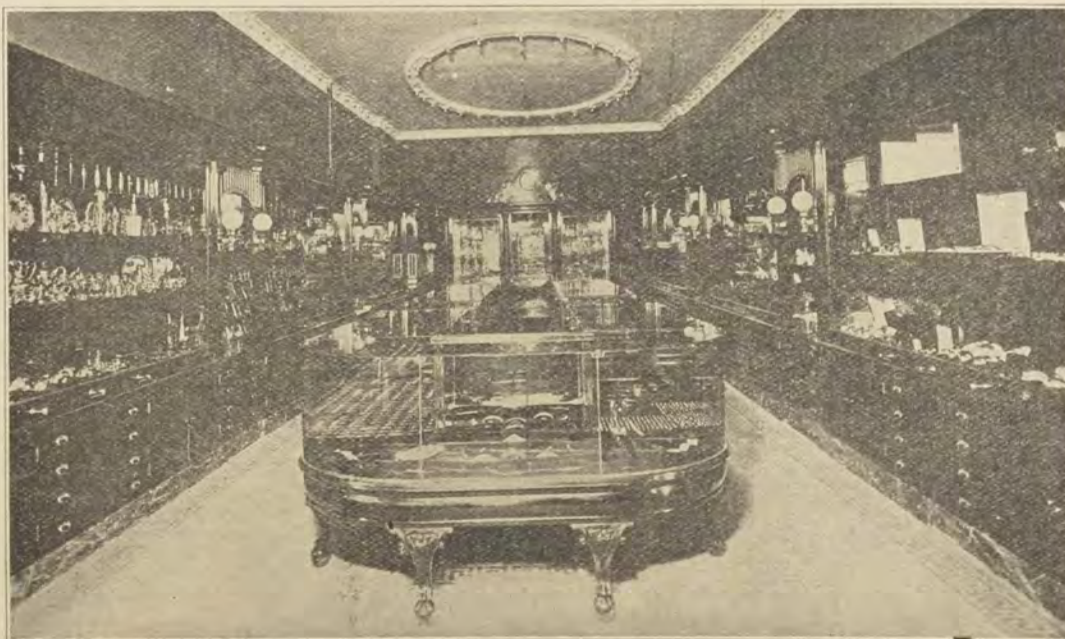
the store is the crystal room, which is eight by twelve feet and constructed of solid mirrors, back, sides and top. In the top there are incrusts in the mirrors fifteen incandescent lights of thirty-two-candle power each, the multiple reflections giving the rooms the appearance of reaching many blocks to the right and left. The effect is

Building Constructed Entirely of Silver

AN unique example of silversmithing is shown in the above illustration, which is a miniature fac-simile of a well-known institution in New Orleans, La., known as The Isidore Newman Manual Training School. All the money required to build and equip this school was furnished by Mr. Newman, who also endowed it with a perpetual fund which will defray part of the expense. As Mr. Newman's birthday occurred on February 28th, the board of directors decided to make that "Founder's Day," as the school was then in existence just one year. As evidence of their appreciation of Mr. Newman's philanthropy, they decided to present him with a silver building which would be an exact fac-simile of the original structure, made in the proportion of one-eighth inch to the foot.

The miniature school was made by skilled workmen in the shop of Leonard Krower, New Orleans, and shows the most consummate skill in execution. Every moulding and all details were entirely executed by hand. The building has one hundred and thirteen windows, thirty-seven of which have twelve panes of glass, the balance of the windows having two panes each. The doors work on solid gold hinges, while the ornaments and mouldings are also made of solid gold. The front of the building is $15\frac{1}{2}$ inches by 15 inches and $7\frac{1}{4}$ inches high. The precious little building was a most unique and acceptable present and its remarkable similarity to the original structure elicited much admiring eulogy.

It is complimentary to the development of the art metal-work industry in New Orleans that such special pieces can be produced by the craftsmen of that city.



Handsome store of the Ashby Jewelry Co., Colorado Springs, Colo.

An AUGMENTED LINE and
An INCREASED CAPACITY

are the two main benefits our customers will reap this year.

BERGEN
POPULAR-PRICED
CUT GLASS

BETTER and STRONGER than ever
GOOD PROFITS FOR THE RETAILER
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Eighty-page Illustrated Catalogue for the asking

**We make a full line of Novelties and Staples,
all first-quality goods, trade-marked. No trash**

The J. D. Bergen Co.
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Salesrooms

New York, 38 Murray St. Chicago, 131 Wabash Ave. Baltimore, 122 W. Baltimore St.

Awarded Grand Prize at St. Louis, 1904



Cut Glass Novelties

NEW and ARTISTIC ARTICLES in CUT GLASS
The Best of Workmanship and Finish

Popular-Priced Staples

A full line of all staples, cut on the best obtainable blanks. All good values.

These lines are better than ever before.

PROMPT SHIPMENTS PERFECT CRYSTAL
HONEST VALUES

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No. 725. Caraffe, "Savoy"



No. 111. Bowl, "Daisy"

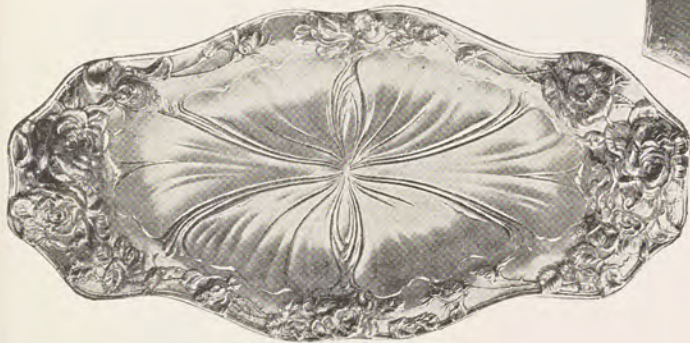
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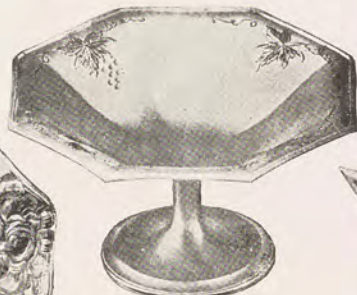
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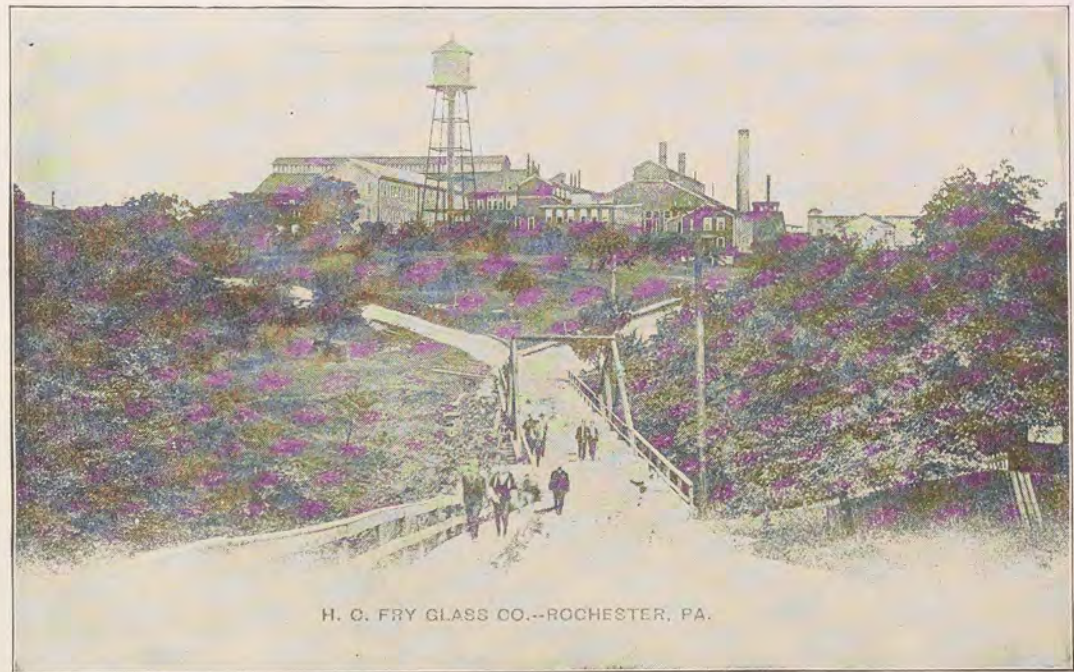
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NOW READY

IF YOU ARE NOT ONE OF OUR
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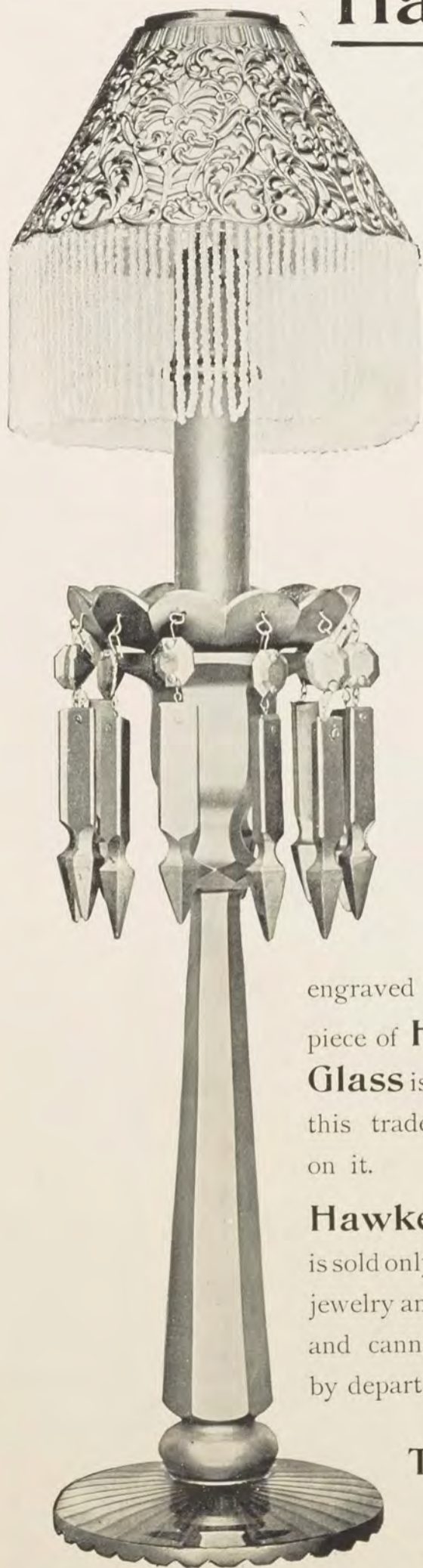
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When you see a piece of cut glass a little whiter in color than any cut glass you have ever seen, more perfect in cutting, more brilliant and sparkling, you will find this trade-mark



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Hawkes Cut Glass is sold only to the legitimate jewelry and crockery trades and cannot be purchased by department stores.

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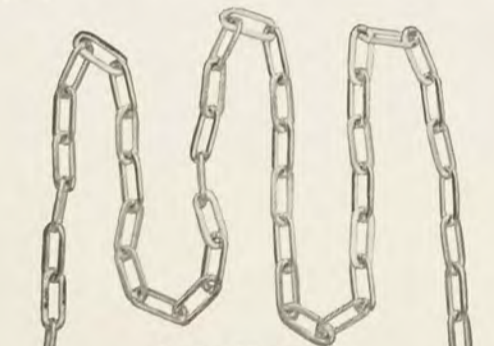
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Circulating Coffee Percolator

OVER 100 STYLES AND SIZES

In making coffee, there is only one way to secure the full flavor, and that is by using a "Meteor" Circulating Coffee Percolator. With it you are always assured the most delicious coffee possible, and in a remarkably short time. In boiling coffee, you develop its harmful properties, and right here is the secret of the "Meteor."

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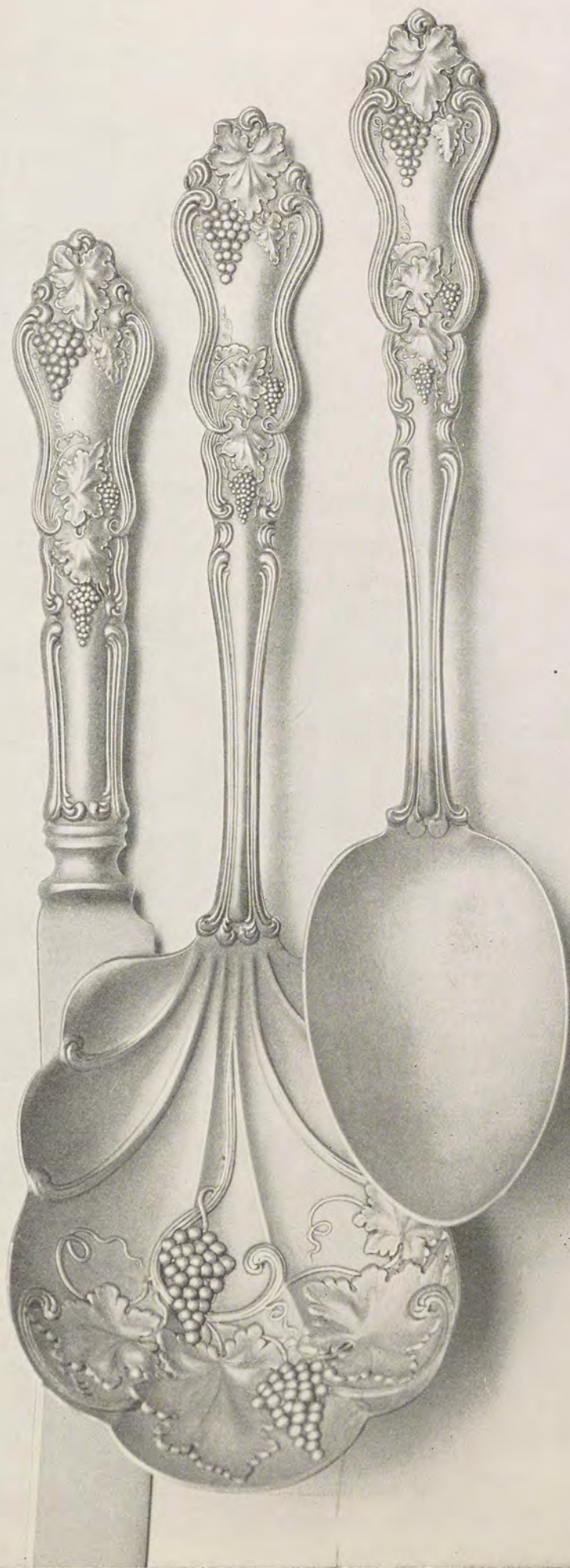
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*Let us send you our trade catalogue,
illustrating and pricing our entire line.*

American Silver Company

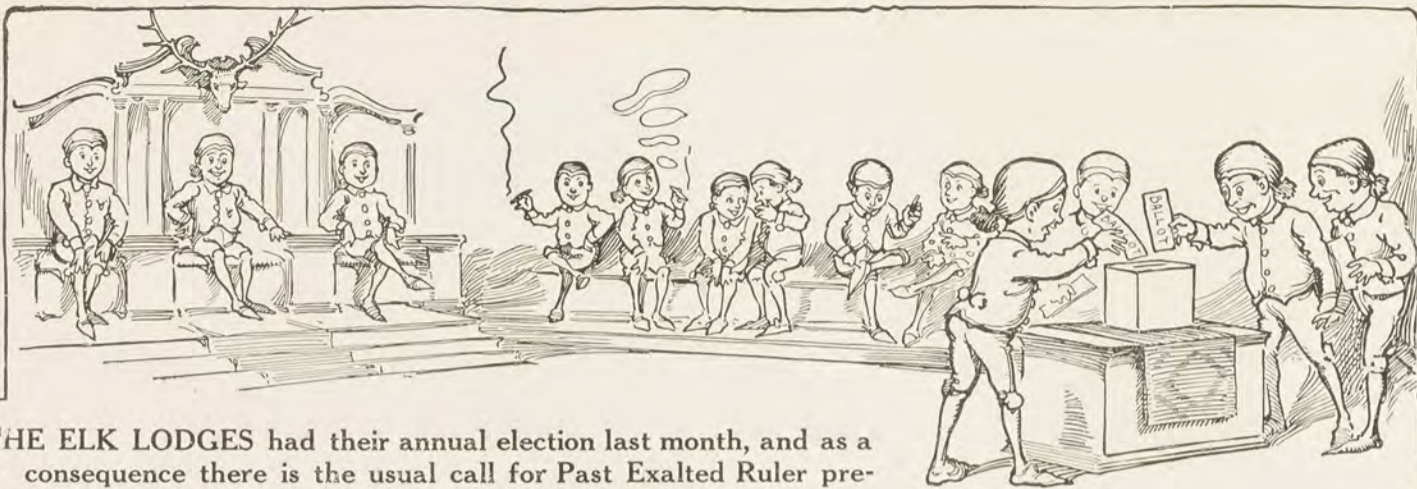
Factory: BRISTOL, CONN.

New York

46 West Broadway

Chicago

Silversmiths Bldg.



THE ELK LODGES had their annual election last month, and as a consequence there is the usual call for Past Exalted Ruler presentation charms. We should be pleased to submit designs and quote prices for these, and also send selection of some of our unusually handsome diamond-mounted charms, which are suitable for presentation purposes. These can also be worn by Elks generally, and many have been purchased by those members of the Order who desire an especially fine article.

Some of these Charms in your stock will surely prove good "Sellers," particularly during the next few months, owing to the coming convention of the Grand Lodge in Philadelphia, which will be very largely attended, and where every Elk will be proud to wear the emblem of the Order. In anticipation of the demand which this convention will create for an Elk membership card case, we have made one up in silver of entirely new design, in finest quality and artistic workmanship. Write for sample.

In Elk, as well as Fraternal Order of Eagle goods, we handle everything from silver buttons to the finest charms; many new and exclusive designs. Our representatives will be pleased to show same, or we will send selection packages on request. Our trade-mark, "The Rose," on every article stands for Quality and Excellence.

HENRY FREUND & BRO. "Sellers of Sellers"

DIAMONDS, WATCHES and JEWELRY

71 Nassau Street, NEW YORK



GOLD AND SILVER THIMBLES



ESTABLISHED 1892
KETCHAM & MCDUGALL
 MANUFACTURERS
 GOLD & STERLING SILVER THIMBLES
 AUTOMATIC EYEGLASS HOLDERS
 37 AND 39 MAIDEN LANE, N. Y.
 SEND FOR CATALOGUE "E"

The Automatic Eyeglass or Pencil-Holder



Made in Gold, Silver, Rolled-Plate, Gun Metal, Royal Copper and Black Enamel. Samples sent upon request

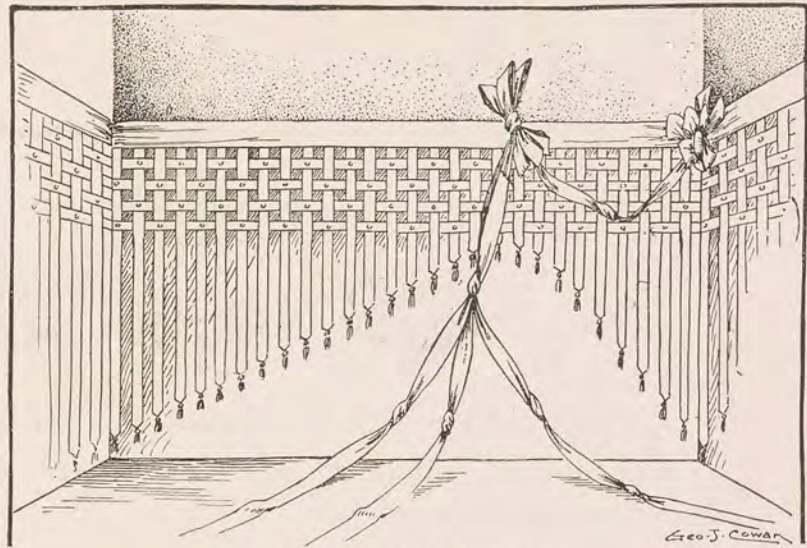
An Attractive Easter Window

In our last issue we illustrated and described an Easter window designed by I. M. Radabaugh, of Hastings, Minn. We show on this page another Easter trim by Mr. Radabaugh, which is said to have attracted unusual attention. The central feature is the mammoth egg and chicken, which were appropriately placed on a straw-covered floor. The chicken was made of cotton cloth stuffed with excelsior and covered with yellow jewelers' cotton. The legs were two sharp sticks fastened to a board for a standard, the sharp end being allowed to penetrate the body. The beak was formed of white card board and the eyes were shoe buttons. The egg was a wooden frame covered with heavy paper and finished with plaster of paris. In the clean, bright straw, in addition to the chicken and egg were placed a number of nests lined with white cotton, and in these nests were jewelry such as locket, charms, watches, etc. The front half of the floor was covered with a strip of white jewelers' cotton on which was printed the word "Easter" formed of chains, a fob being placed after each letter to fill up the space. A card held in the chicken's beak bore the words "We are Just Out." A dog collar was placed around the chicken's neck, spectacles on its beak and a back comb over the tail. This chicken naturally attracted considerable attention and admiring crowds gazed at the window while it was on exhibition.

A Ribbon Background

An idea exploited by our contemporary *The Dry Goods Economist* for a department store window, merits, we think, the attention of the jeweler, as he may possibly be able to adapt the idea, slightly modified, for his own purposes. This is the novel background ribbon design shown in the accompanying illustration. A change in the background is, at times, as effective as change in the other portions of the window, and the ribbon background here shown could, we think, be temporarily used to great advantage. As silk or satin ribbons may be too expensive in the case of a jeweler, other material or even crepe paper could be substituted.

Ribbon, or strips of other material, two inches wide will be required to produce the lattice or basket-weave effect. These strips are first hung from the frieze in the upper background and are separated by intervals of two inches. The ribbons cut in various lengths are arranged so as to graduate in about the proportion shown in the drawing. The horizontal bands, also two inches wide, are interwoven at intervals two inches apart, and are restricted to the upper section of the background, only four or five

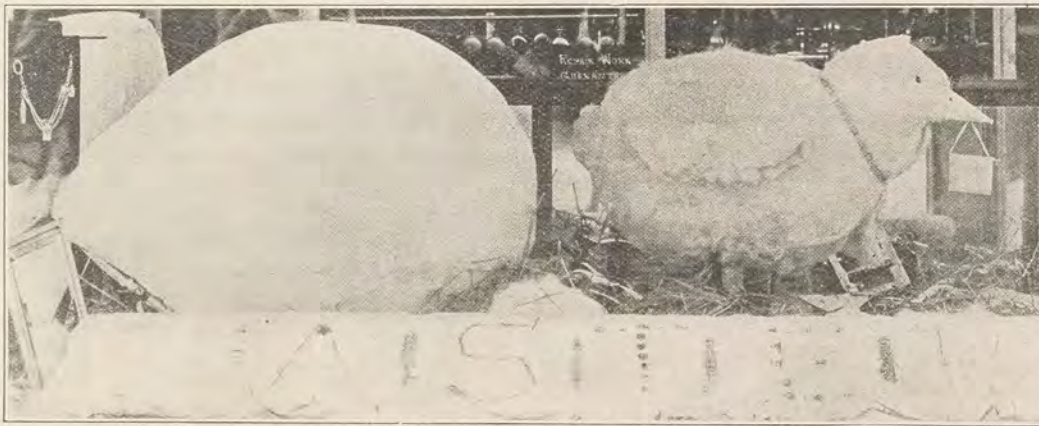


An effective ribbon background

strips being used. An effective finishing touch is given by the small tassels attached to the lower ends of the ribbons. A small chenille ball can be placed at the alternating intersections of the interwoven border or some ornament substituted. A single small flower could be used to good purpose, all the flowers used being of the same variety.

The top border or frieze of this background may consist of a plain or gathered band of very wide ribbon or whatever the material may be which is substituted for the ribbon.

As frequently stated in this department, while the fundamental rule of effective display is one thing at a time, or at most a small variety, an imposing general display is sometimes advisable. Such a display conveys an idea of the great volume and variety of stock. The illustration shown below represents an excel-



Easter window designed by I. M. Radabaugh, Hastings, Minn

lent form for such a general display. The step effect allows abundant space for the display of goods, and our readers will notice how admirably the idea can be used for a display of chains. At such a season as the present, when the trade are advertising extensively new and comprehensive stocks, an occasional well-filled window neatly arranged, will be found very advantageous.



Lower portion of handsome trim by J. Welf & Sons Co., Cleveland, Ohio

SEAMLESS GOLD RINGS



Reputations can be staked on wedding rings stamped with our registered trade-marks, because they are backed by our long-established record for absolute reliability.

Every ring is guaranteed to be uniformly superior in quality, shape and finish. Prices and Ring Blanks on request.



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



Apollo Studios HAND-WROUGHT BUCKLES

A Line that's "DIFFERENT"

Designed to carry out the

Highest Conception of Artist-Craftmanship

Gold Plate, Oxidized, "Dorantique"
and Sterling Silver

Write for Booklet

"Metal and Glass"—"Dorantique" Real Copper
ELECTROLIERS

DESK SETS

SMOKERS' ARTICLES, ETC.

BERNARD RICE'S SONS
Apollo Silver Co.

WORKS { 4-6 Marion Street
205-207 Lafayette Street

542 Broadway, NEW YORK



News Letters

From Staff Correspondents

New York Letter

Immense Diamond Imports

The importations of precious stones at this port continue to increase at a marvelous rate. As stated in our columns one year ago, the importations for February, 1906, exceeded the highest previous record for that month by \$500,000, while the imports for the February just passed amounted to the extraordinary total of \$4,275,300, which is \$1,200,000 in advance of the total for February, 1906. It has been supposed that the importations of diamonds and other precious stones had reached their highest point during the fall of last year but this is very far from being the case. The extraordinary expansion in the diamond trade, due to the cumulative prosperity of the past decade, is well told by a comparison of the official figures. We find on referring to past records that the total imports of precious stones in 1887 was \$199,838 as against \$4,275,300 in the February just passed.

A Persistent Thief

A well-dressed man recently walked into the jewelry store of A. Rosenstraus, at 260 Grand Street, and asked to see wedding rings. None suited him and he asked for watches. While he was looking at the watches Rosenstraus noticed that one of the rings was missing. He called a policeman and had the customer arrested. The ring was not found on the prisoner, and Rosenstraus withdrew the charge. An hour after the same man was again a prisoner in the Essex Market Court on complaint of Morris Woronock of the firm of Aisenstein & Woronock, jewelers, at 22 Eldridge Street. He went to this store and asked to see some ladies' chains. None suited him and he began to look at watches. As the salesman was replacing the chains he missed one worth \$31. There were four men customers in the place at the time. Mr. Woronock stepped from behind the counter and ordered that the men be searched. The thief was the first to submit himself to a search. The chain was not in his clothing, but was found in his hand, where he had palmed it.

The Jewelers' League

The regular monthly meeting of the executive committee of the Jewelers' League of New York was held at the league's office, on March 6th, the following gentlemen being present: President Street, Vice-presidents Karsch, Greason & Wormser, Chairman Jung, Messrs. Bowden, Kent and Secretary Marsellus. The usual routine business was transacted, such as approving the treasurer's report, granting changes of beneficiaries, admitting new members, etc. Payments were authorized to the beneficiaries of the following deceased members: W. B. Durand, \$5000; Louis Kaufner, \$5000; Henry Tilden, \$5000; Max Mayer, \$5000; Theodore Pieper, \$5000, and Robert Tetley, \$2000. These payments were made from thirty to seventy-two days' less time than is allowed the league in which to make the settlements. The following communication received from one of the many beneficiaries, exemplifies the

promptness with which the league settle their death claims:

BOSTON, Mass.

The Jewelers' League of New York:

GENTLEMEN:—Your check for \$5000 received, and I wish to express my entire satisfaction with your extreme promptness in delivering the same. Knowing as I do, that ninety days at least are usually required in such matters; the fact of your settling everything in so short a time, I feel, calls for a note of thanks. Trusting you may, in your dealings with others, receive the same treatment you have accorded me, I am, Yours very sincerely,
(Signed), C. L. MAHONEY.

J. Brüll & Son, the well-known and long-established jewelry firm at 35 Avenue A, celebrated on April 1st the fiftieth anniversary of the founding of the business. Jos. Brüll, who established



Joseph Brüll, Sr.

the business in 1857 and whose portrait is here shown, was born in Germany, but came with his parents to the United States when fourteen years old. He served a four years' apprenticeship to the watch-making trade, and on April 1, 1857, he started in business for himself at 35 Avenue A.

Speaking of the small stock which he could then afford to purchase, Mr. Brüll said, "I put all my jewelry on large cards and far apart, so as to fill the trays as much as possible." The business prospered from the start, and in the course of time, Jos. Brüll, Jr., his son, became manager. The firm had an enviable reputation for integrity and enterprise, securing both the confidence of the trade and of the public. The store on Avenue A is one of the landmarks of the city, and though the business is in its fiftieth year it has all the earmarks of youth and energy. Mr. Brüll, Sr., who died in 1900, was an active church worker and a great lover of music. He possessed a beautiful bass voice, which he put to good service as a member of the choir in his church. His son, Joseph, died in the following year, when the widow of Mr. Brüll, Sr., who, though over seventy years of age, had always taken an active interest in the business, appointed her son, Valentine, as manager of the firm—he having previously been connected with the wholesale trade for twenty years. THE KEYSTONE extends congratulations to the firm on its enviable record and wishes for it a long and prosperous future.

Big Diamond Recovered

A \$1600 diamond which disappeared from the establishment of Chas F. Wood & Co., of this city in 1904 was recently recovered in Jersey City. It appears that the stone was purloined by an office boy named Griffith and kept by him until recently when he presented it to his sweetheart who disposed of it to a Jersey City

jeweler. Knowledge of this fact came to the police, which resulted in all concerned being arrested, including the jeweler who purchased the stone. The boy said that one night in 1904, after the safe had been locked and the store closed, he saw the diamond on the table. He picked it up and walked out, but the diamond was so large that he feared detection if he offered it for sale. He consequently kept it in his possession until lately when he gave it to his lady friend to keep for him. Her sale of it to the jeweler resulted in the recovery of the gem.

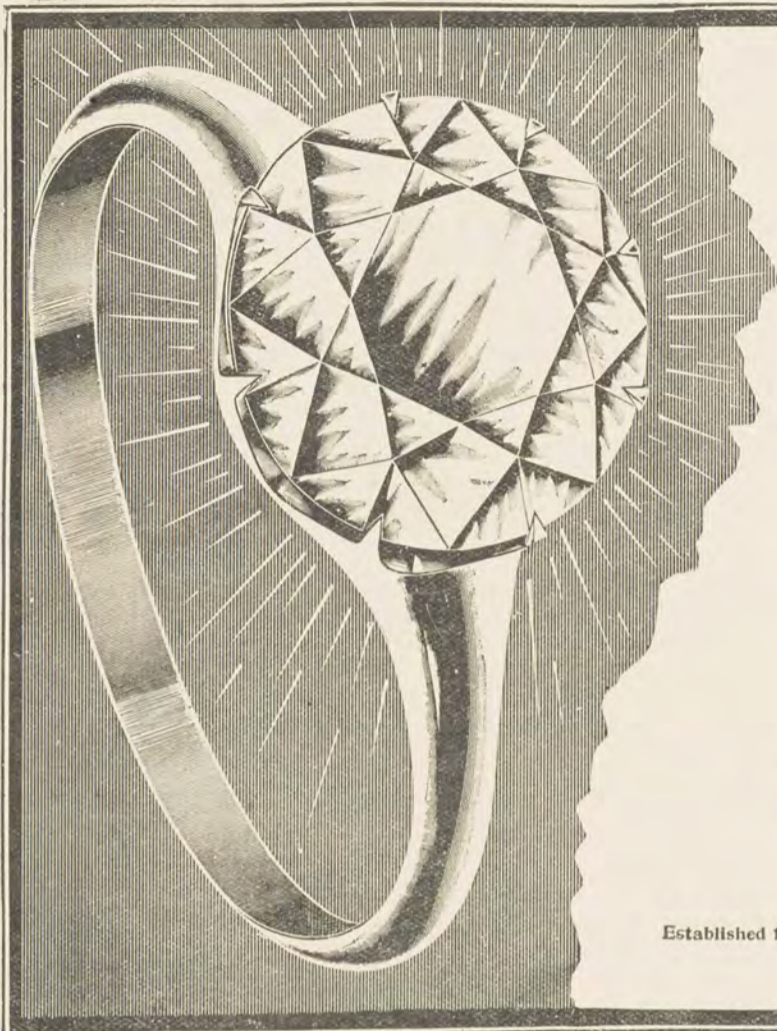
Jewelers' Security Alliance

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

- | | |
|---|--------------------------------------|
| H. C. Ahlers, San Francisco, Cal. | Bauchert & Axline, Noblesville, Ind. |
| Alexander Bros. & Co., Houston, Tex. | The Geo. K. Foltz Co., Akron, Ohio. |
| Roy C. Everts, Weatherford, Okla. | Geo. E. Jones, Canton, Ohio. |
| Emanuel Levy, San Francisco, Cal. | Geo. Kurz, Cleveland, Ohio. |
| Lyons & Wilkinson, Philadelphia, Pa. | E. A. Moser, Canton, Ohio. |
| Glen McGraw, Cleveland, Ohio. | S. W. Sturdevant, South Bend, Wash. |
| Jack C. Riedel, Paris, Ill. | John E. White, Greenwich, Conn. |
| A. B. Sprosty, Cleveland, Ohio. | A. H. Coleman, Massillon, Ohio. |
| Wade Park Jewelry Co., Cleveland, Ohio. | W. H. Deuble, Canton, Ohio. |
| Anderson & Lewis, San Francisco, Cal. | A. J. Miller, Massillon, Ohio. |
| J. P. Hale, Akron, Ohio. | H. Murock, Camden, N. J. |
| A. J. Heiman, Barberton, Ohio. | A. E. Oyster, Alliance, Ohio. |
| Ralph Hogan, Akron, Ohio. | J. C. Sharer, Alliance, Ohio. |
| Joplin Watch and Diamond House, Joplin, Mo. | A. L. Wilkin & Co., Ritzville, Wash. |
| Carson H. Kinnaman, Cleveland, Ohio. | Ludwig Wolff, Canton, Ohio. |
| Earl G. McMannis, Cleveland, Ohio. | Wm. H. Phelps & Co., Cranford, N. J. |
| Chas. J. Welf, Cleveland, Ohio. | Dell Adkins, Sibley, Iowa. |
| J. E. Whiting, Andover, Mass. | A. A. George, Philadelphia, Pa. |
| Battin & Co., New York City. | L. R. Fogle, Winfield, Kans. |
| | Ernest Smallman, McMinnville, Tenn. |
| | Eberling-Boedeker, St. Louis, Mo. |
| | R. G. Eichelberger, Waitsburg, Wash. |

The following two rewards were ordered paid: No. 31—To Officers Wm. Howe and Peter Conroy, for the arrest and conviction of Henry Braun and Geo. Stein, who broke into the store of E. Kirshberg, of Chicago, Ill., on October 21, 1906, and stole about \$1500 worth of jewelry and watches. They were arrested on October 25th, both being armed with magazine revolvers with which they attempted to kill the officers, several shots being fired before they were overpowered. All the goods were recovered in their rooms, which also contained a lot of anarchist literature. They were tried on February 23d and sentenced to an indeterminate term in the Joliet Penitentiary of from one to fourteen years. No. 32—To Officer John A. Hyer, for the arrest and conviction of James Hart, who broke into the store of C. W. Little & Co., of New York City, on February 5th and was sentenced to two years and three months in State's Prison, all the goods being recovered in his possession when arrested.

F. Beinhauer & Co., 1014 Third Ave. have dissolved partnership, Fred Beinhauer retiring. The business will be conducted without change of name by Jos. R. Drake and Frank Rehnert.



Importers! Cutters!

We import the "rough" and cut it. So you are buying from "first hands" in dealing with us.

Let us send you a selection, and compare quality and price.

Henry Ginnel & Co.

DIAMOND CUTTERS

Established 1835

52 and 54 Maiden Lane, New York City

1906

compelled us to start our second factory, and we are led to believe that



1907

will force us to start the third. There must be a reason. Send for illustrated sheet showing our

25—Leaders—25

Ohio Cut Glass Co.

Bowling Green, Ohio

—SALESROOMS—

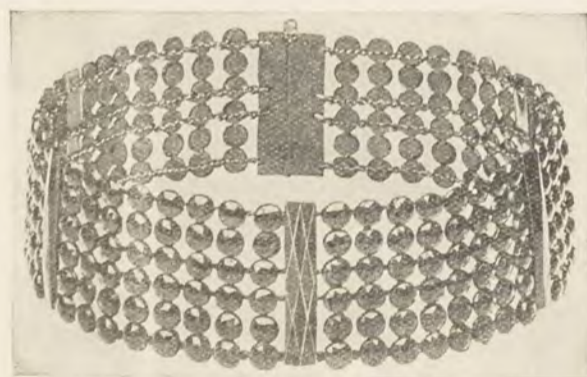
CHICAGO
35 E. Randolph St.

NEW YORK
25 W. Broadway

ST. LOUIS
404 N. Fourth St.

PARIS DICTATES JET

AND WE HAVE A COMPLETE STOCK



A full line of JADE Jewelry

JET BACK AND SIDE COMBS, JET COLLARS, JET FESTOONS, JET BROOCHES, Etc.

FISH SKIN PEARLS from \$3.60 per dozen string to \$25 per string.

A Selection Package sent to all Reputable Dealers upon Request

CHOPARD FRÈRES

FACTORY, 35 Rue des Trois Bornes
PARIS, FRANCE

49 Maiden Lane, New York

New York Letter

(Continued from page 611)

New Record in Mammoth Buildings

The addition of the great cloud-piercing tower to the Home Office Building of the Metropolitan Life Insurance Co. in this city, will make this structure the most remarkable building in the world. The tower, which will be an immense building in itself, will be the highest ever constructed, rising to the height of 658 feet and having 46 stories above the sidewalk and two stories below. In the construction of the tower, the early Italian Renaissance style will be followed, which is also the style of the main structure. It will rise from an arch base, continuing in line and detail the general features of the four lower stories of the main building. Above the fourth story the design of the shaft of the tower will be severely simple until the 21st story. At the 21st, 22d and 23d stories, or 334 feet above the sidewalk, will be an immense clock with dials 25 feet in diameter, hands 12 feet and figures 4 feet long. These dials will be visible and give Metropolitan time to New Yorkers for miles around. The capping of this shaft will consist of a line of boldly-projecting balconies and deeply-receding Ionic loggias, with five arched openings on each side of the tower, as shown in the illustration. Over the arched openings will come a deep frieze with windows, and then a cornice and parapet balcony. Over the parapet the walls of the tower will be offsetted in receding eight feet on each face. This offsetted portion will continue up four stories and form a base for a pyramidal termination—pyramidion being terminated in an octagonal colonnated observatory, which will terminate 658 feet above the sidewalk level. Six express elevators of the most approved type will be installed in the tower, four of which will terminate at the 40th story and the other two at the 42d story. The twelve lower stories will be served from the elevators in the adjoining section now built—the present elevator corridor giving direct access to the tower. All motive power, heat and light will be supplied from

the plant now installed in the building. When the tower is completed, the entire Metropolitan Life Building will be the largest office building ever constructed.

At a recent meeting held in the office of the Enos Richardson Co., 21 Maiden Lane, who were recently incorporated, the following officers were elected: President, Mrs. Harriet M. Richardson; first vice-president, Helen Davis Richardson; second vice-president, Charles F. Duffy; treasurer, R. H. H. Shaw; secretary, W. D. Reeder; assistant secretary and treasurer, George V. Tucker. The directors are Mrs. H. M. Richardson, Helen Davis Richardson and Enos S. T. Richardson.

The Diamond Workers' Protective Union has petitioned the diamond manufacturers for an advance in wages. The men, whose present scale ranges from \$30 to \$70 a week, according to their

skill, obtained an advance one year ago. The contract signed at that time has now expired, but the workers agreed to continue the old scale pending negotiations, and if advances are granted they are to date back to the expiration of the old contract. New York has now over 400 of these workmen, and reports received here say that a large number of workers are preparing to leave Amsterdam and come to this city. The growth of the diamond-cutting industry in New York has been very marked during the past few years, and is naturally attracting the skilled cutters of Europe, who are given much higher wages here than in the European factories.

John Muhlhahn, a well-known jeweler, of Flatbush, died recently in the Methodist Episcopal Hospital, this city, of pleuro pneumonia. The deceased was born in Germany 48 years ago and came to this country about 30 years ago. Ten years later he opened the jewelry store which he continued to conduct until his recent illness. Mr. Muhlhahn was prominent as a member of the old Flatbush Volunteer Fire Department and was active in Democratic politics.

Cross & Beguelin are now fitting up their new quarters at 31 Maiden Lane and will move in this month. The firm will occupy the second and third floors. The second floor is the premises that were used so long by Henry Ginnel & Co. before they changed over to No. 52. This floor will be used by the diamond and jewelry departments and offices, while the material department will occupy the entire third floor. The move has been made necessary by the firm's old building being torn down, and it is possible that after the new building is erected they may secure quarters in their old location again which they have occupied now for such a long time.

Lissauer & Co., importers of diamonds, and watch and jewelry jobbers, will move this month to their new quarters at 52-54 Maiden Lane. The firm will occupy the entire front of both buildings, giving them not only increased space, but better light for their diamond department, which is very desirable. The new quarters are being handsomely fitted out and the firm expects soon to be greeting friends and patrons in their new location.

(Continued on page 615)



Metropolitan Life Insurance Building as it will appear when the new tower is erected. The tower will have 46 stories above pavement and two below. Extreme height from pavement, 658 feet.



The above date is an important one in the history of some gold jewelry manufacturers.

Under the new National Stamping Law, any manufacturer making goods of one quality and stamping them another after June 13, 1907, will be subjected to a severe penalty

Manufacturers producing jewelry of the above character can do either one of two things: Make goods the quality they are stamped, or stop stamping any quality on their product.

One of our hobbies has always been to maintain the quality of our goods just as they are stamped, and also to put alongside of the quality stamp, the most important thing of all, our Trade-mark, which holds us fast.

Why not buy 14 K. or 10 K. Rings, for man, woman and child,

14 K. Locketts 14 K. Vest Buttons
14 K. Sleeve Buttons 14 K. Shirt Studs

from manufacturers who pride themselves on the quality of their production?



REGISTERED TRADE-MARK

LARTER & SONS

21-23 Maiden Lane

NEW YORK CITY

Robert Levy

MANUFACTURING JEWELER

Green and Columbia Sts.

Newark, N. J.

HEADQUARTERS FOR

GOLD

PEN KNIVES

ALL SIZES

ALL STYLES

Also a full line of gold

Match Boxes

Fobs

Cigar Cutters

Locketts

Bracelets

Cuff Buttons

Brooches

Handy Pins

Scarf Pins

Heart Charms

Tie Clasps

Etc.

Same furnished either mounted with diamonds or unmounted.

Selection sent upon request.

Robert Levy

MANUFACTURING JEWELER

Green and Columbia Sts.

Newark, N. J.



801



804



802



805



803



806

New York Letter

(Continued from page 613)

Deposits in Savings Banks

The savings banks of New York State gained in deposits by \$70,000,000 last year. This gain alone is greater than the total savings-bank deposits of Japan or Canada, and almost as much as the total deposits of Holland. New York's savings-bank deposits are much more than one-third those of the United States. They are more than those of all thrifty New England, with Pennsylvania added. They are more than those of any nation in the world save only the German Empire, and even the German Empire has not twice as many. The savings-bank deposits of New York overtop those of all France by \$500,000,000, those of all Great Britain by \$360,000,000. These deposits are \$514 for each depositor and \$170 for each inhabitant of the State.

Duty on Combs

A case of considerable importance to manufacturers and importers of women's side and back combs, involving the question of whether they are to be asserted for duty as jewelry or not is to come up before the board of United States general appraisers. Merchants from Providence, R. I., and manufacturers from various towns in Massachusetts will appear before the board to submit evidence. The combs in question are composed of celluloid and set with imitation precious metals and stones. They were assessed at 60 per cent. as jewelry by the collector and were claimed by the importers to be dutiable at 45 per cent. as manufactures in chief value of metal. They contend that combs of this description are articles of utility and are not jewelry. Hitherto the board has held that such combs set with genuine stones are jewelry, but the board has not passed on the question when imitation stones are involved. Such combs are very largely manufactured in Providence and manufacturers of that city are anxious to be heard in favor of the higher classification.

A League Relief Association

The following members of the advisory board of the Jewelers' League, have formed an association to be known as The Relief Association of the Jewelers' League, who will issue an appeal to the membership at large asking donations to form a fund to be used in payment of assessments due the League from such members who may be temporarily unable to pay such assessments. The moneys donated will be legally safeguarded, in order to best conserve the rights of all.

T. L. PARKER, (Martin Copeland Co.)
S. B. MANN, (Aikin-Lambert Jewelry Co.)
R. A. BREIDENBACH, 51 Maiden Lane
F. H. DANA, (H. A. Kirby & Co.)
W. E. MOUTOUX, Sr.
L. WITSENHAUSEN, Sec. and Treas., 47 Maiden Lane, New York.

An Engraving Feat

Curtis W. Young, a skilled engraver in a jewelry store on Fulton Street, in Brooklyn, has performed the feat of engraving 37 different characters on the head of an ordinary pin. The characters are the 26 letters of the alphabet, the name "C. W. Young" and the date on which the work was done. Each of the characters is perfectly formed and can be easily read by the aid of a magnifying glass. The engraving tool with which Mr. Young did the work had a point so fine as to be actually invisible to the naked eye. Work of this kind calls for a most delicate touch and per-

fect control over the hand, this being among the qualifications of Mr. Young who has quite a reputation as an expert engraver.

Death of E. H. Nordlinger

A well-known member of the trade recently passed away in the person of Edwin H. Nordlinger, senior member of the firm of H. Nordlinger's Sons, 49 Maiden Lane. He died on the steamship *St. Louis*, while on his way to Europe, on February 27th. The body was brought back to his home in this city, from which interment was made. The deceased was still a young man, being born in 1873. He received a high-class school and university education, subsequently beginning his career in the jewelry trade with Albert Lorsch & Co. In December, 1895, he formed a partnership with Louis Lassner, since deceased, under the name of Lassner & Nordlinger. After the death of Mr. Lassner in 1898, Mr. Nordlinger conducted the business alone until January, 1899, when Julius Mamluck purchased an interest in the business, and the firm became Nordlinger & Mamluck. This firm was dissolved in 1904 and Mr. Nordlinger took as partners, his two brothers—the name being changed to H. Nordlinger's Sons, the present title of the firm. The deceased was highly popular with the trade in New York and also with the trade in Paris, where he lived for a few years.

S. Borgzinner Co., has succeeded S. & A. Borgzinner at 82 Nassau St. The business is being continued as usual by the new corporation.

Louis Friedlander, of R., L. & M., 30 Maiden Lane, accompanied by Mrs. Friedlander, spent the month of February sojourning at Southern resorts.

Larter & Sons have secured much desired space in adjoining offices on the seventh floor of the Hayes Building, at 23 Maiden Lane. They have had the partitions torn out and the old space rearranged in a most convenient manner. The demands of the firm's growing business are such that it was necessary for them to have more room for the prompt dispatch of their business and shipments.

Channing M. Wells, treasurer of the American Optical Co., Southbridge, Mass., visited the trade in this city last month on his way back from a month's vacation at Pinehurst, N. C., where he had been sojourning accompanied by his family. He reported a very enjoyable visit and expressed himself as being ready to go back into harness and actually picking up threads of business on his way home.

At the annual meeting of the stockholders of Harris & Harrington, held on March 11th, at 12 Barclay Street, Montagu F. Harris was elected president and treasurer, and James Heede Neilson, secretary.

L. W. Sweet & Co. have moved their Brooklyn branch from 467 to 489 Fulton St.

Among the trade visitors from the West, in this city last month, was Albert E. Lee, of San Francisco, who represents in that city a number of Eastern manufacturers.

Harry Thomas recently completed 25 years' service in the rate department of the Jewelers' Board of Trade. He was agreeably reminded of the occasion by the presentation by his office associates of a large floral bouquet; a token of esteem which Mr. Thomas highly appreciated.

The Charles F. Noyes Company, broker in the recent sale of Fulton-Chambers Building, 102 and 104 Fulton Street, has leased entire floors in the structure to H. & E. O. Belais and Worthington & Raymond; also, half floors to Bergstein & Son, Shepard & Co., H. Popper & Sons, and Kaufers & Kregel, all jewelry manufacturers and dealers.

The Jewelers' Board of Trade has sent to each member a copy of the proceedings and reports of the recent annual meeting. Not all the members were, of course, able to attend the meeting and this report of the proceedings is sent them in order that they may have correct information as to what the board has done and the results which have been achieved.

Charged with having committed jewel robberies at Tiffany's London house and at another London jewelry store, and carrying away gems worth \$25,000, A. Preston Green and Charles P. Rohrer were arrested on the Hamburg liner *Amerika*, and arranged in the Toombs Court. Forty-one pieces of costly jewelry as well as 140 loose diamonds were found on the men when they were arrested and turned over to the police. Among the loot are a crescent of twenty-one diamonds, a brooch set with forty diamonds, fourteen diamond and ruby scarfpins, seven other diamond brooches, one diamond five-loop bar, seven rings set with diamonds, sapphires and emeralds, and one square emerald of four karats, set with twelve diamonds. Magistrate Barlow held the men in \$10,000 bail each on the charge of bringing stolen property into the State.

The many friends of Thos. M. Hickey, who has been connected with Henry Zimmern & Co., Inc., importers of tools and materials, ever since he was a young lad, is seriously ill at the French hospital. "Tommy," as he is known to his friends, had recently returned from a Western trip. He was not well while away but stuck manfully to his work and covered almost the entire route originally mapped out. An examination on his return disclosed the fact that he was suffering from a cancerous growth which probably will have to be removed by an operation. At the last reports he was doing well and his many friends hope for an early recovery. "Tommy" is one of the most popular men in the material line.

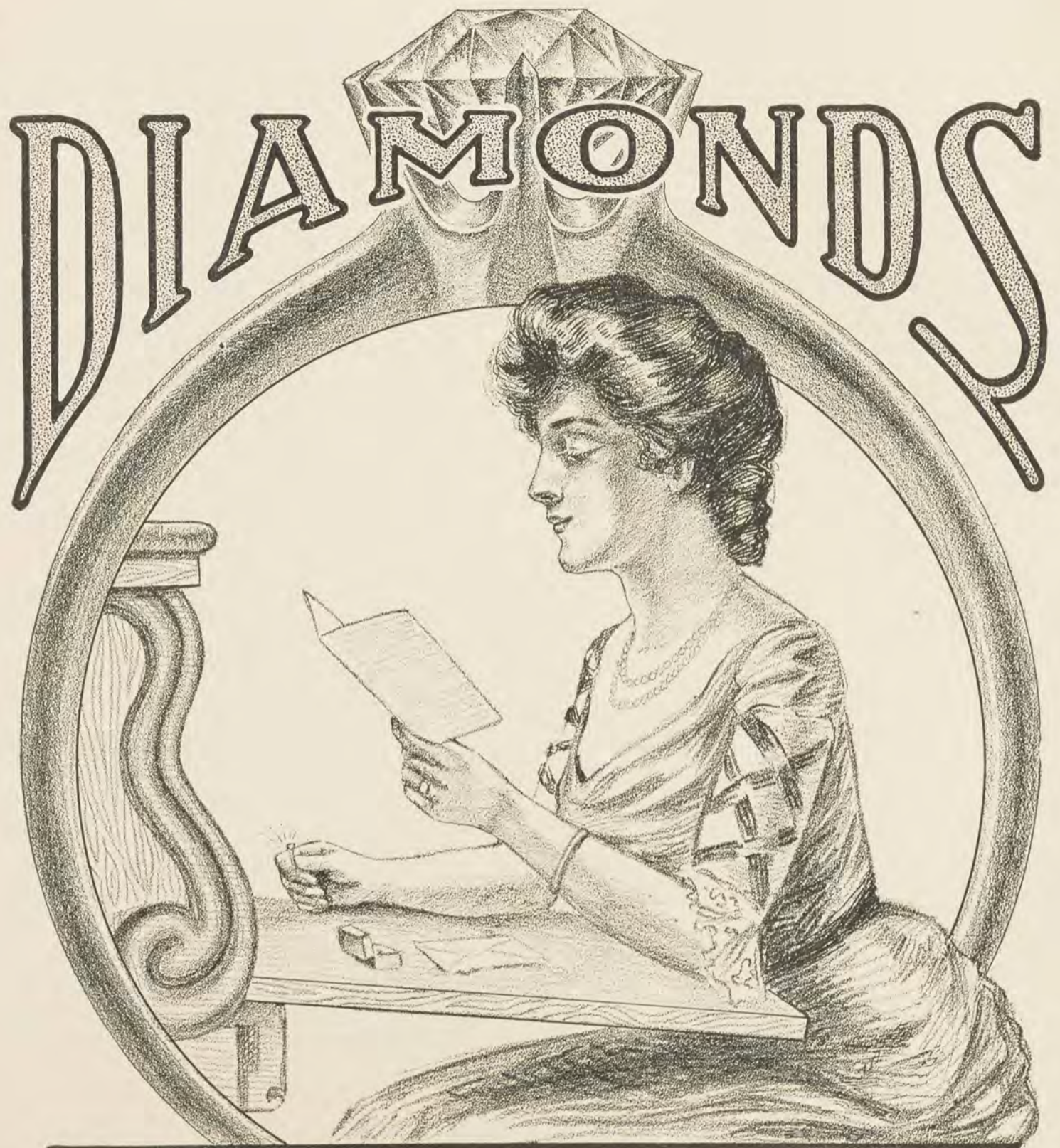
Sloan & Co., manufacturing jewelers, of Newark, N. J., will soon begin work on the erection of an extension to their plant. The plans call for a two-story brick structure to measure 40 by 44 feet.

A petition in bankruptcy has been filed against the W. F. Doll Manufacturing Company, dealers in watches and diamonds, at 175 Broadway, by Hays & Hershfield, representing several creditors. It was alleged that while insolvent the company made transfers of property to certain creditors. Judge Adams appointed William Henkel, Jr., receiver, and authorized him to continue the business for ten days. Some of the assets, it is said, have been pawned. Liabilities are \$27,000 and assets \$15,000. The company was incorporated last October with a capital stock of \$500,000. W. F. Doll, the president, has been identified with the jewelry trade in this city and Canada for thirty years.

Frank L. Carpenter formerly with Dominick & Haff, is now representing the Poole Silver Co., of Taunton, Mass., in this city and New England.

At the last monthly meeting of the Jewelers' Board of Trade, the following were admitted to membership: Aisenstein & Woronock, I. Castagnetta & Son, Freed & Peikes, M. Kameron, Kantor & Sheff, all of New York; C. J. Roehr & Co., Chicago, and the Bishop Co., North Attleboro, Mass.

Jacob Strauss, of the firm of Jacob Strauss & Sons, 14 Maiden Lane, returned from Europe on March 18th on the Steamship *Amerika* after a tour of the diamond markets. His firm recently purchased the entire stock of loose diamonds of the estate of the late C. E. Sherwood.



□ The steady increase in our Diamond business is the best evidence that our Diamonds are the kind that make sales—the kind that will please your customer. Our large stock, directly imported, is still meeting the most exacting demands and the high average excellence of our goods makes customers for you that come back again and again. You will make no mistake in sending us your orders.

BENJ. ALLEN & CO., Chicago



WESTERN BUREAU OF THE KEYSTONE
ROOM 1201 HEYWORTH BUILDING
CHICAGO, March 25, 1907

State of Trade and Conditions

The spring business is opening early and in good volume in the West and Southwest. In parts of the Northwest it is backward. On the average trade conditions continue good. All the wholesale people we have talked to say that March will go ahead of the same month last year in sales, several showing a nice increase. Manufacturers are still busy. The difficulty in obtaining goods in some lines is still a marked feature of the situation. Collections are fair. The great mass of the people in the great West and South are prosperous; our prosperity is on a solid foundation. Our people do not seem to be inclined to take seriously the convulsions of Wall Street. With a fair crop outlook, the hundreds of ambitious enterprises under way, with high hopes and broad ideas and farming beginning in earnest, the gamblers of Wall Street may rant and tear their hair, and railroad stocks may go tumbling at the rate of twenty-five points a day, but it has no more effect on our farmers and merchants out here in God's country than the roar of the breakers against the Pacific Coast. Despite the severe winter in the Northwest, the outlook for crops, as far as can be determined at this time, is excellent throughout practically the entire West. True, there are reports of damage to wheat in some portions of Texas, but Texas is not a great wheat State and the farmers there will be able to put in either corn or cotton and be sure of a good crop anyway. Out in the mountains there has been abundant snow, with sufficient rains interspersed to give it body and mass it down, so that when the warm winds blow it will melt with ideal slowness and furnish abundance of water with which to irrigate the fertile valleys and plains. Throughout the Middle West, where winter wheat has its most favored home, there has been nothing to indicate any damage to the plant, but on the other hand there appears every present indication of a crop rivaling that of last year. If it does, there should be no possible complaint. The spring and summer now promise to be busy and profitable all over the Western country.

Fellowship Dinner of the Chicago Commercial Association

Probably there never was seen before in Chicago or anywhere else such a social function as the good-fellowship dinner of the Chicago Commercial Association, held at the Coliseum on the evening of March 12th. Everything was unique. Indeed, it

was a picturesque event. Unlike other annual meetings, this function was thrown open to the commercial public, and fully half of those in attendance were business men not members of the association. The "company" consisted of 2300 business men in their business clothes, who sat down to 300 tables. Many of them had to wait on themselves while they partook of the dinner furnished by the association. They had a good dinner, but they were there on business, and that was the burden of all the speeches. They listened to the orchestra and the addresses of the speakers, and then joined in singing the songs composed especially for the occasion and set to well-known tunes. There never was anything like it. The spirit of the evening was good-fellowship and loyalty to Chicago. All branches of trade were represented. Board-of-trade men rubbed elbows with the wholesale jewelers, the optical trade shook hands with railroad representatives, hardware and millinery were discussed at the same table, dry goods interests talked with the lumber trade; in fact, the city's complete commercial life was reflected in this gathering in a way never before equaled in Chicago. The speakers were such men as David R. Forgan, Governor Deneen, Charles H. Wacker, Ferd W. Peck, E. M. Skinner, John E. Kehoe, Mason B. Starring and Walter D. Moody. All they seemed to be after was the material, moral and social development of Chicago. President Forgan spoke on "Commercial Association," told what it had accomplished and what it hoped to do. The governor of Illinois addressed the meeting on "Association Spirit," and told how the State is trying to benefit different classes of industry by means of special agencies. Other speakers dwelt on different phases of association work, recounted chapters in Chicago history, and discussed matters pertaining to the future welfare of the city.

The leading subjects mentioned at the banquet were the work of the association in promoting the deep-waterway canal, the work of the convention bureau in making a foremost convention city of the country, the coming Corn Exposition that the association has fathered, the traction question and the part taken by the organization to give Chicago a decent method of transportation. The chief purpose of the meeting was to tell the commercial interests of the city of the important and far-reaching work the association has accomplished, and to extend a wide invitation to the whole commercial body to co-operate with the association by becoming members. For this reason, every active member was asked to bring some friend who was not a member to the meeting. The large number

of non-members present proved the active interest in association affairs of the general commercial body of Chicago. The glory of the association is that it has in its hands and heart the development of Chicago in the broadest sense. Herein is its wonderful success. There is nothing connected with the welfare of this great metropolis that it is not ready to tackle. For this reason, upon this association rests the highest hopes of Chicago.

Personal Mention

E. A. Inskeep, manager of the Denver branch of F. A. Hardy & Company, spent last week in Chicago visiting at headquarters and renewing his acquaintance among the trade. Mr. Inskeep tells us that he is beginning to enjoy life in the Far West and believes that ere long he will enjoy Denver as well as Chicago for a home.

C. D. Peacock and family are enjoying a vacation in Southern California and are not expected to return to Chicago until some time in April.

J. M. Tuthill, buyer of silverware at Hyman, Berg & Company's is enjoying a three-weeks' outing in Texas.

Fred. H. Smith, of the Geneva Optical Company, returned last week from a three-weeks' trip among the Eastern manufacturing centers.

William G. Swartchild, of Swartchild & Company, whose illness of typhoid was mentioned last month, we are glad to state is now convalescent and out of danger. By the time this item is read Mr. Swartchild expects to be at business again.

W. C. Andersen, of the Juergens & Andersen Company, whose severe illness was mentioned in our last issue, has recovered and is now about business as usual.

H. W. Allen, of Herbert W. Allen & Company, has just returned from a business trip to the Northwest. He reports that spring business is opening up nicely in that section of the country.

The Chicago friends of W. A. Fay, Western agent of the John T. Mauran Manufacturing Company, as well as his friends in the trade East and West, will be interested to hear of the approaching marriage of his only daughter, Miss Pauline, to Mr. Ralph Tuttle Coffin, of Chicago. The wedding will occur on the evening of April 20th at the pleasant home of Mr. and Mrs. Fay in Austin, one of Chicago's pretty western suburbs, will be a quiet family affair. The young couple will spend their honeymoon in the East after which they will settle down to married life in Austin.

Samuel C. Barbour, secretary of the executive board of the International Silver Company, spent several days in Chicago last week on a visit to the western headquarters of the company.

J. T. Brayton, Chicago manager of the Julius King Optical Company, has just returned from a ten-days' trip to New York headquarters of this company.

R. W. Morris, Chicago and Western manager for the R. Wallace & Sons Manufacturing Company, has just returned from a ten-days' trip to factory headquarters at Wallingford, Conn.

C. H. Knights and family return this week from their ten-weeks' outing spent in Southern California. They spent the greater part of their time while away at San Diego, a resort that Mr. Knights has become very much attached to, on account of their frequent visits to this prosperous young Pacific Coast city.

Roll Church, son of A. M. Church, the general railroad time inspector, has just returned from a six-weeks' stay in Texas for the benefit of his health, which was much improved while away.

(Continued on page 619)

OTTO YOUNG & CO.

Heyworth Building

Established 1865

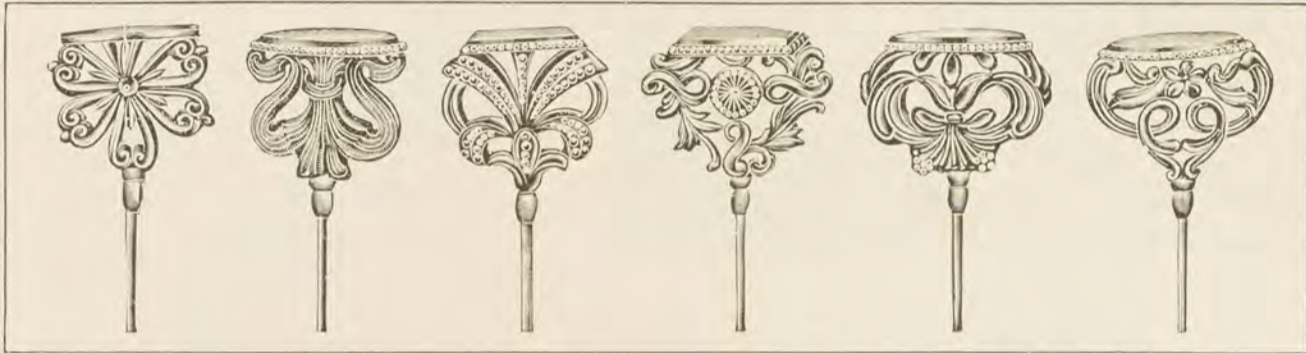
Incorporated 1904

Chicago, Ill.

SPECIAL VALUES IN THE NEW FRENCH HAT PINS

The popular Hat Pin and Hat Ornament combined—bound to be a big trade in them. Note these prices

ALL PRICES LIST—SUBJECT TO OUR CATALOGUE DISCOUNTS



SIX
FOR
\$1.50
LIST

No. 5797 K. Signet Hat Pin Assortment. Rose Gold Finish, Polished Signet. Price per card of six, as shown. No more after these are gone at this price. Warranted to give satisfaction. \$1.50, List

PRICES EACH—LESS OUR 1907 CATALOGUE DISCOUNTS—8-INCH STEMS



No. 5804 K. Each, \$2.34
Rose Finish, Gold Filled
5 Amethysts



No. 5808 K. Each, \$2.25
Green Gold Finish
Gold Filled
7 Jade Stones



No. 5805 K. Each, \$1.75
Rose Finish, Gold Filled
Square Pink Ruby Top



No. 5809 K. Each, \$.42
Rose Finish
Gold Plate



No. 5806 K. Each, \$1.75
Rose Finish, Gold Filled
Oval Top, Pink Coral Top



No. 5810 K. Each, \$.42
Rose Finish
Gold Plate



No. 5807 K. Each, \$2.00
Rose Finish, Gold Filled
Polished Signet Top
4 French Pearls



No. 5798 K. Each, \$3.25
Rose Finish, Gold Filled
Sapphire Center, 15 Brilliants



No. 5799 K. Each, \$2.25
Burnished Rose Finish
Gold Filled, 6 Sapphires



No. 5800 K. Each, \$2.00
Rose Finish, Gold Filled
4 Fancy Rose Stones



No. 5801 K. Each, \$1.75
Rose Finish, Gold Filled
Amethyst Top



No. 5802 K. Each, \$1.58
Rose Finish, Gold Filled
Roman Signet Top



No. 5803 K. Each, \$1.75
Rose Finish, Gold Filled
7 Polished Rolled-Plate
Ornaments

BUY FROM JEWELRY HEADQUARTERS and SAVE MONEY

HAVE YOU OUR 1907 CATALOGUE? If not, send for one, but don't send unless you are a regular Jeweler

Chicago Letter

(Continued from page 617)

The many friends both East and West of Herman Stern, manager of the Chicago office of the *Jewelers' Circular-Weekly* will deeply sympathize with him in the death of Mrs. Stern, which occurred March 15th at the Woman's Hospital in this city, from pneumonia after a short illness. Mrs. Stern was 37 years old and is survived by her husband only. Her sudden and unexpected death was a great shock to her husband as her physician and attendants had given it out that she was on the way to recovery the evening before her death. Mr. Stern feels his great loss deeply. Her funeral occurred Sunday afternoon, March 16th, from Boydston Chapel on the South Side, Rabbi Stolz officiating, and her remains were placed in a vault at Oakwoods.

M. A. Mead, of M. A. Mead & Company, his son Richmond and E. P. Marum, manager of the jewelry department at Montgomery Ward & Company's, returned from their Mediterranean trip last week and report a most enjoyable outing.

R. A. Kettle, Chicago agent for Robbins & Appleton, has just returned from a ten-day trip to New York.

C. E. Hancock, head of the Chas. E. Hancock Company, Providence, R. I., was in Chicago last week calling on the wholesale trade.

B. C. Allen, of Benj. Allen & Company, accompanied by Mrs. Allen and their little daughter, return next week from a four-weeks' outing spent at Lakewood, N. J.

A. Hirsch, of A. Hirsch & Co., has just returned from a month's stay at Eureka Springs, Ark., for the benefit of his health. Mrs. Hirsch accompanied him.

Wm. H. Waite, head of the widely-known manufacturing firm of the Waite, Thresher Company, of Providence, spent a few days in Chicago early in the month en route to the Orient. Mr. Waite was on his way to San Francisco to sail for China and Japan where he will attend the World's Congress of Missions, after which the delegates will make a tour of inspection among the mission stations in the above countries. He expected to be absent three months. While in the city Mr. Waite was shown around among the trade by A. B. Paulsen, manager of the Chicago office of the firm.

H. Holsman, of Holsman & Alter, has just returned from a visit to the Pacific Northwest where he enjoyed a week at Seattle visiting with relatives and attending the wedding of a brother.

L. W. Sutter of Seattle, Washington, and Mrs. Sutter, spent a week in Chicago the early part of the month combining pleasure with their spring buying. They were pleasant callers at KEYSTONE headquarters. Mr. Sutter said that conditions in the Pacific Northwest pointed to one of the most prosperous spring and summer seasons so far experienced in that section of the country. All lines of industry in the cities and towns were thriving and spring trade is already in full swing. A great amount of railroad building is under way or contemplated in the States of Washington, Oregon and Idaho. "The homeseekers' excursions are in force during March," said Mr. Sutter, "and they are bringing on an average over two thousand emigrants each day. Most of them go into agriculture and seem to have money to spend and the result is that trade in all lines is quite lively."

S. W. Lindsay, the well-known jeweler, of Omaha, Nebr., spent several days in the Chicago

market last week selecting his spring bills. When met in one of our jobbing houses Mr. Lindsay said that times were quite prosperous in Omaha this spring on account of the large amount of money that was being put into building and other improvements. He said that he believed that Omaha was more prosperous at the present time than at any other time in her history and that she was bound to become a large city.

As a result of the big supper of the Chicago Commercial Association, given March 12th, which we mention elsewhere, 108 firms and individuals have made application for membership. This is a boom towards the 2000 membership and we are glad to note that the jewelry trade's representative on the ways and means committee of this association, Harry W. Hahn, of H. F. Hahn & Company, carried off the honors for individual work with ten applications to his credit. At an "experience meeting" of this committee last Wednesday, Mr. Hahn was warmly congratulated upon his good work. Edward E. Swadener, of F. A. Hardy & Company, member of this committee from the optical trade, was also congratulated upon his good work, having six applications to his credit.

Here is an excellent likeness of one of the best-known and most popular men in the Chicago trade. Jewelers all over the West and about everybody here in the Western metropolis, connected with the jewelry industry, will scarcely need read the title line under the portrait.



Julius Schnering

The picture is that of Julius Schnering, who has recently sold his interest in and retired from the wholesale firm of Otto Young & Company, so that he may enjoy the fruits of his thirty-five years of close attention to business before he is too old and broken down to do so with proper zest and enjoyment. Our good friend is a man without pretense, as well as a man of exceptional ability in practical every-day business, and his retirement is a notable event in many ways. Mr. Schnering has been connected with the above house for over a third of a century. The story of his entry into the firm is one of great inspiration and encouragement to every young man. Born in Germany in 1852, he came with his parents to this country the following year, and settled in Philadelphia where his early life was spent. When he had reached the age of thirteen the family decided to seek their fortunes in Chicago, and here, after four years of schooling, he entered the employ of the United States Express Company, under his friend, Alonzo Wygant, at that time in charge of the Chicago office of this company. His steady, industrious habits and quick perception soon caused him to be entrusted with the responsible post of handling the numerous valuable packages of jewelry delivered to the wholesale and retail trade in the jewelry line in the business section of the city. It was while engaged in the daily routine of this work that his direct business-like ways attracted the favorable attention of that keen estimator of men, the late Otto Young, who offered him a flattering position in the house, having no doubt even then an eye to the future. And this was all before Mr. Schnering was out of

his teens. Mr. Young's youthful protege invariably proved himself worthy of each successive promotion, until we find him the junior partner of the firm and later managing partner as well. For so active a man as Mr. Schnering to retire from business just at his prime is certainly unusual. Yet is he not wise? Having a comfortable income from his fortune, which can conservatively be said to run up to over a quarter million, he has also that rare ability of getting rational enjoyment and bestowing benefits as he goes. That Mr. Schnering will enjoy his leisure no one can doubt who knows the man, for he is a student because he enjoys studying. He is a patron of music and the other fine arts because he understands and appreciates music, paintings, sculpture, architecture, the drama and literature. His retirement removes another one of the veterans from the Western trade. The jewelry trade will miss Mr. Schnering, and Lem W. Flershem, who made the presentation speech at the recent banquet of the Chicago Jewelers' Association when the members of that body presented Mr. Schnering with a loving cup in testimony of their high regard and esteem, said that "his heart was too full for him to talk." That, indeed, was the general feeling of the large company present. He will be missed, for he is one of the grand fellows—fair, independent, aggressive, able and successful. Wherever he goes or in whatever enterprise he may engage in the future, his numerous friends in the trade will wish him success.

News from the Trade

Wm. H. Parrot, of Monticello, Iowa, is dead. He was well known to the trade in Iowa, having been engaged in the jewelry business in that State for the past forty-three years. Mr. Parrot was highly respected wherever he was known and had been fairly successful in business.

George E. Baker, of Ames, Iowa, is building a new store which he expects to occupy some time during May. Mr. Baker will instal new fixtures and will have a modern store in every particular.

Jeweler Will Metzger, of Manning, Iowa, is confined to a hospital in Omaha, Nebr., where he went to be operated on for kidney trouble.

C. L. Calloway, of Sheldon, Iowa, having served a three-years' apprenticeship with Jeweler E. A. Janes, of that place, expects to take a special course in engraving and optics in Chicago next month.

Ernest Brandt, sales agent of the Omega Watch Company, spent several days in the city last week and was shown around among the trade by Manager Holzheimer. Mr. Brandt left the end of the week for a trip to the Pacific Coast in the interests of his company.

Wm. Freund & Sons, the well-known society stationers, will remove to 45-47-49 Randolph Street, about May 1st, where they will occupy the entire top floor. Their new premises will give them double their former floor space, better light and more ample facilities for taking care of their steadily-increasing business. This old-time State Street house dislikes leaving that busy thoroughfare, where they have been located for the past thirty-four years, but their removal is an imperative matter, as they have found it impossible to secure floor space equal to their needs on that street.

H. E. Cobb, the Chicago and Western representative of the Daggett & Clap Company, is spending a month at factory headquarters, in Attleboro, Mass.

Johnson & McCray, the well-known jewelers, of Monmouth, Ill., have recently put in a new vault and otherwise improved their store.

(Continued on page 621)



Not a New Planet

Only a brilliant "Allen" sparkler.
"If they come from us they sparkle."
We cannot take any chances on
Diamonds that do not represent the
highest point of quality, that's why
dealers place such confidence in us.
They know that we have powers of
discrimination and capital to buy
what we know to be the best.

Herbert W. Allen & Company, Chicago
Columbus Memorial Building

Chicago Letter

(Continued from page 619)

Roland F. Allen, of the Morgan & Allen Company, wholesale, San Francisco, was in Chicago the early part of the month for several days, combining business with pleasure.

J. C. New, formerly with Jeweler W. N. Boynton, Manchester, Iowa, but latterly holding a similar position with Hopkins & Witty, Dubuque, Iowa, spent a day in the Chicago market recently, en route to Joliet, Ill., where he has secured a position with Jeweler Robert Kep.

News has reached the Chicago trade announcing the death of Charles V. Pope, of Holdridge, Nebr., from pneumonia. Mr. Pope was a well-known and successful Nebraska jeweler and has left a comfortable estate to his widow, who will continue the business.

The offices in this city of The Keystone Watch Case Company and the Crescent Watch Case Co. have been moved from the Columbus Building to the Heyworth Building, and the office of the Philadelphia Watch Case Co. from the Silversmiths' Building to the Heyworth Building.

John W. Strain, of Carrollton, Ill., has remodeled his store and put in handsome new oak fixtures. Returning travelers tell us that Mr. Strain's improvements are modern and most creditable to his enterprise and good taste, and that he now has one of the swellest stores in the jewelry trade in Southern Illinois.

Louis Beady, formerly engaged in the jewelry business at Pawnee, Ill., has recently bought out Charles Dawson, of Whitehall, and moved his stock into a new storeroom which he has fitted up in good style. Mr. Dawson is retiring from the jewelry business to engage in zinc mining in Oklahoma.

James Campbell, of Bushnell, Ill., has recovered from a year's illness caused by rheumatism and is now about business again with his old-time vigor.

At a recent annual meeting of the stockholders of Spalding & Company, retail, Joseph Leiter, formerly president of the corporation was elected chairman of the board of directors, and Charles F. Green, former vice-president, was made president. The other officers elected are Benjamin Allen, vice-president and treasurer; R. M. Winans, assistant treasurer, and Henry C. Tilden, secretary. The board of directors is as follows: Edward Holdbrook, Joseph Leiter, Benjamin Allen, Charles F. Green, Seymour Morris, Edward J. Smith and R. M. Winans. The year ending with February 1st was a prosperous one with this widely-known house.

C. G. Breitenbach & Company have secured additional space in the Silversmiths' Building, and have decided to remain there instead of moving into the Mentor Building, as has been previously announced in these columns. Their additional space will afford them more than double the room they have heretofore occupied.

H. H. Koerts, formerly with the Geneva Optical Company, has succeeded to the business of H. L. Whitmore at No. 550 West Madison Street, Chicago.

Steve Bridges, of Despres, Bridges & Noel, came in from the road last week ill with fever. Mr. Bridges was confined to his home for a week but is now about business again. He leaves to-day to complete his unfinished trip.

J. H. Hukill, a well-known practicing optician, of Lincoln, Nebr., and secretary of the Nebraska

Optical Society, passed through Chicago last week en route home from his mother's funeral, whose death occurred at Dwight, Ill., March 19th. Mr. Hukill will have the sympathy of the entire trade in his bereavement.

Gus Weinfeld, Illinois and Indiana traveler for the Stein & Ellbogen Company, returned to headquarters last week from a successful spring trip.

Lewis & Van Sickle, the well-known and successful jewelers, of Washington, Iowa, have recently made improvements and alterations in their store, and celebrated the completion of same by an opening held March 15th and 16th, which proved to be quite successful in attracting a large crowd, in fact, was a decided success in every way. Their souvenir for the occasion was the new "Elgin" calendar, which was highly appreciated and very much in demand. This firm though only a little over two years old have been unusually successful. Their new store is highly complimented by travelers who have recently called on them.

S. S. Battin, Jr., of the Dorrance, Battin Company, San Francisco, stopped off in Chicago a day en route home from the East.

George M. Howe, Wichita, Kans., is sojourning at Eureka Springs, Ark., for the benefit of his health.

C. L. Jensen has closed out his business at Ida Grove, Iowa, and removed to Albuquerque, New Mexico, for the benefit of his son's health. Mr. Jensen will likely engage in business again somewhere in the western country.

Henry Rinhardt, southern traveler for the Juergens & Andersen Company, left last week for a trip over the southern territory to introduce Mr. Lutz, his successor, to his customers in that territory.

C. W. Edwards, for several years past, Chicago and western representative for the C. E. Hancock Company, of Providence, has resigned his position to accept a similar one with the house of Furbish, Swift & Fisher, of the same city. Mr. Edwards will cover his old territory and begin work in his new connection April 1st. He will still continue his headquarters in Chicago.

W. A. Fay, western representative of the John T. Mauran Mfg. Company, leaves this week for a three-weeks' trip to factory headquarters in Providence. Mr. Fay will return west with his new fall lines the latter part of April.

George Arkwright, the well-known jeweler, of Beatrice, Nebr., has recently returned from a three-weeks' outing spent in Cuba, which he enjoyed greatly.

J. B. Hudson, head of the well-known house of J. B. Hudson & Son, Minneapolis, accompanied by Mrs. Hudson, are spending a few weeks among the resorts of Southern California.

Frank Le Bron, of the Le Bron Jewelry Company, Keokuk, Iowa, and wife are spending two months in recreation and travel on the Pacific coast.

Tobin & Canham are a new firm of jewelers who have just embarked in business at Springfield, Ill., where they are opening up a handsome modern new store in a good location in the capital city. Both gentlemen visited this market the first week of March for the purpose of selecting goods for the new store. They are well known in the trade at Springfield, Mr. Tobin having been connected with Lochman Bros., for a number of years, and Leroy Canham has been a salesman with John C. Pierik & Co.

Out-of-Town Visitors

Harry J. Harm, of Albert Lea, Minn., was among the visiting buyers in this city recently on the lookout for late spring novelties.

A. Newsalt, the widely known jeweler, of Dayton, Ohio, and Mrs. Newsalt, stopped off a day in Chicago en route home from Owatonna, Minn., where they have been visiting Mr. Newsalt's sick brother.

John Armbruster, of Cedarburg, Wis., was a visiting buyer in the great central market last week, selecting his spring bills.

Peter Engel, of Marysville, California, accompanied by his daughter, spent several days in Chicago en route East on a three-months' vacation. They will visit friends and relatives in Canada, New York State and in other eastern states.

H. G. Anderson, of Fremont, Nebr., spent a few days in this market recently. Mr. Anderson brought the news that he had been sadly bereaved recently in the loss of his wife and young child. Mr. Anderson will have the sympathy of the entire trade in his bereavement.

J. F. Cook, of Dowagiac, Mich., was a visiting buyer in this market last week.

The Janesville Jewelry Company, of Janesville, Wis., was represented in this market for several days last week by Mr. and Mrs. Fleet, who were here combining business with pleasure.

Frank R. Pancoast, Hastings, Mich., spent a few days in the Chicago market last week selecting his spring bills.

The Arnold Music and Jewelry Company, of Ottumwa, Iowa, were represented in this market last week by Oscar Arnold, the head of the firm, who was here on a buying trip.

John C. Pierik, the well-known and prominent jeweler, of Springfield, Ill., spent last Saturday in Chicago, calling on our wholesale and manufacturing trade.

G. W. French, of Ionia, Mich., was met in one of our wholesale offices last week. Mr. French remarked that he was in the city for a few days doing some buying and enjoying metropolitan life. He also said that the spring business in his section was unusually good and that they were anticipating a good year all the way through.

M. Hastings & Company, of Arcadia, Nebr., were represented in this market the early part of the month by Albert Hastings, who was here on a buying trip.

J. H. Lepper, of Mason City, Iowa, spent several days in town last week, combining business with pleasure.

Jeweler J. W. Campbell, of Bowling Green, Ky., was a welcome visiting buyer in this market the early part of the month, combining sight-seeing in the Western metropolis with his spring buying.

Walter Jaccard, manager of the Jaccard Jewelry Corporation, the widely-known retail house of Kansas City, was in Chicago for a day or two early in the month on a business trip.

Oscar J. Ludwig, of Waterloo, Iowa, was here the early part of the month, selecting fixtures for his new store which he expects to move into shortly.

E. B. Nelson, of Minneapolis, Minn., spent a day or two in the Chicago market recently on a purchasing trip.

C. H. Freeman, of Bloomington, Ill., was in Chicago a day or two last week on a spring-buying trip.

G. S. Bauder, of Elborn, Ill., was a visiting buyer in this market for a day last week.

H. S. Hurlburt, of Mineral Point, Wis., spent a few days in Chicago last week on the lookout for late Easter novelties.

John Devine, a well-known jeweler, of Salt Lake City, accompanied by Mrs. Devine, spent last week in Chicago, combining business with pleasure.

O. C. Zinn, of Hastings, Nebr., was a visiting buyer in the great central market for a few days recently.

White & Krug, of Staunton, Ill., were represented in this market recently by Mr. White, who was here on a spring purchasing trip.

L. M. Philbian, of Lafayette, Ind., a well-known jeweler, of the Hoosier State, was a welcome buyer in this market last week.

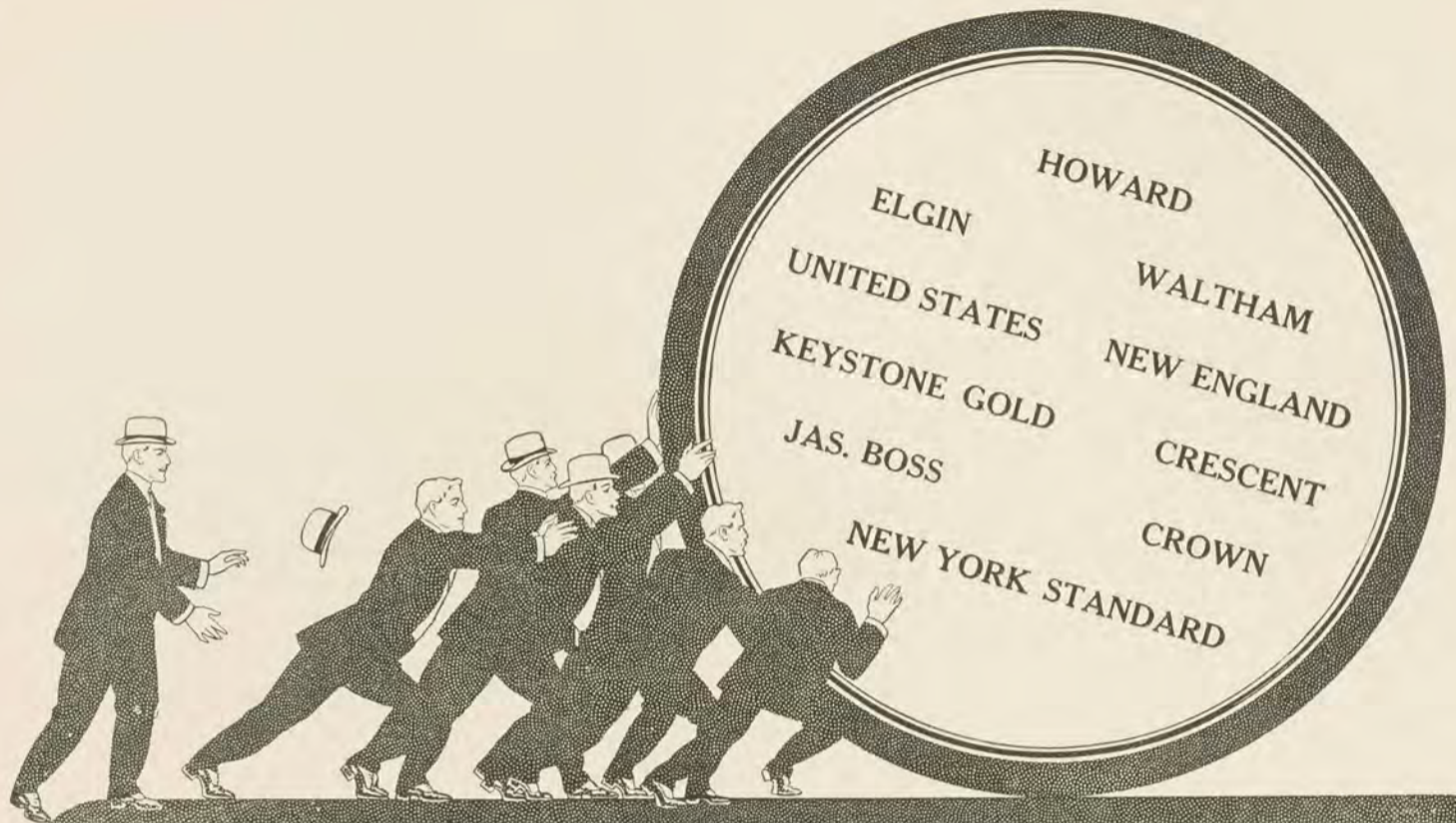
F. B. Harris, of Lincoln, Nebr., spent several days in Chicago recently, attending to his spring buying.

C. C. Paule and wife, of Burlington, Iowa, spent several days in this market recently, calling on their friends in the wholesale and manufacturing trade.

L. A. Hoar, of Waupun, Wis., spent a day in this market recently, on the lookout for Easter novelties.

H. A. Kinnear, of Marion, Ind., was here last week, selecting his spring lines.

C. H. Bagley, manager of F. D. Day & Co., Duluth, Minn., and Mrs. Bagley were in Chicago last week, en route to the Southern winter resorts on the Florida coast, where they will enjoy a two-weeks' outing.



THE Jeweler who shows his customer an unknown and untried Watch is simply taking an unnecessary chance on losing the sale. He loses his profit as well as the confidence of his trade.

WHY? Because it's always easier to push "THE WATCHES THAT SELL"—the Watches that don't come limping back to you on crutches—the Watches that don't have to be bolstered up with your own personal guarantee—the Watches of National Reputation. Giving the customer what he doesn't want is a losing game.

We handle "THE WATCHES THAT SELL"—the best line of American Watches possible for you to buy. Our Mail Buyers are increasing every day because it's the Easy Way.

M. A. MEAD & Co.

America's Pioneer Exclusive Watch Jobbers

Columbus Memorial Building
CHICAGO

Farmers' Bank Building
PITTSBURG



PITTSBURG LETTER

The Destructive Floods

While the majority of Pittsburg jewelers are fairly busy for the season, and report conditions of trade as active as could be expected, they have been seriously disturbed in most sections by the effects of the recent flood which came upon the entire community so unexpectedly and swamped many of the large stores, causing much inconvenience, and in some cases quite a loss in damaged stocks. Fortunately, the lenten season quiet was on and the actual trade has not been as great as usual. The demand upon the time of the dealer has been largely in preparing for business that is to come. The opening of new summer stocks had been under way in many stores, and where basements or cellars were used for the storage and unpacking of goods, the stocks below street levels were more or less submerged and some were damaged.

Business interests generally have suffered severely in Pittsburg this spring from high waters. They crept into the leading business streets and made rivers of them—actual rivers too, because boats floated serenely through them, ferrying people from store to store, and in one instance, a steamer of small size actually sailed through Penn Avenue and followed the line of the alleys into close proximity of the A. M. Andrews jewelry store, puffing like a fire engine. As to the actual damage suffered by the trade, it is difficult to estimate. It was confined largely to stocks of goods in cellars and these stocks are not large as a rule. Interruption to business was a more important factor, practically no business being done for two days in any of the stores in the lower districts and in Penn Avenue. All wholesalers located in Penn Avenue, below Ninth Street, were more or less affected. Heeren Brothers Company had water in their big basement and their trade was interrupted for some time. There has been a general cleaning up since the flood and the work is not yet over. The disposition of the people to buy had not been checked a moment, and as soon as the stores reopened business took its usual complexion of serene confidence.

The Spring Moving

April 1st will witness the beginning of the moving for the spring. As announced some time ago, few important changes were expected, but among the more conspicuous ones will be the removal of the old house of J. M. Roberts, for years in Market Street, near Fifth Avenue. This house has been pushing ahead rapidly of late, both in enterprise and growth of trade. As a result it secured the lease of a double store two doors below its present stand and will move into it with the opening of April. The new store will be more than twice the size of the old one, and it promises to be one of the handsomest and most up-to-date retail establishments of Pittsburg when completed.

Graf & Niemann's old store will be vacated at the same time. This store was in the flood belt, and while the retiring firm did not suffer any ill effects from the submerged cellars, it delayed the general selling of stocks. Another retailer that is passing out of the race is Charles O'Brien & Company on Wood Street directly across the street from James W. McCreary & Company's depart-

ment store. The death of Homer J. Lindsay, an official in the Carnegie Steel Company and the silent partner in this store has been responsible for the determination of O'Brien & Company to wind up its affairs. Mr. Lindsay was one of the junior partners of Andrew Carnegie, and was interested quite largely in the venture. His illness has been quite lengthy and it was his wish that caused the winding up of the business.

Many Burglaries

Burglars were busy during the past month. They paid more or less attention to Pittsburg jewelers, and visited the store of the Bickert Jewelry Company in Wilkinsburg, one of the residence suburbs of the city bordering on the East End section. The robbery was committed on March 3d, early in the morning. Three men were inside and were heard by a physician who had apartments over the store. Police came and captured a guard that the thieves had placed near the store. A second one inside rifling the place heard the noise and hurled a piece of lead through a large plate-glass window in front and escaped in the vent made. The third was overhauled. The escaped man has not been captured. The other two proved to be town characters and of no good repute. Their trial is pending now for burglary.

Here and there are reports of small robberies and these have caused the trade to be more than usually cautious in caring for their stocks. The practice of leaving displays of stock in the windows has been dispensed with and wisely too, for there is apparently no limit to the extent that the crooked gentry will go to loot a jeweler's window or store when the time is favorable.

But the most sensational affair of all was the arrest the past week of a young man employed on a newspaper in Pittsburg as a reporter, and strange to say, doing the "police route." This young man was arrested on the information made by E. P. Roberts & Sons, of Fifth Avenue. The information says that W. Edward Cope, the defendant, called upon them and asked that they show him a diamond ring which was to be considered by a committee that intended to present the gift to a friend. He was able to secure the diamond, valued at \$200, and promised to show it to the committee, and if it was satisfactory he would bring the money for it in a few days. The ring was not seen again. Subsequently Cope was arrested in another case and a pawn ticket for the diamond was found on him. The house recovered the diamond and then, so soon as his former case was settled, had him arrested for larceny. This second case is now pending.

Morris G. Sans, a retailer, who has been in business in the borough of Wilmerding, near Pittsburg, died March 8th, after a short illness, and terminated thus sadly a promising career. He was thirty-six years old and is survived by his wife and three children. His parents and relatives live in Pittsburg.

A trade surprise was the announcement on March 15th of the failure of A. M. Andrews Co., 537-539 Penn Avenue. Roughly estimated, the firm claims to have assets of about \$48,000 and liabilities of about \$44,000. Though it was generally believed that the firm was in good condition, it transpires that Eastern creditors had been pushing them for settlement of claims. The result was a receiver was asked for and proceedings were taken in the Common Pleas Court, the Mercantile Trust Company being appointed receiver. The members of the firm are A. M. Andrews and his brother Chas. Andrews, and Chas. H. Hollyland.

The company was incorporated some three years ago with a capital of \$30,000, and about two years ago moved to its present location, which is a most desirable one for a jewelry house.

Activity Among Wholesalers

M. A. Mead & Company sent out the third road man this month, and Manager Montgomery, of the Pittsburg branch of this company, is confident that this year will prove to be a prosperous one for this house. The monthly comparisons tell of a rapid expansion of trade and a growth that is more than flattering to the excellent management of the business by Mr. Montgomery.

G. B. Barrett Co. report much activity in the wholesale trade. Inquiries and orders by mail are coming in steadily from all of the territory in which this house for so many years has labored.

Preparations for the usual European trips by many of the Pittsburg jewelers this spring and summer are underway and are expected to start in a short time. The diamond market has maintained a good, healthful tone during the winter and the buying continues among the people on a large scale. Nearly all of the dealers who are to take the trip over the seas this year promise to bring back a new stock of gems and also a good many novelties that are to enrich the stocks this coming fall and holiday season. Cut glass continues in popular favor and there promises to be a large showing of such stocks. Some of the dealers say that their stocks are low and cannot be replaced at once, so that other lines are being used to replace them until orders can be filled. The usual crop of weddings will, no doubt, materialize at Easter another fertile source of trade revenue.

ARCH CROWN

Mountings are made in all usual styles, and excel in Beauty, Strength, Quality and Ease of Setting. All are made with fully prepared bearings and stones can be set at once.

HAVE YOU TRIED
PLATINUM TIPPED
MOUNTINGS?
THEY WEAR LONGEST. STONES SHOW WHITEST



THE ARCH CROWN
A MOUNTING OF BEAUTY

PRESS DOWN THE TIPS WE'VE DONE THE REST

The Bearings and Tips are Fully Prepared

SEND FOR SAMPLES AT OUR EXPENSE
AND TEST THEIR MERITS

ARCH CROWN MFG. CO., 24 Camp St., Newark, N. J.

M. Schussler & Co., San Francisco, Pacific Coast Agents



The spring weather opened up here several weeks in advance of the usual time for the lake cities, and the past month was not so lion-like as some of its predecessors. There will be a good many weddings here, and already the retail trade is feeling the effects of the matrimonial activity. Prospects were never brighter for a big business in this section, and reports from the traveling men now on the road are giving proof of this in large orders for all standard lines of goods.

H. W. Burdick, of the Bowler & Burdick Co., is again at his place of business after a three-months' siege of typhoid fever.

Otto Loehr, of the Scribner & Loehr Co., has returned from an extended trip to the South. He reports a fine time, and that fishing in Florida was of the best. This is a sport to which Mr. Loehr gives his earnest attention whenever he takes a trip.

O. D. Howland, jewelry buyer for the Cowell & Hubbard Co., has gone to spend a few months at Saranac Lake, in the Adirondacks. He will return in the summer.

Force Bros., who have taken the Prospect Street storeroom of the Taylor Arcade for their new store, have recently incorporated under the name of the Force Bros. Co.

Harry J. Rickeshimer, engraver for some time with Cowell & Hubbard Co., and with Albrecht, has opened a small engraving office in the Colonial Arcade and will do trade work.

John Burri, for the past year with Bowler & Burdick Co., has opened a new store in Wellsville, Ohio. Mr. Burri was formerly in business in New Philadelphia, Ohio.

Chas. Ertinger has announced the purchase of the Stein Jewelry Co., corner Ontario and Prospect Avenue.

E. H. Dutter, silver buyer for Cowell & Hubbard Co., was in New York recently on his annual spring buying trip.

E. R. Abrahamsen, formerly with a West Side jewelry concern, has accepted a position with Solomon Optical Co.

Wm. T. Grumtra, of Champaign, Ill., has taken a position with Wm. Griffith Jewelry Co., 2916 West Twenty-fifth Street, as watchmaker.

Earl Chamberlain, the well-known engraver, is in town on a visit and was a caller at the local stores.

Wm. Tatzke, for the past three years with C. J. Kretchman, manufacturing jeweler, in the Garfield Building, has opened a shop in the Lennox Building. Mr. Tatzke is a fine workman and will undoubtedly make a success of his venture.

The past month saw the opening in Toledo, Ohio, of the new storeroom of J. J. Freeman & Co. This store is a credit to any city and ranks very favorably with many stores in the large cities. Mr. Freeman began the business, it is said, with an available cash capital of \$47. This was many years ago, and from that humble start this magnificent business has arisen. It speaks well for the able management of the active head of the concern.

Another recent incorporation of a jewelry concern is that formed by B. H. Broer, W. E. Broer, H. A. Broer, B. F. Broer, C. F. Broer and E. F. Newton, to take over the business of B. H. Broer, 606 South Street, Clair Street, Toledo, Ohio.

Sterling B. Hubbard, who has been in California the past two months, returned recently. He reports his being very much in love with that section of the country.

W. F. Randall, Sharpsville, Pa., was a trade visitor here last month.

G. A. Hauner, Massillon, Ohio, was here last month on a business trip.

W. J. Higgins, Shelby, Ohio, was in town last month and called on the jobbers.

H. C. Brock, Akron, Ohio, is a recent addition to the W. L. Newmeyer School of Engraving.



One of the measures of interest to the retail trade introduced during the present session of the Pennsylvania State legislature was a bill intended to prevent "fire sales," which are not genuine in character. The bill is entitled "An act to prevent fraudulent sales and advertising of goods, wares, or merchandise, and to punish the violation thereof," and provides for a license without which no special sale can be advertised or held. The drastic character of the measure may be inferred from section four, which is as follows: "Any person who shall advertise, represent or hold out any sale of goods, wares or merchandise to be an insurance, bankrupt, mortgage, insolvent, assignee's, trustee's, receiver's, executor's, administrator's, pawnbroker's or closing-out sale, or a sale of goods damaged by fire, smoke, water or otherwise, without having first complied with the provisions of this act shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be fined in a sum not less than \$50 and not more than \$500, and by imprisonment in the county jail not exceeding six months, or either or both, in the discretion of the court."

Jas. K. Davidson's Sons, 718 Sansom Street, were recently victimized by a clever thief, who purloined small diamonds to the value of \$500. The firm offered a reward of \$250 for any information that would lead to the arrest and conviction of the culprit, but up to this writing he has not been captured though the authorities suspect his identity with a well-known thief who recently escaped from prison. He is described as being twenty-four years old, 5½ feet high and weighing about 125 pounds.

Geo. A. Werner, of Bangor, Pa., a well-known jeweler and music dealer, died at a hospital in this city early last month. Mr. Werner came to Philadelphia for the purpose of having an operation performed, but surgical skill proved unable to save his life. The deceased was prominent in fraternal orders and was also a devout member of the Presbyterian Church. He was widely known and highly esteemed.

Ed. Sickles, of M. Sickles & Sons, returned early last month from his trip to Porto Rico, which was mentioned in a previous issue.

Col. J. Warner Hutchins, diamond dealer and president of the Jewelers' Club, sailed on March 9th for Porto Rico, where he will sojourn for several weeks. Before returning he will make a tour of the West Indies and other tropical points of interest.

Fred. Hurlburt, of H. O. Hurlburt & Sons, sailed for Europe on March 10th on the Cunard liner *Pannonia*. He will disembark at Gibraltar and spend six weeks in Spain in leisurely recreation and sight-seeing.

Joseph Gumpert has made many alterations and improvements in his store at 2218 Ridge Avenue, which now presents a very attractive appearance.

A strenuous pool and shuffle-board tournament was recently conducted at the Jewelers' Club, handsome prizes being offered to the winners in the contest. Prominent among the pool experts were L. P. White and Jos. Cadwalader, who are past-masters at handling the cue.

M. M. Bovard, of the jewelry firm of M. M. Bovard & Son, whose store is situated opposite the Reading Railroad Depot in Manayunk, celebrated on March 12th his eightieth birthday. This trade veteran enjoys excellent health and still works at the bench, doing the very finest kind of work without physical or visual discomfort.

Harry S. Greenwald, formerly a partner in the firm of B. F. Williams Co., and Chas. A. Bonnaffon, formerly a salesman with the same firm, have started in business for themselves under the firm-name of Greenwald & Bonnaffon, as wholesale dealers in watches and jewelry, at 806 Chestnut Street.

E. S. Radley, 2240 Frankford Avenue, escaped considerable of the inclement weather by a visit to Florida, where he enjoyed the balmy tropical climate at Palm Beach.

G. Wilbur Russell, one of the oldest jewelers in Philadelphia, whose place of business was at 22 North Sixth Street, died recently in Columbia, S. C., whither he had gone for the benefit of his health. The deceased had suffered from a complication of diseases and had gone South in the hope of recovering. Mr. Russell was born in the house in which his store was located and this property had been owned by the Russell family since 1786. Being a bachelor, he made his home with his sister, Miss Mary H. Russell, at Germantown. He was a graduate of the University of Pennsylvania, but had been actively in business since boyhood. He was sixty-nine years old at the time of his death.

The annual meeting of the stockholders of the Bailey, Banks & Biddle Co. was held in the Bellevue-Stratford on the afternoon of March 19th. The reports read at the meeting showed that the past year had been one of exceptional prosperity with the company. Their new building, which was occupied by them in March, 1904, has proved successful even beyond expectations and quite remunerative. Jos. T. Bailey was elected president of the company for the ensuing year, Chas. W. Bailey, vice-president and treasurer, and Clement Weaver, secretary. On the same afternoon the Bailey, Banks & Biddle Co. entertained the tenants of the building at an informal dinner in the Bellevue-Stratford.

Thos. Maddock, the veteran traveling representative of Simons, Bro. & Co., has the sincere sympathy of his many friends in the sad bereavement with which he was afflicted last month. It was the custom of Mrs. Maddock to accompany her husband on his trips and she recently started out with him on his regular spring trip to the South. When they reached Washington, D. C., Mrs. Maddock became ill and though her condition was not then regarded as serious, she was brought home by her husband. A weak heart proved a fatal complication, however, and the good woman finally succumbed. Mr. Maddock is probably the oldest traveler in the country and few, indeed, have a wider acquaintance. Some six years ago the old couple celebrated their golden wedding anniversary, and their singular attachment for each other during their long married life has made the bereavement still more pathetic.



HEINTZ
BROS.

RING MAKERS.

**HB An HB
Assortment**

of Rings, beautiful in design
artistically wrought, and ex-
cellently finished, bearing the
HB trade - mark, means in-
creased sales and additional profits

The most salable and profitable
ring production in the trade

HEINTZ BROTHERS
BUFFALO, N. Y.





No. 227. Faceted Stone
Rose Gold Finish



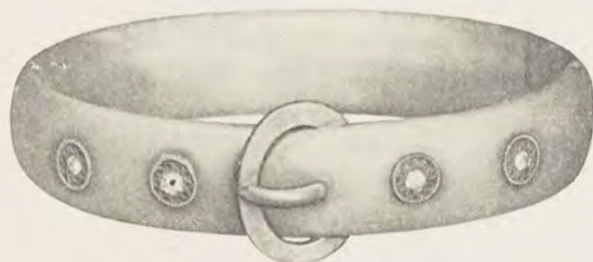
No. 228. Carbuncle Stone
Green Gold Finish



No. 248. Chased Stone, Rose Gold
No. 249. " " English "



No. 246. White Stone, Roman Gold
No. 247. " " English "



No. 269. White Stone, Rose Gold



No. 260. Gallery, Rose Gold



No. 273. Chased Rose Gold
No. 274. " " English "



No. 236. Pearls, Roman Gold
No. 237. White Stone, Roman Gold

These Bracelets
are unsurpassed in Quality, Workmanship and Design. They are made from the best plated stock by the best workmen, for the best trade, and are finished in English Gold, Rose Gold and Green Gold.



No. 238. Chased, Polished

A few new Bracelets from the largest Bracelet line made



No. 242. Chased, Polished

WOLCOTT MFG. CO.

Manufacturing Jewelers

71 Peck Street

Providence, Rhode Island, U.S.A.



MAIN CORRIDOR

As each season brings forth the new designs they are promptly added, resulting in our stock being ever replete with the latest jewelry innovations.

Many of these are creations from our own factory, augmented by select lines from the world's best makers.

Eisenstadt Mfg. Co.

Star Bldg.

St. Louis





The prosperous times now prevailing and the popular demand for high-grade goods make the



RINGS and BROOCHES the jewelers' ideal for quick-selling stock.

OSTBY & BARTON COMPANY

New York, 13 Maiden Lane Providence, R. I. Chicago, 103 State Street

NORMA
TRADE MARK



No. 253. Each link is a combination of plain and chased link in bright and roman finish. Price, \$1.50 each.

NORMA
TRADE MARK



No. 348. Ornament rose finish, with heart signet center polished for monogram. Price, \$2.25 each.

Don't Fail to See the Magnificent
New 1907 Styles
of

NORMA Bracelets

ADJUSTABLE FLEXIBLE COMFORTABLE
Most Varied and Beautiful Line Ever Shown

Remember the Norma Bracelet is **SOLDERLESS** and has not been heated in manufacture, thus **DIMINISHING THE COST** and enhancing the **QUALITY**.

To be had from Jobbers of Jewelry Only



No. 306. Ornament rose finish, with diamond signet center, polished for monogram. Price, \$2.25 each.



No. 302. Ornament rose finish, with oval signet center, polished for monogram. Price, \$2.25 each.



No. 318. Ornament rose finish, with round signet center, polished for monogram. Price, \$2.25 each.

THE F. H. SADLER CO., ATTLEBORO, MASS.

The Trade Standard is

THE CARMEN BRACELET

EVERY NEW IMITATION IS A TRIBUTE TO ITS SUPERIORITY



A WEALTH OF NEW DESIGNS FOR FALL TRADE

It's THE CARMEN ADJUSTABLE that Gives Distinction to a Bracelet Stock

Chicago Office, 103 State St.
New York Office, 180 Broadway

THE D. F. BRIGGS CO.

Factory and Main Office
Attleboro, Mass.



B 12



B 8



B 6



B 29

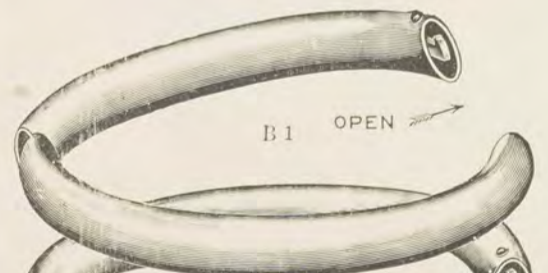


B 19



B 1

OPEN



B 4

PARTLY OPEN



B 3

CLOSED



ASK for Bigney's Chains and Bracelets. Most up-to-date goods on the market. They are worn by more people than any other make, and every article is guaranteed.

Our enormous line of **Bracelets** is replete with new creations. We present a few illustrations on this page of our new "**Eclipse**" **Side-Swing Bracelet**, which is the most practical and most up-to-date article in the bracelet world. **IT IS THE DADDY OF THEM ALL!** Press the pin on the side of the bracelet and it unlocks and opens about one-quarter of an inch, and then swings on a pivot sidewise and is removed from the arm. This bracelet has already become the best seller in the market, without any question. We have two patents on it and will protect our interests.

Patents allowed Jan. 22 and Feb. 5, 1907

Every jeweler is entitled to one of our beautifully embossed signs, with cut of our factory, and one of our velvet show case mats, free of charge and express prepaid. Send your address.

S. O. Bigney & Co.

Factory, Attleboro, Mass.

New York Office : 3 Maiden Lane



The still small voice of
QUALITY can always
be heard above the
noise and din of flashy
pretension.



A. A. GREENE & CO.

Chainmakers

PROVIDENCE, R. I.

Warning!

ees AN ACT
FORBIDDING THE IMPORTATION, EXPORTATION, OR
CARRIAGE IN INTERSTATE COMMERCE OF FALSELY
OR SPURIOUSLY STAMPED ARTICLES OF MER-
CHANDISE MADE OF GOLD OR SILVER OR THEIR
ALLOYS, AND FOR OTHER PURPOSES.
Be it enacted by the Senate and House of Rep-
resentatives of the United States of America in
Congress assembled, That it shall be unlawful for
any person, firm, corporation, or association,
being a manufacturer of or wholesale or retail
dealer in gold or silver jewelry or gold ware,
silver goods or silverware, or for any
manager, director, or agent of such
ation, or association

THE PENALTY for violation is
\$500 FINE or 3 months'
imprisonment
or both at the discretion of the court

The new "National Stamping Law" takes effect in June, 1907. Every dealer in the country should, from this time on, exercise exceptional caution when buying "Gold" watch cases, so that he does not get into his stock anything which he does not feel absolutely certain is backed by a reputable maker, as when this law is once in operation, the authorities will be watching very assiduously for violations, and it is to the dealer's interests that his stock contains only goods of unquestionable quality and made by manufacturers of recognized responsibility.

Wherein this new law may refer to watch cases, it gives us pleasure to advise that 14 K. "Keystone" solid gold cases assay 585 thousandths fine. They are therefore of a higher quality than the world's standard for 14 K., which assays 583 1/3 thousandths fine. Dealers carrying Keystone 14 K. solid gold cases will have no interference from the Federal Government Inspectors, as these goods are, and always will be, the recognized standard, and "better than the law" demands.

This law becomes effective in every State and Territory and the District of Columbia.

The Keystone Watch Case Co.

Philadelphia

New York
Cincinnati

Chicago
San Francisco

Warranty
in cap
GUARANTEED
14 K.
585 THOUSANDTHS
FINE

Trade-Mark
in back
KEYSTONE
14 K.
585



There is little change in business conditions here in the last month, except of course that the spring trade approaches nearer and nearer to its high point. Nobody has the slightest complaint about business. At the jobbing houses everything is rushing. The traveling men are doing finely on the road and there have been many out-of-town buyers in to choose additions to their spring stocks. In the retail stores things look even busier, for there is to be the usual large number of Easter weddings, and that, of course, means a lot of additional buying. The manufacturing jewelers also share in the general rush, and all are working at full steam to fill their orders.

The new Long Building, Kansas City's first real sky-scraper, is almost completed, and a few of the earliest tenants have already begun moving in. Letters are appearing on the windows of the various stories, and the whole huge structure is beginning to look very business-like and quite comfortably inhabited.

Among the new matriculates at the Kansas City Polytechnic Institute are B. F. Haynie, Stillwater, Okla.; B. C. Thomas, Hebron, Nebr.; W. B. Bellamy, Kansas City, Mo.; H. A. Hamilton, Seattle, Wash.; Julius Granse, Kansas City, Kans.; Louis Hansen, Durango, Colo.; A. L. Cline, Des Moines, Iowa; J. P. Telfer, Kansas City, Mo.; D. G. Hughes, Emporia, Kans.; C. G. Chase, Kansas City, Mo.; Homer C. Woolf, Oberlin, Kans.; A. G. Hitchcock, Oberlin, Kans.; W. W. Carper, Jennings, Kans.; R. M. Adams, Jet, Okla.; G. M. Caubly, El Reno, Okla.; G. B. Brown, Kansas City, Kans.; W. J. Miller, Seneca, Kans.; Max Skeen, Kansas City, Mo.

A. Manifold, the Beloit, Kans., jeweler, was in Kansas City to attend the automobile show. He bought four Buick machines, which were shipped to him at Beloit.

The Meyer Jewelry Company has added a thousand square feet of floor space to its already large factory, and it may consequently be assumed that its moving plans have been abandoned for the present. The new addition is occupied by the watchmakers.

Charles Hay, of Galveston, Texas, was a visitor to the Kansas City wholesale houses last month.

D. G. Hughes, watchmaker and engraver, is with D. C. Williams & Co., Emporia, Kans.

Mr. and Mrs. C. L. Merry and little grandson have been taking a winter vacation in Florida.

Max Hill and C. D. Ragsdale have formed a partnership and opened a jewelry store in Smith Center, Kans.

The jewelry stock of James Lear, at Mound City, Kans., was extensively damaged by fire February 5th. The loss was a heavy one.

The jewelry firm of Fairfield & Fowler, of Parsons, Kans., has been dissolved, William Fairfield succeeding to the business.

The Southwestern Optical College has just issued a very handsome catalogue and prospectus. It contains thirty-two pages, very effectively illustrated with views of the college and classes in session. Especially fine portraits of Dr. S. W.

Lane and Dr. E. A. Lane are included in its pages. New pupils at the college are: E. I. Glass, Kansas City, Mo.; R. M. Adams, Jet, Okla.; J. R. Spilman, Pierce City, Mo.; St. Elmo Eddins, Kansas City, Kans.; E. C. Lindner, Garden City, Kans.; Mrs. Harriett Eddy, Kansas City, Mo., and Mrs. Nannie E. Parker, of Pryor Creek, Okla.

L. Meyer will leave shortly for Hot Springs to remain several weeks.

The firm of C. H. Rakeman & Son, Sapulpa, Ind. Ter., has been succeeded by H. F. Rakeman.

Otto Burklund, the Osawatimie, Kans., jeweler, has sold his store and contemplates locating soon in Moberly, Mo.

Among the out-of-town jewelers who have visited the Kansas City jobbing houses recently are J. H. Whiteside, Liberty, Mo.; Fred. Brotte, Gage, Okla.; B. W. Lubman, Chickasha, Ind. Ter.; R. O. Shenkner, Western, Mo.; W. F. Kirkpatrick, Winchester, Kans.; S. J. Huey, Excelsior Springs, Mo.; C. A. Clement, Springfield, Mo.; Roy Bertholf, Cherokee, Kans.; C. B. Libby, Wier City, Kans.; C. W. Frodsham, Savannah, Mo.; F. L. Baskett, Chillicothe, Mo.; C. E. Wardin, Topeka, Kans.; O. M. Atwood, Clifton, Kans.; W. T. Peters, Eureka, Kans.; J. A. Mosher, Burlington, Kans.; Will Mosher, Burlington, Kans.

Notes from Alabama

Jewelers Satisfied

The jewelers have been taking a little rest to get in line for the coming season. There is a big trade in wedding presents just now, and in a few weeks will come heavy calls for graduation and other school jewelry. Last year there was an enormous purchase of diamonds for this class of trade, showing that the people had much money to spend.

New Legislation

Alabama to see just what the many drastic laws just passed mean, and to secure enough experience to annul any that may be undesirable at the summer session, which begins July 9th. Mercantile and business men, generally, are interested in the freight rate laws, of course; also in the reciprocal demurrage regulation and the various other bills that have to do with the management of the railroads of the country. Then there is a law that will likely get through that reduces the rate on excess baggage from 15 to 10 per cent. of the first-class ticket. This one is of interest to the traveling men, as well as the law that was passed and signed providing for interchangeable mileage books on all lines of the State.

A Feeling of Uncertainty

There is some fear that the rate bill will result in an increase of the inter-State rate, which would be a bad thing for this territory. The railroads claim that reduction of the rates within the State will force them to put the others up, as with the low inter-State schedules now prevailing the State has, as a whole, the lowest rate of any of the States in this section. There has been, on the part of the railroads for many years, a disposition to help the industrial section out by close rates or actual contributions of cash, and the plan has resulted in a run of rates to the market for such things as iron and coal, that are very low. If they are restored to the general average, there is likely to be not only a howl, but actual hurt to the territory. However, it is claimed that there will be no trouble; that the roads and public will get

together and all will be well in the end. If this be so, there will be the greatest prosperity this year the country has ever known. The South is coming along at a rate so fast as to astonish everybody, and with things normal for another twelve months. Montgomery, Birmingham and Mobile are likely to almost double in commercial and industrial importance.

A Property Boom

A man who owns many thousands of dollars of real estate in Birmingham, says that there has never been anything to compare with the business there. All kinds of property is going up all the time. It is estimated that the leading corporations will spend there this year not less than \$25,000,000, and that a number of new plants, including one or more steel mills, will go up. There are two new roads coming in and several others promised, one of importance being a line seventy miles long to connect the district with the Alabama River at Selma, thus giving water movement all the year around. There is also talk of erecting several other steel buildings to meet the growing demand.

Prosperity Everywhere

In Montgomery there is something of the same kind of talk. When seen the other day, every bank president in the city spoke with greatest enthusiasm of the outlook, and all said that the business men are in the best shape ever known. Not one of them intimated one thought of pessimism. On the other hand, all agreed that there was reason to believe that this year would be an improvement on last, which was the best the country ever had. President Baldwin, of the First National, said that every one of their customers had met his obligations and had money for the new year; Mr. Holloway, of the Montgomery Trust Co., also president of several country banks, said that not only his city bank was showing the best of conditions, but there was plenty of money in the country, it being unnecessary to go to New York this year as had been the case before. The same thing was said by Mr. Cody, of the Exchange National; Mr. Farley, of the New Farley National, and Mr. Reynolds, of the Fourth.

John Rosentihl, one of the old-time jewelers of the State, has been appointed game warden of Jefferson County. John is a brother of the late William Rosentihl, of Birmingham, and of Henry Rosentihl, of Union Springs, all of them jewelers.

The handsome loving cup, which will be given by William Weiss, Jr., of William Weiss & Son, jewelers, of Montgomery, to the Second Regiment of the Alabama National Guard, is in the window of the Weiss house. It will be a target practice trophy. Young Weiss is captain of the Montgomery True Blues, one of the best companies in the regiment.

The post-card fad has captured the Alabama jewelers. All of them have succumbed to the movement. Montgomery jewelers are largely carrying photo. supplies, also.

W. C. Strickland, who has one of the prettiest jewelry stores at Dothan, has made many improvements lately, one of them being an up-to-date optical department.

Owing to interior changes, the Gilbert Jewelry Co., at Camden, is advertising a clearance sale.

Maj. E. O. Zadek, the veteran jeweler, at Mobile, is at work restoring the court-house clock there. All of the works of the clock were blown out when the storm wrecked the lower part of the city last September.

Thieves stole several hundred dollars from the jewelry store of Julian Rulliford, at Piedmont, including watches, charms and chains.

"THE DIAMOND HOUSE"

is the title by which we are best known to a large proportion of the trade—to all, in fact, who have experienced the satisfaction and reaped the fruits of selection from our stock



Springtide finds us better prepared than ever before to supply the growing needs of the jewelers in this line and fully justifies our trade-conferred title—

"THE DIAMOND HOUSE"



amount to about \$3500. Mr. Looney was in the city this month buying stock to reopen in Teague, where he thinks the prospects are bright for a good business.

W. R. Jay, of Rockwell, Texas, was seen among the trade last month.

N. Deal, of Arlington, Texas, was a business visitor in the city lately.

A. N. Bauman, of Milburn, Ind. Ter., has returned from his vacation and resumed work at his trade.

C. L. Kimbrough, of Beeville, Texas, sustained a loss by fire last month; the amount of damages are not known.

D. Davis, of Sanger, Texas, was on business in Dallas last month. Mr. Davis tells us that he is enjoying a good business and bright prospects for the year.

J. R. Henslee, formerly of Ferris, Texas, is at present located with R. L. Reese, of Corsicana, Texas.

E. Meyer, of Groesbeck, Texas, was in the city last month attending the Maccabee Convention. While in the city he paid his respects to the trade.

L. R. Bailey, formerly with T. H. Bennenger, of Cleburne, Texas, has accepted a position with W. F. Dietrich, Kaufman, Texas.

The firm of Kilgore & Prestridge, Alvarado, Texas, was recently dissolved. Mr. Prestridge is continuing the drug and jewelry business, while Mr. Kilgore has reopened a handsome stock with new fixtures in another part of the city.

S. F. Stewart, a jeweler, of this city, spent a two-weeks' vacation at Mineral Wells, and reports his health much improved.

S. F. Rauch, watchmaker for J. W. Pittman, of Cleburne, Texas, was a recent buyer in this market.

R. Beskow, Detroit, Texas, has sold out his jewelry business in the city and is now in Greenville, Texas, with the Beskow Optical Co.

A. T. Latta, formerly of Fort Worth, Texas, has accepted a position with W. T. Dunlap, at Somerville, Texas.

C. L. Norsworthy, wholesale jeweler, Dallas, has moved his office and salesrooms from 341 to 345 and 347 Main Street, where he has much larger and more commodious quarters to accommodate his increasing patronage.

U. E. Penney, formerly of St. Louis, Mo., has accepted a position with Mr. Norsworthy. R. W. H. Hamilton, traveling salesman for Mr. Norsworthy, spent a brief vacation recently at Wills Point, Texas.

A Trade Journal Sermon

ED. KEYSTONE:—Your article in the current number of THE KEYSTONE, "What Think Ye," by John Tweezer, permit me to say, is a wonderfully good article—one of the best sermons it has been my good fortune ever to read or listen to, and I think it would be doing your readers a great kindness to, as soon as possible, again call their attention to it, lest perchance it may have been too hurriedly passed over. It has been to me a great inspiration, and I consider that it is worth the total of what I have spent in subscriptions to THE KEYSTONE, having been a subscriber to the paper from the time of its first publication. It could, with profit, be read every morning of a man's life.

Yours truly,

Seattle, Wash.

H. W. APPLETON.

[The article to which our correspondent refers will be found on page 289 of our February, 1907, issue.—ED.]

Great Diamond Robbery

The most notable diamond robbery in several years, both by reason of the amount of goods taken, the extreme simplicity of the method the robber adopted and the success with which he has avoided arrest, was the recent theft from the store of the J. J. Sweeney Jewelry Company, of Houston, Texas. The robber succeeded in getting away with 293 loose diamonds valued at \$50,000. The name given by this accomplished member of the light-fingered fraternity was H. T. Herrick. He entered the store and stated that he had a diamond that he wished to duplicate and asked to be shown some loose stones so that he could make a selection. After examining the diamonds, he said that he would return the next morning with his wife so that she could make the selection herself, his alleged intention being to present the gems to his wife. Sometime after he left it was discovered that the original box containing the diamonds was gone and in its place was a dummy box containing nothing but paper. The robber is described as being about 45 years old, 6 feet high, 200 to 220 pounds in weight, with sandy mustache, tinged with gray, dark hair tinged with gray, florid complexion, and dressed in a dark suit with a black Alpine hat. He had the manner and outward appearance of a well-to-do business man. The stolen diamonds were done up in tissue paper packages on which were given the weight and number of stones in each package, as follows:

- 4 diamonds, 6 1/2 ct carats, commercial
- 2 diamonds, 4 1/4 ct carats, "
- 2 diamonds, 3 1/4 ct carats, "
- 11 diamonds, 28 1/4 ct carats, "
- 5 diamonds, 10 1/2 ct carats, "
- 3 diamonds, 6 1/2 ct carats, "
- 6 diamonds, 13 1/2 ct carats, "
- 3 diamonds, 4 1/2 ct carats, "
- 12 diamonds, 10 1/2 ct carats, "
- 2 diamonds, 3 1/2 ct carats, "
- 8 diamonds, 5 ct carats, "
- 19 diamonds, 28 1/2 ct carats, "
- 5 diamonds, 3 1/2 ct carats, "
- 2 diamonds, 2 1/2 ct carats, "
- 4 diamonds, 5 1/2 ct carats, "
- 12 diamonds, 12 1/2 ct carats, "
- 3 diamonds, 2 1/2 ct carats, "
- 13 diamonds, 14 1/2 ct carats, "
- 11 diamonds, 23 1/2 ct carats, "
- 11 diamonds, 11 1/2 ct carats, white crystals
- 4 diamonds, 7 1/2 ct carats, " "
- 1 diamond, 2 1/2 ct carats, " "
- 3 diamonds, 5 1/2 ct carats, " "
- 65 diamonds, 42 1/2 ct carats, " "
- 1 diamond, 3 L ct carats, " "
- 13 diamonds, 12 1/2 ct carats, " "
- 21 diamonds, 24 L ct carats, " "
- 33 diamonds, 28 1/2 ct L carats, " "
- 6 diamonds, 8 1/2 L ct carats, yellow
- 5 diamonds, 11 L ct carats, "
- 2 diamonds, 2 1/2 ct carats, fine white
- 1 diamond, 2 1/2 ct carats, fine white, flaws
- 1 diamond, 1/2 ct carat, yellow

A reward of \$10,000 "and no questions asked" was offered first, but this amount has since been increased to \$15,000 and no questions asked. The swindler has so far been singularly successful in avoiding arrest, this being partly due no doubt to the considerable period which elapsed from the time of the theft until the absence of the gems was noticed. The trade are requested to keep a sharp lookout for such stones as correspond with the descriptions given above.

W. H. Lowe, of Red Oak, Texas, called on the wholesale trade while in the city last month.

J. A. Harris, who has been conducting a jewelry business in Waxahacie for a number of years, having sold out his business in that city, has bought out T. J. Hines, of Dallas, where he will conduct a jewelry business in the same place that Hines occupied.

W. C. Odeneal, of Paris, Texas, was among the visitors in the city this last month.

The U. Langhammer jewelry establishment, of Brenham, Texas, formerly owned by W. J. Graber, established by his father, H. W. Graber, the oldest jewelry establishment in this section, has assigned. C. Langhammer, banker, of Bellville, is the assignee. The store, for a consideration of ten dollars, has been transferred to him for the benefit of creditors. He has taken charge and is now taking stock, but has filed no schedule of liabilities and assets. The local creditors, W. J. Graber, C. Langhammer and U. Langhammer's sister, are the three largest creditors, their accounts aggregating in the neighborhood of \$10,000.

H. M. Ryman, of Calvert, Texas, was a buyer in the Dallas market this last month.

The Lawrence Jewelry Co., of Cleburne, Texas, was represented in the Dallas market recently by J. S. Butner, of that firm.

J. H. Hargraves, of Olive, Texas, was a trade caller here last month.

A. Y. Moorefield, of Waco, Texas, was a buyer among the trade this last month. Mr. Moorefield reports good business in his section of the State.

W. M. Martin, formerly with A. D. Honeycutt & Co., of Gatesville, Texas, is now with J. C. Dallas & Co., of Temple, Texas.

Jeweler Jean, of Durant, Ind. Ter., was a visitor in the city this last month.

H. C. Dunkerley, of Ennis, Texas, called on the trade while in the city recently.

V. R. Jones, with Russell & Honaker, of Farmersville, Texas, spent a few days in the city last month.

H. H. Hawley, and wife, passed through Dallas last month en route to their new home in Stamford, Texas. Mr. Hawley has been in the employ of T. B. Bond, of Hillsboro, for a number of years, but has discontinued his relations with that firm, and has bought the J. M. Lively stock at Stamford, Texas.

W. F. Dietrick, of Kaufman, Texas, paid his respects to the trade while in Dallas last month.

T. H. Bennenger, of Cleburne, Texas, was a business visitor in the city last month.

Mr. Harless, with Taylor Bros., Houston, Texas, called on the trade while in the city recently.

C. G. Lord, of Fort Worth, Texas, was in the Dallas market lately.

A. H. Leavitt, of Terrell, Texas, paid his respects to the trade while in the city recently.

W. I. Ghormley, of Arlington, Texas, was a buyer in the city during this last month.

J. B. Looney, of Teague, Texas, who has just recently located at that point, sustained a loss of his entire stock last month by fire. Having just moved into the building the afternoon previous to the fire, he did not have insurance on any of his stock, and as the building was completely destroyed he was unable to save anything. His loss will



One of the Departments **BRADLEY POLYTECHNIC INSTITUTE**

The above cut represents our C, or Elementary Watch Department, taken March 5th. On that date 51 students were on its roll, same being nearly one-half of the total attendance of the Horological Department. It will give you a good idea of the actual conditions at Bradley, and we hope to make this year excell all others in every respect. We are constantly increasing and improving our equipment, and will soon be able to take care of 150 students at one time. Write to-day for catalogue.

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No. 2. 14 K. Gold Plate 2.25 doz.

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Alternating Current . . 5.00
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and CLAWS OF EAGLE,
MT. LION, LYNX, Etc.
WHOLESALE

Sent on selection to reliable manufacturing jewelers
L. W. STILWELL
Deadwood, South Dakota

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INDIANAPOLIS, IND.



TIGER CLAW MOUNTINGS

IKKO MATSUMOTO

Manufacturing Jeweler

Room 316 American Central Life Building, INDIANAPOLIS, IND.



INDIANAPOLIS LETTER

R. L. Polk & Co., publishers of the city directory, give 228,880 as the present population of the capital city of Indiana. In less than thirty days its generous and public-spirited citizens in all paths of life have poured the magnificent sum of over \$400,000 in cash and pledges into the coffers of the local Christian associations, the Y. M. C. A. getting \$273,000, and the Y. W. C. A. \$140,000, in sums of \$1 up to \$10,000. Indianapolis has, indeed, done herself proud.

The jewelry trade is carried on in Indianapolis by sixty-eight retail, five wholesale and eight manufacturing firms. Watchmakers' tools and materials are handled by two wholesale firms. The optical trade is maintained by one jobbing house and seventeen opticians.

Hoffman & Lauer, wholesale material dealers, have completed a number of improvements in their office and salesroom in the State Life Building. Additional material cabinets have been built and a cashier's desk installed. March 1st William Beatty entered upon his duties as stockman for the firm. Mr. Beatty disposed of his old-established jewelry store and various other business interests at West Lebanon, Ind. (retaining his real estate only), and came to Indianapolis with the intention of making it his permanent home.

H. E. Cohen & Sons make a feature of their window dressing. The public has learned to watch their Pennsylvania Street window for beautiful and interesting displays of art jewelry, imported novelties and unique designs in stone mountings.

Harry E. Cohen, of H. E. Cohen & Sons, is manager of the Auditorium roller skating rink. The craze which is now in full swing has made the season a very busy and profitable one. The crowds at the Auditorium test the capacity of the immense building, which is under the control of the Cohens.

F. N. Fugate, formerly with Raines Bros., Maryville, Mo., and previous to that in business for himself at Madison, Ky., has taken a position in the watch-repair shop of George S. Kern, in the State Life Building. Mr. Kern recently bought the retail business at 7 North Meridian Street from W. J. Eisele. While Mr. Kern will give the store much of his personal attention, it will in no way interfere with his watch-repair business, which he will keep strictly to the high grade of excellence that has always been his standard.

J. C. Sipe left last month with a party of friends for a pleasure trip to the city of Mexico. Before returning North Mr. Sipe will spend several weeks on a bear-hunting trip in Mexico and Colorado. During his absence the business will be in charge of his head salesman, O. N. Allen.

Louis Feller, 420 East Washington Street, makes the rounds of all the clocks in Marion County Court House every Friday morning. This includes the tower clock with its heavy weights that have a drop of the three full stories of the building. This clock is wound by the janitor under Mr. Feller's supervision every week, and twenty minutes are required to give it the full wind. Mr. Feller has had charge of the Court House clocks for several years and keeps them down to very accurate time.

Charles A. Schulz recently removed his jewelry store from Jeffersonville, Ind., to Louisville, Ky.

John D. Day, who learned the watchmaking and jewelry trades in New York, is now located with Henry C. Schergens, 331 East Washington Street. Mr. Day has removed his family to this city from Franklin, Ind., where he was in the employ of Jeweler C. W. Neal.

Harry Sebel, for several years employed in the house, is now city salesman for Baldwin, Miller Co. Harry is popular with the trade and sure to make a success of his new position.

Chris. Bernloehr & Bros. are now displaying the sign of the Jewelers' Security Alliance, having recently become members.

Lon R. Mauzy has had his two show windows enclosed and lighted with electricity.

Augustus P. Craft, of the A. P. Craft Co., visited the camp of the Frontier Mining Co. in Wisconsin last month. Mr. Craft is one of the owners of this zinc mine that is being successfully operated.

Edward J. Kappeler has purchased the jewelry stock and store fixtures of the late Leonhard Schurr, at 328 Indiana Avenue. Mr. Schurr died last September, leaving the jewelry business to his niece, Mrs. Oldendorf, who continued it until the sale was made. Mr. Kappeler, who was with H. C. Schergens, on East Washington Street, for eighteen years, brings into the old-established business youth, energy, experience and good workmanship. His many friends in the trade extend to him their good wishes.

Herman Burns, of the manufacturing firm of Prosser & Burns, has been confined to the house for several weeks, the result of a fall on South Pennsylvania Street, when he slipped in stepping up a high curbing, breaking his leg just above the ankle. Mr. Burns' enforced quiet came at a very trying time. The firm was rushed with work and the workshop torn up for the placing of much new machinery and the changes incident to the very recent removal into new and larger quarters.

Howard M. Tournier, watchmaker with Williams & Co., on West Washington Street, was a star performer at the Elks' minstrel show recently given in this city. Mr. Tournier rendered several selections on the flute in a manner that showed him to be a master of the instrument.

A nest of the Order of the Owls was organized in this city last month with a charter membership of one hundred. John P. Mullally, the well-known Monument Place jeweler, was elected junior past-president and delegate to the supreme convention.

A. R. Gray, member of the firm of Gray, Gribben & Gray, has sold his residence property on North Illinois Street and commenced the erection of a modern dwelling on College Avenue, which he expects to occupy with his family by the middle of summer.

Ed. Johns, jeweler and engraver, with Carl L. Rost, is reported on the sick list.

Mrs. Charles Weaver, a recent graduate of the Northern Illinois College of Ophthalmology, has taken charge of the optical branch of the Krauss & Sector jewelry store at 45 North Illinois Street.

Charles B. Dyer has returned from a visit to the jewelry centers in New York and Providence. While East Mr. Dyer attended the annual exhibit of the Boston Arts and Crafts Association and made arrangements to establish a branch in this city. The city had an arts and crafts shop at one time, but it failed for want of proper management. The Dyer shop is now turning out fine designs of arts and crafts jewelry and metal work.

The Hoosier Jewelry Co. has double the floor space of their store in the Traction Terminal Building. A partition was removed and two rooms thrown into one, making a beautiful room extending from Illinois Street through to the lobby of the Union Interurban Station, with wide doors and show windows at both entrances. The room is handsomely decorated, brilliantly lighted and fitted with solid mahogany fixtures. A. J. Earl, manager, has made the store very popular with the vast number of people who visit the city for business or shopping. The new entrance will be greatly appreciated by them. A large street clock marks the entrance on Illinois Street and optical signs the station entrance. Ernest Newlin, who recently acquired an interest in the firm, is manager of the optical parlor, which is furnished in harmony with the jewelry department.

C. Cameron, recently with the Johnston Optical Co., of Detroit, has taken a position in the grinding department of the S. T. Nichols optical house.

Howard W. White has returned from an extended trip West, and Walter A. Burnham from Kentucky and Tennessee, and both men report trade in a good condition. Their orders were important factors in the very successful spring business of the jobbing house of Baldwin, Miller Co.

Charles Lauer, of C. W. Lauer & Co., reports spring trade so good that his carefully-planned pleasure trip to California has to be postponed.

The workshop of Ikko Matsumoto, manufacturing jeweler, is very cosmopolitan in its make-up, the workmen being natives of America, Japan, Ireland, Germany and Italy. Spring business, especially on the Matsumoto patented ring mountings, has been very good.

J. C. Walk & Son have secured a lease on the store room just west of their present location on Washington Street. Extensive improvements including a new front, lowering the floor even with the sidewalk, the building of handsome fixtures and furniture especially suited to the demand of an establishment of a high-grade character will be completed by the time the firm's present lease expires June 1st. The question of a big increase in rental and the desire to have a more modern store were the principal factors in the decision that led the firm to the non-renewal of the old lease. Many locations were offered the firm, but after occupying the same room for thirty years, in the very heart of the retail shopping district, it was almost impossible to be satisfied elsewhere, so while the increased rent had to be met, the firm retained practically the same location, by removing one door west secured a larger and better room that will be modernized to produce the greatest convenience in carrying on the business, with a watchful eye to the artistic beauty and harmony of the surroundings.

When the I. Grohs Jewelry Co. removed about the first of the year from the fifth to the second floor of the State Life Building, their stock was increased and additional travelers put on the road. The trade for the past two months has fully justified the change. The office force has also been increased.

Word has been received at this point of the recent death of J. W. Curtis, a well-known jeweler, of Warsaw, Ind. Every jewelry traveling man who "made" Warsaw, knew Mr. Curtis and held him in the highest esteem. He was universally kind and courteous to traveling men, one of whom remarked when he heard of his death, "Why, everybody loved Curtis. It made a traveling man feel good just to call on him."

Elisha F. Hirst has retired from the jewelry business, having disposed of his entire stock at Richmond, Ind.

J. M. Thomas, formerly at Royal Center, has located at Grass Creek, Ind.

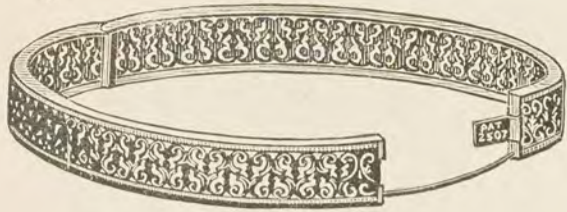
W. J. Rodman has purchased the stock and good-will of J. W. Crouch, at Fowler, Ind.

George W. Zerbe has removed his jewelry stock fixtures from Mt. Aye to Tiosa, Ind.

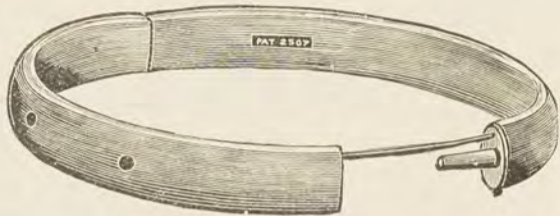
H. W. Lynch, of Fort Wayne, is a recent graduate of the Kansas City Horological School.

Captain Israel Fowler died March 9th, at his home near Madison, Ind., aged eighty-five years. The deceased was born on a farm near Oxford, Ohio, in 1821. At an early age he was sent to Oxford, where he learned the trade of watchmaker with his uncle, Zachariah De Witt, and later opened a shop of his own at Greensburg, Ind. When the Mexican war broke out he enlisted as a volunteer and served until the close in 1848, when he resumed work with his uncle in Oxford. The next year, 1849, he moved to Madison, Ind., and took employment with the late Wm. H. Eaverson in the jewelry business, later opening a shop of his own. He served with honor during the Civil war. Becoming very much interested in astronomy he made, in 1869, two very fine telescopes which he continued to use with great enjoyment almost until the time of his death. Captain Fowler was a religious man of decidedly domestic habits. He left a son, a daughter and two brothers. Among his pall bearers was Charles R. Eaverson, a jeweler, of Madison, and the son of his early employer, Wm. H. Eaverson.

The wholesale watchmakers' and jewelers' tools and material house of Hoffman & Lauer, in the State Life Building, has filed with the secretary of State articles of incorporation. Capital stock \$12,000, to be known as the Hoffman & Lauer Company. William J. Hoffman, William Beatty and George W. Kiefner are the directors.



No. 131. 14 K. Gold



No. 808. 14 K. Gold

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We beg to call the attention of the trade to our new Bracelet with patent **Guide and Safety Guard**.

This Guard prevents the Bracelet from falling from the arm, should the catch accidentally open. It likewise prevents undue strain on the hinge, and gives a feeling of **absolute safety** to the wearer.

We are prepared to apply this Patent Safety Guard to any make of Bracelet (except Links) for \$1.75 to \$2.00 each.

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2210 E K. of P.

2214 R

3510 E

3514 E

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THE BEST SELLERS

of any comic post cards on the market. We're now printing a 4th edition, so

Here's An Opportunity

to get a fresh supply.

135 Cards, with Display Stand, \$2.00

160 Cards, packed in Plain Box, 2.00

Retail Value, 2½c. Each

THE ROTOGRAPH COMPANY

Offer No. 73 G

684 Broadway, NEW YORK

THE COMB HOUSE

We manufacture a complete line of

Fine Mounted Combs in 14 K., 10 K., Sterling, Gilt and Gold Filled

Also, all kinds of

Plain, Real and Imitation Tortoise Shell Combs

Selection Packages Sent to Responsible Jewelers

Wagner Manufacturing Co.

41 Union Square, New York

Repair Work a Specialty

Factory, Lorimer St. and Throop Ave. Brooklyn, N. Y.

We are now over the inconvenience occasioned by the recent fire in our factory and in a position to fill orders promptly. We are grateful for the consideration shown us by the trade, and glad to be in a position again to extend our usual service.



A new departure was recently made by the New England Manufacturing Jewelers' and Silver-smiths' Association when a meeting was held in Attleboro, which was attended by the members of the association of Attleboro, North Attleboro, Plainville and Wrentham. The meeting was for the purpose of giving the association members of that section an opportunity to attend without having to journey to Providence, which has been necessary heretofore. A similar meeting will probably be held in the near future in North Attleboro, and it is expected in this way that members will take greater interest in the work of the association and that an expansion in membership will result.

Geo. E. Darling, of Providence, was recently elected rear commodore of the Rhode Island Yacht Club. Mr. Darling is an enthusiastic yachtsman and has been a winner in many contests.

Andrew Bole and John G. Fields recently purchased the pearl novelty manufacturing plant of Jos. Bloom, Providence.

The Herrick Building, Providence, in which a number of jewelry manufacturing shops will be located, is rapidly nearing completion. It is said that many of the shops are already engaged, evidencing the unusual activity at present prevailing in the jewelry manufacturing industry.

Wm. F. Maintien, of Maintien Bros. & Elliot, of Plainville, Mass., was recently nominated for the board of selectmen of that place.

The Williams & Anderson Co., manufacturers of gold and rolled-plate emblems and charms, whose factory is located on Broad Street, Providence, have issued a neat little illustrated catalogue of their product in class pins and college seals. As the demand for such goods as this is increasing each year, the trade will find a copy of this little catalogue a useful work of reference.

Dunlap & Wesley, is the title of a new firm of enamellers located at 95 Pine Street, Providence. The members of the firm are O. F. Dunlap and A. E. Wesley, both of whom are accomplished in their specialty.

The engagement was recently announced of S. M. Einstein of the Attleboro Mfg. Co., to Miss Tilda Baer, a sister of Maurice Baer of the same company. Miss Baer is a daughter of Mr. and Mrs. Jacob Baer, of Belview, Pa., and is a young lady of many charms and personal accomplishments. The marriage will be solemnized early in June. The wedding trip will include a journey across the ocean and visits to the principal cities and other points of interest in Europe.

Paye & Baker Mfg. Co., of North Attleboro, have planned to make another addition to their factory. Work on the new extension will be begun as soon as the weather permits.

Clarence L. Watson, of Watson & Newell Co., was one of the many members of the trade in this section to journey to Florida for a brief vacation during the severe weather.

The C. M. Robbins Co., Attleboro, was recently awarded the contract for making the official badge for the next triennial conclave of Knights Templar to be held at Saratoga, N. Y. The contract calls for 25,000 badges.

Geo. W. Dover, who recently sold his interest in the Geo. W. Dover Co., Providence, manufacturers of findings, has started in the manufacture

of jewelry, his plant being located at 710 Eddy street, in the new building erected by Young Bros. Mr. Dover has as a partner in his new enterprise, Clarence T. Barbour and the name of the firm is Dover-Barbour Co. Their specialty will be a high grade of gold filled goods, comprising belt buckles, hat pins, brooches, scarf pins, etc., and they are now hastening the completion of samples in these lines. The new factory has been fitted with the latest machinery used in jewelry manufacture. Mr. Dover has been well known to the trade for many years as a manufacturer of findings, in which specialty he achieved considerable success. Mr. Barbour is an accomplished salesman who enjoys an extensive acquaintance with the trade. He had been employed at different times by the Plainville Stock Co., as their Western representative, and later by the Wm. Bens Co., of Providence. Both partners are known as men of attainments, energetic and enterprising, and their many friends feel confident that they will meet with success in their new line.

J. J. Sommers & Co., of North Attleboro, have removed from the third floor of the Totten Building, and have located their plant on the second floor, which they will occupy in its entirety, this floor being recently vacated by W. G. Clark & Co.

Of the traveling men who have spread the fame of American manufacturers in the Asiatic and Australian continents, none are better known or enjoy a more extensive popularity than Joseph J. Keegan, the Hibernian member of the world-circling firm of commercial evangelists, Keegan & Rosencrantz, who have brought the story of American-made goods and their merits into the very homes of the trade in every part of the Orient, including India, China, Japan, Siam, Philippines, Java, Sumatra, Borneo, New Guinea, New Zealand,



Joseph J. Keegan

Celebes and Australia, in all of which countries they have disposed of large quantities of American manufactures of all descriptions, including watches, clocks, jewelry, silverware, cut glass, optical goods, etc. The latest pleasant surprise with which THE KEYSTONE has been favored by Mr. Keegan comes from Prestonville, Potts Point, Australia, in the shape of an invitation to his marriage to Miss Mary Eileen King, of that place. That his bride is a young lady of peculiar charm may be inferred from the fact that her influence has battled successfully with the cosmopolitan and peripatetic instincts of her ubiquitous bridegroom. The wedding ceremony took place on March 23d, at St. John's Church, Darlinghurst, and after the wedding trip Mr. Keegan, with redoubled enthusiasm, will resume his duties of commercial missionary for American manufacturers. We join with his many friends in extending congratulations, with the assurance of a hearty welcome on his next visit to the United States with his young bride from the Land of the Southern Cross.

The new reinforced concrete building erected by the Tappan brothers, and illustrated in a recent issue of this journal, is now ready for occupancy. The entire middle floor will be occupied by D. F. Briggs Co., and will have connection with their present factory adjoining.

R. E. Budlong, of S. K. Merrill & Co., of Providence, accompanied by Henry Fletcher, of Fletcher, Burrows & Co., Providence, sailed for an extended Southern sea trip on February 26th on the Hamburg-American steamship *Bleucher*. They

contemplate a visit to the Isthmus of Panama, where they will be interested observers of the progress being made on the work of building the canal. They will also visit many other points of interest in the tropics.

Frank B. Reynolds, of Cory & Reynolds, Providence, sailed for Europe March 13th on the steamship *Baltic* of the White Star line. He proposes visiting the European capitals, London, Paris, Berlin, etc., combining business with pleasure.

The Manufacturers' Building, the new structure which has just been erected in North Attleboro and recently completed is now being tenanted. The ground floor will be occupied by O. M. Draper, the second floor by Franklin & Co. and F. H. Cutler & Co., while the third floor will be occupied by H. D. Merritt Co. and Bugbee & Niles Co.

Among the trade visitors from a distance, who received a welcome here last month, was Albert E. Lee, of San Francisco, Cal. Mr. Lee is a manufacturers' agent, who does an extensive business on the Pacific slope, and his trip East was for the purpose of visiting the factories with which he is connected. He is a salesman of exceptional ability and enjoys quite an extensive popularity with the trade of the far West.

Jos. P. Burlingame, of the firm of J. P. Burlingame & Co., manufacturers of jewelers' findings, Providence, was recently selected by the Republican caucus of the State senate as the choice of the majority for railroad commissioner. Mr. Burlingame has been a very prominent member of the general assembly and was speaker of that body from 1903 to 1905. He is also the head of an insurance organization known as the United Order of the Golden Cross.

Loui H. Green, formerly with the Keller Jewelry Mfg. Co., New York, has now associated himself with Henry Lederer & Bro., Providence, and will represent this firm in the metropolis and in other principal points between New York and Chicago. Mr. Green is well known to the trade as a salesman of exceptional ability, forceful character and amiable personality.

Death of Hiram Howard

A prominent member of the manufacturing jewelry trade has passed away in the person of Hiram Howard, who died recently at Middlebury, Vt., at the age of 67 years. His connection with the jewelry industry dates back before the Civil War. The practical part of the business he learned while a young man in Providence, where he worked at the bench for several years. He afterwards went to New York and became connected with the firm of T. B. Bynner & Co. On the dissolution of the Bynner firm, Mr. Howard took up the gold chain line and afterwards changed to the watch importing business. Still later he became interested in the manufacture of jewelry at which he continued for some years. His next venture was in the manufacture of silverware under the name of Howard & Co. which title was later changed to the Howard Sterling Co. On the retirement of Mr. Howard from this business, it was reorganized as the Roger Williams Silver Co. its present title. Besides his business interests, he was also prominent in social and political affairs and was honored by being named as a member of the Rhode Island Commission to the World's Columbian Exposition at Chicago. Mr. Howard was a member of many clubs and fraternal orders and was highly esteemed by all who knew him. He is survived by a widow and one son, S. C. Howard, who is vice-president of the Wilcox & Wagoner Co.

The Queen City Ring Mfg. Co.

»Q-C»



Bread cast upon the waters has been our policy of making a ring of style, finish and quality, and selling same exclusively to the legitimate retail jewelry trade and nobody else. We were obliged to enlarge our plant to take care of our increased trade, giving us an eloquent testimonial to the recognized merits of the »Q-C» ring and insuring prompt shipment. A postal will bring you one of our representatives or a selection package.

The Queen City Ring Mfg. Co., Buffalo, N. Y.



The volume of trade, upon the whole, has been satisfactory in this market for the month of March. Spring is opening up unusually early, with very encouraging conditions. Far from worrying about the disposal of their heavy stocks, our wholesale houses are congratulating themselves on being so well prepared for the orders offered them. The volume of business is fully up to that of the same month last year, though some of our jobbers tell us that their sales during the past month will foot up ahead of those for the same month last year. The general feeling is that we are going to have good crops in the Mississippi Valley this year, and that 1907, for the first half, at least, is going to be a thoroughly good year; and if crops of the whole country turn out as well as they give promise of, 1907 may be a repetition of 1906.

The farm property of the State of Missouri is valued at \$850,000,000. The annual product is over \$200,000,000. The chief item in farm property is the farm home, though it swells up the total slightly. The Missouri farm homes are placed in the estimate at less than \$150,000,000. The chief item in the farm product though unaccounted in every financial estimate, is the man who goes from the farm home to do the world's work. There are more farms in Missouri than any State except Texas. There are more farmers than in Illinois, Iowa, Kansas, Nebraska, New York, Pennsylvania or Ohio. During the last ten years the increase in the number of persons farming in Missouri is 18.4 per cent., a larger increase than occurred in Illinois, Iowa, Kansas or Nebraska during the same period. Makers of the rural home of to-morrow, in large portion, are the agricultural experiment stations and the agricultural colleges of to-day. Makers of the man of to-morrow are the rural homes. In the United States are six million farm homes. They vary in value and in kind, from the log cabin to the most modern residence. Within the last twenty years they have increased in number 50 per cent. There are two million more farm homes occupied to-day than in 1885. In Missouri are 300,000 farm homes, with average farms of 120 acres. Sixty-nine per cent. of these farms are operated by their owners, a larger proportion than in any adjacent State. Two marked changes have been brought about in the Missouri rural homes in recent years. Residence in the home has been made more pleasant, and farming has been made more profitable. The two run near together, for some consideration of the bread and butter problem must every man have, if only for his family's sake. Science has helped toward adding profit by work of agricultural college and experimental station, in pointing out new sources of income and, equally important, by teaching to diminish outgo. Science makes the most valuable farm hand to-day and will be more so to-morrow. Both profit and pleasure will tend to check the drift cityward. They will encourage the city man to turn again to the country for a home for the bringing up of his children. The farmer is to-day a strong power in Missouri life. He already has a larger balance at his bankers than is usually credited to him. He owns many country banks,

and will own more as the profits of the farm, from extensive scientific farming, are enlarged. The man who comes from the rural Missouri home of to-morrow will be of larger power and influence, because he will become better furnished for service to the State and to himself through the better equipment of his rural home.

Weiss & Fassett are sending out their new catalogue to the trade this month. It is the most pretentious book that they have issued, and will prove a helpful and interesting hand-book to the retail dealer. If you have not already received a copy of this firm's new book, a letter of request will bring you one.

J. W. Armbruster, of the Illinois Watch Company, was here for a couple of days the early part of the month, looking after the interest of his company among the wholesale trade.

E. B. Meyer, manager and buyer for the A. Graves Company, Memphis, Tenn., was a welcome buyer in this market the first week in March. Mr. Meyer reports spring trade as opening up briskly in this section of the country.

Mrs. J. A. Buckmaster, wife of Jeweler Buckmaster, of Madison, Wis., spent a few days in this market the early part of March, combining pleasure with some spring buying.

Max Holzheimer, Western agent of the Omega Watch Company, was in St. Louis for a few days last month in the interests of the Omega watches.

Alois Salzmann, formerly watchmaker with the John Bolland Company, has recently opened a new retail jewelry store on the South Side in St. Louis, at 2720 Chippewa Street.

Ives L. Lake, Western sales agent of the Waltham Watch Company, spent a day in St. Louis recently, calling on the wholesale trade in the interests of his company.

Adam Hafner, of De Soto, Mo., a familiar figure in this market, spent a day here last month on a purchasing trip.

The G. Eckhardt Jewelry Company are now nicely located in their new store in the Victoria Building, at Eighth and Locust Streets. Their new premises are a great improvement over their former store, on Sixth Street. At their recent formal opening, the occasion was marked by the presentation of a number of handsome floral pieces. The Retail Jewelers' Association of Missouri sent a horseshoe, as an evidence of the good luck it wishes Mr. Eckhardt. Handsome designs were also sent in by the Eisenstadt Manufacturing Company, the Bauman-Massa Jewelry Company, Martin Hacker and the D. Gruen, Sons & Company, of Cincinnati, and others.

Pappmeir & Sons, of Beardstown, Ill., were represented in this market last month by one of the sons, who was here on a buying trip.

Tobin & Canham is the name of a new jewelry firm just opened up at Springfield, Ill. Ralph Tobin has for a number of years past been connected with Lochmen Brothers, of the same city, and Leroy Canham has been a salesman with John C. Pierik & Company, of the same town. Both are young men, full of energy and start out with bright prospects for a successful future. They bought their opening bill of jewelry in this market.

John Barr Foster, for several years past a house salesman with the Eisenstadt Company, left the middle of last month on his initial trip for this firm. Mr. Foster will cover Southern Illinois, Kentucky, Tennessee, Georgia and North and South Carolina territory. The trade in that section will find him a congenial and energetic young salesman. Mr. Foster is a Georgian by birth, a Southerner in feeling and temperament, and West-

erner in energy and business methods. We predict that he will make a successful traveler.

J. Reed Elliott, third vice-president of the Eisenstadt Manufacturing Company, and widely known in the Western trade as their Far-West traveler, surprised his St. Louis friends by getting married on the afternoon of March 16th to Miss Minnie Frech, a niece of Albert Frech, second vice-president of the same firm. The wedding took place at the home of the bride's parents in Highland, Illinois, and was a very quiet affair. Mr. and Mrs. Elliott left the same day for New York, on a wedding trip of two months' duration. THE KEYSTONE, along with Mr. Elliott's host of friends in and out of the trade wishes him and his bride all kinds of good luck in their new relation.

J. F. Stewart, of Albion, Ill., was among the visiting buyers in this market last month selecting his spring bills.

J. H. Keadle, of Bellflower, Mo., spent a day in the St. Louis market last month on a buying trip.

E. J. Baumann, of Ste. Genevieve, Mo., was here for a day or two recently making spring purchases.

Fred. Gammeter, one of the pioneer jewelers of St. Louis, for years located at 2801 Salena Street, died very suddenly on March 15th and was buried the following Sunday. A number of representatives from the trade attended the service.

H. A. McCleary, a number of years in charge of the diamond department of the Mermod, Jaccard & King Company, of this city, but for the past two years connected with a New York retail house, has returned to St. Louis and accepted the position of manager of the diamond department for the Eisenstadt Company, succeeding Henry Haines, who retires from active business life.

H. Altemueller, of Washington, Mo., was a visiting buyer in the St. Louis market recently on the lookout for Easter novelties.

A. F. Eisenbeiss, Texas and Southwestern traveler for the Eisenstadt Company, left the middle of last month for a short trip over his territory carrying diamonds only.

Joe M. Friede, vice-president of the Eisenstadt Company, has just returned from a short trip among the larger towns in his old territory in the Southwest and reports business booming in that section of the country. This was Mr. Friede's first trip among his old customers for the past four years and he met with a warm reception.

J. S. Frank, of Sussfeld, Lorsch & Company, the New York importers, was in St. Louis for several days the early part of March, calling on his many friends in the trade in the interest of his house.

George Gubbins, the genial salesman of the Rockford Watch Company, was in St. Louis for a few days early in March, calling on the trade in the interest of his company.

T. H. Vinyard, of Piedmont, Mo., was a visiting buyer in the St. Louis market last month.

H. E. Sutter, of Anidarko, Okla., was a welcome visiting buyer in this market last month.

J. P. Morgan, head of the house of J. P. Morgan & Company, wholesale, has just returned from a trip over his old stamping ground in North Texas, and reports times as very prosperous in that section of the country.

Barney Heyman, the veteran diamond salesman of Hirsh & Heyman, New York, was in town last month on one of his regular business trips.

"The Keystone is first class now, and improving all the time"—F. L. Wells, Jeweler, Sacket Harbor, New York.

DENNISON'S

Anti-Tarnish Flannel Rolls and Bags for Silverware

It means a good deal to your trade to send out Silverware with a protection against tarnish. Dennison's Anti-tarnish Flannel Rolls and Bags afford just such a safeguard.

The line includes Rolls and Bags for almost any article that the Jeweler or Silversmith may carry—Rolls for flat ware and Bags for hollow ware—made of the finest quality flannel, beautifully finished in heavy silks, and each stamped with the dealer's name. Such a line is sure to prove a profitable investment, because it means satisfied customers and a resultant increase in trade.

While it is customary to sell flat ware in chests or fancy boxes, still there are times when the purchaser may desire to lay the Silverware away for an indefinite period—at such times Dennison's Anti-tarnish Flannel Rolls are an indispensable protection, and dealers who provide for such occasions are remembered with satisfaction.

For further particulars regarding Dennison's line of Anti-tarnish Flannel Rolls and Bags, consult your copy of Dennison's Jewelers' Catalogue, or write to the nearest Dennison store.

Dennison Manufacturing Company

The Tag Makers.

BOSTON
26 Franklin St.,

NEW YORK
15 John St.,

PHILADELPHIA
1007 Chestnut St.,

CHICAGO
128 Franklin St.,

ST. LOUIS
413 North 4th St.,



Trade conditions have been very good during the past month, considering the season of the year and a number of adverse conditions which have arisen locally. Reports from traveling representatives from the South indicate that a good spring business will be transacted. Locally the retailers have been kept busy on repair work and a fair demand for the general lines has prevailed. One feature which is interfering with local business which is considered of unusual note, is a second disastrous flood in the Ohio Valley since the first of the year. In January the river reached a stage of sixty-five feet and crippled business and railroad facilities to such an extent that no shipments were made to the South. Another unexpected flood began to make its appearance the middle of March, which also reached the sixty-foot stage and crippled as disastrously the transportation facilities as the first flood. The situation in the Ohio Valley was made more acute by reason of the fact that much damage was done to crops which had been planted, particularly to winter wheats.

The Cassie Chadwick jewel case was up for hearing early in the month in the United States Court of Appeals, and after arguments for the Government and the defense had been submitted, it was taken under advisement with the probability of a decision in April. The customs authorities of New York City seized a lot of jewels, said to have been brought into this country by Mrs. Cassie Chadwick, now in prison for practicing alleged high finance upon Cleveland and Pittsburg capitalists. A. C. Dustin and others, of Cleveland, interested in the case, contested the seizure after the jewels had been brought to Ohio, on the ground that the smuggling occurred in New York State, where the proceedings should have been brought. United States District Attorney Sullivan, of Cleveland, represented the Government in its contention that the jewels had reached Ohio before they had been officially seized, and that it was proper for them to remain in the custody of the officers who now hold them. The jewels are said to be worth in the neighborhood of \$50,000.

A sample trunk containing about \$12,000 worth of jewelry and silverware belonging to the local wholesale house of S. & H. Gilsey, was destroyed in a fire which recently razed the railroad station at Sumter, South Carolina. The fire occurred while the department was attending the funeral of the fire chief, and for this reason gained great headway before it could be subdued. The trunk was in charge of M. K. Cullum, a traveling representative of the house, and was covered by insurance.

The engagement was announced some weeks ago of M. J. Greenwald, Arcade jeweler, and Miss Sadie Rosenbaum, daughter of a well-known family of Avondale. The event is scheduled to occur in a few weeks and promises to become quite a social event.

Charles A. Schugart was a recent visitor in the city, buying fixtures and stock for a new store which he has opened at Rossville, Georgia.

Burt Ganz, with the manufacturing house of Gustave Fox & Co., is in the East, on a two-months' business trip and to date has reported trade to be very prosperous.

This city, St. Louis, Chicago and Boston were equally well represented by members of their respective commercial clubs in a trip of observation to the Panama canal zone and the West Indies, which ended the middle of the month with the return of the party. The policies of President Roosevelt and the national administration, relating to the building of the Panama canal, were fully endorsed. A number of other economic and political questions were investigated by the party of one hundred which made the trip.

John A. Herschede, of the Herschede Hall Clock Co., is home from a business trip East, covering a period of several weeks.

C. C. Breese, formerly of McMinnville, Tenn., was in the city recently and announced that he had purchased the business of E. B. Cayce, Jr., at Franklin, Tenn., where he is at present located.

Mr. and Mrs. Victor Gebhardt, of the well-known manufacturing firm of Gebhardt Bros., are celebrating the recent arrival of a young daughter at their home.

Hugo Lankschwert, aged sixty-three, an old watchmaker, well-known to the trade, recently fell from a third-story window of his home on West Ninth Street and received injuries of such a nature as to cause his death a short time after the accident.

Daniel Cohen has opened a new store on upper Central Avenue. He was formerly in business in New York City.

L. M. Peddicord, jeweler, in the Emery Arcade, was married to Miss Bessie Reynolds, of Linwood, late in February. After a brief honeymoon trip the couple returned to this city, which they will make their future home.

H. E. Promnitz has completed a successful trip through Louisiana, Texas and Arkansas.

The traveling forces of most of the wholesale houses have started out and report excellent business. William Pflueger and J. B. Osthoff, representing Noterman & Co., recently made Western and Southern trips of some weeks' duration.

H. M. Morse, with Shreve & Co., of San Francisco, was in the city some days, taking in the business district, particularly the art plants of the Rookwood Pottery Co. and the Sterling Glass Co., on Art Hill.

Mr. and Mrs. W. J. Wittlig, a newly-wedded couple, of Marietta, Ohio, stopped over on their way home from an extended Eastern honeymoon trip.

The well-known house of Gustave Fox & Co., recently entertained its employees with a dinner given particularly to Harry Elwert. The recipient of the honor was celebrating his fifteen years of service with the house when the event resolved itself into a dinner for the benefit of all the employees.

The gold medals awarded in the midwinter carnival of the Young Men's Christian Association were made by the Miller Jewelry Co. The order is one of the largest ever placed in this city for such emblems, and consisted of 127 gold medals, seven silver loving cups and seven emblem rings.

Mr. and Mrs. A. H. Beer, of Versailles, Ind., recently celebrated the twentieth anniversary of their marriage by entertaining friends at their home. A number of friends of Mr. Beer, from this city and towns near his home, attended the event which proved to be quite a social affair.

R. G. Tafel, of Louisville, was here early in the month. He did not anticipate any serious injury to business because of the tying up of street car lines by striking street car employees.

A March wedding which attracted considerable attention occurred early in the month at the Phoenix Club in the presence of a number of persons prominent in the trade and their friends. The bride was Miss Viola Fox, daughter of Henry Fox, of Fox Brothers & Co., and the groom was Gustave M. Mosler, well known in Jewish circles.

William Wenning, aged eighty-four, father of Charles C. Wenning, of 1329 Linn Street, died early in March, of a complication of ailments due to old age. Wenning was in business many years ago and acquired a modest competency, but retired a few years ago because of his age. His demise was somewhat unexpected, although he had been gradually failing during the past few months.

George Greyer, of Anderson, Ind., was a recent visitor to the city, leaving liberal orders for a full line of spring novelties and other goods. He reported business in the gas belt as very good, with no indication of any immediate let-up.

Mr. and Mrs. George H. Newstedt recently made an extended Eastern trip, including visits at New York City and points of interest.

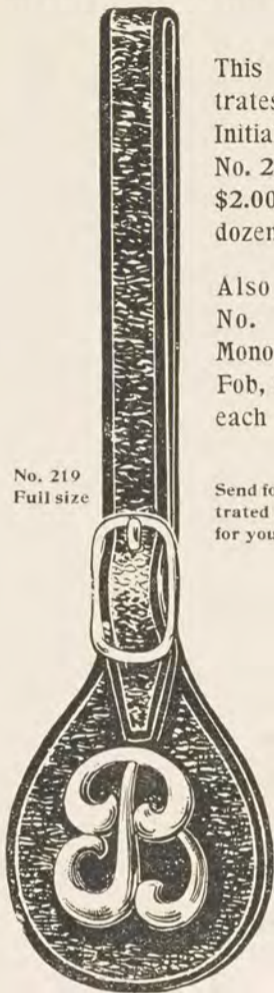
Railroad authorities have been asked to make good losses which occurred in a somewhat mysterious manner in a case of goods consigned to Herman & Loeb. The package came from the New England States, being shipped in January and having been on the road about six weeks when it was delivered. As soon as it was opened and the contents checked off it was found that a number of packages had disappeared. The case indicated that some one had tampered with the consignment and a claim for the losses was lodged with the railroad company.

The following were visitors among the trade during the past month: Edward Israel, Harrison, Ohio; Jesse Poe, of W. B. Poe & Son, Rushville, Ind.; John Selbert, Frankfort, Ky.; A. M. Stamm, Williamsburg, Ohio; P. D. Freeman, Ashland, Ky.; R. Syman, Springfield, Ohio; Aaron Strauss, Locust, Ohio; R. L. Porter, Tipton, Ind.; O. Sherwood, Falmouth, Ky.; E. DeVoss, Wilmington, Ohio; A. Welder, Greenville, Miss.; Miss Stillwell, with E. P. Barnes, Beaver Dam, Ky.; William Henninger, Marion, Ohio; Clifford Marson, Cambridge, Ind.; C. K. Weaver, Miamisburg, Ohio; Charles Zoellner, Portsmouth, Ohio; A. Wahlraub, Dayton, Ohio; R. G. Tafel, Louisville, Ky.; O. J. Fuchs, Chillicothe, Ohio; J. W. Campbell, Bowling Green, Ky.; Isaac Adler, Lexington, Ky.; A. C. Davis, Coolville, Ohio; Fred. Wittlinger, Middletown, Ohio; J. Jones, Lexington, Ky.; Charles Diefenbach, Hamilton, Ohio; C. K. Hamilton, Lebanon, Ohio; D. T. Fisher, Flemingsburg, Ky.; George Greyer, Anderson, Ind.; C. C. Breese, Franklin, Tenn.; Frank Krinsky, Frankfort, Ky.; C. A. Schugart, Rossville, Ga.; H. M. Morse, with Shreve & Co., San Francisco, Cal.

Substitute for Brass

A new alloy, called McAdamite metal, has recently been put on the market, with the idea that it may largely take the place of brass in machine-making. Its base is aluminum, but the exact composition is kept secret. It resembles aluminum only in lightness and non-corrosiveness. It has about one-third the weight of brass, but about twice the tensile strength, and its resistance to compression is nearly four times that of brass. It takes a high polish and does not tarnish. It is sonorous and bells are now made of it.

John A. Salman & Co., 21 Bromfield St. BOSTON, MASS.



No. 219 Full size

This illustrates our Initial Fob, No. 219, at \$2.00 per dozen

Also our No. 1007 Monogram Fob, \$2.00 each

Send for illustrated stand for your fobs



No. 1007

We wish to call your attention to the safety of a watch with a fob

Work a buttonhole in the vest or trousers pocket, as illustrated, and insert the end of the fob, then attach the watch. This prevents the watch from being lost, still it allows the watch to be drawn out far enough to see the time.

Our Initial Fob is made of an all one-piece best goat-skin strap, same back and front, with a nickel buckle and a guaranteed sterling silver faced initial.

Our No. 1007 Fob is made in nickel, brass or gold plate, with trimmings to match.

We make All Emblem and Souvenir Fobs

WE MAKE AND SELL MORE MONOGRAM AND INITIAL FOBS THAN ANY OTHER MANUFACTURER IN THE COUNTRY



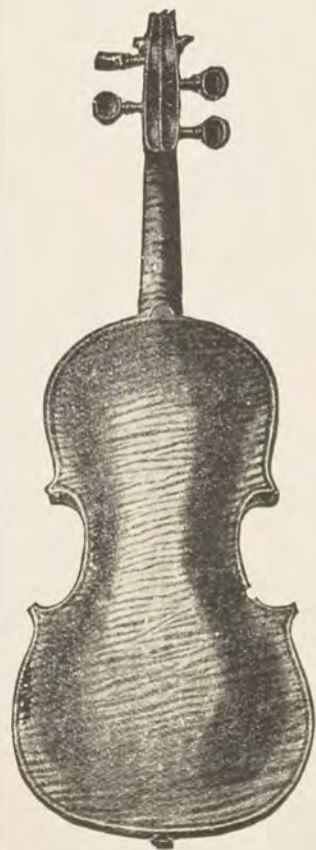
To Jewelers Handling a High Class of Jewelry

There can be an appreciable profit added to your business by the sale of pianos of reliable grade, and where we have territory open we should be pleased to give the necessary information regarding the sale of our pianos to responsible jewelers.

BRIGGS PIANO COMPANY

Established 40 years

BOSTON, MASS.



DURRO Violins Bows and Mandolins

MARTIN Mandolins and Guitars

Monarch and Lester **Accordeons**

Are the

CHOICE OF ARTISTS THROUGHOUT THE WORLD

Write for Catalogue of all kinds of musical instruments.

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113-115 University Place

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SOCIETY JEWELS

EMBLEMS
CLASS PINS
CLUB PINS
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C. A. W. Crosby & Son, of Boston, have purchased the entire stock and fixtures of T. Frank Bell, of Temple Place, amounting to about \$10,000.

M. Myers, the well-known jeweler, of the Jewelers' Building, has left for the West with a line of jewelry and watch material to cover the territory formerly covered by his father, S. Myers. Among other places Mr. Myers will go to Seattle, Wash., Utah and Colorado before he returns from his ten-weeks' trip.

Daniel Curran, who has charge of the material department with M. Myers has been serving on the jury for some time past.

Howard & Pollard, of the Paddock Building, have divided their office by the use of iron grill work so that they are now in a position to talk business in a private office.

There has been some discussion of late in North Attleboro as to the advisability of accepting the suggestion to rename the town, many claiming that the two Attleboros are too frequently mixed up.

J. E. Griffith, of Hartford, Conn., has reopened his store after the fire, which the concern had previous to Christmas. At present he is holding a clearance sale.

C. B. Churchill, who was formerly connected with the New England Watch Co., is now with the E. Howard Watch Co., having charge of their sales department.

Some time ago two men entered the store of J. W. Marshea, of Cambridge, and while there tried to steal some of the stock, but were frustrated in the attempt.

The Simons & Co., Inc., of New Haven, have filed a certificate of incorporation for the manufacture of jewelry. The capital stock is about \$25,000. The incorporators are Leopold Simons, Malvin L. Simons and Jessie V. Simons.

H. C. Savage, of Livermore Falls, Me., has been advertising a sale to close out his line of jewelry and watches.

W. A. Lamb, of the Cohannet Silver Co., has returned from a trip through New York State and reports an unusually heavy spring demand for silver.

Peter Spence, who has for some time past occupied an office as watchmaker to the trade on the 7th floor of the Jewelers' Building has re-entered the employ of the Howard Clock Co. H. L. Gruber, who for some time past has occupied one half of the office with Mr. Spence will use the whole office.

The Suffolk Supply Co., at present located at 21 Bromfield Street, Boston, will move into the new building on the corner of Washington and Bromfield Streets, when it is completed. It is expected that a number of other jewelers will go into this building, due to its being so well located in the jewelry center.

A. E. Garnsey, of Sanford, Me., has been in Boston on business and reports that he has been suffering from a severe case of granulated eyelids which has kept him from business for some time.

Mr. George M. Moody, of Lowell, Mass., has succeeded William Cotter as the New York representative of the Bugbee & Niles Co., of North Attleboro.

Ernest F. Welch, of Westboro, Mass., has been afflicted for some time past with a serious case of typhoid fever, but is now very much improved.

C. W. Wilcox, of Milford, Mass., has been in Boston for the first time since Christmas.

A short time ago Mr. Stein of Lowell, Mass., had a visitor in the form of a drunken man who demanded \$48,000. As Mr. Stein is not a wealthy man he refused to grant the request, whereupon his visitor started in to break up the store. A passing officer put an end to the trouble.

The C. M. Robbins Co., of Attleboro, have been awarded the contract for the official Shrine badges to be worn at the annual meeting to be held in Los Angeles in May.

The employees of the jewelry department of the Waltham Watch Co., held their annual banquet in Shepherd Hall, Waltham. After the banquet a fine entertainment was given which was greatly appreciated by those present, eighteen in number. Each person was presented with a neat package as a souvenir, which on being opened was found to contain a lemon. T. Truelove received a handsome pipe, the day of the banquet being his birthday.

H. L. Gould has opened an optical parlor in the store with his brother C. H. Gould, of Northampton, Mass.

The many friends of J. J. Woodward, of Somersworth, N. H., will be greatly disappointed to hear of his death. Mr. Woodward has been suffering for some time past from a cancer of the face, which ultimately was the cause of his passing away. He was generally known as the oldest jeweler in New Hampshire, who was still engaged in active business. His reputation for good taste and skill in buying was well-known throughout the jewelry profession by all who had dealings with him. He had an enviable reputation for honesty and square dealing with all those whose patronage he has had for years past. His business is being conducted by Frank Tibbetts, a most capable manager who has been employed by the deceased for the past year. Mr. Woodward is survived by one daughter.

The factory of the New Haven Clock Co., of New Haven, was damaged by a fire to the extent of about \$3000. It is not definitely known what caused the conflagration, though it is thought to have been caused by a cigarette stump. President Walter Camp of the company states that the loss is covered by insurance.

J. F. Bacon, of Cambridge, Mass., has been congratulated considerable of late on the appearance of his new store.

The employees of the gilding department of the Waltham Watch Co., held their first annual banquet and dance in Lincoln Hall of that city. There were about 200 employees and guests present. A permanent organization was affected and the following officers were elected: President, John McCarthy; secretary, Miss Anna Lewis, and treasurer, Walter Browning. Music for the dancing was furnished by the mandolin club of the gilding department.

Willis Coates, a wholesale jeweler, of Brookville, Ontario, has been spending a week in Attleboro buying for his Canadian store.

I. G. Perry, of Great Barrington, Mass., has sold a partial interest in his jewelry store to F. F. Fulcher, of that city. Mr. Perry has been intending to retire for some time past, but has been unable to find a purchaser.

John H. Otis, of Kennebunk, Me., recently died of pneumonia at his home in that city at the age of 56 years.

Roy D. Hollis, of Kingsley & Hollis, has sold his interest in that concern and taken a position in the bracelet department of the Regnell, Bigney Co.

The many people who were in favor of Rep. Frank O. Coombs bill for a jewelry school in Attleboro were greatly disappointed at the postponement of the project for a year. The newspapers from the Attleboros have been full of talk of the new school for the past months and many felt that the project was an assured success. A hearing was held at the State House March 13th before the committee on education at which Rep. Coombs, Sen. T. W. Williams, Rep. S. M. Holman and Chas. T. Paye were present. For various reasons it was agreed to postpone any further action in regard to the school until the next legislature meets. This does not mean that the school will be given up, but that it is intended to give the different committees more time to investigate their respective departments. As it stands at present the Attleboros will divide one-half of the expense between them while the State will stand the other half.

Joseph M. Shallet will retire from the firm of Tunick and Shallet, of Torrington, Conn., the first of April. He intends to remove from Torrington.

James L. Fenderson, a jeweler, of Biddeford, Me., has been nominated Republican candidate for mayor.

Norman M. Saati, of Providence, R. I., reports that his store was entered and jewelry to the value of \$625 taken by his uninvited visitors.

The United Jewelry Co., of Boston, suffered a loss of about \$200 by an explosion of gas which threw much of their stock into the street. Max Frieman, a nearby jeweler, helped in saving the jewelry, but the above-named amount was sequestered by passing pedestrians as souvenirs.

Fowler & Nye, opticians, of Lawrence, Mass., have purchased the business of the Parisian Optical Co., of Haverhill, Mass. M. J. Fowler will take charge of the Haverhill store while A. E. Nye will remain in charge of the Lawrence establishment.

A Book of Recipes, Formulas and Processes

A new and imposing volume of nearly eight hundred pages which will be highly appreciated in the industrial and mechanical world is entitled "Henley's 20th Century Book of Recipes, Formulas and Processes," and is published by the Norman W. Henley Publishing Co., New York City. The title of the book expresses its character, but only an inspection of the contents can convey an idea of its comprehensiveness. There is scarcely anyone, whatever his occupation, who cannot find in this book much information of practical, everyday use to him. It is a veritable storehouse of knowledge for all classes of people, the housewife, the painter, the carpenter, the metal-worker, the farmer, the soap and candle maker, the jeweler, the watchmaker, the electroplater and electrotyper, the tanner, the mechanic and the engineer.

Besides the wide scope of its information, the book is noteworthy for the novelty of its formulas. The recipes have been so carefully selected that they are in every respect the latest that can be obtained and, therefore, peculiarly well adapted to modern requirements. The subjects have been arranged in alphabetical order, interspersed with copious cross-references. The result is a book so complete that all the information on any subject is available at once.

It is needless to add that for the readers of THE KEYSTONE the book is especially valuable. It can be procured from this office on receipt of the publishers' price, \$3.00, in cloth, and \$4.00 bound in three-quarter French morocco.

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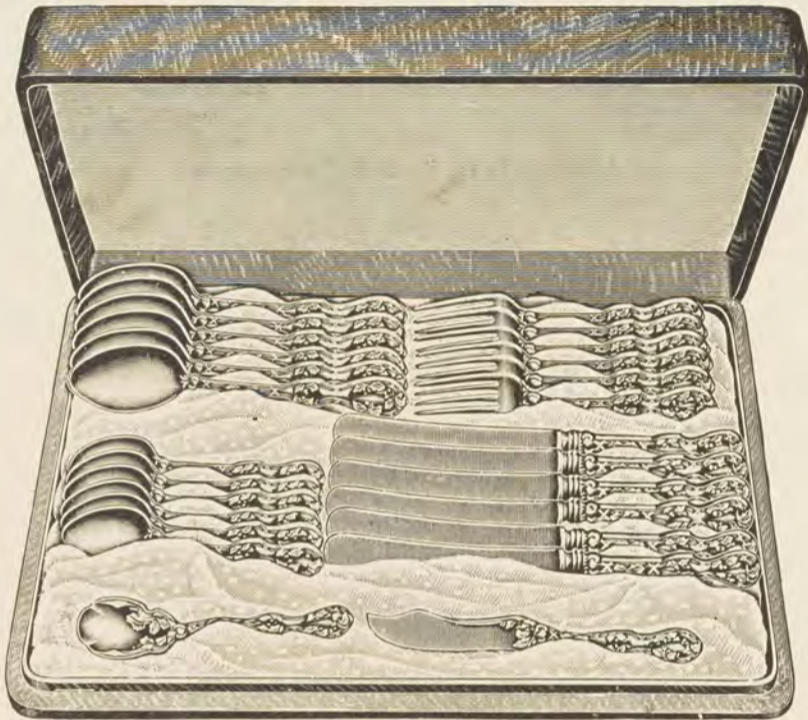
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MAKERS & REPAIRERS OF JEWELRY

WE RETURN ALL REPAIR WORK SAME DAY AS RECEIVED.

SEND IN YOUR NEXT PACKAGE AND OPEN AN ACCOUNT WITH US.

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MINNEAPOLIS,
MINN.**

NEWS
from the
NORTHWEST

Spring business has started in nicely and conditions in this section are very favorable. Now that the winter has passed, travelers report trade fully equal to, if not better, than last year. Collections are improving with new business and another month will find the Northwest once more singing the song of the "planter." The heavy snowfall has left the ground in an excellent recipient mood, and all are looking for big crops in consequence.

The jewelers' and optometrists' meetings in St. Paul, Minn., brought the largest gathering of trade visitors in their history, and jobbers smiled accordingly, as several nice orders were taken.

T. E. Fairclough, Browns Valley, Minn., was elected assessor at the spring election.

Ed. H. Gross, Kenmare, N. Dak., visited at Shakopee, Minn., the early part of the month.

Brainerd, Minn., had another serious fire, March 11th. This time Jeweler C. L. Burnett was among the sufferers, being damaged to the extent of \$1000.

Frank J. Tichy, the St. Paul jeweler, who was arrested for receiving stolen goods, he having bought two valuable diamond rings for twenty-five cents each, pleaded guilty to petit larceny and was sentenced to the workhouse for ninety days.

H. G. Nichols, Mitchell, S. Dak., spent a few days in the Twin Cities last month, getting estimates on his new store fixtures. Mr. Nichols will erect a new store building as soon as the frost is out of the ground, and from plans displayed it will be the most elegantly-arranged store in his section.

Theo. G. Mahler, Le Sueur, Minn., has placed a new front in his store.

G. L. Sande, Larimore, N. Dak., will leave next month for an extended visit to his old home in Europe. Mr. Sande expects to be gone all summer.

Weber Bros., St. Cloud, Minn., will begin the erection of a new store building as soon as the frost is out of the ground.

Frank C. Wittenberg, Luverne, Minn., is nicely situated in his new store, which is quite an improvement over the old one.

Albert L. Haman, "watches exclusively," St. Paul, has been compelled to enlarge his quarters and now occupies rooms 281, 282, 283 and 284 Endicott Building, which places him in position to better care for his increased trade.

I. M. Radabaugh, Hastings, Minn., certainly is one of the most popular men in the craft, judging from the honors being heaped on him. Last fall he was elected secretary of the American National Retail Jewelers' Association. In January, 1907, he was appointed by the governor as member of the Minnesota State Optometry Board and in February, 1907, he was elected president of the Minnesota State Association of Optometrists, and also secretary of the Retail Jewelers' Association. That certainly should keep him busy for one year.

E. L. Wentworth, Kasson, Minn., was a pleasant caller at KEYSTONE headquarters last month.

J. D. Bodfors, Minneapolis, has moved from 44 South Street to 304 Nicollet Avenue, where he has more room.

T. W. Warren, of the Elgin National Watch Co., spent several days in the Twin Cities the past month.

C. F. Sischo, of Sischo & Beard (Inc.), St. Paul, is taking a course of treatment at Hot Springs.

J. H. Bullard, of Bullard Bros., St. Paul, is enjoying the seasonable weather in Mexico.

E. A. Oadman succeeds A. J. Johnson, Valparaiso, Nebr.

Bechtold & Fritz, Sioux Falls, S. Dak., are remodeling their store and putting in a new steel ceiling and removing their manufacturing department to the basement.

P. A. Turnell, Boone, Iowa, died February 22d.

J. Segerstrom, Rhinelander, Wis., has returned from a ten-days' visit in Chicago and the Twin Cities.

The accompanying illustration shows a clock made especially for a barber shop by J. H. Miskimen, Glendive, Mont., and is the talk of the



Clock with reverse dial and hand motion

town. The object was to enable a man in a barber's chair to see the clock in the proper position in the mirror in front of him. To get the proper effect this picture should be placed in front of a mirror. The clock was designed and made (except the case) by Chas. L. Proctor, watchmaker in Mr. Miskimen's employ.

Lewis Finkelstein, wholesale, St. Paul, will remove April 1st from the fifth to the fourth floor, Endicott Building.

The store of Robt. Fechtner, Chehalis, Wash., was broken into by burglars, February 17th, the safe forced and contents, consisting of watches, diamonds and jewelry valued at \$1500, secured.

Jno. C. Marx, Shakopee, Minn., spent a few days in the Twin Cities last month.

Ove Hoegh, Spring Grove, Minn., had a stock-reducing auction sale last month. Mr. Hoegh is looking for a new location.

E. Geist, St. Paul, will move about May 1st to 28 East Sixth Street. Mr. Geist bought this property last year, but owing to tenant's lease not expiring, could not get possession until now.

B. R. Schwartz, formerly with R. F. Kreiss, has started in business for himself at 305 Nicollet Avenue, Minneapolis.

Paul T. Hunziker, Jordan, Minn., is taking a course in optics.

A bill has been introduced in the Minnesota legislature providing for an annual examination of the eyes and ears of all children in the public schools, and has been reported on favorably by the committee on public health and pure food, with good prospects of becoming a law.

John C. Perry, of the Hamilton Watch Co., renewed his acquaintance with the trade in this section last month.

Out-of-town jewelers seen in the Twin Cities last month were:

- | | |
|--------------------------------|-------------------------------|
| From Minnesota: | E. J. Swedlund, Atwater. |
| Geo. R. Clark, St. Cloud. | W. G. Gould, Glencoe. |
| Fred. H. Straub, Fergus Falls. | E. M. Schwenke, New Rich- |
| Henry Nystuen, Hancock. | land. |
| M. P. Loogren, Wheaton. | A. L. Mealy, Delano. |
| Albert J. Kruger, North | E. F. Huhner, Stillwater. |
| Brauch. | H. F. Alden, Sauk Center. |
| J. Henry Eggers, Jr., Plain- | J. R. Gordou, Houston. |
| view. | H. O. Schleuder, Springfield. |
| H. T. Holverson, Alexandria. | I. M. Radabaugh, Hastings. |
| Hans J. Heram, Elbow Lake. | Wm. James, Breckenridge. |
| Ignatius Reiner, Hutchinson. | From Wisconsin: |
| J. C. Herdlika, Princeton. | O. H. Olson, Oseola. |
| John Rosendahl, Mapleton. | T. J. Thompson, Barron. |
| Geo. H. Lang, Mankato. | T. E. Elliott, Ellsworth. |
| F. W. Harper, Renville. | John Saxine, Prescott. |
| A. Swenningsen, Moorhead. | M. D. Lonergan, Grantsberg. |
| H. M. Hitchcock, Redwood | J. Segerstrom, Rhinelander. |
| Falls. | From South Dakota: |
| D. C. Spaulding, Wabasha. | H. G. Nichols, Mitchell. |
| John C. Marx, Shakopee. | M. Weinstein, Webster. |
| J. L. Williams, Zumbrota. | G. R. Simons, Langford. |
| J. F. Ahearn, Melrose. | D. G. Gallett, Aberdeen. |
| C. L. Burnett, Brainerd. | From North Dakota: |
| Frank B. Logan, Royalton. | E. H. Gross, Kenmare. |
| C. A. Sherdahl, Montevideo. | W. R. Lasham, Grand Forks. |
| A. M. Fargeman, Fergus Falls. | Geo. K. Munroe, Grand Forks. |
| Wm. Plackner, Benson. | J. B. Cook, Bismarck. |

Newark, N. J., Notes

The recent transfer of property at the corner of Columbia and Elm Streets, Newark, N. J., calls attention to the rapid growth of the firm of Robt. Levy, manufacturing jeweler. Mr. Levy started in the manufacturing business five years ago in one small room in the Richardson Building with a monthly rental of \$12.50, and with limited capital. Now the firm will occupy an entire factory building of their own, containing three stories and basement, each floor being 28 by 75 feet. The basement will be given over to the boilers, engines and storage. The first floor will be occupied by offices, packing and shipping rooms, and in the rear the heavy drop presses, which will be so isolated that the noise and jar from them will not affect the other departments. The second and third floors will be fitted up for the jewelers, plating departments, etc. The firm make a line of 10 K. gold buttons, brooches, locketts, knives, match boxes and other items of small jewelry and novelties. They also expect to shortly put out a line of 14 K. goods. They are represented on the road by James L. Gaines in the South, Jos. Levy in the Middle West as far as Denver, A. W. Lee on the Pacific Coast, Harry Langfelt, New York City and surrounding territory, while Mr. Levy personally looks after the trade in Philadelphia, Baltimore and Washington. The firm expects to be in their new quarters by May 1st.

On the application of John R. Hardin, counsel representing Wm. F. Carter, the receiver appointed February 25th to take charge of the manufacturing jewelry business of Wm. W. Hayden & Co., Newark, Chancellor Stevens made an order making permanent the receivership. The preliminary report of the receiver showed the inventory assets to be valued at \$12,500. Mr. Hardin said that it was the urgent recommendation of the receiver that the court authorize him to accept the best offer made, so that the liquidation may be completed.



The trade are invited to send us reliable items of news for this department

Colorado

Chas. E. Rose, Telluride, is about to dispose of his jewelry business, the condition of his health necessitating a rest. When thoroughly recuperated, he contemplates again embarking in the same business. Mr. Rose is noted for his advertising ability, and has few equals in the trade on the matter of advertisement writing.

Florida

Maurice Slager, of the jewelry firm of Hess & Slager, Jacksonville, had a thrilling experience one night recently, when a burglar visited his home and succeeded in purloining a valuable diamond and pearl scarf-pin and a pocket-book containing money. Mr. Slager stated that about three o'clock in the morning he was awakened by a noise, and on sitting up noticed a figure in the bedroom. The intruder flourished a bull's-eye lantern in his face, which blinded him for an instant and the robber darted down stairs and fled. Mr. Slager has offered a reward of \$25 for the return of the pin and \$50 for the return of the other articles, or the capture of the burglar.

Georgia

Schau & May, jewelers, of Atlanta, have contracted for an electric sign, which is said to be the largest ever erected in the South. The sign will be placed over their jewelry store, and will be in the shape of an enormous arch, 35 feet high and 25 feet wide at the base. Its entire surface is to be composed of a myriad of many colored lights, which will present a striking appearance. Changing signs will appear on either side, while in the center will be placed an arrangement in which anything may be written. As the top of the sign will be the words, "Schau & May, Diamond Corner."

Illinois

S. M. Strain, formerly of Nokomis, has located at Witt, in this State. This latter town is one of the growing mining centers, and has a most promising future.

Wm. Johnson, of Centralia, has rented rooms and will open a jewelry store. Mr. Johnson is a first-class workman and has many friends in Centralia, which is the place of his birth.

S. C. Scott, formerly with Carter-Allen Jewelry Co., of Shreveport, has purchased the jewelry store of H. C. Homrighous, of Mattoon, this State. Mr. Scott has moved his family to Mattoon and taken charge of the new store. Mr. Homrighous went to Mattoon in 1896 with his brother, and for several years the firm was known as Homrighous Bros. At the end of that time, H. C. Homrighous bought the interest of his brother and has since conducted the business. He has no immediate plans for the future, as far as business is concerned, and will devote some time to the recuperation of his health.

Kansas

French P. Burkholder, a well-known jeweler, of Fort Scott, died recently after a prolonged illness, deeply mourned by his family and many friends. Some twenty-five years ago the deceased suffered from an attack of paralysis, from the effects of which he never fully recovered—although able to attend to business. About a year ago he was compelled to retire, and grew gradually worse until the fatal consummation last month.

Michigan

Wright, Kay & Co., the well-known jewelry firm, of Detroit, celebrated on March 1st the thirty-fifth anniversary of the founding of the business, which has been in the same location during all this

period. The history of the firm reveals the growth and changes that have taken place in the city. The little 20-foot front that first served as a home for the young concern on the northern outskirts of Detroit, has given place to the mammoth establishment in what is now the heart of the city. The story of the firm is one of continual expansion, and its reputation to-day has spread far beyond the borders of the United States—one of its offshoots being a large branch in Paris. Within recent years, the old partnership has been supplanted by an incorporated company—the officers of which are as follows: H. M. Wright, president; John Kay, vice-president, and F. A. Kelsey, secretary. THE KEYSTONE extends congratulations to this well-known firm, whose record is alike a credit to itself, to Detroit and to the trade at large.

Mississippi

W. B. Herrington, Belzoni, moved on March 1st into his new brick building on Jackson Street, in the heart of the business district. This building was especially planned and fitted up for his jewelry business.

New Jersey

W. C. Jones, of Hammonton, opened on March 7th an auction sale of jewelry stock. Mr. Jones recently closed his store at Pleasantville, and the auction was held for the purpose of disposing of the surplus stock thus thrown on his hands. A little silver souvenir was presented to each one who attended the sale.

New York

Floyd Caldwell, who created such havoc among the jewelry trade of Rochester and vicinity during a recent window-smashing campaign in that city, has been arrested and has confessed to over a dozen robberies of jewelry stores. He has also given information which resulted in a raid of what is now known to be one of the most successful "fences" in Rochester. The proprietor of the fence and his wife and son were placed under arrest on charges of receiving stolen property. On searching the premises, the detectives found in a bureau drawer twelve cheap watches, some bracelets, three signet rings and some other goods. In a crib in which a baby was asleep they found spectacle frames, a score of bracelets, forty pairs of cuff buttons and dozens of brooches, fobs, chains and stick-pins. In a mattress they found sixty-four brooches, eight bracelets, over a dozen razors and many other articles taken from stores other than jewelry stores. The recovered property is valued at about \$500, but is only a small portion of the goods taken. The capture of Caldwell is an important one, as he not only gave information in regard to the "fence," but also explained his method of procedure and cleared up several other mysteries which will be helpful to the police.

North Carolina

John C. Morrison has opened a jewelry and music store in Reidsville. Mr. Morrison is also connected with the Morrison Bros. Co., of Hickory, N. C.

The firm of Bradley & Best, Greenville, recently dissolved by mutual consent. C. E. Bradley, the senior member of the firm, will continue the business which he has taken over, with the exception of the watch and optical departments, which will be conducted by W. L. Best, who will devote his time to the growing need of the optical department and pushing high-grade watches. Mr. Bradley has assumed the obligations of the firm.

Ohio

The store of Henry Dehnel Co., Sandusky, was recently considerably improved; a portion of the improvement being a new clock room, fitted up in the rear of the store for the special purpose of displaying clocks. The room is prettily decorated, and the floor is covered with linoleum in imitation of hard wood. Back of the clock room is a new extension, which is being used as a repair shop.

Oklahoma

McGee & Mills is the name of a new firm which has started in the jewelry business at Blackwell. Mr. McGee was formerly located at Cherokee,

Iowa, but sold his business there some two years ago. He has recently spent considerable time looking over the ground in California, Oregon, Washington, Idaho, Utah, Nevada and Colorado; also Texas, Indian Territory and Oklahoma. He finally selected Blackwell as the most promising place in which to make a new start, and purchased several stores in that town. His partner, Mr. Mills, was formerly his watchmaker at Cherokee. They have just fixed up a handsome store with modern furnishings and recently visited Chicago, where they purchased a large new stock.

Pennsylvania

A. C. Graul, of Sharpsburg, will remove about May 1st to new quarters at 610 Main Street. He is at present conducting a removal sale of his stock. Mr. Graul is president of the Pennsylvania Retail Jewelers' Association and an earnest advocate of trade organization. He will have better facilities in his new location.

J. F. Hewes, a well-known jeweler, of Titusville, is building up quite an enviable reputation for skilled workmanship in the designing and manufacture of special pieces of jewelry. Mr. Hewes has long been noted for his mechanical skill and his mastery of tools. He seems to have lately developed considerable artistic taste in designing and unusual deftness in execution. Many of the pieces made by him have been very favorably commented on by competent critics.

Charles M. Evans, a prominent member of the trade in Reading, died on February 26th, at his residence in that city. As he had been ill for over one year and suffered from a complication of diseases, the fatal consummation was not unexpected by his friends and relatives. The deceased started in business for himself in Reading, in 1878, in a store at 351 Penn Street. With slight results at the beginning, he gradually built up an extensive patronage and became one of the most successful merchants in Reading. It was his business policy to handle only the highest grade lines, and this, taken in conjunction with his recognized integrity, procured for him a very successful and profitable trade. He was prominent in a number of fraternal organizations, one of these being the Masonic fraternity. He is survived by a widow and one son—C. Morris Evans.

Texas

The Crawford Jewelry Co., of Temple, has sold its business to its former manager and secretary, M. H. Cox, who will continue under the firm-name of M. H. Cox Jewelry Co.

Virginia

The Greenwood Jewelry Co., of Norfolk, was recently incorporated. The officers of the company are M. J. Greenwood, president and treasurer; J. B. Bennett, vice-president, and A. J. Morris, general counsel. The corporation is said to have considerable capital and will conduct a jewelry business.

Washington

M. B. Scribner, formerly of Scribner & Stone, of Newport, is no longer in business—his stock of jewelry, etc., having been disposed of at sheriff's sale on March 7th.

Wisconsin

The store of S. Feuerstein, Green Bay, was recently repainted and decorated and new fixtures installed. The store now presents a very handsome appearance.

Jacob van der Zanden, of Green Bay, has made extensive improvements in his jewelry store, which has been entirely remodeled and the interior repainted and decorated and a steel ceiling installed. The store now presents an attractive appearance.

Wyoming

Ralph Adamsky, Cheyenne, has made extensive improvements in his store and installed four handsome new show cases of modern construction. This is the oldest jewelry business in the State and has been quite successful. The recent improvements still further strengthen it in the favor of the people.



To the JOBGING TRADE.

We offer for the spring and summer trade, lines that are a few steps ahead of our past efforts in point of originality and attractiveness. Also some beautiful and rare designs in **STONE** and **SIGNET** Rings.

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STERN BROS. & CO., 33-43 Gold St., New York

Manufacturers for the **JOBGING TRADE**

Rings Brooches Locketts Scarf Pins Bracelets Link Buttons Fobs
 Studs Crosses Thimbles Hat Pins Baby Pins Tie Clasps
 Screw Earrings Ring Mountings Bead Neck Chains Festoons

Salesrooms and Offices of Diamond Department, 68 Nassau St., New York Diamond Cutting Works, 142 W. 14th St., New York
 BRANCH OFFICES Chicago, Ill., 103 State Street London, England, Audrey House, Ely Place Amsterdam, Holland, 12 Tulp Straat



Our Reputation as a Watch House is built on our comprehensive stock and good service. At this time we direct special attention to our large and select supply of



RAILROAD



WATCHES

We can furnish promptly and satisfactorily the trade needs in this line—all the standard grades that meet the official requirements, with the makes of cases specially adapted for railroad service

H. O. HURLBURT & SONS
 14 SOUTH TENTH STREET, PHILADELPHIA, PA.



11 in. high. BERRI. 17½ in. long



RAMONA. 31 in. high



12¾ in. high. FLORA. 11 in. long



RETA. 17 in. high



HERCULES. 15 in. high
 Long Alarm

The Sessions Clock Co.

Manufacturers of

Marbleized Wood, Oak Mantel, Office and Mission Clocks

Main Offices and Factories

Forestville, Conn., U.S.A.

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11 in. high. STERLING. 15½ in. long



11½ in. high. COLONIAL. 14 in. long



CEDRO. 18 in. high



HOLLAND. 6 ft. high

“No Trouble After Selling!”

One of the largest retail dealers, when asked how he sold four times as many

HOWARD WATCHES

as the others in his town combined, said: “I make it a point in every case when a customer is looking for men’s watches to show and explain **the Howard**. I prefer to sell it for reasons of **better** profit and **no trouble after selling**.”

The high quality of material and superior workmanship is thus reflected in the above statement. No expense or time is spared to maintain the **Howard’s** reputation for marvelous accuracy.

Well Consider the attractive profit and the “**Price-Protective**” features that are rigidly maintained—not simply talked about but exist in fact.

Then, the extensive advertising in publications of wide circulation (both weekly and monthly) is drawing inquiries of vast importance to the dealer.

If you are not selling Howards, write for booklets and further information

E. HOWARD WATCH CO.
WALTHAM, MASS.



Every Howard is supplied in a mahogany box—gratis—with certificate and guarantee card in cover pocket

THE "MINERVA" GIRL



6114 Signet



6017 Emerald 6019 Amythest



6118 Signet
6126 Locket



6093 Signet



6009 Signet

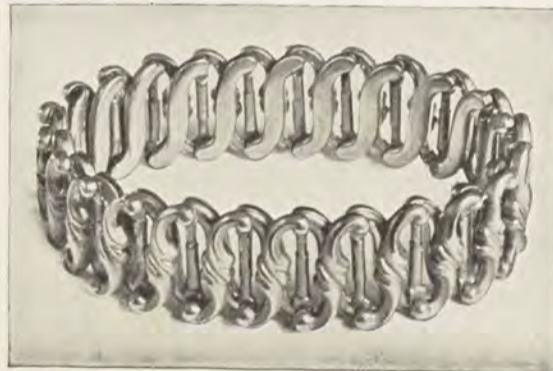


6069 Amythest
6079 Rose



6083 Amythest
6087 Aqua Marine

A Few of
the Many
"Minerva"
Designs



6001

"Minerva"
Bracelets
are
Great
Sellers

Manufactured by

THE ELECTRIC CHAIN CO., Attleboro, Mass.

SEND ALL ORDERS TO

FONTNEAU & COOK CO., Attleboro, Mass., Sole Sales Agents for the United States and Canada

The Name

BETSY ROSS

WATCHES

means a lot to the dealer desiring the best value obtainable in an O-size watch. These watches are furnished in Jas. Boss 20-year cases, in a multitude of new and attractive patterns—Hunting or Open-Face, 7 jewels, pendant set, nickel movement.

Inspect same at your jobbers for your own satisfaction.

We have an interesting folder on Betsy Ross Watches for the consumer, and telling how and where Betsy Ross made the first U. S. flag. Your name on a quantity for the asking. Write us and send business card.

The Keystone Watch Case Co.

Philadelphia

Boston
Chicago

New York

Cincinnati
San Francisco



TIFFANY ELECTRIC CLOCKS

PURELY ELECTRIC

NO SPRINGS

NO WEIGHTS

NO CLEANING

NO OILING

**MOST ACCURATE
TIMEKEEPERS**

For prices and other information
write



Cut Showing Front View of Clock



Cut Showing Rear View of Clock

TIFFANY ELECTRIC MANUFACTURING COMPANY

MANUFACTURERS OF TIFFANY ELECTRIC CLOCKS

General Offices and Factory, 437-453 Eleventh Avenue

NEW YORK, N. Y., U.S.A.



O Size Diamond Engraved



Every
Roy
Watch Case
is made
from
Assayed
Gold



and
Quality
is
Guaranteed
as
Stamped

ROY WATCH CASE COMPANY

206 Kearny Street, San Francisco, Cal.

21-23 Maiden Lane, NEW YORK



North Gaston, Mass.
R. F. D. No. 1.

New England Watch Co.,
Waterbury, Conn.

Gentlemen:

Some eight or ten years ago I purchased a New England watch on Washington St., Boston; the dealer having demagnetized a valuable watch for me several times, suggested the purchase of a cheap watch. He guaranteed me a new watch if the one I purchased needed repairing inside of a year.

I have carried the above mentioned watch ever since. I have never paid out a cent on it for repairs and it has kept time within two minutes a month. It gave up the ghost yesterday.

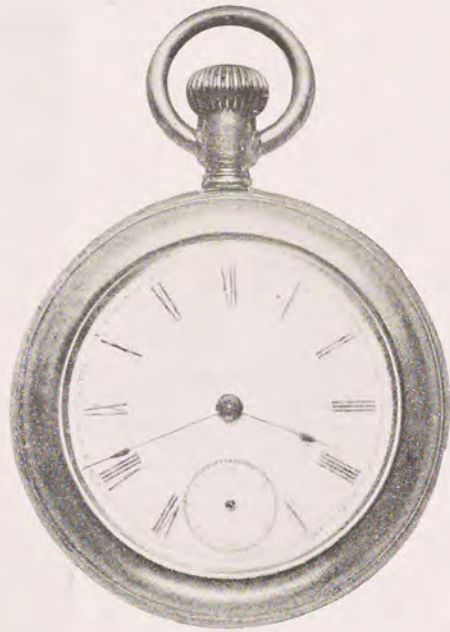
It has carried me through many years of practical electrical work, including the installation of motors and dynamos. It was like an old friend - never went back on me.

I must also state that about four years ago I dropped it in the Brooklyn reservoir and it was several minutes before I managed to fish it out. I shook the water out of it, dried it on the stove when I reached home, and it has been O. K. ever since.

I take pleasure in sending you this watch by today's mail. I feel that I have already received more than full value for the small investment made so many years ago, and it will be a pleasure to me to recommend to my friends an article which has more than filled the bill.

Yours very truly,

Chris Bailey



A NEW ENGLAND WITH A HISTORY

The fac-simile letter and illustrations above tell their own story. It is an absolutely true story—a splendid voluntary tribute to the accuracy, durability and all-round excellence of the

New England

"The Watch for the Great American People"

Yet this letter is only one of hundreds of similar letters which we have received, testifying to the genuine watch worth of the NEW ENGLAND.

What stronger evidence of its selling power can be produced than these unsolicited testimonials from users coming to us of their own free will?

If you are one of the few dealers not handling NEW ENGLAND Watches, you are losing one of your greatest sources of profit. Medium-priced watches return you the largest profits because you sell many more of them than you do of the cheap clock watches or of the expensive jewelry watches.

And the NEW ENGLAND is the highest-grade medium-priced watch manufactured to-day. The American people know this through our extensive national advertising—American watch dealers know it from their own successful experience in selling NEW ENGLANDS. Bear in mind that we make and guarantee both case and works.

Write us to-day—now—for further information, and for details of our plan to aid retailers in selling NEW ENGLAND Watches rapidly. Address

Department of Publicity

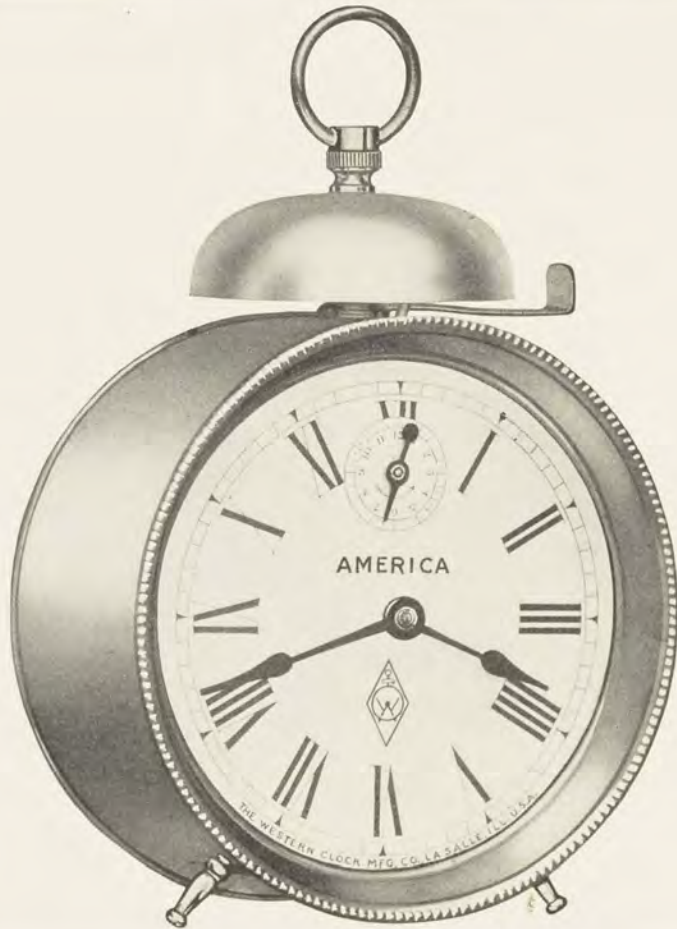
NEW ENGLAND WATCH CO., Waterbury, Conn.

THE WESTERN CLOCK MFG. CO.

New York—51 Maiden Lane

LA SALLE, ILLINOIS

Chicago—131 Wabash Ave.



Our '07 Model with Shut-Off, Now Ready for Delivery

Kiss us good bye when you sell one of us, for we're made for wear and not for repair.

For our wheels are cast on polished, hard steel pivots, instead of being staked on dull, soft steel shafts.

For our pivots are made of extremely thin wire—friction-reducing—power-saving—life-prolonging wire.

For instead of mere pins and a ratchet-toothed wheel, our escapement has finely ground, highly polished, perfectly inclined hard steel pallets and a clubbed-tooth escape wheel.

For every one of us is regulated and three times tested before the factory sends us out and we're all ready for work when we reach you.

You can guarantee us for a year only, if it's your custom, but we'll work overtime for you. Suppose you order a case—fifty of us—and see what happens. Day after day, year after year, every morning we'll advertise you, every tick we'll talk about you.

THE AMERICA ALARMS



Safeguards for the Store

(Continued. Part XI)

Faults in the Wiring

No matter how good may be the bells, batteries, etc., used in an electric bell installation, if the wiring be in any way faulty, the system will surely be continually breaking down and giving trouble. It is therefore of the highest importance that this part of the work be well and thoroughly done. This is all the more necessary, inasmuch as while the bells, batteries, pushes, etc., can easily be got at for examination and repair, the wires when once laid are not so easily examined, and should therefore be laid in such a way as to forestall any breakdown or trouble from them.

The first consideration, of course, is the kind and size of wire fitted to carry the current for indoor and outdoor work. As before recommended, the main wires inside should be No. 16 copper wire, while the connecting or cross wires may be No. 18. All wires (except those in instruments) should be well insulated, such as is called office wire. And for convenience in tracing out a circuit or a fault, the wire from one pole of the batteries to the apparatus should be of one color, say red, and those from the other pole should be of a quite different color, say blue.

Indoors, wires may be laid along the skirting or baseboards, along the sides of the door posts, window frames, etc., and when the sight of wires is objectionable they may be covered over with a light ornamental wood casing or moulding, grooved out behind for their reception. They can also be laid in slots cut into the joists under the floor boards or in holes bored through the joists. But it is better in laying wires under floors, etc., to employ or at least to consult professional wirers, as they will better understand the best place and method of laying wires, making joints in them, etc. All joints in wires, whether tinned or not, must be soldered and then covered with insulation. Never bury wires in plaster unprotected, but zinc tubes should be laid in the plaster, through which the wires are afterward drawn.

When the wires are held by staples, they should never be naked wire, but always covered. Where they run over a damp wall or other places, it is best to put a board over it, see that the insulation of the wires is good, and staple them loosely on the board. Never put more than one wire under a staple, and

never drive the staple tight enough to cut or injure the insulating coating. Never let two staples touch, or come too close together, especially where it is damp. Avoid hot water pipes, and do not run wires along plumber's pipes. Gutta-percha covered wires should not be exposed to heat or the sun, as the covering will soon crack. For warm or exposed places use rubber-covered or paraffined wire.

It should never be forgotten that every circuit requires at least two wires—one going from the battery to the apparatus, and one running back to the battery, and no current can flow unless the circuit is completed throughout, making what we may call a "through circuit." When you wish to connect in an additional bell anywhere, first decide whether it is to be in parallel or in series with the others. If in parallel, connect a branch to the nearest battery wire, say the red one, run it to the push button or other contact device, then to the bell, then back to the other (blue) battery wire. If the bell is to be in series, open the main wire nearest to where it is located, and connect it (the main wire) through the bell.

Tracing Circuits

You should, from the beginning, get into the habit of tracing throughout every circuit you use. Starting at the positive pole of the battery, trace the circuit to the apparatus, through it, and back to the other battery pole. Overlook no part or place, but carefully trace every step of the way, to every piece of apparatus, and see that the connections to the apparatus are so made as to send the current through it in the proper way, then on through the circuit to the next apparatus, through that, and so on, till you get back to the battery. Remember that if you cannot thus trace out such a through circuit, from the battery to and through your apparatus and back to the battery, your apparatus will not operate.

This tracing-out process may be done mentally, or by drawing a simple diagram of the entire system. The latter is always preferable, and is called laying out a circuit. You can then see whether it will operate or not. Such a diagram is also very convenient as a guide in stringing the wires and putting the apparatus in place. Trace the circuit through the apparatus, as well as to it, to be sure that the current will take the right course and operate it correctly. If there are several paths for the current, by the changed

position of parts during the operation of the apparatus, trace the whole circuit out for every such different path that the current can take. After everything is installed in place, or if a system in use does not operate properly, you must trace out the circuit physically, actually following the wire from one place to another, until you discover where the break, leak, wrong connection or other fault is.

Outdoor Wiring

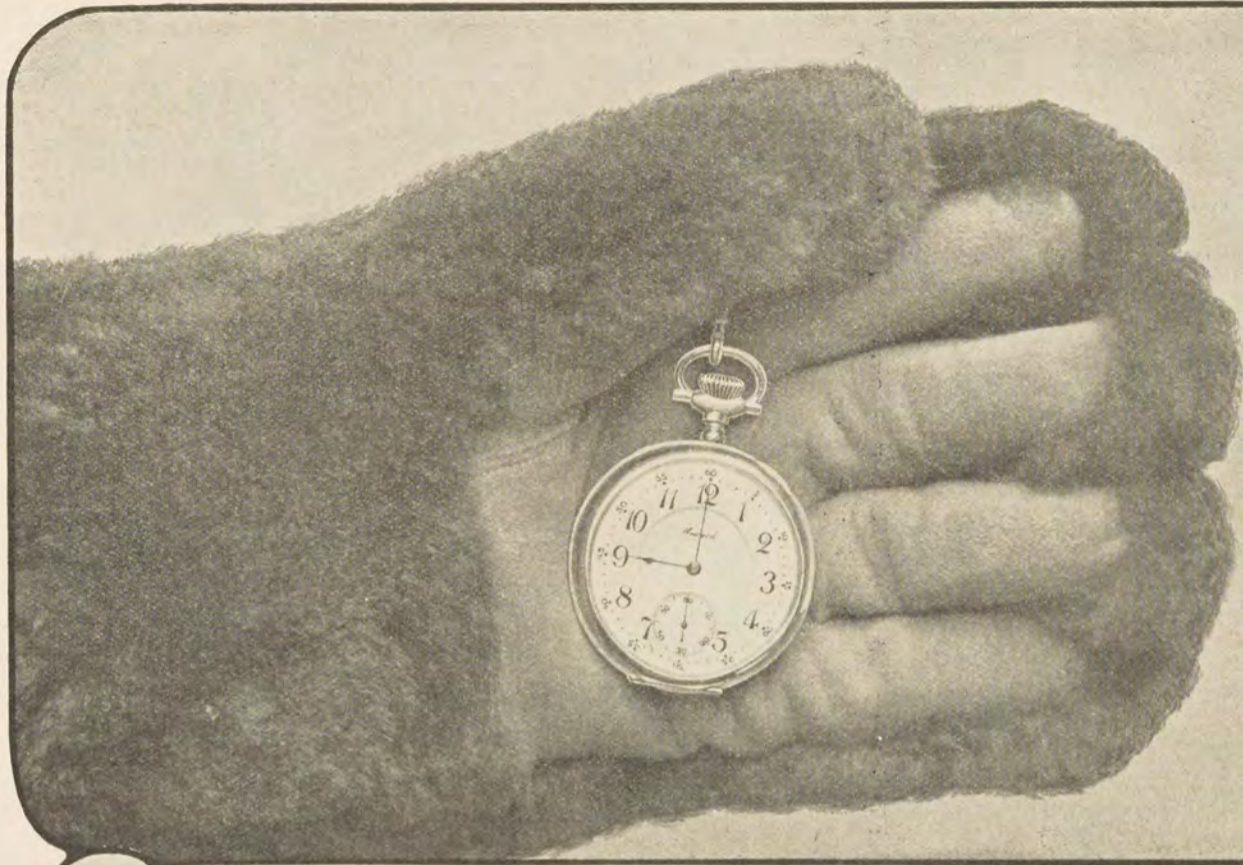
For outdoor wiring, no smaller than No. 14 B. & S. gage pure copper wire should be used, covered with gutta percha, and over this wound with tarred tape. Long outdoor or "line" wires are generally of galvanized iron, and when iron is used its section must be not less than seven times that of the copper wire it replaces—that being the difference in their conductivity. We do not describe the method of making good "grounds" or earth contacts, as we do not advise their use at all for short lines like jewelers' alarm systems, but would construct the line entirely of wire, as shown in Figs. 17, 18, 19 and elsewhere. By so doing there is much less danger of leakages and grounding. Even if there is a ground or similar chance for leakage, no current will escape unless there is also a second ground at the same time, so that the current which leaves the line at one place can get back to it at the other, and complete its circuit between the battery poles. This fact makes an all-wire installation doubly safe.

[TO BE CONTINUED]

The Tungsten Lamp

"It is generally conceded that within a year an electric glow lamp, the tungsten lamp, will be on the market," says Prof. W. S. Franklin, in *Science*, "and that the output of light per unit of power consumed will be increased at least threefold above that which is now obtained by the carbon filament glow lamp."

The writer adds that this means that the light-producing capacity of every electric-lighting station in the world will be at once multiplied by three, with the possibility of greatly reduced prices per unit of light, and also greatly increased profits. The tungsten lamp, in which a metallic filament takes the place of the ordinary carbon loop, has, it is observed, received much attention in technical journals.



Order of
**Norris,
Alister
& Co.**
Chicago, Ill.

What Arctic Explorer Peary Thinks of the

HOWARD WATCH

Commander R. E. Peary, U. S. N., pays the following tribute to THE "HOWARD"

The E. Howard Watch Company.

DEAR SIR:—It gives me much pleasure to acknowledge receipt of your three movements inclosed in aluminum cases as suggested by me. The three movements of your make which I used on the last year's trip to the northern extremity of Greenland enabled me to return to the point of my departure on the shore of McCormick's Bay after a trip of some thirteen hundred miles with a deviation of a trifle less than five miles. In the more compact and convenient form for the movements for the coming expedition I anticipate equally good results. The fact that I take your movements again is, I think, the strongest proof of my belief in them. I am, Very sincerely yours,

R. E. PEARY, Civil Engineer, U. S. N., Commanding Expedition.

Every Howard Watch is enclosed in a velvet-lined mahogany cabinet, accompanied by Guarantee Certificates giving the movement and case numbers as well as the *fixed* price at which it is to be sold everywhere.

Howard Watches are made in men's sizes only. Prices range from \$35 to \$150, the difference being not in grade of materials or workmanship, but in quality of case, number of jewels, and the adjustments.

Address your orders to

Norris, Alister & Co.
Chicago, Ill.



The Way
You Buy
a Howard
Watch

Talk to Ambitious Watchmakers*

(Continued)

By F. R. CUNNINGHAM, Boston, Mass.

As to Interior Curves Interior curves are not recommended for "dollar watches"; their use is desirable only in high-class work, where they are unquestionably superior. But, as they have been applied by their chief advocates, there are two practical objections to their use: 1st, they are somewhat difficult to form, with the accuracy necessary to gain the desired results; and 2d, in case the watch receives a hard knock upon the edge—such as might result from falling—the curve may be distorted.

In the case of a spring without inner terminal, the spiral is close to the collet, and in the case of a knock, the spring is forced against the collet, an amount of bending far within the limit of the spring's elasticity; consequently, it returns to its original form, *unless*, at the moment of impact, the inner point of attachment should be uppermost; in which case, the spring is likely to be put out of true at the collet, and sometimes a bend is made in two or three of the inner coils, the effect of being thrown violently against the short bend of the inner coil where it joins the collet.

The plan we briefly discussed in the March KEYSTONE, gives us the means of producing an inner terminal of perfect action. Having produced *one*, we have a plan which we will consider later whereby we may produce any number of fac-similes. This disposes of practical objection No. 1. Now, let us consider practical objection No. 2.

The Hairspring Collet It is indeed remarkable, in view of the study and experiment devoted by men of brilliant genius to the perfection of pocket timepieces, that the hairspring collet should remain the same primitive affair known in the days of Robert Hooke. Its primitiveness would be no objection, if it fulfilled the requirements. There are two practical objections to the common collet: 1st, It is not of a form to practically poise with accuracy, owing to the fact that we can never be certain how much of the short bend connecting the spring proper with the collet is in action, and the natural condition of the collet, being slit—usually much too wide—is to be out of poise. 2d, The abrupt bend connecting the spring proper—whether spiral or interior curve—with the collet, is a disturbing element; *particularly so in the case of an inner terminal*. That abrupt bending of a finely tempered spring is injurious, is admitted by all. It might be thought, because the collet is comparatively small, that it would have practically no influence on the poise of the balance.

Take a balance perfectly poised and apply the collet, with a piece of spring pinned in—say, sufficient to reach the middle of the short bend—then test for poise, and we think you will be surprised at the very decided influence of the collet.

We are aware that some writers on the subject of adjusting, advise poisoning the collet in fine work; but this does not obviate the objection already stated: It is not practical to poise the common collet accurately, for the reasons given. In fine work, it is the cumulative effect of very small causes we must avoid.

Side Talk on Hairsprings Let us fasten the main thread of our discourse here, and indulge in a little side talk for a few moments. We believe there are many intelligent watchmakers who do not fully appreciate the fact that the hairspring is virtually a

part of the balance. Suppose we have a hair-spring gage of extreme accuracy, by means of which we may select two springs of exactly equal strength—one being of tempered steel, the other of palladium alloy. As is well known, the specific gravity of palladium alloy is greater than that of steel; therefore, with the palladium alloy spring, a watch will run slower than with the steel spring; for the simple reason, that although of exactly equal strength, the palladium alloy is heavier and, consequently, has greater moment of inertia.

Should we choose two steel springs of equal strength, one being of larger diameter, the watch will go slower with the large spring. As the moment of inertia is constantly changing during the vibration of the balance, and as the distance between maximum and minimum increases with the diameter of the spring, it would seem advantageous to have our springs as small in diameter and close coiled as possible; reducing the effect of its inertia to a minimum.

A watch hairspring is a small thing, but it affords a broad field for interesting speculation and profitable investigation. Now, that we know the inertia of the spring affects the time of vibration of the balance, and we know that the moment of inertia is greatest when the spring is fully distended, should we be safe in assuming that the time of the vibration in which the spring distends, is no longer than the other?* or does some other varying factor exactly counter-balance its effect?

Effect of Changes in an Overcoil

Jules Grossmann has pointed out and demonstrated, that the spring distends more from its normal radius in uncoiling than it contracts in coiling—a fact that may be easily verified by experiment. But, does the spring offer *greater resistance to uncoiling* than it does to coiling?

Different theories are advanced to explain the effect of changes in an overcoil, in adjusting to isochronism; the most commonly accepted being that a change in the curvature of the overcoil increases or diminishes its rigidity, consequently its resistance to change of form. As we have seen in the March KEYSTONE, a slight change produces a difference in the development as regards concentricity—consequently, a change in the moment of inertia of the spring. May not this be an important factor? We do not advance this as a theory; merely a suggestion, possibly worth considering. There are many problems pertaining to the art of horology yet unsolved. The perfect portable timepiece has not yet been produced. The more or less satisfactory results thus far attained, have been by a process of balancing errors; for instance, that exceedingly ingenious artist, A. L. Breguet, seeking to avoid position error, invented the "Tourbillon" (or Tourbillion), in which the position of the escapement and balance with reference to the pendant is constantly changing; thus neutralizing its errors. It is in a high degree successful; but its delicacy renders it impracticable for pocket watches. Bonnicksen's karrusel is a more recent application of the idea; excellent results have also been obtained with this arrangement.

Remove Cause of Error

But, would it not be more logical to begin with fundamental principles, and eliminate the *cause* of position error? It cannot be claimed that this much desired result has been reached, but substantial progress has been

* The term "vibration" is used here in the usual way, *i. e.*, a movement of the balance from one extreme to the other, in either direction. We think, to be exact, a vibration begins and ends at the "dead point," or position of rest. Authorities are at variance.

made; and *any* progress toward the correct application of principles is encouraging.

The object of this digression has been, chiefly, to impress more forcibly upon the watchmaker the fact that the hairspring is virtually a part of the balance, and that it has effect on the time of vibration—apart from its elastic property, serving to control the balance in a manner analogous to gravity on the pendulum.

Even the eminent M. Phillips appears to have overlooked this factor—at least, the formula he gave us for ascertaining the time of vibration of a balance, does not include it. This, however, does not invalidate his conclusions, so far as the correct form of terminals is concerned.

As far as we are aware, Theo. Gribi is the only horologist to mention—and only incidentally—inertia of the spring as being a factor in the time vibration of the balance.

Cause of Position Error

Let us resume the thread of our discourse. It has been shown by the work of the eminent investigators previously mentioned, that the chief cause of position error—in watches mechanically of good quality—is the shifting or oscillation of the center of gravity of the spring, during vibration of the balance. Phillips and Lossier furnish the knowledge enabling us to form curves of extreme accuracy; maintaining the spring's center of gravity upon the center of the balance staff. If we realize in practice the full logic of their teaching, the result should be practical elimination of position error due to the spring. As we have pointed out, the ordinary collet does not allow us to do this. In the May KEYSTONE we will show a collet fulfilling the requirements of theory, also obviating the practical objections against the common collet, when used in conjunction with an inner terminal. We shall also describe the method of producing fac-similes of a spring proved by trial to be correct. This plan enables us to realize the great advantage of an inner terminal, without its ordinarily attendant objections, and in a manner so simple as to obviate the necessity of high skill to apply the springs.

We shall afterward consider the influence of the escapement on the rate of the watch, and the correction of errors often found in the escapement. Among other things will be the description and drawings of a tool for refinishing, or changing the angle of pallet stones; by means of which the watchmaker can perform these operations, or make new stones, in a manner unexcelled. This tool does not involve the use of a pivot polisher or slide rest; it is quick and convenient, so much so, in fact, as to make it advantageous in the case of worn stones to refinish them rather than supply new ones. We have had much experience in this line of work, and assure our readers this tool will not disappoint.

[TO BE CONTINUED]

Why Rubber Tires Get Hot

When an automobile is running at high speed the rubber tires are rapidly warmed, and the heat sometimes becomes very great, with resultant injury to the rubber. The cause of this accumulation of heat in the tire is ascribed to the kneading of the rubber, which generates heat faster than it can be radiated away. For this reason manufacturers have found it to be an advantage to have metal parts in the tread, such as the ends of rivets, in contact with the tire, because the metal, being a good radiator, helps to carry off the heat.

* Book rights reserved by the author.



Some
“Reasons Why”



Every Dealer Should Sell
New York Standard
“CHRONOGRAPHS”

They are the only ones made in America.
They are the only ones made anywhere that
are FULLY GUARANTEED

They are lower in price than any other.
The profit is better.

They can be repaired without delay, as all parts are
interchangeable.

They have been and are being advertised to the general
public through such well-known mediums as

COLLIER'S WEEKLY	HARPER'S WEEKLY
OUTING	NATIONAL SPORTSMAN
RECREATION	SCIENTIFIC AMERICAN
TECHNICAL WORLD	LITERARY DIGEST, Etc.

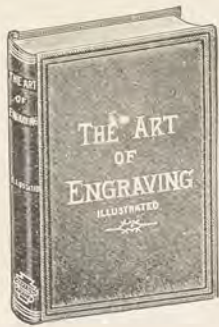
The inquiries that are being referred daily to dealers
are resulting in sales. Are you securing your share?

SEE YOUR JOBBER

NEW YORK STANDARD WATCH CO.
Jersey City, New Jersey

THE ART OF ENGRAVING

To fill one of the chief wants of the trade in technical instruction we have compiled this serial, which will be continued monthly till completed. It is the most complete treatise ever written on this subject, being wider in scope and more copiously illustrated than any previous work on engraving. Those who desire the entire serial at once may procure same in book form, a handsome volume, bound in silk cloth, containing over 200 pages and 216 specially executed illustrations. A copy of the book will be sent postpaid to any part of the world on receipt of price, \$1.50 (6s. 3d.)



(Continued. Part L. Begun in March, 1903)

Cutting the Flower Leaf

It will be observed in cutting the flower leaf cipher the lines all radiate from and taper down to the left side of the leaf. This, from an art standpoint, is necessary in order to produce the effect of the leaf being curved at that portion. The object of curving the line of the leaf near the extreme right point is to give it the effect of being sunken in at that point. This leaf will give the student some difficulty until he has mastered the idea of its construction, and has become familiar with the number of lines necessary in forming it. No attempt should be made to shade the leaf until after it has been cut in outline complete.

A cipher of this description can be made in what is known as a double flower leaf cipher. The difference between such style and the one here shown is, that on the main shade strokes of the letters there are two leaves, one protruding downward and the other upward. Between the two leaves there can be a different filling from that in the remaining portion of the cipher. Such work as vermicelli, beadwork, etc., can be engraved in between these two prominent leaves, while the remaining portion of the letter could be engraved in the style here shown. The main leaves of the cipher should be the same, not necessarily the same size but as nearly so as space would permit, and as nearly the same shape as possible in the space; but the small fancy cuts or portions of leaves protruding from the various loops and bars of the letters are not necessarily engraved the same. In fact, these are usually an innovation of the artist as he proceeds with the work; he making them in such shape and size as is deemed necessary to fill the space artistically. We have previously mentioned the fact that it is advisable to design all ciphers perfectly plain first, then add the leaves or other ornamentation.

Leaves Cut Separately

It would seem to the student in looking at the cipher at Fig. 188 as if he should make the ornaments as he was sketching the cipher. This is entirely wrong. The cipher here shown was designed perfectly plain first in outline, then the main leaves were added. Some of the little ornaments, or portions of leaves, were not designed at all, but cut as they were needed when cutting the cipher. Of course, for the student it would be advisable to design the cipher in outline complete, and then to add all the little ornaments complete; not depending upon his eye to cut any of the ornaments. Skilled artists, however, can make such little cuts with as much accuracy without the aid of a previous sketch as with it, and time is saved in this way. The same general style of leaf as here shown can be, and often is, twisted and formed in somewhat different shapes. Some engravers will make them more blunt on the end and some more pointed. The one we have selected, however, will probably be found the best for general use.

A flower leaf cipher well engraved necessitates a large amount of work and much skill. In fact, in the flower leaf ciphers we find the artistic abilities of the engraver brought out to their fullest extent. This being true, the student is advised to engrave this style until he has mastered it thoroughly, as the work of cutting it is very effective in developing his ability both from an artistic and mechanical point of view.

Block Ciphers Considered

At Fig. 189 we illustrate the complete alphabet in block monogram. There are many different styles of block monograms and many different styles and ideas of entwining them. It would not be practical for us to give time and space to the various styles of fillings, etc. The student will, however, from the illustrations here given, gain sufficient information to develop into a good monogram engraver.

The first thing to do in engraving a block monogram on a watch case, or any other round surface, is to first make the circle and lines, as shown at Fig. 173, which gives the student all of the necessary lines for drawing the monogram with great accuracy.

In engraving a block monogram it is necessary to make three different shaped letters, one oblong, one medium and another full or grotesque. By making the letters in this way we find it very easy to entwine any three letters in the alphabet, and if the student will observe any three-letter monogram that may come to his attention he will find that there is one long letter and one very broad letter and one medium shaped.



Fig. 189

The Fault of Crowding

There is one very common error in monogram engraving, which we must criticise at this point, and advise the student in reference to before we give any ideas of entwining. We show at Fig. 190 a monogram beautifully engraved from a standpoint of accuracy, and yet crowded at the top and through the center and at the base. This is one of the common errors in block monograms and in cipher also. This monogram could be made very artistic and devoid of such crowding, as the samples to follow will show. Another fault of the monogram here given is that the styles of filling are so similar that there is not a sufficient distinction between the letters. A block monogram, in order to be readable, should have different kinds of filling. Most block monograms are so made that each of the three letters will touch the circle in which they are engraved. Some, however, are made on different lines. Usually block monograms are filled on the inside of the general outline.

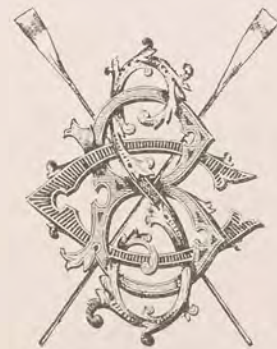


Fig. 190

Students in the art of engraving appreciate the value of samples of monograms or monogram designs, and often make inquiries as to where such samples may be procured. The best collection of monograms known to the author is "The Keystone Portfolio of Monograms," containing 121 different designs and quite a variety of combinations. This useful portfolio can be procured from THE KEYSTONE for 50 cents. By way of an object lesson in



H.K.B.
Fig. 191



S.B.C.
Fig. 192

block-monogram engraving we here reproduce a few specimens taken from the portfolio, each illustrating some particular point.

At Fig. 191 we show a monogram which is without the fault of crowding and shading, to which we called attention in Fig. 190. Attention is also directed to the style of entwining and to the protrusion of portions of leaves from the principal letter.

Most block monograms are engraved perfectly round. Sometimes, however, the engraver has occasion to engrave them oblong. We illustrate at Fig. 192 a monogram engraved oblong, and will give instructions for cutting the same in our next issue.

(TO BE CONTINUED)

If you are not selling as many watches as you should, ask us why!

14 K. Solid Gold Cases

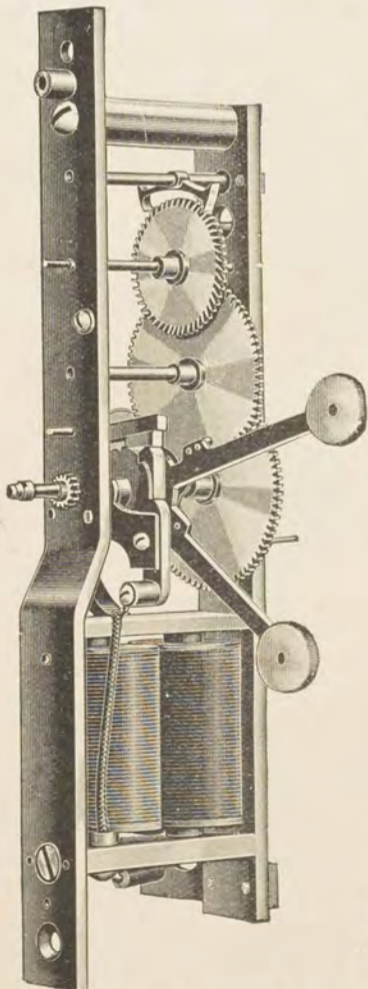
Elgin Movements	Boss Cases
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Heyworth Building, Chicago

ELECTRIC CLOCKS



Wall Clock Movements

Who would substitute a sun-dial for the ordinary key-wind clock?

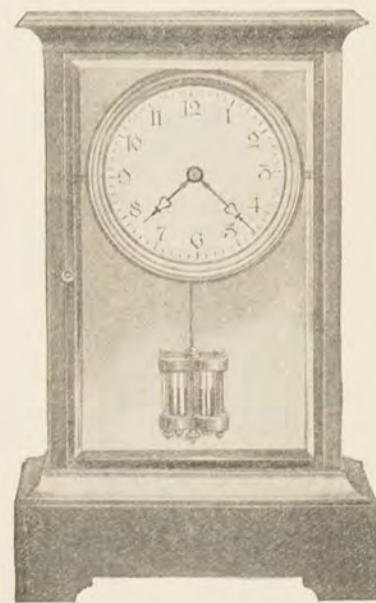
Who would substitute a key-wind clock for the **Electric Self-Winding Clock?**

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No. 101 M

AMERICAN CLOCK COMPANY

Wabash Avenue and 20th Street, CHICAGO

Producing Rose-Gold Deposits

THE vogue of rose-gold still continues, and considering the richness and well-deserved popularity of this finish there is no reason to expect any immediate falling off in the present popular predilection for it. As it is only in comparatively recent years that this finish jumped into such universal favor, the various works on electroplating contain comparatively little information on the subject and many platers and gold workers are still unfamiliar with the method of producing it. For this reason many of our readers will peruse with interest and profit the following article on the subject from the pen of a writer in the *Brass World*:

The production of the rose-gold finish is not as difficult as it would seem. Gold is easily deposited and the solution gives little trouble. The following solution is now extensively used for producing the rose-gold finish and gives excellent results. It is easily prepared, the deposit is even, and, if the solution is at the right temperature, the color is what is desired.

The solution is made up in the following manner:

- Water 1 gal.
- Carbonate of Soda* 2 oz.
- Yellow Prussiate of Potash † 2 oz.
- Chloride of Gold § ¼ oz.

The yellow prussiate of potash is dissolved in the water by heating and then the carbonate of soda is added. When these are thoroughly dissolved, the chloride of gold is introduced. A red precipitate of iron hydroxide will now be formed. In order to use the solution, this must be filtered out, but if this is done at once it will run through the filter. In order to coagulate the iron hydroxide, so to speak, the solution is heated nearly to boiling or actually boiled for ten or fifteen minutes. It is then filtered through filter paper and the iron hydroxide separates out. This iron hydroxide, of course, comes from the yellow prussiate of potash which contains iron as one of its constituents.

Working the Solution

The clear, yellow solution which results after filtering is the one used for the deposition of the gold. *In order to obtain the required rose tint, however, it must be used nearly boiling.* A temperature of about 180 degrees Fahrenheit is satisfactory as this is about as hot as the solution can be used without having it in actual ebullition. To have it actually boiling is not advisable.

The articles to be treated may be sand-blasted, if a sand-blast is at hand, and the "high lights" then buffed off on a wheel.

The best effects in this class of work are always obtained by the use of a dead or matted background. The sand-blasting is not really necessary, and upon many designs will have to be dispensed with. A copper deposit from an acid copper (sour copper) solution gives an excellent base for the rose-gold deposit as it is not only red and allows less gold to be put on than when a yellow or white metal is used, but also has a dead surface.

The Necessary Current

A strong current is equally as necessary for producing the rose-gold deposit as it is to have the solution hot. From 5 to 6 volts should be used so that the article gasses freely. Although this voltage may seem very high for a hot gold solution, yet if an ammeter be placed on the circuit, the plater will be surprised how little current is passing. The reason for this is the poor conductivity of the solution. Yellow prussiate of potash is not as good a conductor as cyanide of potash. It will readily be understood, therefore, that, although a high voltage is necessary, really a small amount of current is used.

Some very excellent effects are produced by allowing the current to run for a few minutes so that a fairly heavy gold deposit is produced. The deposit thus becomes dead. A little sea-sand (silver-sand) is now rubbed on the high-lights with the fingers (previously wet with water) until they are burnished. The background is thus left dead.

If the deposit that is obtained by the foregoing solution is not sufficiently red, a little copper may be added to the solution and a darker color obtained. Such a deposit is really more of a red gold than the so-called rose-gold; but it is, nevertheless, quite pleasing. To add the copper dissolve a small quantity of carbonate of copper in cyanide of potash solution. Now add this in very small quantities to the gold solution and try it. Very little is needed. In a gallon of gold solution, a fraction of a pennyweight of carbonate of copper is usually all that is required. Too large an amount will result in a copper colored deposit instead of one of gold. For the majority of purposes, no copper need be added to the yellow prussiate of potash solution as it gives a deposit of the desired color.

The essential features for obtaining a good rose-gold deposit are:

1. Use the solution nearly at the boiling point.
2. A current of from 5 to 6 volts should be used.
3. The use of an acid copper deposit on the article preparatory to gilding. While this is not really imperative, the results obtained are worth the extra work necessary to produce it.

Work of the Wreck-Clearing Crew

No army or city fire department has a better organization than the wreck-clearing crew of a large railroad system. In these days a small number of men are required as compared with a few years ago, for a few experts with steam cranes can do in one hour what formerly required 50 or 100 men an entire day. The crew are given other work, but not far from the wrecking car, in which steam is kept up constantly; and a call to go out can usually be responded to in 15 minutes during the day or 30 minutes at night. The train usually consists of one locomotive and four cars; the crane car, one for ropes, tackle and tools, one with extra trucks, and the boarding car equipped with kitchen and dining room constantly stocked with food supplies, not only to serve its own crew but a large additional force if necessary. A modern wrecking crane will lift from 75 to 100 tons.

—*Popular Mechanics.*

Appalachian Gold

We are reminded by R. H. Byrd, in the *Technical World Magazine*, that all the gold produced in the United States before the greater discoveries on the Pacific coast was mined in the Appalachians. These mountains contain more or less auriferous deposits throughout their range. Even today gold is mined within sight of the Washington Monument. In Maryland, southwestern Virginia, the Carolinas and Georgia there are gold-mines in profitable operation, but the quantity produced is relatively small. In many cases where there is no question of the existence of gold, and where "color" can be obtained by washing the black sand and gravel in the ravines and gulches, the amount is too small to cover the cost of getting out the metal. But the pursuit is exciting, and many have thought that no cost of labor and time was too great when expended in obtaining enough Appalachian gold to make a finger ring or a watch charm.

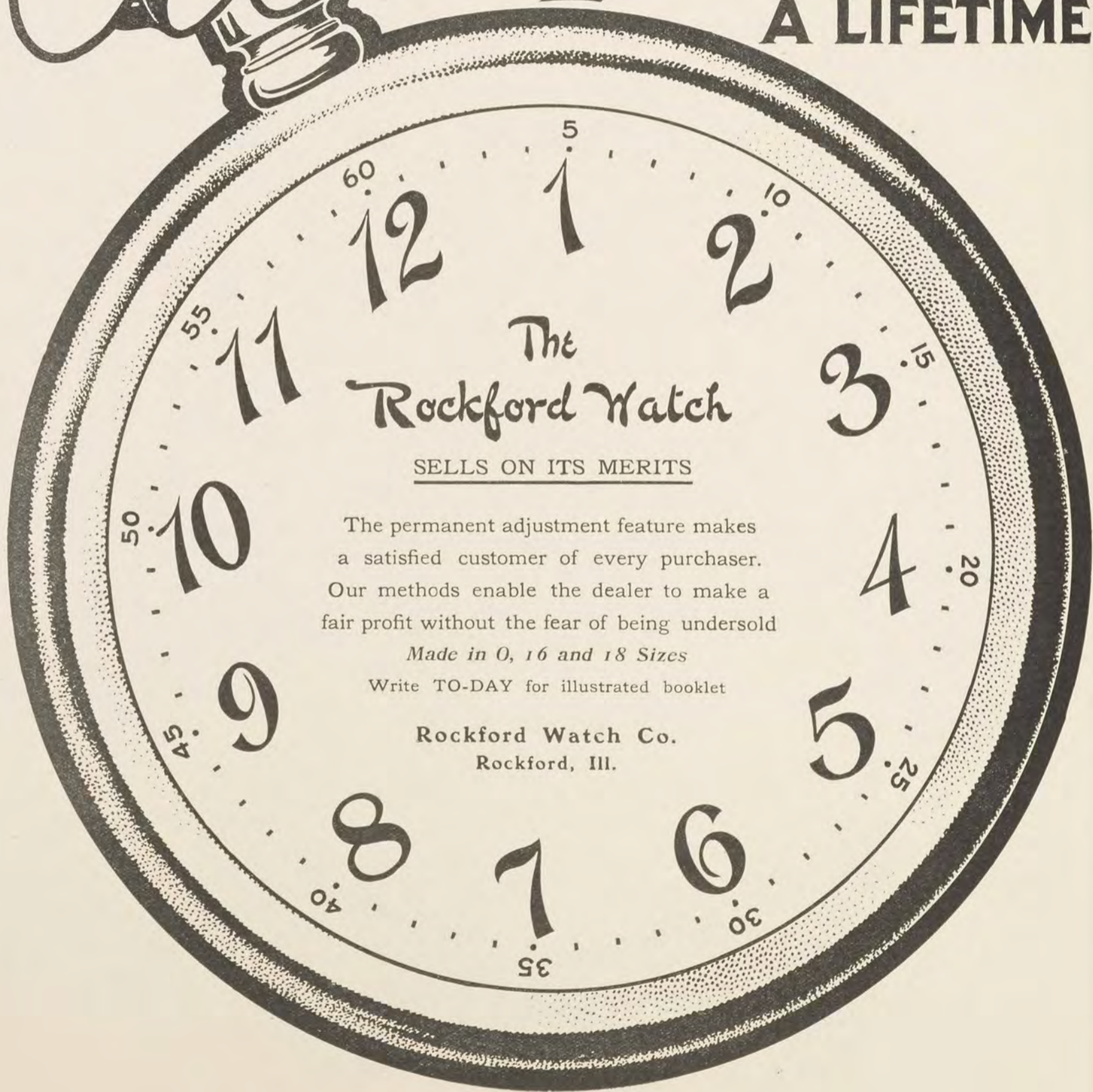
The Art of Illumination

Electrical engineers have begun to pay special attention to proper methods of producing illumination, independent of the question of the quantity of light. At a recent meeting of the Illuminating Engineering Society in New York, Prof. C. P. Steinmetz presented many interesting facts resulting from expert study of this subject. The adaptation of the color of the light to special conditions is very important. In a shop yellow light is better, because the dark walls reflect it; in a park greenish light is preferable, the reflecting surfaces being green. Where light is needed for the close inspection of objects, green seems best, because it makes defects more apparent.

* Sal-soda crystals.
 † Potassium ferro-cyanide.
 § Or 3 pennyweights of fine gold made into chloride.

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The Detection and Removal of Magnetism in Watches

AS the detection and removal of magnetism in watches is becoming more interesting to the trade each year, many of our readers will peruse with interest and profit the following essay on the subject by one of our subscribers, together with a brief comment added thereto :

Before embarking on the subject proper, I think a few words upon what really takes place in the steel parts of a watch when it becomes magnetized, would not come amiss. For those readers who have studied magnetism this is superfluous, but for those who have not had such a course, it may prove interesting and will enable them to more intelligently grasp the subject.

How Watches Become Magnetized

The first thing to remember is, that when a watch has become magnetized, nothing has been added to what was there before. All that has happened is, that the molecules of which the steel work is composed have been stressed into an altered position.

A graphic way to illustrate what takes place when a piece of steel is magnetized, is the following : take a glass tube, say nine inches long and one-half inch diameter ; fill it lightly with iron filings, plug up the ends with corks, and shake the filings. Suppose this to be a bar of iron, the filings being the molecules of which the bar is composed, and suppose also that each filing is a magnet.



Fig. 1
Glass tube with unarranged iron filings

1st. Present this tube of filings to a compass needle, it will be found that each end attracts, and is attracted by each end of the needle. This proves that no free magnetism proceeds from the filings ; you would therefore say that the tube of filings was not magnetized.

2d. Now take a bar magnet and stroke the tube from one end to the other, but in one direction only.



Fig. 2
Glass tube with arranged iron filings

You now find that one end strongly repels the north pole of the needle, whilst it strongly attracts the south pole, and that the other end of the tube repels the south pole and attracts the north pole, thus showing the effects of a bar magnet.

3d. Now mark one end of the tube with a piece of chalk, and shake the tube vigorously so as to mix up the iron filings, and then bring the marked end towards each end of the needle in turn, when it will be found to attract them equally.

The Phenomena Explained

What has happened may be thus explained. In the first and third cases, the iron filings were so

arranged, or rather disarranged, that the lines of force proceeding from each found a short and easy path through its nearest neighbors. Their magnetic circuits were thus completed *within* themselves, just as if they had been arranged like any of the three sets of small magnets shown in Fig. 3.

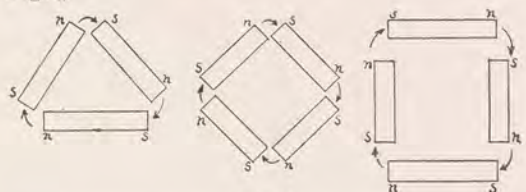


Fig. 3
Short circuiting of magnetism in small magnets exhibiting neutral condition of the molecules in a magnetic body

The natural conditions of a magnetic circuit were therefore satisfied by a short circuiting of the lines of force between each of the neighboring sets of small magnets or filings, and thus left no tendency to project their lines beyond themselves. The whole field was *entirely internal* and without free magnetism. This state corresponds to a watch when it is not magnetized.

In the second case, the filings having become turned round, each one lying parallel with its neighbors, the paths of the magnetic lines springing from the set of north poles in the center of the tube, found their easiest continuation through their neighbors in front of them, and so on toward the north end of the tube. The naturally self-repellant action which like lines in the same direction have for each other, forced some of the lines to take an external path before they reached the end of the tube. Those lines which did reach the end had no other route left for them but the airpath, whereby to complete their circuit to the other end of the tube. This state represents the condition of the steel parts of a watch when it is magnetized.

How to Detect Magnetism in Watches

We will now proceed to consider how to detect this condition when it comes under our notice. A customer brings in a watch with a complaint that it stops or goes irregularly. This, of course, might be caused by a great many things besides magnetism. But when you open to examine and find that the hairspring coils are caught together at one side, and upon pressing them over, you find that they catch together at the other side, or if the hairspring is caught down on the arms of the balance, or upon the regulator, you may naturally think about magnetism being the cause of the trouble.

To make quite sure, clean the balance and hairspring in benzine. Take some fine iron filings, which should be kept at hand in a stoppered bottle, sprinkle some on a clean sheet of paper, and bring the balance quite close to them. If the balance is magnetized, the iron filings will be at once attracted and stick to the steel work. There is now no doubt whatever that the watch is magnetized. In the event of the balance wheel being a gold or composition one, you will of course apply the test to the other steel work, such as the roller, lever, etc.

In detecting magnetism, the watchmaker's friend is certainly iron filings, the attraction or non-attraction of which is the sure sign of whether a watch is magnetized or not.

Demagnetizing Watches

Having found that the watch is magnetized, our next step is how best to remove it. Fortunately this is a comparatively easy matter, and

consists in holding the watch, or the parts to be demagnetized, in the rapidly changing poles of a magnetic field for a short time, and suddenly withdrawing it out of the field. There are quite a number of instruments on the market made specially for this purpose. They are mostly electro-magnets, with the current supplied by a bichromate cell. In working they give a powerful field, and will be found to do all that is claimed for them. There is, however, no real need for the watchmaker to spend much money on apparatus.

The following description of a simple outfit, and the manner of using it, has been practiced by the writer repeatedly with the most satisfactory results :

Take a six-inch permanent horse-shoe magnet, and fit it into a wooden chuck, with the poles facing outwards. Fit the chuck on to a lathe, and make the magnet revolve at a fairly quick speed. Now take the watch, or if you have taken it to pieces, place the steel parts, such as the balance, hairspring, roller, lever, etc., into a small cardboard box, and hold them quite close to the revolving poles of the magnet for a few seconds.

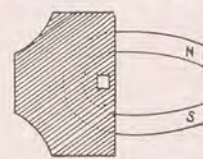


Fig. 4
Horseshoe magnet fitted into wooden chuck

Suddenly snatch them away. Upon testing with the iron filings, you will likely find that they are no longer attracted. In that case, you know that the watch is demagnetized. If, however, you find that the filings still adhere, you will require to proceed as before. The reason of the failure in the first case will be that you did not snatch the watch out of the field quickly enough.

The explanation of the phenomenon is that, while the magnetized steel is held in the magnetic field, the changing poles of the revolving magnet so act upon the molecules of the steel as to cause them to be short circuited, and whilst in that condition, you jerk the steel quickly enough out of the influence of the field, the magnetic force is internal, and the steel is said to be demagnetized.

Very few additional remarks are necessary, but we will note two methods of testing for magnetism which are largely used besides the one described above. The first is by means of a very small magnetic compass (the smaller and lighter, the better), which should be laid over the balance cock with its center in the same axis as the balance staff.

If magnetism is present in the balance, the needle of the compass will oscillate more or less in unison with the vibrations of the balance. In almost every case, if magnetism is present at all in the watch, it will offset the balance, and the compass detects it without necessitating taking the watch apart. If a test by the compass shows the presence of a disturbing influence, it is well to take the watch apart and then test every steel part, case-springs included, either by the method above described with iron filings, or by the following method, with a tool made by the cementing to the center of a half-inch length of soft iron binding-wire, a raveling or single strand of silk, the other end of which may, for convenience sake, be cemented to a light wooden handle. On approaching the iron to the parts to be tested, the existence of magnetism will be shown by their attraction of the iron to themselves.

The best means of demagnetizing is to be found in several patterns of machines which are now in the market, which are excited most conveniently by attaching them in an ordinary incandescent electric-light circuit. We will mention that the alternating and direct currents require entirely different types of machines, and the kind of current and the voltage must be specified when ordering a machine. As many workmen follow the custom of withdrawing the watch *gradually* from the magnetic field, it would be interesting to have on this point the experience of the trade.

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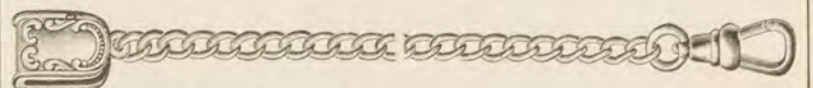
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Now, while the armature is bare, we will make a commutator. This consists of a ¼-inch disk of red fiber ⅛ inch thick, with a center hole that is a drive fit on the pin in the rear armature shaft. On one side of this disk are fastened the two halves of a ¼-inch copper or brass washer, which has been sawed or filed into two equal parts. These may

be drilled and tapped for small machine screws put through the fiber, or they may be cemented to the disk exactly as Fig. 1 shows them. But before fixing the commutator on the shaft we would better rewind the armature. As we have decided on the 8 and 16-volt arrangement we will use No. 23 wire. Before starting be sure the iron is well insulated; it is usually covered with paper or cloth shellaced on. Leave two or three inches free at the end of the wire and see that the covering on the wire is not torn or loose. Wind the channel at one side of the shaft full first, and in going over to start the other side leave a loop of several inches of wire, as in Fig. 2; then fill the other side. Always wind tightly and get on as much as possible. There is almost always a groove cut around the armature used for binding the bundle of wire. Wrap a turn of wire tightly in this groove and solder it, or at least twist it as tight as possible, or when the machine is running at a high speed, centrifugal force will throw the wires out against the pole pieces, spoiling the winding.

When the loop left in the center of the coil is cut there are practically two separate coils on the armature. If the starting end of the whole winding is connected to the shaft or body of the armature, and the finishing end to the pin by soldering, while the remaining ends are connected together, the higher voltage will result. For the low voltage the coils are separated, and both starting ends connected to the shaft, with both finishing ends to the pin.

The machine may now be put together again—that is, the armature and bearings assembled with the pole pieces, and the shaft given a whirl to see that it runs all right. Now drive the commutator onto the pin at the end of the shaft. The metal pieces are insulated from each other by a ⅛-inch or less air gap, but one must be connected to the shaft, the other to the pin in the end. Probably this can best be done with a bit of No. 23 copper wire and a speck of solder. Be very careful to remove every trace of soldering fluid after the operation. The slot in the commutator should be parallel with the iron of the armature, as shown in Fig. 3. A little cement will make it solid in this position, but should not be used until the machine is tested, as described later.

It is now time to make a base of some kind for the machine. This is, of course, a matter for individual choice, but do not make it too light, about 1 inch thick, of hard wood, and say 3 inches larger each way than the extreme dimensions of the machine ought to be satisfactory. Drill and

counterbore from the bottom of the base for screws to hold the machine. You will find tapped holes already in the bottom of the pole pieces. Screw the machine down solid and we are ready for the final operations—the fitting of the collector springs or brushes. Spring brass about ⅜ inch wide and ⅜ inch thick is about right. Four pieces, made according to Fig. 3, are fastened to the base by binding posts in the locations shown; *b* and *c* rest

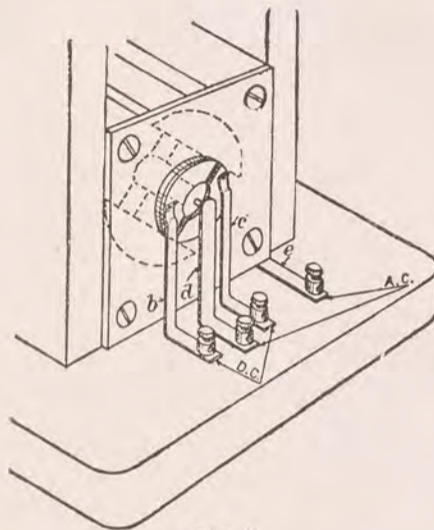


Fig. 3

against the commutator, not too heavily (these serve to collect direct current); *d* against the flattened end of the pin in the center, and *e*, which is simply a straight strip clamped under the machine, and making good connection with it, collect alternating current. These brushes should not press hard enough to interfere with the smooth and easy running of the armature.

In testing, have an assistant turn the handle while you connect the direct-current posts to some piece of apparatus—a small lamp for instance. The commutator slot is now at right angles with the armature winding, but it may be found that a slight variation one way or the other from this position will increase the output. When the correct point has been found the commutator may be connected to the shaft. In a sense the machine is complete and may be driven quite satisfactorily with the small crank and gear supplied with it. But in the author's opinion it is far preferable to discard the large gear altogether. Get a grooved wooden pulley (a V-groove is the best) 1½ inches in diameter, with a center hole a shade smaller than the pinion or small gear on the armature shaft, and drive the pulley right onto the pinion. Driven with a ½-inch round leather belt from a hand wheel or sewing machine fly wheel, a speed of 2400 revolutions per minute can easily be attained, at which speed the machine will be found very efficient and useful.

The following table gives windings for various approximate voltages at 2400 revolutions, although nothing very definite can be given, as much depends upon the make and condition of the machine. The voltage varies directly as the speed.

Wire No.	Volts	Amperes	Volts	Amperes
31	100	0.4	50	0.8
28	50	0.8	25	1.6
25	25	1.6	12.5	3.2
24	20	2.0	10	4.0
23	16	2.5	8	5.0
22	12	3.25	6	6.5
20	8	5.0	4	10.0
19	6	6.5	3	13.0
17	4	10.0	2	20.0
14	2	20.0	1	40.0

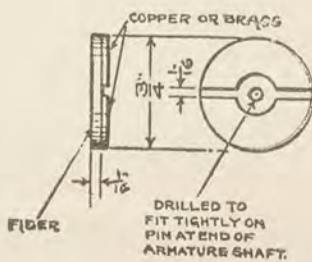
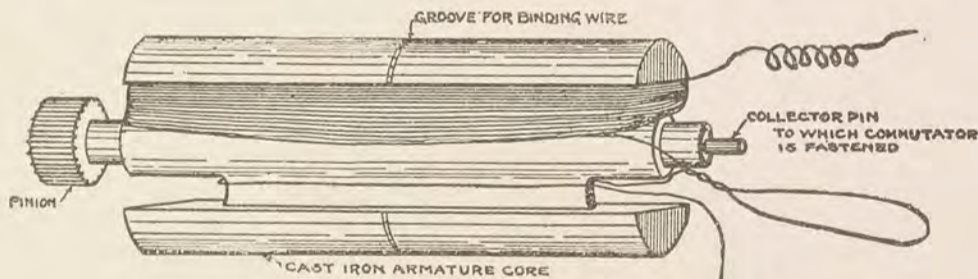


Fig. 1

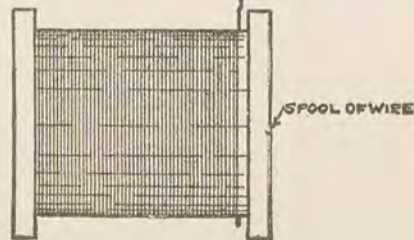


Fig. 2

Continental Movements



0 size, 12 size, 16 size Open-Face and Hunting
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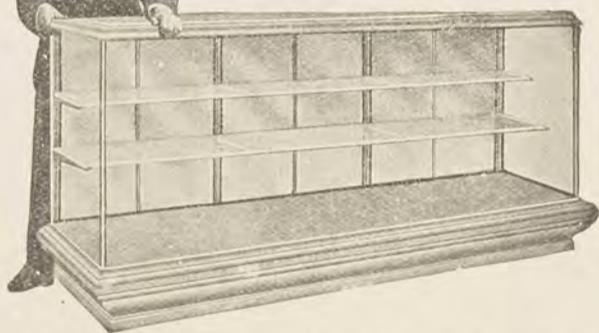
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"Quick Sales" designs are the leaders. "Quick Sales" Quality materials and workmanship (including both cabinet-making and glazing), and the fact that we use only thoroughly seasoned lumber—dried in our own kilns—enable us to guarantee every case we make. They last longer, are dust-proof and always display the goods better.

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Let Us Correct a Mistake

which is made by many watchmakers and engravers who, being pretty well "up in years," think it hopeless to try to improve their ability as workmen, even though they are aware of serious shortcomings.

To such we want to urge that they investigate our school and let us show what great increase of earning ability our instruction has effected in the case of men **beyond middle age.**

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**The Ezra F. Bowman
Technical School**

of Watchmaking and Engraving

LANCASTER, PA.



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.

"Tangle."—Is it possible for a watch to tangle up the hairspring of its own accord? I have a 6-size movement, which the customer says has been in the habit of doing this, and two other watch-makers failed in repairing it or locating the trouble.—It happens quite frequently that the second coil of a hairspring will catch in the regulator pins, thus in effect shortening the spring by one coil and of course making the watch gain greatly. The way to remedy this fault is to have the regulator pins practically cylindrical in shape; have them so close together as to allow just one coil of the spring to enter freely, and do not allow them to extend below the bottom of the hairspring coils.

"Imitator."—Will you kindly inform me how to put tin foil on the back of rhinestones?—Tin foil is applied to imitation stones in precisely the same way that it is applied to mirrors; that is, with the aid of mercury, with which it amalgamates. This is the old process; the more modern way is to deposit pure silver, as in silvering mirrors.

"Setter."—What would cause a watch to stop when apparently in good condition?—The following causes for a watch setting or stopping (when clean, partly wound and in beat) are given in "The Watch Adjuster's Manual," price \$2.50: 1. If it sets with the teeth on the locking face of the pallet, the locking is too deep; or the locking face is too much undercut and has too much draw, *i. e.*, the locking is too strong. Small watches with light balances are most liable to this fault. 2. If it stops or sets with the tooth on the impulse plane of the pallet, the impulse angle may be too great, *i. e.*, the incline is too steep; or the motive force too weak. I do not give directions for altering the pallets, as to do so properly would require many pages, and belongs more to watch repairing than to the adjustments. The work requires much study and experience to understand just what to do and how to do it, and such alterations should be cautiously undertaken. 3. If the teeth set part way up the impulse plane of one pallet, and not on the other, only the former is too steep. 4. If the teeth set on only one locking face, that alone is too deep or has too much draw. 5. The locking may be too shallow, and the teeth can drop on the impulse planes instead of on the locking faces; the banking pin may be bent. 6. There may be too little draw, or none at all, and shaking or jarring may jar the lever from the banking pins against the roller. 7. The motive force too weak for the movement, or weakened by poor depths or other faults, in the train. The lever escapement requires a rather strong motive force for good performance. 8. Lever and pallets not poised, and jarring or change of position displaces them. 9. The lever does not move with the pallets, not being firmly fastened to them, or on the pallet staff. 10. Pallet jewel loose in the pallet. 11. The lever too slender and springy, allowing irregular wheel and pallet action; or too short, so that setting backward or jars (see number 6) cause rubbing or overbanking. 12. Watch gets out of beat, by loose collet, loose roller, lever loose on pallets, hairspring forced out of place by regulator, or jumps into or out of regulator, etc.—putting too much lift on one pallet. 13. Ruby pin too loosely fitted in notch, or too closely; not set vertical; loose, and wedges or clogs in notch, or on corner; rubs inside of horn, or strikes inside or outside corner

in passing; ruby pin or notch rough; ruby pin grazes bottom of notch, or of sink; or grazes guard finger of double roller; ruby pin too short (or too much end-shake) and gets nearly on top of lever horn, or quite so. 14. Safety pin too short or table roller too small; although not enough so to cause overbanking, yet the friction of the safety pin on the roller checks the motion and causes setting. 15. Safety pin or guard point (or guard finger in double roller) not over the center of the lever notch, and too close to the roller on one side, while showing the preceding fault when on the other side; pin accidentally bent. 16. Safety pin hits corner of crescent in entering or leaving it, due to lever notch being too wide for ruby pin, giving it and safety pin too much play. 17. The crescent in edge of roller too wide, so that the safety pin enters it too soon (before the ruby pin enters lever notch) and allows inside of lever horn to fall against the ruby pin. 18. Crescent too narrow, or too shallow; safety pin hits on corner or bottom of crescent in passing. 19. Escape-wheel teeth rub on belly of pallets, or up under lever, or oil gets between them and clogs the teeth. 20. Oil between the lever and the banking pins, or sides of sink against which it banks, or dirt filling up banking space. 21. Oil on safety pin and the roller, clogging or sticking them together; in a double-roller, oil between the ruby pin and guard finger. 22. Oil in the lever notch, or between the under side of table roller and the lever horn, or between lever and under side of balance. 23. Lever or other part magnetized, or in the vicinity of a magnet. The foregoing are only a few of the faults which might cause setting, or so interfere with the action of the escapement as to prevent any close timing. If timing is difficult, look for every possible fault.

"Twelve."—I would like to have a little information concerning a small clock. I have put a new hairspring in it, and I have no trouble to make run, but it will lose time. It loses one hour in twelve, and I cannot see what the trouble is. I thought perhaps you could tell me something about it.—The trouble, doubtless, is that you have put in a hairspring which is too long. Shorten the spring by degrees until you see that you can get it to time without making the diameter too small. If the diameter is not sufficient (by the time the spring is shortened to time) to nearly fill the circle indicated by the stud and the regulator pins, then you will have to put in a stronger (*i. e.*, heavier) spring to make the clock go faster.

"Seconds."—How can I make a compensating pendulum for a clock that beats seconds, or where can I get information on the subject?—You will find the subject of compensating pendulums treated in E. B. Denison's "Treatise on Clocks, Watches and Bells," and in Reid's "Treatise on Clock and Watchmaking." If you do not have these works you may find them in a library, or perhaps you can get them at a second-hand book store. The subject is too extensive to treat thoroughly in this department.

"Gold Chains."—(1) How to clean woven gold chains, Roman colored?—Roman color on gold goods is produced by one or two processes. (a) Coloring by acid process. (b) Electro-gilding by fine gold solution. The process of acid coloring for gold articles below sixteen and above twelve karats is conducted as follows: Take saltpeter 14 parts, common salt 7 parts, muriatic acid 5 parts. The above salts are carefully pulverized in a porcelain mortar and then thoroughly mixed. If the proportions above given are made in ounces, we will require a black lead color pot 6" deep and 6" across the top. The mixed ingredients, that is, the saltpeter and the common salt, are placed in this color pot, set over a fire and carefully dried, stirring with a wooden paddle until the pulverized salts are well dried and hot. The pot is now ready for the muriatic acid, on the addition of which the ingredients will boil up and the color pot is ready for use. The articles to be colored are strung on fine silver wire and hung in the pot for three minutes, keeping them slowly moving up and down. On removal from the color pot, plunge the articles in boiling water and rinse well; then into a second vessel of boiling water, again rinsing. Add to the

color pot two ounces of boiling water, and when it boils up immerse the articles again for one minute and again rinse in two successive vessels of boiling water. Dry in hot boxwood sawdust. Simple as the process reads, it requires a great deal of practice to color gold goods successfully. The greatest care must be observed to preserve the most scrupulous cleanliness from grease and the contamination of any iron or salt of iron. There is another feature about acid coloring, which is, the acid salts which dissolve out the alloy of the gold rot the articles until they are quite frail, and a second operation of acid coloring would cause them to fall to pieces in the color pot. For this reason Roman gold goods are seldom recoloring by the acid process, but are gilded with a fine gold solution, employing an electric current to deposit the gold. To gild and get a good Roman color requires a little experience. Solutions, etc., for the purpose are described in detail in our reply to "Electro," page 263, February, 1906, KEYSTONE.

(2) How to restore silver filigree work to look like new?—For restoring silver filigree work, heat the articles to a faint red heat; that is, so you can barely see they are a dull red, and then allow them to cool, after which place them in a glass or porcelain dish containing a mixture of sulphuric acid and water in the proportions of 5 parts of acid to 100 parts of water. In mixing sulphuric acid and water always add the acid to the water, pouring as fine a stream as possible, and stirring constantly. The annealed piece of filigree work is placed in the dilute acid pickle and allowed to stand for several hours, and if not sufficiently whitened repeat the annealing and pickling.

"Color."—I notice you said in a recent issue that a hyacinth will become white by heating. I have tried to do this, but have been unsuccessful. Is there any special way of heating them?—The change of color takes place when a hyacinth is heated in a glass tube. If the experiment be made in a dark room, it will be noticed that the stone, while still at a temperature below red heat, will suddenly emit a phosphorescent light and become discolored. At the same time, other changes take place—the specific gravity of the stone is increased by one-tenth or more, while the luster becomes more brilliant.

"Barrel."—I desire information as to the best method of inserting a mainspring into the barrel of a watch. If wound with a mainspring winder, it is sometimes difficult to get the T-end or the brace into the hole or the slot of the barrel after the spring is in the barrel.—To safely insert a mainspring in a barrel, unquestionably it should be done with one of the several patterns of winders now on the market. Winding the spring in by hand not only takes longer but it often gives to the mainspring a conical shape instead of preserving it flat. The two most-used forms of mainspring winders are the American, in which the spring is wound into a barrel with open top and movable bottom (which pushes the wound-up spring out and into the watch barrel); and the Swiss, in which the guiding and holding of the spring, while it is being wound up, is done mostly by the fingers. The Swiss winders cost less, but the American winders are worth the difference in price for the convenience they afford. The most widely-used tool of this type is the one known as the Robbins winder, which is handled by every tool dealer. Your question indicates that you do not know the proper way to use the winder. Use a winder barrel of a size that will just enter the watch barrel; wind into it the entire length of the spring, but do not let the tipped end enter farther than to lie in the opening in the side of the winder barrel. Now start the spring a little away, then put the watch barrel over the spring, with the prong of the tip in its hole in the barrel. Holding the barrel firmly against the spring, release the spring entirely and the tip will remain in its proper place. When the spring is made with a hole to catch on a hook in the barrel, use a winder barrel that is sufficiently smaller than the inside of the watch barrel, to allow leaving half an inch of the tip end of the spring outside the winder barrel; put the watch barrel over the other, enter the hook in the hole of the spring and release the latter.



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It is a great convenience for any jeweler to purchase his line of watches from a house having constantly in stock a complete line of special watches in addition to the staple lines.

We invite inspection of our stock, including a full line of Swiss Chatelaines, Chronographs, Split Seconds and Repeaters, as well as all of the staple lines—Elgin, Waltham, Howard, Standard Movements, and Keystone, Crescent and Crown Cases in all kinds of metal.

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AND WATCH CO.
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Prompt Delivery

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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.

"Master."—*I have a clock that beats seconds, and would like to make a ticker, using my big clock as master, but don't know how to make the proper connections. Could you give me any information where I could procure a book on this subject, if one is printed, or give me the necessary information how to make the connections?*—There is no book published on this subject, and our suggestion to you is, first, that you go to a Western Union telegraph office and take a look at the master-clock which actuates the synchronizing clocks on its system, and you will probably see how to apply the necessary attachments to your clock. If you have any trouble, we will gladly help you out if you send us a complete description and specification of your clock, with sketches to show the arrangement of the different parts and all the information possible as to numbers of teeth in train and all the other details.

"Lepaute."—(1) *Have you ever written up the pin escapement of Lepaute? I would like to know more about it. I have seen many descriptions of it but no details of manufacturing it. Can you tell me of a book that gives this?*—The best description and instructions for designing the Lepaute pin escapement which we have seen, are in Saunier's "Treatise on Modern Horology," commencing on page 569. This discusses the different modifications of this escapement, tells of various experiments and gives the proportions of the escapement of this type which experience has proved to be generally best. As to a work on details of its manufacture, we do not believe there is any such in print, but after reading the section on pin-escapements in Saunier's treatise, any person who has had average mechanical experience should have no trouble in making the escapement. Saunier's work assumes that those who use it should already have had a general training in practical watch and clock work. It can be had from this office (price \$12). There is a small "companion-work" to Saunier's treatise, called "Saunier's Handbook," but the section on the pin escapement, referred to above, will be found only in the larger work.

(2) *Do you know of a book that treats of gilding on glass? I have an old clock in which the lower panel of the glass door was done in gold leaf and is now broken, and I would like to know just enough about gilding to do such a job.*—We do not think there is any book devoted to this subject, though the process is described in many of the various recipe books on the market. For instance, we extract the following from Henley's "Book of Recipes, Formulas and Processes"; price \$3: When it is desired to gild glass for decorative purposes use a solution of gelatin in hot water, to which an equal quantity of alcohol has been added. The glass to be gilded is covered with this solution and the gold leaf put on while wet. A sheet of soft cotton must be pressed and smoothed over the leaf until the gelatin below is evenly distributed. This prevents spots in gilding. Careful apportionment of the gelatin is necessary. If too much be used, the gold may become spotted; if too little, the binding may be too weak to allow the gold to be polished. The glass should be cleaned thoroughly before gilding. After the gold leaf is put on the whole is allowed to dry for ten or twenty minutes, when the luster of the gold can be raised by a cautious rubbing with cotton. Then another layer of gelatin is spread on with one stroke of a soft brush, and, if especially good work is required, a second layer of gold is put on and covered as before. In this case, however, the gelatin is used hot. After the gilding has become perfectly dry the letters or ornamentation are drawn and the surplus gold around the edges is taken off. The gilding does not become thoroughly

fixed until after several months, and until then rough handling, washing, etc., should be avoided. The best backing for glass gilding is asphaltum, with a little lampblack, this to be mixed up with elastic varnish; outside finishing varnish is the best, as the addition of this material gives durability.

"Africa."—*What should be done to a watch which is in good order but doesn't want to go?*—Since it would be plainly impossible for a watch not to go if it were in good order, we will take it that the inquirer, in this case, has made an unintentional paradox of his question, and we will assume that the question is, "How shall I locate the cause of stopping in a watch in which nothing is broken and nothing visibly out of place?" In answering we will first say, that it is of the utmost importance to have a systematic plan to follow, and to follow that orderly method every time you examine a watch. That is one of the "secrets" by which some workmen get out so much more work than the average man, because it cuts down to a minimum the chance of having to do anything further to the watch once it is put together; during such an examination every fault is detected; not simply the most glaring faults. Commencing at the escapement, examine carefully everything in succession until you finish with the barrel. Of course, you must understand all the actions of the escapement and see that they are correct; then examine the train. There are a number of small, obscure and evasive faults which can easily escape notice, but which, nevertheless, are sufficient to cause stopping of the watch. Some of them are: Balance hole jewel out of true (throws staff out of upright and causes binding in certain positions); end-stone loose (allows cone of pivot to become wedged in the hole-jewel); balance screw worked loose (in certain positions it will catch on some other part of the watch and stop the balance); a grain of sand or other foreign matter sticking to the oil on a moving part (working in and out of the action it will cause the watch to stop occasionally). The train should be carefully examined; a pivot may be found bent; or a tooth in a wheel even slightly bent will often stop a watch. A loose train-jewel will throw the pinion out of upright and cause "jamming" of the teeth. See that there is no foreign matter in the train. Take the mainspring out and put the arbor in the barrel and the cover on; then see if the barrel runs true on the arbor. See that the mainspring is not so wide as to bind in the barrel. Another point is to be sure that the case-spring does not press the dust-band against the barrel. Should it do so, the marks of rubbing can be seen inside the dust-band. Before taking the movement out of the case, examine the hands; they must, of course, be free from contact with each other or with the dial and glass. The hour-wheel pipe must be freely movable on the cannon pinion and the latter may not touch the watch-plate. The second-hand pipe must not touch the edge of the hole in the dial. Doubtless the above suggestions will help you to discover the fault, but it is sometimes necessary to use considerable ingenuity before the hidden trouble is detected.

"Photographer."—*I have been informed that some time ago you published instructions for photographing on watch dials, etc. Will you not kindly republish for the benefit of myself and other new subscribers?*—The most recent article we published on this subject appears on page 1704, of the October, 1905, KEYSTONE. Other methods are given below. The original method for a hard enamel process, by which photograph pictures were applied to pottery and burned in by heating to a red heat, can be given in brief as follows: A plate of glass is coated with three coats of positive collodion, and then sensitized in a thirty-grain bath of nitrate of silver, after which it is exposed in a copying camera; the negative to be copied being placed so as to focus on the sensitized plate. This plate is developed with pyrogallol (pyrogallol acid) and acetic acid. After the washing is complete, a corner of the collodion film is loosened at the edges and a stream of water applied at one corner, which gradually detaches the film. When detached, the film is again washed and placed in a toning bath, composed of chloride of iridium and gold, and allowed to remain until toned to a uniform tint. The

film is next placed in a bath of dilute ammonia, from which it is floated on to the surface of the porcelain to be decorated, after which the porcelain article is heated to white heat, which burns off the collodion and leaves the picture burned fast to the porcelain surface. To give the picture more vigor, an enamel glaze is applied and the article again fired. Ceramic colors can be applied after the first firing and before the after glaze, to give the effect of ordinary hard enamel painting. We have an idea that this process has but little relevancy to the photo-process on watch dials and caps which is now so popular, but we give it as matter relating to desirable information to be had on the subject. A photo-transfer process has long been in use for placing photo. pictures on watch dials, which is to make a collodion positive picture, and then transfer it direct to the dial. The present form of hard enamel pictures on dials is said, to be produced by a modification of what is called the "powder process," but, as far as we have been able to ascertain, the technique of the method has never been made public. The "powder" or "dusting in" process is, conducted as follows: Prepare a mixture of gum arabic sixty grains, glucose forty-five grains, glycerine ten minims, potassium bichromate thirty grains, distilled water two ounces. Apply gentle heat, to facilitate the mixture. After thorough incorporation, filter and keep in well-corked bottle. It is claimed that such solutions are not affected by light until the film is dried; our advice, however, is to conduct all such operations by non-actinic light, that is, light passing through a red or orange medium. A plate of glass, after warming, is coated (by flowing on) with the above solution, and dried in the dark. This drying is one of the most important factors of the process, and should be effected by warm, dry air. When the gum film is dry, it is exposed under a positive to the action of the light for from three to five minutes if sunlight is used, and ten to twenty minutes if diffuse daylight. The coated glass plate is removed from the printing frame in the dark room, and allowed to absorb moisture from the air. The absorption of moisture will be in exact ratio to the action of the light on the prepared gum film. Thus the parts not affected by the light will be extremely tacky, while the portions affected by the light will have ceased to be tacky in proportion as they have been affected. If a fine powder like pulverized black-lead be dusted on the surface, such powder will be retained in proportion to the adhesive (tacky) nature of the surface. Any dry pigment in fine powder can be used instead of black lead. For porcelain work, like pictures on watch dials, the dust employed is black enamel ground to an impalpable powder. The excess of coloring matter not held by the tacky surface is brushed away with a soft camel's-hair brush. A film of plain collodion is now flowed over the powder picture and allowed to dry, after which the collodion film is detached from the glass and well washed, to remove the gum film. The powdered color is now held by the collodion film, which is transferred to the porcelain surface to be decorated, and heated white-hot to fuse the color fast. An ordinary negative will not answer for this process, as it would make a print like itself; but a reversed negative, or positive negative, (if we may be allowed the expression), must be made and employed. If a vignette effect is desired, it is better done when making the special negative, that is, make a vignette negative.

"Coiner."—(1) *What is the karat of United States gold coins?*—The gold coins of the United States are all made of an alloy of nine parts fine gold and one part fine copper, which makes them 21.6 K. fine.

(2) *What is the exact weight of each of the United States gold coins?*—The \$20 gold piece, or double eagle, weighs 516 grains; the \$10 gold piece, or eagle, weighs 258 grains; the \$5 gold piece, or half-eagle, weighs 129 grains; the \$3 gold piece (authorized February 21, 1853, and discontinued September 26, 1890), weighed 77.4 grains; the \$2.50 gold piece, or quarter-eagle, weighs 64.5 grains, and the \$1 gold piece, (authorized March 3, 1849, and discontinued September 26, 1890), weighed 25.8 grains.

(3) *What percentage of alloy does each contain?*—Answered in reply to first question—one-tenth copper.

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THE BIGGEST PAYING CLAIM

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Anyone can claim to pay the highest prices for old gold and silver. We do more than claim—we publish our prices.

Read this price-list carefully:

We pay for	Old Gold, 8 K.	32c. a dwt.
	Old Gold, 10 K.	40c. "
	Old Gold, 12 K.	48c. "
	Old Gold, 14 K.	56c. "
	Old Gold, 18 K.	72c. "
	Gold-Plated Scraps,	20c. to 35c. an ounce
	Old Silver (fluctuating),	Very highest market price

Just take your scales and weigh what scraps you have on hand at this moment. Examine our price-list again and foot up what these are worth. Would you like to have that money? You can—all you have to do is to wrap up these scraps and send them straight to us.

As soon as we get your shipment we send you our check. If you are not entirely satisfied with the amount, send it back to us and we will send back your consignment, paying charges both ways.

This is the fairest, squarest kind of an offer. We regularly please our customers and we know that we have the confidence of a great many firms—we will have yours if you once start doing business with us.

We have special facilities for the handling and refining of **sweepings** that enable us to give you much quicker and larger returns for your waste than it is possible for you to get elsewhere. This is no idle boast—and we feel sure that you are making a big mistake if you are passing us by.

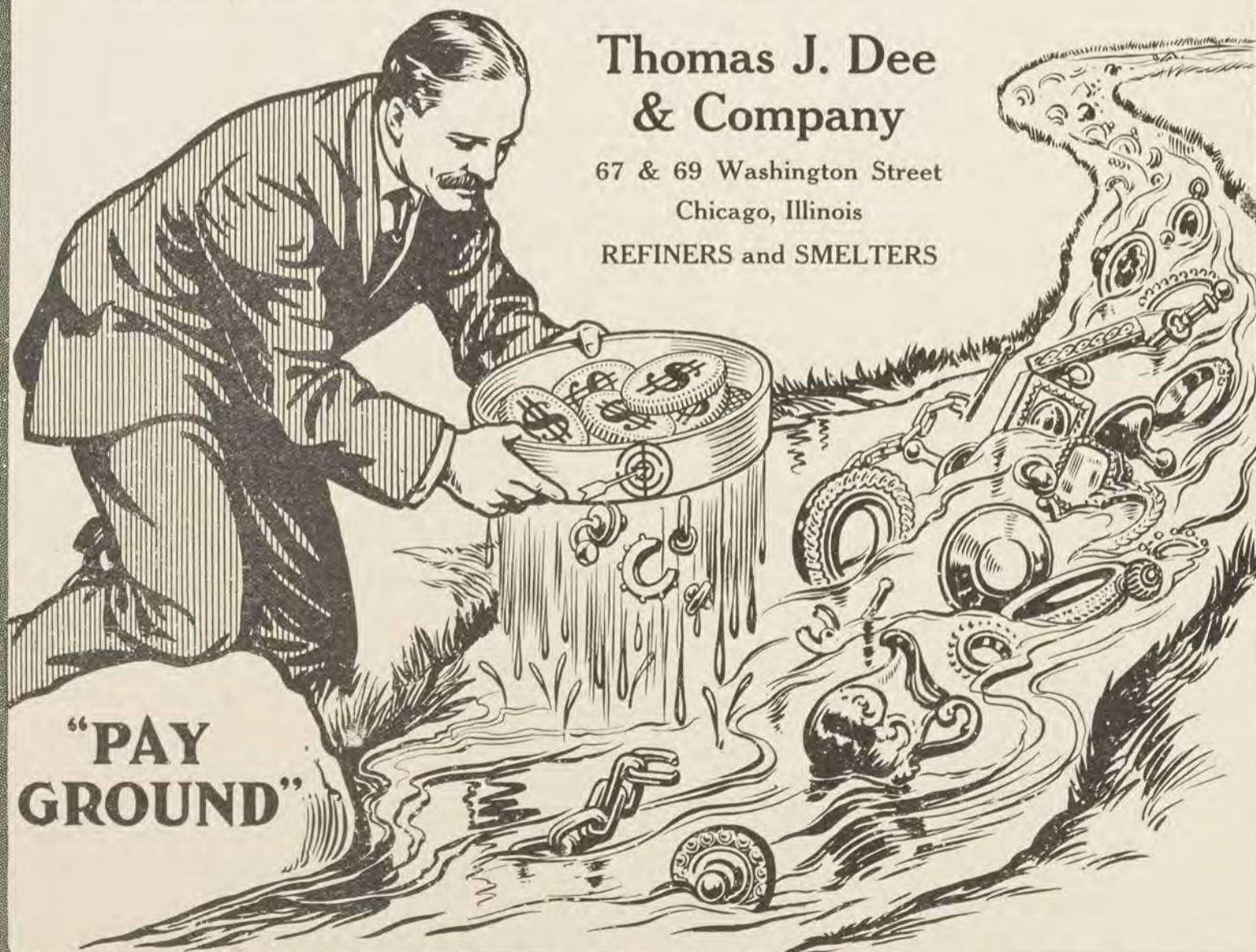
Delay is not dangerous, but you might just as well have that money NOW.

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67 & 69 Washington Street

Chicago, Illinois

REFINERS and SMELTERS



"PAY
GROUND"



Chris. Keyler, of Nashville, Ill., was a recent visiting buyer in St. Louis, Mo.

Messerer Bros., of Kearny, N. J., will remove about May 1st to Newark, N. J., where they will have handsome quarters at 25 Springfield Avenue.

F. T. Pearce Co., of Providence, R. I., has been incorporated with a capital of \$25,000. The incorporators are Frank T. Pearce, Aldridge G. Pearce and D. M. Wall.

S. Messerer, now located at 15 Springfield Avenue, Newark, N. J., has moved his business to 55 Market Street, same city, where he has much more desirable quarters.

The Grand Rapids Show Case Co., Grand Rapids, Mich., has opened an office at 714 Broadway, New York City, which is being conducted under its own management. This office will be a great convenience to the Eastern trade.

Clarence L. Valentine, a salesman formerly with the Taunton Pearl Works, Taunton, Mass., and Otto Becker, who was formerly foreman at the same works, are now in the employ of Freeman-Daughaday Co., manufacturing jewelers, of Charley, Mass.

I. Lachman & Co., Salt Lake City, Utah, announce that on or about April 5th, they will open a wholesale material and jewelry business in the new Arcade Building, in Seattle, Wash., and that they will carry a full line of jewelry, material, tools, jobbing stones and optical goods.

The Detroit Jewelers' Board of Trade, Detroit, Mich., celebrated ladies' night on the evening of March 8th, when a banquet was given at the Tuller Hotel. About thirty were present at the function which was most enjoyable and still further cemented the friendship which exists among the members of the board.

Louis E. Fornes, of Canton, Ohio, has moved from 1632 W. South Street, that city to 404 E. Tuscarawas St., having purchased the stock and fixtures of C. D. Deuble at the latter address. Since his removal he has added considerable new stock, installed an optical department and made many other improvements.

The Milwaukee Jewelers' Club gave its monthly banquet at the Blatz Hotel in that city on the evening of March 13th. The subject for discussion on that evening was "The Humerous Side of the Jeweler's Life," which appealed pleasantly to those present and the discussion proved both entertaining and instructive. There were forty members present, and President Stoessel acted as toastmaster.

Mack A. Hurlbut, Fort Dodge, Iowa, informs us that one of the newspaper advertisements commented on favorably in our last issue and credited to him was a portion of an advertisement originally used by the Plumb Jewelry Store, of Des Moines, Iowa. The advertisement, as it appeared in the Des Moines daily papers, occupied a half page space and was a model of forceful argument and effective advertising. It is to the credit of Mr. Plumb that the announcement was so highly thought of by those of his brother jewelers who are regarded as competent critics.

F. A. Henninger, formerly of the firm of Henninger & Wheeler, Columbia, Mo., and later in the retail business at California, Mo., but who has recently disposed of his interests at that place, was in St. Louis, Mo., last month for several days, and said that he was looking for a location to again enter the retail jewelry business.

J. N. Taylor of Kremetz & Co., Newark, N. J., is on an extensive trip south accompanied by Mrs. Taylor. He will visit Mexico, California and the many places of interest in that delightful section of the continent. The trip is chiefly for pleasure and recreation, with occasionally incidental attention to business in the interests of his firm.

The J. J. Niland Co., of Meriden, Conn., which was recently incorporated, will succeed J. J. Niland & Co., manufacturers of cut glass, in that city. The incorporators are James J. Niland, J. D. Bergen, of the J. D. Bergen Co., and Wm. H. Pooley. Mr. Niland is president and treasurer of the new company and Mr. Pooley is secretary. The capital is given as \$15,000.

Mary A. Cooper, mother of the members of the jewelry firm of R. M. Cooper & Son, 722 Sansom Street, Philadelphia, Pa., died last month at the remarkable age of 104 years. She succumbed to old age and passed away without pain. Her mind was clear to the end, and her fund of interesting and historical reminiscences was the delight of her family and friends.

A meeting of the New England Watchmakers' Club was held in Lowell Hall, Boston, March 28th, at which there was a large gathering of the members. Business during the evening consisted of election of officers and taking in new members. There was also a report on the by-laws by a committee that was appointed to adopt such rules and regulations as they saw necessary.

At the election held in North Attleboro, Mass., on March 18th, the entire Republican ticket was successful. The highest majority was given to W. H. Bell, of W. H. Bell & Co., manufacturing jewelers, of Attleboro Falls, whose name was on the Republican ticket for selectman. The fact that he was given the largest vote reveals the esteem in which Mr. Bell is held and the popular opinion of his integrity and public spirit as a citizen.

Trask & Plain who have had jewelry stores in Galesburg, Aurora and Kewanee, Ill., have sold the Kewanee business to W. C. Fulton, the managing partner of that store for the past eight years. Mr. Fulton has become the owner of all the stock, fixtures, lease and good-will of the firm in Kewanee and will continue the business under his own name. A new floor, a new metal ceiling and other fixtures are to be installed forthwith.

John M. Cutter, who had been prominent for many years in the watch industry, died in Trenton, N. J., on March 15th. Mr. Cutter was formerly connected with the Elgin National Watch Co., but for the past six years was with the Trenton Watch Company, of Trenton, N. J. When the latter company made an assignment recently, Mr. Cutter was appointed one of two receivers. Some two months ago he accidentally fell while descending the slippery steps of the Trenton Club, striking his head violently on the floor of the hallway. He never regained consciousness, although his skull was trephined and every surgical operation resorted to that could in any way restore consciousness. Mr. Cutter was still mourning the loss of his wife, who dropped dead some six months ago. He is survived by a 14-year-old son.

The Swigart Optical & Watch Co., Toledo, Ohio, are now located in their new quarters at 328, 330, 332 Superior Street, where they have more space and better facilities for attending to their drowing business.

H. E. Heacock, of H. E. Heacock & Co., the enterprising jewelry firm, of Manila, Philippine Islands, has been a welcome visitor to the United States last month. He made a pleasant stay in New York City, and also visited the various manufacturing centers where the lines handled by his firm are produced. He will return to the Philippine Islands about the middle of April.

John H. Otis, of Kennebunk, Me., died on March 10th of pneumonia after a very brief illness. Mr. Otis was one of the leading citizens of his town and took an active interest in all improvements to promote its welfare. He was quite successful in the jewelry business, which now occupies two stores and employs five clerks. Business will be continued as heretofore under the old name, and under the management of F. M. Durgin, a son-in-law, who has been for the past six years associated with Mr. Otis.

The Benedict Mfg. Co., East Syracuse, N. Y., have had plans prepared for an addition to their plant. The new building will be 107 feet long, 43 feet wide and three stories in height. The expansion is made necessary by increasing business. At the annual meeting of the company which was held recently a 10 per cent. dividend was declared on the common stock and 7 per cent. on the preferred. The following officers were elected: Harry L. Benedict, president; George N. Crouse, first vice-president; C. C. Graham, second vice-president; Elbert B. Van Wagner, secretary; John Bailey, assistant secretary; R. B. Rosentree, treasurer; Newton Owen, assistant treasurer. The directors elected were: George N. Crouse, Charles Van Wagner and Harry L. Benedict.

Henry Lowe, a promising young jeweler of St. Catherines, Ontario, Canada, died recently at the early age of 29 years. The deceased was educated at the city public schools and Collegiate Institute, later serving an apprenticeship with Jeweler W. Tyrill. At the completion of his apprenticeship, he took a course of a year's duration at Canadian Horological Institute, of Toronto. He then returned to Saint Catherines and established himself in business. Ill health, however, compelled him to retire and although he showed some signs of improvement, a sudden change for the worse developed and he finally succumbed to the fatal malady. The deceased was a son of James F. Lowe, of Albert Street.

The Rivett Lathe Co., Faneuil, Mass., have recently completed a new building which doubles the capacity of their former plant. The new addition is 100 x 75 feet, and is a model of factory construction. It is built of brick and iron, and is provided with all the latest safeguards against fire. The floorings consist of two layers of wood with steel sheets between. A noticeable feature is the iron cross beams to which the hangers for shafting are so attached that there is no noise or jar whatever. Models of their kind are the large concrete fire-proof vaults in which are stored the fine finished lathes and delicate machinery. The equipment of the new building comprises the very latest improvements, and the entire plant is ideal for the purpose intended. It embodies all the advanced ideas of Mr. Rivett, who takes special pride in the mechanical equipment and the army of skilled workmen in the company's employ.

FOR YOUR PROTECTION

All trade-prices from this date, relating to watch cases made by us, will be doubled; therefore, irrespective of in what form or medium they may appear, these "doubled" quotations will be the only ones recognized as being our "official" prices—and this move on our part is for the "protection" of the retail jeweler.

The Keystone Watch Case Co.

Philadelphia

New York
Boston
Chicago
Cincinnati
San Francisco

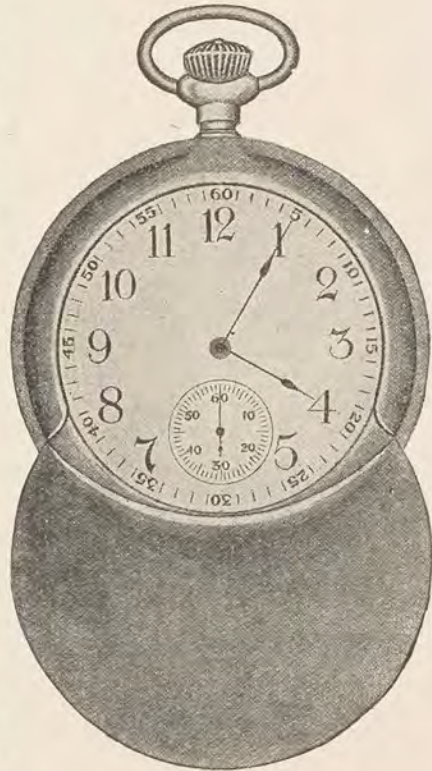
April 1, 1907

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.]

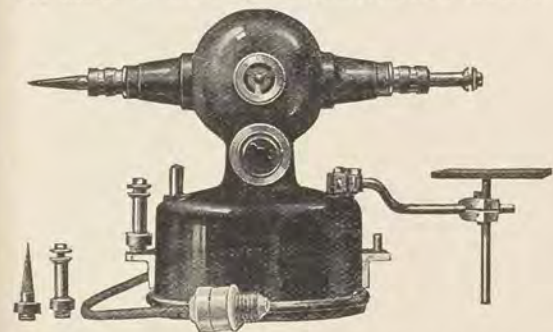
A New Watch Protector

A contrivance which will appeal very favorably to all watch wearers, especially to such as railroad men who work in a dust-laden atmosphere, is a new watch protector made by the Hale Leather Novelty Co., Providence, R. I. The protector, which is known as the "Hale," is made of fine, soft leather and is non-tarnishing. The protectors are in tan shades and can be had in 18, 16 and 12 sizes. They keep the watch bright and clean and preserve the case, protecting it against injury and safeguarding the movement against becoming magnetized. As shown in the illustration, it is not necessary to remove the watch from the protector to tell the time, as the device when open exposes the face in full. The protectors may be converted into an attractive advertisement, inasmuch as they can be procured with the dealer's name and address printed on the front for a reasonable additional consideration.



A New Multi-Speed Lathe Motor

We show in the accompanying illustration a new multi-speed lathe motor for direct and alternating current, which has important advantages over former styles. The capacity of the motor for continuous work is one-sixth horse power and for buffing and grinding much more than this. The motor is made by the Holtzer-Cabot Electric Co., Brookline, Mass.

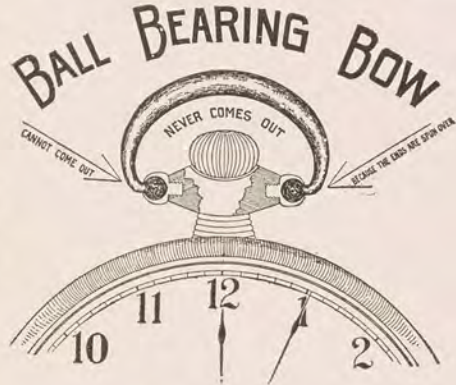


Attention is particularly called to the long, heavy shaft which is supported to the end by the extended bearing. This gives the greatest possible rigidity and at the same time allows for a very long reach, making it possible to polish

the interior of deep vessels. Another point of importance is the range of speed variation from 300 revolutions per minute to about 3600, and the speed may be set at any point between these limits. The minimum speed limit of 300 revolutions per minute will be found very useful for certain classes of work. Another feature worthy of attention is the hand or tool rest which will be noted at the right of the motor in the illustration. This has a universal adjustment and may be used on either side of the machine. The motor is supplied with a cord and plug so that it is necessary simply to insert the plug into a lamp socket and the machine is ready to run. There are also furnished five chucks, two for holding buffing wheels and three for grinding wheels of assorted sizes. There also may be furnished with the machine many other chucks, including pulley chucks of various sizes, so that the motor may be used to drive other machinery.

New Ball-Bearing Watch Bow

We show in the accompanying illustration an improvement in watch-bow construction which will appeal strongly to all watch buyers, and which will furnish the trade with an excellent argument in making sales. As our readers are aware, the customary way in which watches are stolen is by wrenching off the bow which seems to be a singularly easy matter to the pocket-picking expert. Statistics show that an overwhelming percentage of stolen watches are purloined in this way, and thieves have from time to time given exhibitions of the comparative ease with which the bow may be severed from the case. The illustration explains the mechanism of the new thief-proof bow. The little ball terminals of the bow are locked in place and cannot be pulled or twisted off even by the most skilled manipulator, being practically locked in place. The new ball-bearing bow is made by the Wachter Mfg. Co., of Hartford, Conn., and the bows can be had in gold, gold filled or silver, and in 18, 16, 12 and 0 sizes, also in 00 size, jewel size and 9 lines. Each size is made in two numbers, a large and small. The bows are also made in many varieties of fancy designs.



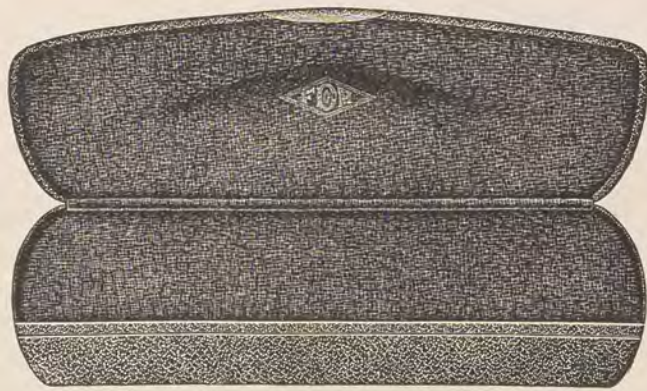
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A Novelty in Picture Postals

Few of the subjects treated on the now ubiquitous picture postal cards, appeal so forcibly to public favor as the new "Garden of Love" cards made by the Rotograph Co., New York City. The pictures on these postals were designed by the famous artist, John Cecil Clay, and comprise twelve subjects beautifully lithographed in nine colors. The cards show the flowers which grow in "Love's Garden," among them being the wisdom plant, the tiger lily, the rose, violet and carnation. Some of the cards bear simply the name of the flower, while others are inscribed with a suitable verse. From the heart of each flower springs the head of a beautiful woman drawn with the exquisite grace characteristic of Mr. Clay's genius. While the picture postal fever is still at its height, these cards furnish an excellent opportunity for the trade to add to their sales and income.

A New Spring Eyeglass Case

The popularity of the spring eyeglass case has resulted in continuous improvement and the production of many new styles. One of these, the peculiar merits of which will appeal alike to the opticians and their customers, is the new Farrington Moroccoine, and is made by the



Farrington Mfg. Co., of Roxbury, Mass. A valuable feature of the new case is its combined richness of appearance and moderation in price. It is covered with moroccoine, which is claimed to be the finest substitute for leather every produced, and which resembles morocco leather to almost absolute identity, having the added merit of being more durable than morocco itself. The case is lined with royal purple velvet and is neatly finished, a new decorative feature being a silver tip which is attached to the cover, and at the same time prevents wearing of the edge and the raveling of the velvet. This case may also be had covered with fine water grain and other popular leathers in black and colors.

(Continued on page 672 e)

OUR HAND-MADE CASES

CONSTRUCTED in the old reliable way, entirely turned by hand, giving proper stability, extra finish, shape according to style of movement.

SELLING QUALITY. Individuality. High-tone execution, standing on its own merits, non-competitive. All cases bearing this mark are strictly hand-made:



MANUFACTURED BY

DUBOIS WATCH CASE CO.

Makers of Fine Solid Gold Watch Cases

Main Office and Factory

New York Office
21 Maiden Lane

316 Herkimer Street, Brooklyn, N. Y.

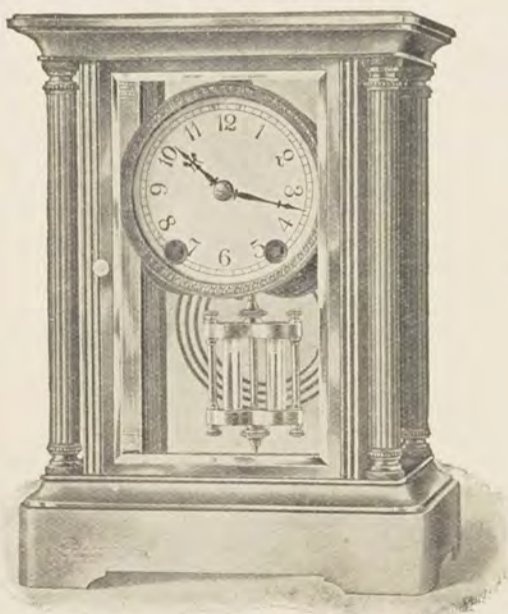
SETH THOMAS CLOCK COMPANY

Established 1813

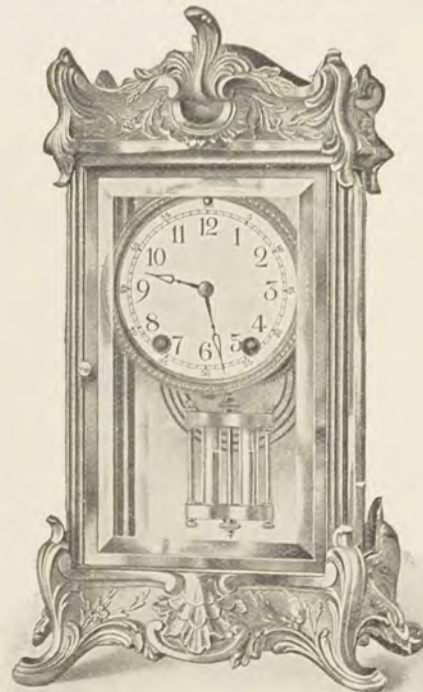
Three of Our New Designs in EMPIRES

EMPIRE No. 11

EMPIRE No. 43

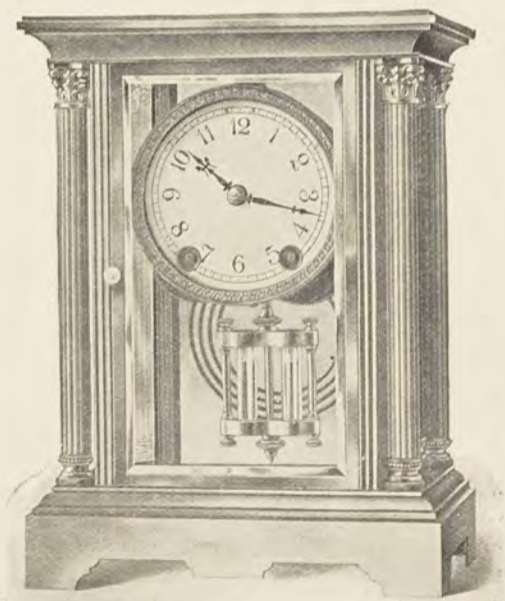


Polished Top and Base, Rich Gold Columns.
15-Day Movement. Height, 9½ inches.
List price, \$40.50



Rich Gold, with fine hand burnishing.
8-Day Movement. Height, 14 inches.
List price, \$31.50

EMPIRE No. 45



Polished Top and Base, Rich Gold Columns.
15-Day Movement. Height, 9½ inches.
List price, \$40.50

Order of your jobber, or from us direct

51 Maiden Lane, New York

Seth Thomas Clock Company

70 Wabash Avenue, Chicago

New Goods and Inventions

(Continued from page 672c)

Novelties in Spring Goods

The approach of springtime and the feverish eagerness of the ladies to possess themselves of the latest styles, has greatly stimulated the demand for the popular card cases and vanity bags, which have already become one of the leading fads of the season. We show in our illustration a sample of the handsome line of these goods made by the James E. Blake Co.,



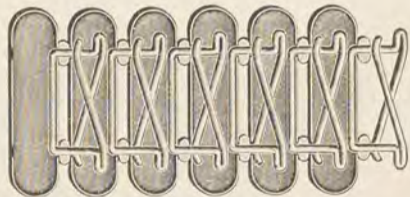
Attleboro, Mass., and which can be had in sterling silver, german silver or gold plate. The patterns are quite varied and are both novel and artistic, with the requisite showiness to make them appeal to feminine fancy. The same company has placed on the market a comprehensive line of ring mesh bags and purses, and also an attractive line of sterling silver toilet ware and novelties. All the manufacturers have taken time by the forelock in the production of large supplies of these novelties in anticipation of the unusually active spring demand which now seems to be assured.

Bracelet Novelties

The bracelet fever, which almost overwhelmed the trade during the late holiday season, shows no signs of abating, and the dainty decorated armlets will be even more in evidence during the coming spring and summer. The scarcity in these goods, so noticeable just before Christmas, proved an

object lesson to the manufacturers, who are now producing such a liberal output as will prevent a repetition of this situation. One of the most popular of the several lines now on the market is known as the "Greene" adjustable and is made in a great variety of handsome patterns by A. A.

Greene & Co., Providence, R. I. The accompanying illustration explains the adjustable feature, which is responsible for the comfort and gracefulness of this bracelet when in position. The "Greene" bracelet is made in all styles of signet and locket tops and has the quality and durability which redound to the reputation as well as the profit of the trade.



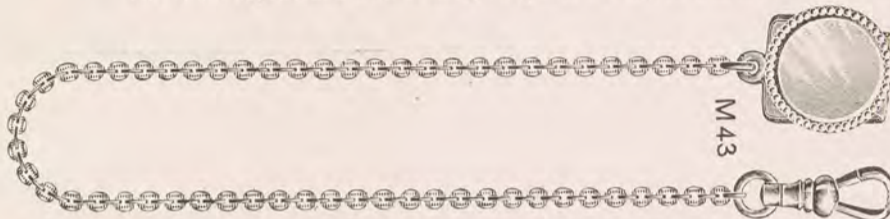
New Washable Tags

A great convenience to the jeweler is a new ring tag made of celluloid. This tag is named the "Ideal," and is manufactured by Bastian Bros. Co., Rochester, N. Y. The use of these tags results in a saving both of time and money as well as giving a more attractive appearance to the ring stock. One

advantage which will commend itself to the trade is that the jeweler does not have to remove the tags when he washes or polishes the rings, inasmuch as the ink which goes with each outfit is waterproof and won't wash off. This eliminates the danger of getting tags mixed, something which frequently occurs when the tags must be removed in order to clean the rings. The "Ideal" tag has a large flat writing surface the figures on which may be made boldly visible. The tagging outfit consists of tags and eyelets, pliers, waterproof ink and a neat hardwood box. The economy and serviceability of this new device must needs commend it to the trade.

A New Coat Chain

A novelty which seems to fill a want of the genuine long-felt variety is the new coat chain known as the "Dual," and shown in our illustration. The chain is provided with a safety snap and the signet which is held in the



button hole of the coat can be engraved with a monogram or other design. The chain is made by Bates & Bacon, Attleboro, Mass., and has all the qualifications of a quick seller, as it safeguards the watch and is pretty and decorative. The public, who are always eager for novelty, will be readily interested in the new chain which bids fair to become quite a vogue during the summer months.

Shah's Jewel Collection

A despatch from Teheran says that an inventory of the late Shah's jewels shows that he collected precious stones to the value of \$50,000,000.

His horde contains an unrivaled collection of diamonds. A belt, studded with diamonds, which the Shah was accustomed to wear on State occasions, weighed eighteen pounds and is valued at several million dollars. A wonderful silver vase, decorated with 100 emeralds, one so large that all the Shah's numerous titles are engraved on it; a sword with a diamond-covered scabbard, valued at \$1,250,000; a square block of amber, containing 400 cubic inches, said to have been dropped from the skies in the time of Mohammed, are among the treasures the valuers found.

Oldest Metallic Objects

In discussing the question of the metals used by the great nations of antiquity, Dr. Moorehead, of Washington, recently stated that gold was probably the first metal known to man, because it is generally found native.

The oldest metallic objects to which we can assign a probable date were found in a royal tomb at Nagada, in Egypt, supposed to be that of King Menes. In one of the chambers were some bits of gold and a bead, a button and a fine wire of nearly pure copper. If the tomb was properly identified, these objects were at least 6300 years old at the time of their discovery.

Nearly all the ancient gold that has been examined, contains enough silver to give it a light color. It was gathered by the ancients in the bed of the Pactolus and other streams of Asia Minor.

Mines; How Deep They Can Be

Among miners the general opinion is that it is possible to go to great depths below the surface of the earth; the development of a shaft as deep as 9000 feet is not considered impossible, and the only difficulty is thought to be the perfection of machinery to bring up the mined product. But if we look at this question carefully we come to the conclusion that it is absolutely impossible to work at a depth of 9000 feet, not because of the difficulty in disposing of the mined product, but for two other reasons. First, breathing would be impossible because of the air pressure, and, second, the great heat could not be tolerated. There are now several mines of much less depth than 9000 feet in which the workmen can remain only ten minutes at a time, and then they must be relieved by other shifts. Indeed, it is quite possible to calculate beforehand the effect which would be produced by a mine 9000 feet in depth.

Trade Notice

For the "protection" of the trade, we will double all published prices of our movements and complete watches commencing from April 1, 1907, and all future quotations to be authentic and "official" must be as above, for we will recognize no others. This is to prevent information concerning net prices falling into the hands of those not entitled to receive same.

New York Standard Watch Co.

Jersey City, N. J.

Uncle Sam's Money Mills

It has been said that one of the subjects in which the people are most interested and on which they are least informed is the money question. An instructive contribution to the literature on this subject is the following article from the *Youth's Companion*, by F. A. Vanderlip, formerly assistant secretary of the treasury:

Every working-day of the year there is printed at Washington an average of more than three million dollars of new paper money. Every day there is destroyed practically the same amount. The presses in the mints at Philadelphia, New Orleans and San Francisco daily stamp into form about eight hundred thousand dollars of shining coin. We have then a total of almost four million dollars new money created every day at the money workshops of the government.

But good money cannot be had even by great governments merely for the making. The sources of this great stream of fresh bills and bright coins are carefully guarded. They are governed by fixed financial principles that are above legislation and by laws which Congress has tried to frame as nearly as possible in conformity with those higher financial laws which must ultimately govern the currency of all nations.

An active printer with the aid of a young girl assistant, and working on a simple hand press of a type that has hardly varied since the government began to print money, or, indeed, since one or two centuries before, can turn out eight hundred sheets of finished bills in a day, each sheet containing four bills. There are six hundred and fifty printers at work in the government bureau of printing and engraving, some upon bonds, stamps or other forms of government securities, but most of them printing money.

The Bureau of Printing

Among all the interesting sights at Washington there is, perhaps, none more interesting than the intensely active bureau of engraving and printing. There are twenty-nine hundred and eighty-eight employees there, whose experience in handling and counting the sheets of banknote paper and turning out the finished bills has given them a dexterity that is fascinating to see.

At first glance one piece of paper money looks very much like another. Each is an example of the finest steel engraving, more skilfully made and more difficult to counterfeit than the notes of any other government.

There are five kinds of paper money printed. The sort that people are most familiar with is the silver certificate, for almost all the one, two and five-dollar bills are in that form. They are printed chiefly as a matter of convenience to the public, for the public prefers paper money to the silver coin. The amount of paper currency outstanding is between eighteen and nineteen hundred million dollars, and of that amount there are about four hundred and seventy million dollars in silver certificates and four hundred and seventy-seven million dollars in gold certificates.

"Warehouse Receipts"

The silver certificates are in small denominations for use in every-day business, while the gold certificates serve to put in compact form a large value, some of them being for ten thousand dollars each. The silver and gold certificates have been aptly described as "warehouse receipts." The treasury of the government is a great warehouse, in which are stored more than nine hundred million dollars of silver

dollars and gold coin, all of which is held subject to a demand that it be exchanged for a like amount of outstanding certificates. The coins are held in storage, as wheat is held in the great warehouses. Just as the certificates which are held against wheat so stored pass from hand to hand, so these silver certificates and gold certificates, representing actual coined money held in the government vaults, make a convenient form for the daily use of the public, who regard the actual coin as burdensome and unwieldy. More than half the paper money in use is in the form of these warehouse receipts.

Although the government prints gold and silver certificates so freely, there are only two ways by which they may be issued and become a part of the money stock of the country. If any person deposits with the government gold or silver coin, or gold bullion, the government may issue silver certificates for the silver coin and gold certificates for the gold coin or bullion; or if anyone returns worn certificates, like certificates may be issued to replace them, the old ones in turn being destroyed.

How Long the Bills Last

A dollar bill has an average life of about fifteen months. Two-dollar bills, not being so actively used, last on an average more than sixteen months. A five-dollar bill lives on an average two years before it is worn out and the government is called upon to replace it. Ten-dollar bills last about three years and twenty-dollar bills more than four years.

The amount of money that goes to the government for redemption, either for the purpose of securing fresh, clean bills or for conversion into some other form of money, reaches a total almost too great to comprehend. In 1904 the government received nine hundred and twelve million dollars of paper money to be exchanged for new bills or bills of some other form or denomination.

Next to the gold and silver certificates in point of volume are the national bank notes. They constitute between one-fourth and one-third of the total amount of the paper money outstanding, and although they are printed under the government's supervision, their volume depends, subject to the provisions of the national banking law, upon the judgment of the officers of the national banks of the country.

There are fifty-eight hundred and thirty-three national banks in existence, and their capital forms an aggregate of eight hundred and eight million three hundred and twenty-eight thousand six hundred and fifty-eight dollars. The law provides that any national bank may issue its notes in the form of money to an amount equal to its capital. There could be, therefore, under the provisions of the law, a great many more than the present five hundred and thirty-three million dollars of national bank notes if the officers of national banks found it sufficiently profitable to issue their notes in this form.

In order that this kind of money shall be perfectly secure, it has been provided that each national bank wishing to issue these notes must deposit with the treasury an amount of United States government bonds equal to the notes which the bank proposes to issue.

There remain two other forms of paper money—United States notes and treasury notes. There are in round numbers three hundred and forty-six million dollars of United States notes, and the total always remains the same. These notes are the "greenbacks" of the Civil War—a reminder of the days when the government was unable to get real money, and printed its promises to pay, declaring they should be legal tender.

Replacing Old Bills

Whenever the bills are worn, new ones must be issued in their place. Therefore, whenever a new United States note is printed, it means only that some other note of the same kind has been worn out and has been sent into the treasury to be exchanged for a new note. The treasury has no power to issue a single dollar of additional United States notes. It can only exchange new notes for old ones.

There remains one more kind of money—and that a comparatively insignificant amount—the treasury notes of 1890. There are less than nine million of them now, although at one time there were one hundred and fifty-five million dollars. They were issued by the government to pay for silver bullion bought during the time when the law was in force which provided that the government should purchase four and one-half million ounces of bullion each month. Silver certificates have taken the place of the treasury notes retired as rapidly as the bullion was coined.

No additions to the outstanding United States notes or treasury notes may be made. No new gold certificates or silver certificates can be printed except in exchange for gold and silver coin placed in the government vault. The only really new money that can be printed, therefore, is national bank notes.

The supply of national bank notes is subject to the provision that the bank asking for them must deposit government bonds equal to the amount of notes received. There is, therefore, nothing like creation of money value in all the printing that the bureau does. In the main, it is simply putting in convenient form value that the government holds in its vaults.

Active as are the presses in the bureau of engraving and printing, they furnish only part of the stream of fresh money. There are coinage mints at Philadelphia, New Orleans and San Francisco. In 1904 the presses of the three mints stamped out more than one hundred and thirty-five million eight hundred thousand pieces of money, in value amounting to two hundred and fifty million seven hundred and eighty-one thousand dollars.

In our present coinage there are four denominations of gold coins struck and a like number of silver coins. In the minor coinage there are two pieces only, the "penny" and the five-cent piece. The half-dimes and the twenty-cent pieces are no longer coined, nor are the gold dollars and the three-dollar pieces, all of which in former years were struck off in small amounts. In value about three-fourths of the coinage is gold.

We have in the United States what is known as free and unlimited coinage of gold. Standard gold bullion may be deposited at the mint by any person, in any amount, and it will be coined for the benefit of the depositor without charge for the coinage.

If "standard bullion" is taken to the mint, that is to say, if it is in just the proportion of pure gold and copper alloy that is used in making our gold coins, the person taking the gold to the mint will receive back exactly as many ounces and grains in the form of stamped coins as he took to the mint, and there will be no charge made by the government for turning the bullion into coins. Standard gold is nine hundred parts pure gold and one hundred parts copper alloy. If the gold which is taken to the mint must be refined and base metals eliminated, there is a charge for that operation which varies with the actual expenses.

STAND BY THOSE WHO STAND BY YOU	<h1>ROCKFORD SILVER PLATE CO.</h1>	STAND BY THOSE WHO STAND BY YOU
	<p>We MAKE Silverware for Jewelers Only We SELL Silverware to Jewelers Only We Plate a Jewelers' QUALITY Only We PROTECT Our ONLY Customer—THE JEWELER We KNOW The Jeweler Stands By Us and Thereby Protects Himself Who is "We"?—The RETAIL JEWELRY TRADE and The R. S. P. CO.—and Nobody Else</p>	
STAND BY THOSE WHO STAND BY YOU	<h2>ROCKFORD—"Rockford Quality"—ILLINOIS</h2>	STAND BY THOSE WHO STAND BY YOU

KELLY & STEINMAN, INC.



No. 37. VASE, "ROMAN"
9 inches high, 8 inches across top

Cut
Glass
of
Quality

If you want quality at a reasonable price, let us send you a sample order

KELLY & STEINMAN, INC., Manufacturers
HONESDALE, PA.

BRACELETS

ARE STILL THE BEST SELLERS OF THE SEASON



Those here shown are but a few of our complete line in both Gold and Filled. There is not a poor seller in our stock. Our line of

**Gold and Diamond
Rings and Jewelry,
Gold and Filled
Chains,
Festoons, etc.**

is more complete than ever before. A card to us will bring our representative to you when in your vicinity.

*Selection packages sent
on request*

JULES ASCHEIM

37 Maiden Lane

NEW YORK

Helps and Hints on Practical Merchandising

By A WELL-KNOWN JEWELRY-STORE MANAGER

To broaden the usefulness of this department, we invite our subscribers to ask questions or advice on any subject within the province of the above title.

The High-School Graduate

High-school graduation marks a most important season with jewelers, and few take full advantage of all the opportunities it offers to make business. In outlining a plan of getting after this business, it should cover several months preceding the actual date of graduation and should commence in January or February, with a note to the class president as follows:

DEAR SIR:—We are inclosing herewith samples of engraved graduating invitations and should like to give you a definite figure on the cost of the different styles if you will let us know how many you will want. Of course, the greater the quantity the less the price per hundred will be, and the inclosed list gives only an approximate cost on quantities up to five hundred.

If you have in mind any special ideas, such as embossing your class-pin design on the invitation or getting up something in the form of a booklet, so that the names of the graduates and the programme could be printed therein, we should be pleased to figure on these. We feel sure that you will want your invitations engraved, and we can furnish you the very highest grade of work at prices considerably below those usually charged.

We should also like to submit designs and give you prices on class pins. We are showing hundreds of styles which we can furnish enameled in two colors, in plate, for 25 cents each, in sterling silver for 50 cents each and in solid gold for from \$1.25 upward.

Trusting that we will hear from you regarding both the invitations and the class pins, we remain,
Yours very truly,

In the mean time new designs of class pins should be collected, price-lists prepared and a few special designs gotten up, using the class colors and the letters of the school.

It might be well to say here that to furnish the

SPECIALS FOR THE GRADUATES

Here are a few suggestions of especially nice gifts for the graduates, selected from our immense stock of suitable things. Don't worry about what to buy, but call and see our line and a selection will be easy.

BRACELETS

A new line just received in Solid Gold and Gold Filled. All the latest styles. \$3.00 to \$18.00.

SCARF PINS

Every young man likes a pretty pin. Our stock contains the most exclusive styles in Solid Gold. \$1.00 to \$5.00.

BACK COMBS

The sort that are different. Better grades in Gold Plate and Solid Gold. \$1.00 to \$1.00.

STERLING SILVER HIGH SCHOOL SPOONS

Many different style handles. High School Building and other appropriate designs stamped and engraved in bowls. 75c. to \$2.50.



BLANK AND CO.

JEWELERS

919 CENTRAL AVENUE

Fig. 2

class pins and invitations is a splendid advertisement, and they should be supplied at very little if any profit.

Compile a Mailing List

Next secure a list of all graduates and their parents' names and addresses, and mail to the parents some advertising matter relative to watches and diamonds, with a letter as follows, changing to suit in the case of a son or daughter:

DEAR SIR:—We understand that your son graduates from high school this year and you no doubt wish to make him a handsome present as a mark of your appreciation of his efforts and to commemorate the first "great day" of his life. There is nothing that takes the place of a watch or a diamond ring for this purpose. The inclosed booklet gives only a few selections of each from our stock, which is most complete and up to date and our prices reasonable. We should be pleased to show you our line and quote prices.

Yours very truly,

About ten days before graduation send the following letter to parents of boys:

DEAR SIR:—Some time ago we sent you a circular and wrote you a letter calling attention to the appropriateness of a watch as a graduating gift for your son. The date of his graduation is drawing near and we are writing again to tell you of some recent additions to our stock that might interest you. One special which we are offering is a 25-year gold filled case with a 17-jeweled and adjusted movement for \$50.00. This is a watch good for a lifetime and one of which your boy will always feel proud. This, however, is only one of dozens of different grades we will be pleased to show you when you call.

Yours very truly,

This letter to parents of girls:

DEAR SIR:—Some time ago we sent you a circular and wrote you a letter calling attention to the appropriateness of a watch or a diamond as a graduating gift for your daughter. The date of her graduation is drawing near and we are writing again to tell you of some recent additions to our stock, which might interest you. One special which we are offering is a solid gold ladies' watch, fitted with a 15-jeweled Elgin movement, for \$50.00. In diamond rings, too, we have just mounted a new line, from \$25 to \$100, including all sizes in between. It would be impossible to go into detail and tell of all the attractive watches and diamonds in our stock and we should be pleased to show you our complete line when you call.

Yours very truly,

From the stationery department a form letter as follows, with inclosures of samples. Cards should be sent to all the graduates several weeks before graduation:

DEAR SIR:—We understand that you graduate from high school this year and you no doubt will want some engraved cards to inclose in your invitations.

To give you a better idea of the quality of our work, we are inclosing several samples of the newest style cards with prices. You will find that our

(Continued on page 675)

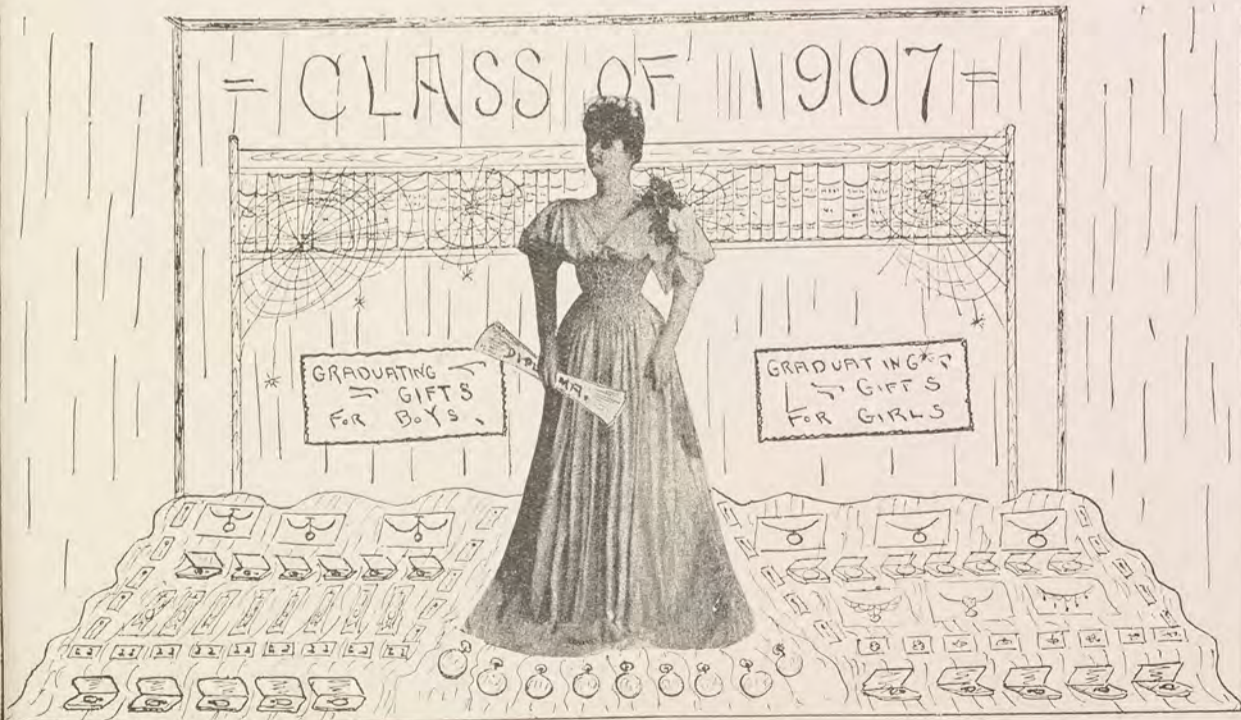


Fig. 1

Original design for graduation window

THE W. H. SAART CO.



Our goods are made from STEEL
DIES—NOT BRONZE.

That is why our goods prove so satis-
factory. We do not tell you our prices
are the lowest on earth, but we do tell
you our Goods are RIGHT.

You know what that means.

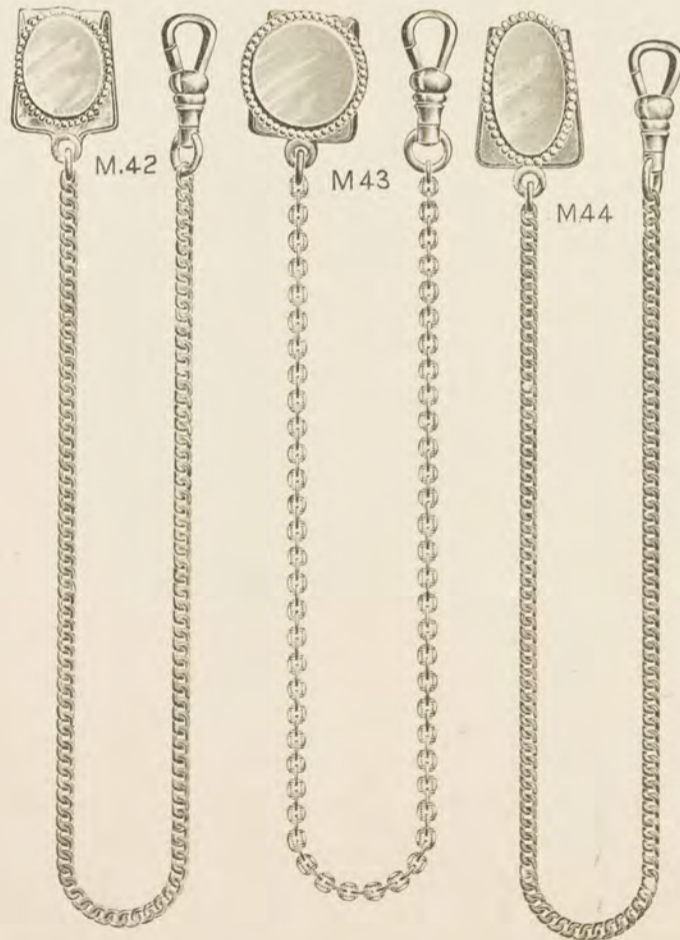
Largest Line of
**HAT PINS, BAGS and
PURSES**
on the Market

FACTORY

ATTLEBORO, MASS.

OFFICES { NEW YORK—49 Maiden Lane
"FRISCO,"—704 Market St., Rooms 613-614
CHICAGO—42 Madison Street, Room 704
MONTREAL—204 St. James Street

Any New House wishing a Catalogue or to see our
Salesman, should drop us a line at once.



NEW YORK—9 Maiden Lane
CHICAGO—103 State Street

SOMETHING NEW!

Every Retail Jeweler should have some "DUAL" Chains in stock
before the summer opens up

ASK YOUR JOBBER FOR THEM



Patent
Safety
Snap

Signet
Can be
Engraved

DIFFERENT FROM ALL OTHERS

See our line of High-Grade **Chains and Bracelets**

BATES & BACON, ATTLEBORO, MASS.

Helps and Hints on Practical Merchandising

(Continued from page 673)

work is of the very highest class and our prices much lower than those usually charged.

We trust that you will favor us with this order and assure you our prompt and careful attention to same. Yours very truly,

A plan like the above closely followed directs everyone's attention to your store and in most cases will bring splendid direct returns.

A Graduation Window
One of the most important trade getters at graduation time is a well-dressed window. Get up something original and symbolic of the occasion. There is nothing that will so please the graduates as a special window in their honor, and they will quickly advertise it and show their appreciation of your efforts by bringing their friends around to see "their window."

Fig. 1 offers an original idea for such a window and it should be trimmed entirely in the colors of the class, or the school and class colors may be combined if they harmonize well.

The background represents a book shelf filled with school books and covered with spider webs, which may be obtained from fancy goods stores complete with the spiders. In the center of the window is a wax figure of a girl in graduating gown and holding a diploma in her hand. The base of the window is covered with articles suitable for graduating gifts and with signs reading "Graduating Gifts for Boys" and "Graduating Gifts for Girls." The entire window should be strung with streamers of ribbon, school flags, etc., and at the back—above the book shelf—a large banner or sign reading

CLASS OF 1907

A very clever way of marking prices is to obtain from some of your acquaintances in the class a list of the slang phrases so much used by school boys and girls and use them on the tags. For example:

"Gee! but this is a great watch for \$10.00."

"Great Scott! these pins are only 50 cents."

"Skidoo! we will for \$1.00 each," etc.

Figs. 2 and 3 are good advertisements for graduation time, but be sure that each article on the list is actually in your stock, for calls may come in for the thing you least expect.

One of the most important things to think of in connection with this campaign of advertising to the graduates, is that your efforts are spent with a class of young people who, if their confidence and trade is

obtained at this time, will probably be lasting customers. Graduation may be said to begin their life of usefulness to themselves and to you, and the value of their friendship and good-will cannot be overestimated.

Price-Books

A price-book in connection with a watch department and a sterling silver department, will be indispensable after its introduction. With the great number of different makes and grades of movements and cases and the frequent necessity of changing movement or case, it is most important to know the prices of all different combinations without having to refer to the wholesale list to figure profit, etc.

A price-book for watches can be gotten up after the plan of the lists sent out by jobbers, listing such makes and grades as are in your stock and for which there is likely to be a demand and quoting your retail price. Fig. 4 shows a page from such a book.

It is much quicker and easier to figure the price of any different combination of cases and movement from the prepared price-book than

WATCHES

(MAKE)		
18 Size		
7 Jewels	.....	0.00
15 "	.....	0.00
17 "	.....	0.00
15 " Adj.	.....	0.00
21 " R. R.	.....	00.00
SPECIAL NAMED		
18 Size		
17 Jewels, Adj.	.....	00.00
(MAKE)		
18 Size		
21 Jewels, No. 940	.....	00.00
(MAKE)		
18 Size		
21 Jewels	.....	00.00
(MAKE)		
16 Size		
7 Jewels	.....	0.00
15 "	.....	0.00
17 "	.....	00.00
17 " Adj.	.....	00.00

Fig. 4

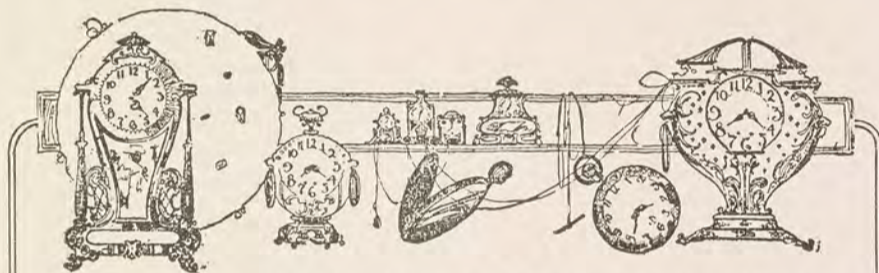
from the wholesale list, and it gives your customers a feeling of confidence to see the prices printed in this way. It is a most important thing to be able to quote prices promptly, which is possible from

such a list, and it will also save a world of time wasted in looking through catalogues and price-lists and figuring profits. There is a flexible-back, loose-leaf price-book sold by most supply houses which is just the thing to contain these lists.

Promoting Home Patronage

The merchants of Shenandoah, Iowa, recently offered a handsome prize to the person writing the best short essay on the subject: "How to Promote Home Patronage." The following extract from the prize-winning essay contains some very sound advice to merchants:

"Be honest, earnest and accommodating. The most powerful factor in business is the personal element, and right there is where the home merchant has the advantage of the mail-order man. The farmer knows his home merchant, knows him to be honest, obliging and straightforward. If he can get anywhere near as good prices at home he will not send away. Let the farmer know that you have his interest at heart and would not knowingly sell him anything of poor quality. Educate him to the use of the best qualities and show him the differences in the grades. Make it an open deal all the way through, straight and above board. The farmer does not object to a fair profit, but the mail-order men have constantly impressed on his mind that the home merchant is a robber, till sometimes the farmer almost believes it."



GIFTS FOR THE GRADUATES

Don't worry about what to buy for the Boy or Girl Graduate. Our store is full of appropriate articles at a range in price to suit all, and a selection from our stock is an easy matter. Here are a few suggestions :

FOR BOYS

- WATCHES \$8.00 upward
- SIGNET RINGS \$4.00 to \$10.00
- CUFF BUTTONS 50c. to \$10.00
- SCARF PINS 25c. to \$25.00
- WATCH FOBS \$1.00 to \$10.00
- MILITARY BRUSHES \$1.50 upward
- CLOTH BRUSHES \$1.50 upward
- HAT BRUSHES 75c. upward
- TRAVELING CASES \$2.00 to \$15.00
- CARD CASES 50c. to \$2.00
- POCKET NAIL FILES, HAT MARKS, COAT HANGERS, KNIVES AND OTHER NOVELTIES IN SILVER, 25c. to \$2.50

FOR GIRLS

- WATCHES \$5.00 upward
- DIAMOND RINGS \$5.00 upward
- BROOCHES \$1.00 upward
- CUFF PINS, per pair 50c. to \$5.00
- WAIST SETS 50c. to \$10.00
- BRACELETS \$3.00 to \$18.00
- HAT PINS 50c. to \$8.50
- FESTOON NECKLACES, \$3.00 to \$35.00
- TOILET SETS \$3.00 to \$35.00
- HIGH SCHOOL SPOONS, 75c. to \$2.00
- NAIL FILES, BODKIN SETS, EMERY'S, DESK ARTICLES AND MANY OTHER NOVELTIES IN SILVER 25c. to \$2.50

OUR PACKAGES

ALL GRADUATING GIFTS WILL BE NEATLY BOXED AND TIED WITH RIBBON OF THE CLASS COLOR. WE DO EVERYTHING TO MAKE OUR GOODS PLEASE. THEY DO.

BLANK & Co.

JEWELERS

919 CENTRAL AVENUE

Notice Our Show Window Filled With Suitable Gifts for the Graduates



Fig. 3

1871

THE TEST OF TIME

1907

L. S. & Co.

THIRTY-SIX YEARS OF SUCCESSFUL
CHAIN MANUFACTURE

L. S. & Co.



L. S. & Co.

L. S. & Co.



L. S. & Co.

TIME AND THE TRADE
ARE OUR BEST ADVERTISERS

L. S. & Co.

LOUIS STERN & CO., PROVIDENCE

LETTERS
from the
TRADE

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

A Timely Warning

ED. KEYSTONE:—I enclose \$1 for the renewal of my subscription to your journal, for which I first subscribed one year ago. Had I received my first copy at that time, one day sooner, it would have saved me the expense of several years' subscriptions. As it was, I credit it with having saved me and my customers from being swindled by a bogus jewelry company. I refer to an article in the March, 1906, number, in which you exposed a bogus concern practicing impositions on the trade. The day before I received my first KEYSTONE, the agent of this concern dropped in and insisted upon my giving him an order, saying they were a new company just starting in business and offering wonderful bargains to the trade. I finally gave him one-third of an order, and when the goods were delivered I found they comprised a quantity of worthless trash. I shipped it all back, express prepaid, and hope to be better posted on crooks in future, so enclose \$1 to renew my subscription. Truly yours,
Fossil, Oregon. FRANK BRINDLE.

Insuring Goods Not Paid For

ED. KEYSTONE:—I think it would be advisable for you to publish an article urging manufacturing companies which make registers, music boxes and other goods, sometimes sold on the instalment plan, to have their goods insured until fully paid for by the purchaser. I know that many such manufacturing companies do insure their goods, but some do not. I nearly lost a \$435 cash register in a fire which happened near my store, and found that there was no insurance on it. I bought it on the instalment plan, and if it had been totally destroyed, I, no doubt, would have been liable for the amount of the loss. I nearly lost a music box also, which was insured only for part of its value. My brother lost nearly all his law books, for which he was paying by the month and had no insurance on them. It seems to me that all such companies should insure their goods until they are paid for and charge same to the purchaser.

Yours truly, "S. J. V."

[It is somewhat surprising that any manufacturer could be so forgetful of his own interest as to neglect this precaution of having his property insured until paid for. Some manufacturers make it a provision of the agreement that their property, when sold on the instalment plan, should be in-

sured by the purchaser, who would then neglect this precaution at his own risk. We do not know that there are many such delinquents as our subscriber refers to, but the matter is one of sufficient importance to be brought to the attention of the trade.—Ed.]

Window for Firemen's Convention

ED. KEYSTONE:—As a firemen's convention will be held in our city in the near future, I would appreciate it very much if you could give me some ideas for a suitable window trim for that occasion. My store is centrally located, and the paraders and visiting crowds will pass my store door. On this account, I would like to have such a display as would appeal to them, in order to get all the advertising I can out of this event.

Yours truly, "B. F."

[It should not be difficult to devise an attractive window for an occasion of this kind. Fire apparatus, even of the toy variety, so much in evidence around Christmas time, has a fascination for most people. The children's playroom may even furnish sufficient in the way of toy fire apparatus to



Window display for firemen's convention

give aptness to the trim. One of the best window trims for an occasion of this kind that has ever come under our notice, was used some years ago by a New York State jeweler. We reproduce above the lower portion of this trim. A plot of artificial grass was surrounded by a miniature fence, and the center was occupied by a small house from which flames of red tissue paper issued to an alarming extent. Brownie firemen were shown at work with lines of hose playing on the flames. The goods were also being carried from the structure and some narrow escapes were occurring. To complete the reality, a fire alarm was sounded occasionally and a steam fire engine was at work. As darkness came on in the afternoon, an electric bulb in the house lent a realistic glare to the flames. The drapes were all in red to harmonize with the fire idea, and it is needless to add that the trim was one of the most admired in the town on that occasion. On either side of the picture here shown are pillars, which formed the support of an arch across the window on which were the words, "All Honor to the Firemen." A fireman's hat crowned the arch, axes were carelessly strewn around, and in the center of the background was a large framed picture of the firechief. A ladder carelessly resting against the side of the window was also an apt detail.

Not many jewelers, we suppose, would be disposed to execute such an elaborate trim, yet something similar could be devised at little expense and without material waste of time. The results, we think, would well justify both the cost and labor. Of course, the jeweler must not lose sight of the chief purpose of the window trim, which is to advertise his store and sell goods. Whatever the design of the window, sufficient of the goods should always be cunningly shown to connect the mind of the observer with the stock within. If the miniature house represented in our illustration were a jewelry store, and the Brownie firemen were rescu-

ing some of the stock, a connecting link between the trim and the merchant's wares would thus be brought about. Many other ways will occur to the jeweler who may evolve a trim of this character.—Ed.]

The Oldest Watchmaker

ED. KEYSTONE:—I noticed in a recent issue of your journal an article entitled "The Oldest Watchmaker," and think that I can probably make you acquainted with one who holds the record in this line. This veteran craftsman is my father, who is still hale and hearty, though he has reached the ripe old age of ninety-three years. Although an accomplished watchmaker, he is by profession a doctor and one of the old practitioners of many years ago. He is a graduate of the old and honorable Syracuse Medical College of seventy years ago, and is a man of considerable literary and scientific attainments. He is the author of several books on the subject "Ancient Man in America," and has made deep researches in this line. He now works at the watchmakers' trade only as an amusement and pastime, and to-day, in his ninety-

third year, he can sit down and repair an old English chain verge, the thought of which would make any young watchmaker perspire.

Yours truly, F. LARKIN, JR.
Randolph, N. Y.

[We think that the case of Mr. Larkin, Sr., establishes the record as far as the oldest watchmaker is concerned. We have had several communications giving us information as to possibly the oldest watchmaker, but none of these have reached the age of Mr. Larkin. One worth mentioning is M. M. Bovard, of the jewelry firm of M. M. Bovard & Son, of Manayunk, Philadelphia, who celebrated his eightieth birthday on March 12th. Like Mr. Larkin, he still enjoys excellent health and works at the bench, doing the very finest work. Considering that the watchmaker's vocation is one of confinement and sedentary habit, it is remarkable how many of the craft reach an exceptional old age and still retain health and mechanical ability.—Ed.]

Tightening Dials

ED. KEYSTONE:—A method of tightening dials on old model watches, using pins instead of screws, which I have used very satisfactorily, is the following: Fit dial down in place, put on spectacle washer on the part of the foot projecting through the plate, slip the pin in on top of the washer and you have a good secure job. I have repaired many watches in this way that were stopping on account of the dial touching the post.

Truly yours, LUTHER A. MCCAIN.

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C. A. MARSH & CO.
Attleboro, Mass.

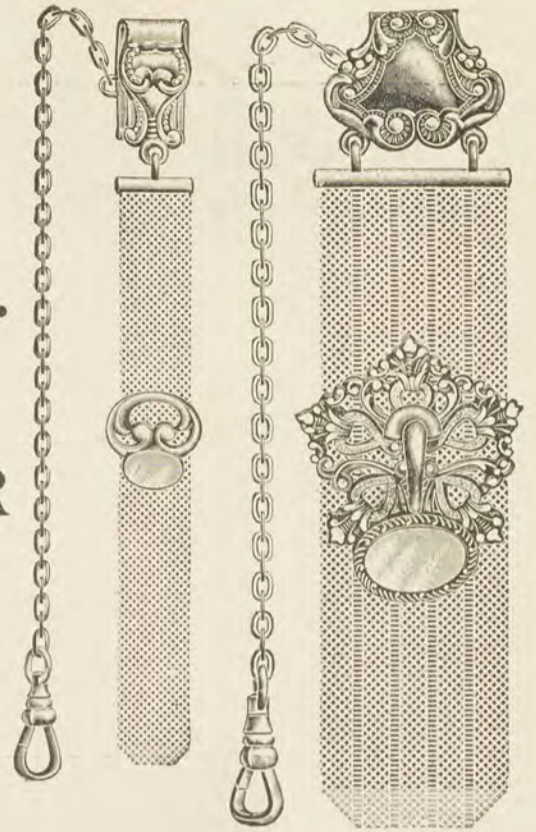
Makers of

**Chains that SELL, WEAR
and give satisfaction**

Also

Blind-Joint Bracelets
Chain Bracelets and Chatelaine Pins
New Styles Constantly

ASK YOUR JOBBER FOR THEM



**"VERIBEST"
LOCKETS**

Instantly
Suggest

**"All You
Need
Know"**



Locket, Size 1 3/8 inch round

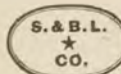
Fleur-de-Lis,	Roman,	{ 3843—Convex 3043—Concave
Star and Crescent,	"	{ 3844—Convex 3044—Concave
Horseshoe,	"	{ 3845—Convex 3045—Concave
Cross Design,	"	{ 4281—Convex 4248—Concave

"Oval Star Label"

Inside Positively Insures Satisfaction

S. & B. Lederer Co.'s

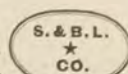
Locket Sold Through Jobbers Only



NEW YORK CITY
9-11-13 Maiden Lane

PROVIDENCE, R. I.
100 Stewart Street

CHICAGO, ILL.
131 Wabash Ave.



SWASTIKA

A Good Luck Charm

Every jeweler in the country can reap profit from Swastika goods. The demand for them is spreading like wildfire.

We originated Swastika jewelry and Swastika mounted goods, having over five hundred pieces in our line. It includes Sterling Silver, Plain, Enameled, Engraved, Etched, and mounted on Leather Goods; also 14 K. Gold on Sterling Silver, set with Stones; also Solid Gold goods.

Send for complete Swastika booklet (No. 42 K) giving history of emblem; also Counter Cards, Window Cards, etc.

Paye & Baker Mfg. Co.

SILVERSMITHS

North Attleboro, Mass., U.S.A.

New York Office (Samples only), 9-11-13 Maiden Lane



Retail Jewelers' Associations

American National Retail Jewelers' Association (1904)

Max Jennings, President, St. Clair, Mich.
I. M. Radabaugh, Secretary, Hastings, Minn.
Next meeting, July or August, 1907, at Chicago.

Missouri Retail Jewelers' Association (1889)

Herman Mauch, President, St. Louis, Mo.
Wm. F. Kemper, Secretary, 2326 Franklin Ave., St. Louis, Mo.

Connecticut Retail Jewelers' & Opticians' Association (1895)

George H. Ford, President, New Haven, Conn.
S. H. Kirby, Secretary, New Haven, Conn.

The Jewelers' Fraternity of New Orleans, La. (1902)

Otto Grauzin, President.
Daniel S. Rameli, Secretary.

Minnesota Retail Jewelers' Association (1904)

Geo. H. Lang, President, Mankato, Minn.
I. M. Radabaugh, Secretary, Hastings, Minn.

Iowa Retail Jewelers' Association (1905)

J. M. Nabstedt, President, Davenport, Iowa.
J. H. Lepper, Secretary, Mason City, Iowa.
Annual meeting, June 25, 26, 27, 1907, at Hotel Chamberlain, Des Moines.

Michigan Retail Jewelers' Association (1906)

Fred. Russell, President, Mt. Pleasant, Mich.
S. D. Thompson, Secretary, Shepherd, Mich.

Massachusetts Retail Jewelers' Association (1906)

F. C. Newhall, President, Lynn, Mass.
Edward H. Dunbar, Secretary, Norwood, Mass.

Illinois Retail Jewelers' Association (1906)

S. M. Strain, President, Nokomis, Ill.
H. C. Watts, Secretary, Forrest, Ill.

Nebraska Retail Jewelers' Association (1906)

J. A. Reuling, President, Wymore, Nebr.
Max J. Egge, Secretary, Grand Island, Nebr.

North Dakota Retail Jewelers' Association (1906)

E. P. Sundberg, President, Fargo, N. Dak.
C. E. Tillson, Secretary, Carrington, N. Dak.

Wisconsin Retail Jewelers' Association (1906)

A. J. Stoessel, President, Milwaukee, Wis.
F. O. Thompson, Secretary, Milwaukee, Wis.

Missouri Society of Retail Jewelers (1906)

R. D. Worrell, President, Mexico, Mo.
C. E. Range, Secretary, Trenton, Mo.

Kansas Retail Jewelers' Association (1906)

Walter Sperling, President, Seneca, Kans.
Frank E. Pirtle, Secretary, Council Grove, Kans.

South Dakota Retail Jewelers' Association (1906)

H. G. Nichols, President, Mitchell, S. Dak.
O. B. Tripp, Secretary, Aberdeen, S. Dak.

Pennsylvania Retail Jewelers' Association (1906)

A. C. Graul, President, Sharpsburg, Pa.
C. S. Wiley, Secretary, 3602 Forbes St., Pittsburg, Pa.

North Carolina Retail Jewelers' Association (1906)

R. C. Bernau, President, Greensboro, N. C.
A. P. Staley, Secretary, High Point, N. C.

Oklahoma Retail Jewelers' Association (1906)

J. M. Floyd, President, Pond Creek, Okla.
E. W. Eisenfelder, Secretary, Lamont, Okla.

Tennessee Retail Jewelers' Association (1906)

J. B. Carr, President, Nashville, Tenn.
R. B. Herzer, Secretary, Nashville, Tenn.

South Carolina Retail Jewelers' Association (1906)

Stephen Thomas, President, Charleston, S. C.
R. H. Allan, Secretary, Charleston, S. C.

Alabama Retail Jewelers' Association (1906)

R. Heine, President, Talladega, Ala.
Max Robinson, Secretary, Birmingham, Ala.

New York Retail Jewelers' Association (1906)

Samuel Tappin, President, Troy, N. Y.
Henry J. Pilantz, Secretary, Albany, N. Y.

West Virginia Retail Jewelers' Association (1906)

T. A. Westmyer, President, Wheeling, W. Va.
C. E. Baab, Secretary, Parkersburg, W. Va.

Rochester Retail Jewelers' Association (1906)

C. E. Sunderlin, President.
J. J. Ernise, Secretary, 15 State Street, Rochester, N. Y.



Members in attendance at the annual convention of the Minnesota Retail Jewelers' Association, held in St. Paul, Minn., February 27th and 28th. See page 683.

Organization Activity

Now that the winter is over, a revival of organization activity is very much in evidence. The officers of the various societies are taking steps to increase the membership of their respective organizations and many meetings are being arranged for. One of the most important of these will be the next annual meeting of the Iowa Retail Jewelers' Association which will meet on June 25th, 26th and 27th at the Chamberlain Hotel, Des Moines, Iowa. The Iowa organization is one of the strongest in the country. Its officers claim that it has a larger membership than any other State association and much enthusiasm prevails. A very elaborate programme is being arranged for the annual meeting and there will also be an imposing array of exhibits of the wares handled by the jewelers and of the tools and material in which they are interested.

Those who are taking a leading part in preparing for the convention are a sufficient earnest of its success. President Nabstedt is an ideal official, enjoying much popularity with his brother jewelers and having their confidence to an unusual degree. His enthusiasm in the cause is quite magnetic, and his appealing personality is, no doubt, responsible to a considerable extent for the flourishing membership. Another excellent official is Secretary J. H. Lepper, of Mason City, who is an organizer of unusual ability. He has done yeoman service in getting the jewelers of the State interested in the organization and building up the membership to its present large proportions. Another jeweler who is a tower of strength to the association is Mack A. Hurlbut, of Fort Dodge, who is chairman of the committee which has in charge the making up of the programme for the convention. Mr. Hurlbut is well fitted for this work, being himself a progressive merchant as well as a good jeweler and having advanced ideas as to what would be of most benefit to the trade. It is the purpose of the association to publish a little monthly official organ which will be mailed to the jewelers of the State, and in which direct appeals will be made to all who are not yet interested in the movement. Whether or not the Iowa association is the leading organization at this time, there is little doubt that after the convention, it will be able to boast of a membership which will exceed or at least equal that of any other association.

The officers of the Missouri Society of Retail Jewelers are also planning for a big meeting; the

date of which will soon be announced. As our readers are aware, there are at present two retail associations in that State, and the plan has been considered of holding a joint convention which would mean a larger attendance and more satisfactory results. Both organizations are perfectly friendly with each other and there will be no difficulty in bringing about joint action on any matter of interest to the trade.

The Pennsylvania Retail Jewelers' Association is also adding to its membership, and it is natural to expect that future meetings will be better attended than the meetings held during the winter months. The next meeting of the association will be held in Pittsburg on May 21st. In a State so large and populous as Pennsylvania, it would be advisable to hold meetings occasionally in different sections of the State, as this plan would result in a greater number of jewelers becoming interested in the movement.

The North Carolina Retail Jewelers' Association also contemplates holding a meeting in the spring, for which an attractive programme is now being arranged. President Bernau, of Greensboro, is doing yeoman service in enlisting the interest of his brother jewelers in the organization, and he expects that the next meeting will bring a large attendance and very material increase in the membership.

The Retail Jewelers' Association of North Dakota, is also making elaborate preparation for a meeting which, it is expected, will be held in July at Devil's Lake, during the Chautauqua convention. E. P. Sundberg, the efficient president of the organization, has recovered from his illness and is now able to take an active part in working up interest in the forthcoming meeting.

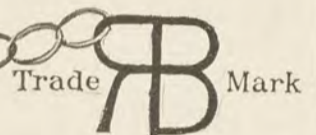
The Michigan Retail Jewelers' Association is also making elaborate preparations for its annual convention which will be held in Detroit on July 10th and 11th. The committee appointed for the purpose, is now at work compiling a souvenir programme which, when completed, will be quite an elaborate publication and will reflect the live character of the organization. President Russell is giving considerable of his time to working up interest in the convention which, it is expected, will be the largest trade meeting ever held in the State. Those who are not now members of the organization are invited to become enrolled and attend the convention which will well repay the time and expense of the trip to Detroit.



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
37 Maiden Lane

CHICAGO OFFICE
710 Columbus Bldg.
103 State St.

MINNEAPOLIS OFFICE
617 Lumber Exchange

WEEKS EMP. CO. PHILA.

College Flags, Seals, Fobs, Etc.

IN GOLD AND SILVER

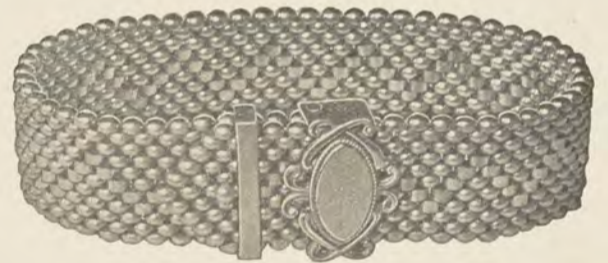


We manufacture a varied line of College Flags, Seals, Fobs, Spoons, Match Boxes, etc., all representative and emblematic of college life. Also make a specialty of Badges and Class Pins. This line is extensive so that selections are easily made.

All goods are hard enameled in any color or colors and finished as desired, which together with first-class workmanship makes a most desirable article. Samples will be sent upon application. Write for illustrated catalogue and price-list. Should you wish souvenirs for any event or of your own city, write to us and designs or samples will be forwarded immediately.

The Kinney Company
PROVIDENCE, R. I.

The demand for Roller Chain Bracelets and Fobs is increasing



NOTICE—In making your selection for bracelets for the coming season do not fail to include a few **Roller Bracelets** to complete your line, as they will be good money-makers for you. Also a good liberal selection of **Roller Fobs** will add greatly to your line. Our new departure for the coming season will be a line of Gold Soldered 1-10 Chain, this we will guarantee to be equal or better than any line of this kind on the market as to wearing qualities and workmanship.

Should you be unable to obtain these goods from your jobber, write direct to the factory and we will make arrangements for you to get them.

B. S. FREEMAN CO., INC.

Chicago Office
J. T. EDWARDS
Columbus Building

Attleboro Falls, Mass.

Among Jewelry Advertisers

A well-known advertising expert truthfully says: What advertisements need more than anything else to-day is simplicity. Simplicity in advertising implies honesty and sincerity, and that inseparable twain brings business.

Tell your story in plain and terse language. Remember that "brevity is the soul of wit." Likewise remember that too much brevity robbeth wit of its intelligence. Let each sentence tell its part and then—stop.

Don't, as you often see, have a mass of ideas, all bearing on the same subject, but totally without any relation to each other. Weld your advertisement into one unified story, direct and simple.

Advertisements written in simple, strong, terse language, devoid of useless figures of speech and flowery phrases, carry an air of stability about them that no display in the world could produce.

Simplicity in advertising means sturdiness, stability, lack of verbosity. It means an advertisement that will tell the advertiser's message in the simplest and at the same time most exact manner possible. It means an advertisement that has force, that is unimpaired by redundancy. It means an advertisement that will be a success.

Samples of Newspaper Advertisements



Engagement Rings

☞ If you are engaged don't fail to have a ring to commemorate the fact.

☞ A ring is most appropriate as a token of love, admiration and friendship.

☞ Our stock of rings embraces all the latest designs.

☞ Particularly notable for value is a Pearl Ring, set with five beautifully matched stones, at \$5.00.

A. C. RILEY



Birthday Rings

What is Your Birth Stone?

Solid Gold Rings, set with birth stones—we have the correct stone for every month of the year—January to December.

Our Price, Only \$1.50

THOS. GILLEAN
402 Richmond St.

Making Old Jewelry New

Down in your strong box there are probably several pieces of old jewelry that are doing no one any good.

For a small cost we might be able to modernize them into desirable shapes and styles, or if hopelessly broken we will make CASH ALLOWANCE for them.

Let us show you what we can do.

C. LUMSDEN & SON



CUT GLASS FOR GIFTS

Don't be misled—there's much cut glass that while really "cut," is not much better than good pressed glass. No, even the weight isn't an altogether safe guide—for good pressed glass is heavy and poor cut glass is light. You won't buy pressed glass for cut, but you'd about as well buy it as take poor sorts.

SIMMS & MORTON



GOLD HANDY PINS

A lady can scarcely complete her toilet nowadays without a set or two of these pins for fastening her cuffs, holding her collar trim or using in some such way. We have a lot of pretty styles to select from.

PRICE, 25C. TO \$3.00 PER SET

HOWELL BROS., THE JEWELERS

Confidence in the Jeweler

When you buy Jewelry you need to have confidence that you are not being sold an inferior article at the price charged for first-class goods. We make a rule to always represent goods as they really are, and charge a price as low as consistent. You need have no fear but that you are obtaining full value for your money when you purchase here. We are now showing a larger and better assortment than ever

JOHN BRODIE ESTATE - - Jewelers and Opticians


W. E. Richards & Co.

MANUFACTURING JEWELERS

Makers of 10 K. Gold Jewelry Only

BROOCHES

CROSSES

Trade  Mark

FOBS

BRACELETS

LOCKETS

SCARF PINS

PENDANTS

For the Jobbing Trade Only

FACTORY

191 N. Main Street, ATTLEBORO, MASS.

New York Office, 12-14 John Street

LOCKETS ONLY

TRADE



MARK



Green and Rose
NUMBER
8060

Our Latest Designs

WIGHTMAN & HOUGH CO.

NEW YORK OFFICE
3 Maiden Lane

Main Office and Factory { 7 Beverly St.
PROVIDENCE, R. I.

Reinhard & Patterson

114 West Baltimore Street, BALTIMORE, MD.

DIAMONDS and WATCHES

New Styles and Staples in Jewelry

STERLING SILVER and COMMUNITY SILVER

FULL VARIETY IN STOCK AT ALL TIMES



Are You Wise?

To the fact that we have the most complete line of the new

BROTHERHOOD OF LOCOMOTIVE
FIREMEN AND ENGINEMEN'S

EMBLEMS

on the market. Order at once as they are in great demand.

IRONS & RUSSELL CO.

EMBLEM MAKERS

Main Office and Factory
95 Chestnut St., PROVIDENCE, R. I.

New York Office. 11 Maiden Lane



10 K. Gold Bracelets

New and Original Designs in

BANGLE, JOINT and CATCH SIZES

SCARF PINS

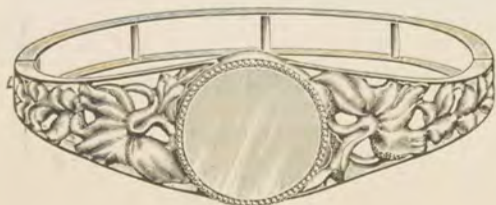
In ALL the Semi-Precious Stones in the Popular
Burnished Setting

The Edwin Lowe & Co., Inc.

Providence, R. I.

F. W. BODWELL, Pres. and Gen. Mgr.
New York Representative
E. T. WILSON, 180 Broadway

Western Representative
S. H. BROWER



The Minnesota State Retail Jewelers' Association

The fourth annual meeting of the Minnesota Retail Jewelers' Association was held at the Commercial Club Parlors on February 27th and 28th, with President Paegel in the chair. The minutes of the last meeting and also of the meeting of the board of directors were read and approved.

P. J. Reimers, Mountain Lake, and O. C. Retsloff, Winnebago City, were then elected members on favorable report of the membership committee.

D. G. Gallett, Aberdeen, and G. R. Simons, Langford, S. Dak., now being members of the South Dakota association, asked for their withdrawal cards, but both being too valuable members to lose and so enthusiastic in the work that they had missed but few meetings, the Minnesota association elected them life members, without further payment of dues or other obligation.

President Paegel then gave his annual address, in which he gave a short synopsis of the growth and work of the association. Starting with a membership of eighteen, he said they might well be proud of the present membership of 102, all in good standing.

Treasurer Harper and Secretary Herdliska made their reports, which were received with vigorous applause and which showed the good financial condition of the association.

Mrs. Jane Hill Pratt, of Fremont, Nebr., being noticed in the audience, President Paegel invited her to address the association, which she did with grace and eloquence. It was a treat to hear the facile flow of words with which she presented the value of organization and how it will help the jeweler in his business.

On motion, the committee appointed at the last meeting to get up a membership certificate was discharged, as the certificate to be issued by the American National Association to its affiliated members was considered sufficient.

Geo. T. Hartmann, St. Paul, then read a paper on "The Retail Jeweler: His Faults and how he can Improve his Condition," which will be found on another page of this issue.

On recommendation of the grievance committee, certain grievances were referred to the national organization for further investigation. In the discussion of this matter, Messrs. Lang, Logan, Spaulding, Herdliska and Paegel were heard to good advantage.

Resolutions congratulating the South Dakota Hardware Association on their victory over the mail-order houses, also resolutions asking the watch factories in future to abolish the practice of unloading discontinued movements at a sacrifice without rebating them, were adopted. A vote of thanks was given advertisers and the officers who had by their liberality enabled the association to establish itself on so sound a financial footing. A vote of thanks was given the Commercial Club for the free use of their parlor for the meetings. The matter of protest against the parcels-post law was left with the grievance committee. The "stamping law," as introduced in the Minnesota legislature was approved. The president was authorized to appoint a committee on display at the summer meeting, it being

the intention to allow all manufacturers to make display of their goods in a room separate from the meeting room but so located that their wares can be examined readily by the members at any time during the convention.

The following officers were then elected: President, Geo. H. Lang, Mankato; vice-president, A. E. Barker, Minneapolis; secretary, I. M. Radabaugh, Hastings; treasurer, I. Reiner, Hutchinson; board of directors: (three years) J. L. Williams, Zumbrota, and (two years) John C. Marx, Shakopee.

The following standing committees were then announced: Assaying—J. C. Marx, Wm. Plackner, J. D. Litquist. Grievance—D. C. Spaulding, J. C. Herdliska, I. M. Radabaugh, A. E. Paegel, R. F. Lussier. Employment—Emil Geist, Thos. Gaskell, J. B. Bodfoss. Finance—W. G. Gould, E. L. Wentworth Chas. Olson. Membership—Geo. R. Clark, F. W. Harper, Henry Nystuen. Entertainment—A. E. Paegel, Emil Geist, R. L. Munns. Legislative—Emil Geist, W. M. Stone, J. S. Allen.



Geo. H. Lang
President Minnesota R. J. A.

I. M. Radabaugh
Secretary Minnesota R. J. A.

Committee on Display at Summer Meeting—A. E. Paegel, W. F. Renich, A. E. Barker.

The following members were present at the meeting: C. C. Spaulding, Wabasha; Wm. Plackner, Benson; E. M. Schwenke, New Richland; Henry Nystuen, Hancock; A. M. Fargeman, Fergus Falls; E. L. Wentworth, Kasson; C. A. Sherdahl, Montevideo; W. F. Renich, Minneapolis; Olaf Rygh, Glenwood; A. L. Mealey, Delano; Frank B. Logan, Royalton; John C. Marx, Shakopee; W. G. Gould, Glencoe; J. F. Ahearn, Melrose; J. L. Williams, Zumbrota; John Rosendahl, Mapleton; Emil Geist, St. Paul; I. M. Radabaugh, Hastings; G. R. Simons, Langford, S. Dak.; F. W. Harper, Renville; Geo. H. Lang, Mankato; A. E. Paegel, Minneapolis; J. C. Herdliska, Princeton; I. Reiner, Hutchinson; J. H. Eggers, Jr., Plainview; A. Sweningsen, Moorhead; Albert J. Kruger, North Branch; Thos. Gaskell, St. Paul; Geo. R. Clark, St. Cloud; L. Palm, Browns' Valley.

The following visitors were present: Mrs. Jane Hill Pratt, Fremont, Nebr.; C. H. Carpenter and F. H. Younglove, South Bend, Ind.; Earl E. St. Horr, St. Paul; S. B. Millard, Minneapolis; A. J. Wardner, Eldora, Iowa; F. A. Ohlson, Springfield, Minn.; John Langland, Rothsay, Minn.; S. J. Whitney, Wessington Springs, S. Dak.; A. G. Miller, Granville, N. Dak.; N. M. Klaers, Loretta, Minn.; A. H. Moeller, Bird Island, Minn.; E. B. Woodward, Bismarck, N. Dak.

Convention Notes

Several of the older members who have in the past been so reticent proved that they had simply been biding their time, and at last lost their bashfulness. Keep it up and you may all be president some day. "Don't be afraid to speak your thoughts out loud."

If any one had any idea the Minnesota association was not alive to the situation, they changed their minds after this meeting. The members displayed unusual vigor and fairmindedness.

A few of the original members were absent, yet the old guard was strongly represented, fourteen of the original eighteen being present. "We can't lose interest in our baby," they said.

Secretary-elect Radabaugh now has double work on his hands, being secretary of both the Minnesota and national organizations.

President Paegel and Secretary Herdliska stated that they had done their duty to the association and asked for the election of new blood.

President-elect Lang promises to keep the association awake nights guessing what good things are coming.

It was the most harmonious meeting yet held in every way. The best of good feeling was shown and the good of the cause was the only object in sight.

J. L. Williams, Zumbrota, has proven a very valuable addition to the working force.

F. B. Logan and J. C. Marx show a decided improvement in their ability to catch the president's eye when they wish to speak. Keep up the good work.

Ex-President Reiner has proven for once that the quiet man gets the persimmons, he being the most surprised man in the room when he was unanimously elected treasurer. The association is always looking for solidity in electing the treasurer, and the heavyweights get the honor.

Geo. H. Lang, president-elect of the Minnesota State Retail Jewelers' Association, is a native of the State, being born at Mankato in 1871. While a mere boy of twelve years he did his first work in a jewelry store in that city, having engaged with P. K. Wiser to teach him the trade. After his apprenticeship he worked for several years in near-by towns and in 1891 started in business in his home town, in which he has been very successful. Mr. Lang, while not one of the original eighteen, joined the Minnesota association at its second meeting and since has not missed a meeting, holding the office of vice-president for two years. He is restlessly energetic and, while not a believer in radical action, believes the line of aggressiveness must be broad and straight, so that all can see just what is the purpose in view. We predict a successful year under his careful guidance.

Light and Seeing

An interesting demonstration was given at a recent exhibition of physical instruments in London of the fact that an intimate connection exists between the magnitude of the details visible in a microscope and the color of the light used for illuminating the object. When the shorter light-waves, those toward the blue end of the spectrum, are employed, smaller details can be seen than when the light comes from the region of longer waves, toward the yellow and red end of the spectrum.

Established 1869

THE "F=B" RING

Incorporated 1904

Made from 10 K. $\frac{1}{20}$ Seamless Gold Filled Stock

Superior Workmanship, Combined with Original and Artistic Designs
 Make them **The Acknowledged Standard**

FLINT, BLOOD & CO., INC.

94 Point Street, Providence, R. I.



Gold Jewelry

Our line is made to **sell and to satisfy, to attract trade and to hold it.**

There's art and novelty in the designs, skill in the execution, and the quality that ensures wear and satisfied patronage.

Our new line for spring trade comprises

- | | | | |
|-------------------|------------------|-------------------|-------------------------|
| <i>Combs</i> | <i>Bracelets</i> | <i>Baby Pins</i> | <i>Hat Pins</i> |
| <i>Brooches</i> | <i>Barrettes</i> | <i>Crosses</i> | <i>Collarettes</i> |
| <i>Scarf Pins</i> | <i>Buttons</i> | <i>Waist Sets</i> | <i>Silver Novelties</i> |

It will profit the trade to become familiar with our trademark, which is stamped on all our goods and expresses our trade motto, "Always on the Go."

It is the symbol of merit and means safety to your reputation, quick sales and good profits.

Miller, Fuller & Whiting

MANUFACTURING JEWELERS

New York Office
9-11 Maiden Lane

North Attleboro, Mass.



For Easter Gifts — THE ROSARY IN FINE JEWELS

Made by

THE W. J. FEELEY COMPANY

Ecclesiastical Art Metal Workers

Providence, Rhode Island

WE HAVE IN STOCK



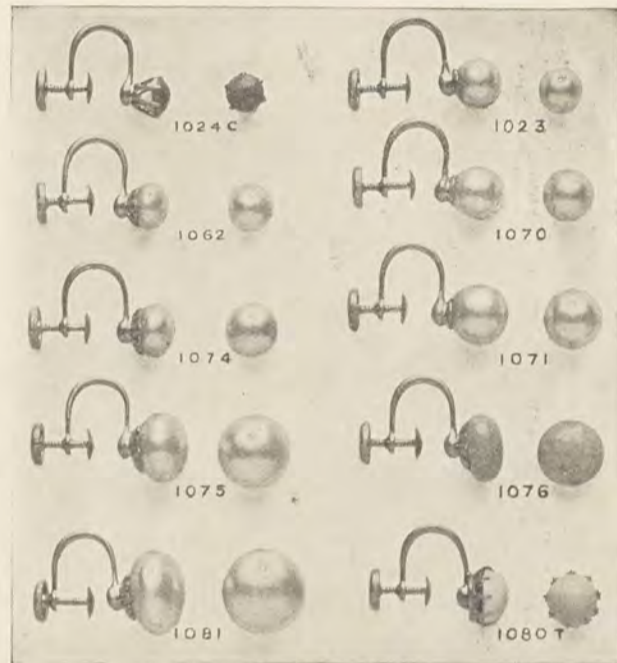
In Real Stone

- AMETHYST
- GARNET
- CRYSTAL
- CARNELIAN
- JET
- TOPAZ

In Imitation Stone

- | | |
|-----------|----------|
| AMETHYST | CRYSTAL |
| CARNELIAN | GARNET |
| JADE | JASPER |
| OPAL | ONYX |
| PEARL | SAPPHIRE |

Catalogue or Selection Package on application



PAT. APPLIED FOR

Pierceless Ear Screws

After two years' experience in manufacturing Pierceless Ear Screws, so popular at the present time, we would call the attention of those not using ours to their superior quality of spring and adjustment. Quality stamped in 10 and 14 K. Send for a selection. All kinds of stones.

Chas. E. Hancock Co.

7 Beverly St., PROVIDENCE, R. I.

Established 58 Years

James H. Dederick's Sons ASSAYERS AND BULLION DEALERS

ALL QUALITIES OF GOLD AND SILVER, in Plate, Square and Round Wire,
Rolled to Any Gauge.

ALL QUALITIES OF GOLD AND SILVER SOLDER

BUYERS OF
OLD GOLD AND SILVER

16 Maiden Lane, NEW YORK



Engraved Souvenir Spoons BRIGHT CUT STYLE

FRED. A. HASKELL
206 Weybosset St., Providence, R. I.

Reinforced Concrete, a New Building Material

An Effort to Make Buildings Proof Against Fire and Earthquakes, Insects and Corrosion—Ideal Combination of Strength and Security

Many of our readers have, no doubt, in recent months noticed the use of a novel material in the erection of buildings, and on making inquiries, were informed that the material used was reinforced concrete. We recently illustrated in our journal a new jewelry factory constructed of this material in Attleboro, Mass., and at the present time, one can notice in almost any city, buildings being erected in the same manner.

Its Worth Proved by Disaster

The material is by no means an innovation, as it has been used for a long period for certain portions of buildings. Accident and calamity have from time to time, however, demonstrated its superiority over other materials, and this stimulated its more general use. For instance, the great Baltimore fire of a few years ago showed that the old-fashioned floors constructed of steel beams connected by brick, provided little or no protection to the building against destruction by the flames; while, on the other hand, a few floors of reinforced concrete then within the area of the conflagration were structurally un-

harmful by the severe test. The later and greater disaster in San Francisco also demonstrated that the few instances of reinforced concrete work which were located within the area of the earthquake disturbance were structurally uninjured. The monolithic character of these buildings prevented their disintegration when buildings consisting of brick and stone, joined by mortar and having little cohesive strength, were rapidly disintegrated by the seismic shocks. At the time of the test there were no buildings in San Francisco which were entirely constructed of reinforced concrete, although there were many floors of this material. The reports of the board of underwriters who investigated the burned buildings stated that in the case of reinforced concrete floors there was "no structural damage."

Advantages of Reinforced Concrete

Wherein lies, then, the evident superiority of reinforced concrete over other building materials? The greatest advantage that reinforced concrete has is that it grows stronger with age, while all others grow weaker after a certain lapse of time. Hardly secondary to this is the immunity against loss by fire or damage by water that the construction affords to stock in process or in storage. Being one of the most fire-resisting materials used in building construction at the present time, it offers the greatest resistance against fire from without and localizes fire within its walls to the greatest possible extent. Again, by building scuppers through the walls of store or warehouses, a fire in one section may be drenched out with water without damage by water to goods in a section below. This is of extreme importance in that it prevents a double loss. Other vital points for consideration in this respect are the low insurance rates and the loss of business caused by the shutting down of the plant.

From an economical standpoint it does away with costly complex shop details and decreases the cost of plans, in that it avoids the detailing of cast iron, wrought iron and steel work. Among its advantages over wood may be named its adaptability to longer spans, greater stiffness, making it especially adapted for supporting shafting and delicate running machinery; greater rigidity, thereby increasing the life of running machinery and freedom from decay and the growth of fungi.

Again, since it is proof against the action of acids and dampness, it is to be preferred over steel for use in places thus permeated. Because braces and other web members may be moulded together with perfect joints, all

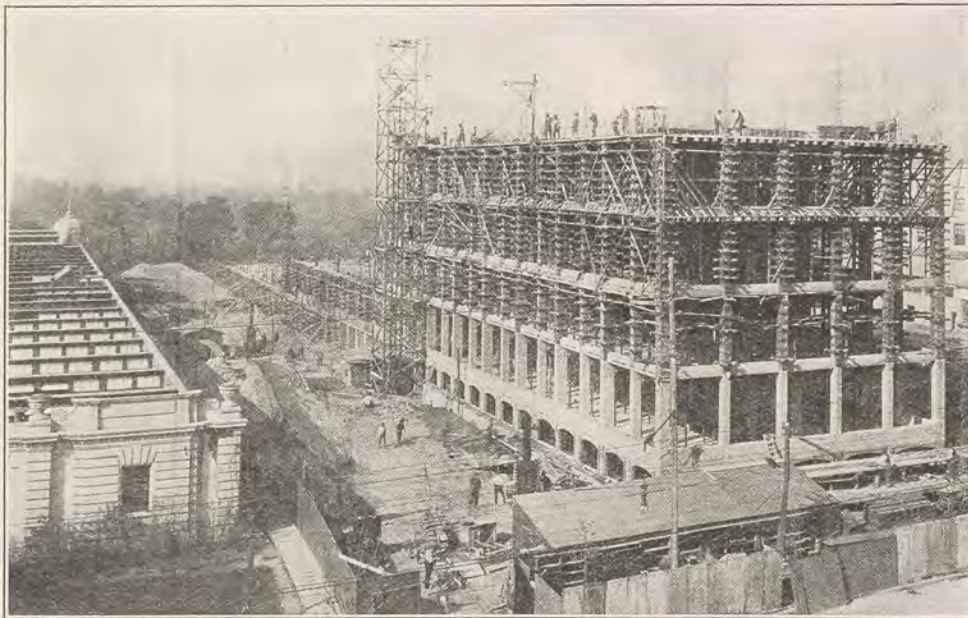
dangers from poor mortising and careless riveting may be avoided. Other advantages are its sanitary and waterproof qualities and freedom from insects, vermin and corrosion.

A Notable Test

That reinforced concrete has all the exceptional merits enumerated above, has already been proved by actual tests, one of which is peculiarly interesting. In November 1905, a building was constructed near New Brunswick, N. J., for the special purpose of a test. The roof consisted of a 4-inch slab of reinforced concrete supported on concrete beams. The side walls were made of concrete. A grate of iron bars was built across the entire floor area and ample provision was made for draft. When the concrete had become sufficiently hard, the roof was loaded with a dead load of pig iron to the amount of 150 pounds per square foot. On December 26th, the structure was tested. A fire was built and fed with cord wood until an electric pyrometer indicated a temperature of 1700° F. This temperature, with small fluctuations above and below, was maintained for four hours. Then the firedoors were opened and a stream of water, having a pressure of ninety pounds per square inch at the pumps, was played on the under surface of the roof for ten minutes. As was expected, the lower layer of concrete, which had been calcined by the heat, was swept off by the mechanical action of the powerful stream, but the roof still held its load of

pig iron. On the following day, the concrete having cooled off and having recovered a large part of its deflection during the fire, still more pig iron was loaded on until the load amounted to 600 pounds per square foot, and even at such a load, the four-inch slab, which had been subjected to such a severe alternation of intense heat and rapid cooling, was not broken down. The one fact that the structure was sufficiently elastic to recover, while cooling, a large proportion of its deflection during the intense heat, shows a very remarkable quality of this material.

We show on this page a building of reinforced concrete in course of



Reinforced concrete building in course of erection

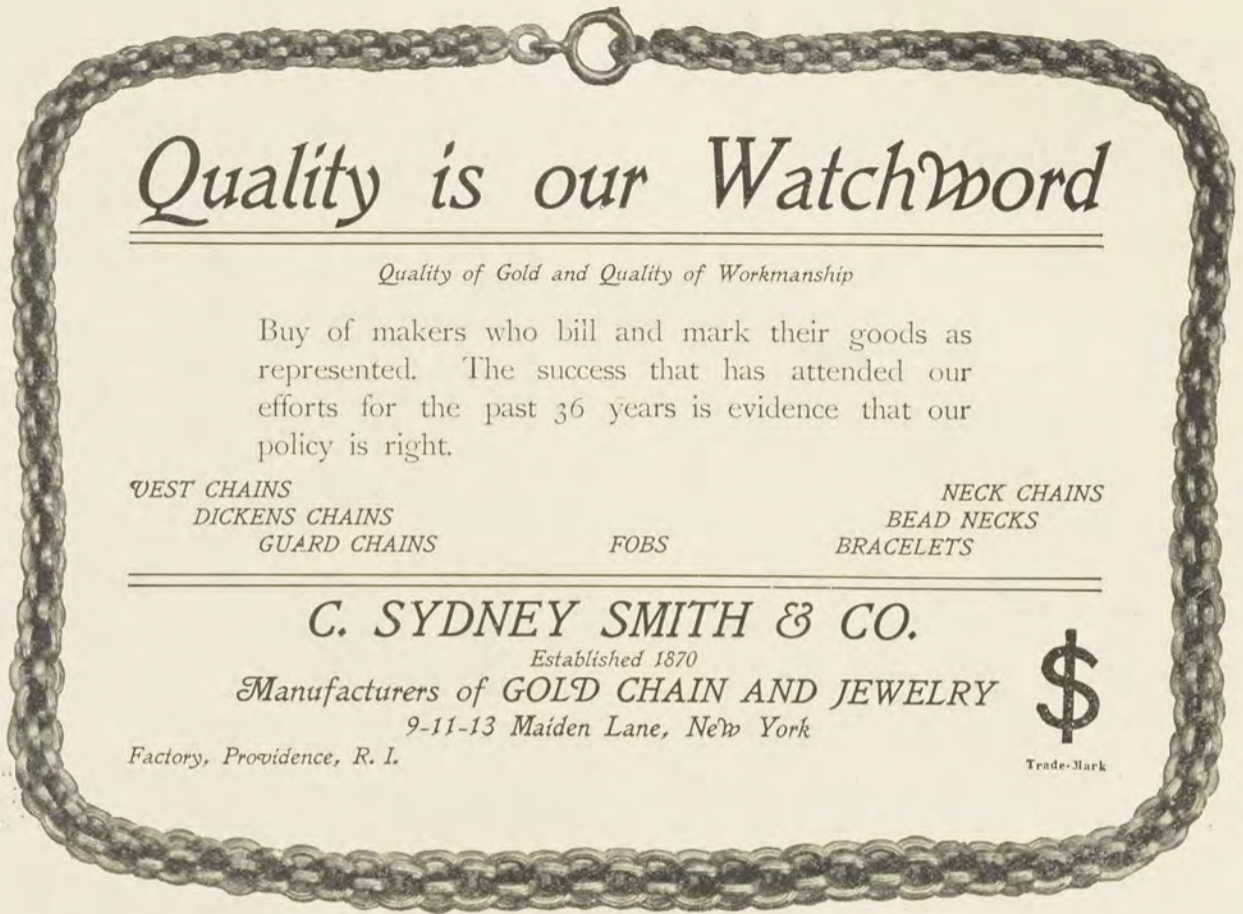
erection. This building is part of a plant of the National Cash Register Co., of Dayton, Ohio, which company is well known for its leadership in the adoption of all improvements. The concrete used in this building is one portion of Atlas-Portland cement, two of sand obtained from the gravel and four of gravel. The gravel was washed, screened and re-mixed by measure. For the thin slabs the gravel was one inch and less; in larger slabs, one and one-half inches and less. Five-inch test cubes of the concrete were made each day—thirty and sixty-day tests being made—and some cubes, also five inches, were cut from floors of the building. The cubes cut from the building show, at four months, from 2500 to 3000 pounds per square inch.

The column reinforcements are kept in line by sleeves, no attempt being made to transmit tension stresses on account of the fact that the stress alternates from tension to compression on each side of the columns. The joints in the vertical reinforcements are made, in each case, in the compression portion of the column.

The floors are $\frac{7}{8}$ -inch maple on $1\frac{1}{4}$ -inch yellow pine sub-flooring laid on stringers bedded in tar concrete. A waterproof layer is applied between the two floors so that, in event of the breakage of a sprinkler, the water will not soak through the floors to the detriment of material on the floor below. The roof is slag laid on top of two inches of cinder concrete.

All electrical wiring is run in conduits in the filling concrete. The entire building is equipped with automatic sprinklers.

A valuable feature of buildings constructed with this material lies in the fact that the running expense of certain departments may be lessened. In such instances small engines, either oil or gasoline, may be installed upon the upper floors without observing undue precautions against stability and vibration in the lower stories, thus doing away with troublesome and expensive drives.



Quality is our Watchword

Quality of Gold and Quality of Workmanship

Buy of makers who bill and mark their goods as represented. The success that has attended our efforts for the past 36 years is evidence that our policy is right.

VEST CHAINS
NECK CHAINS

DICKENS CHAINS
BEAD NECKS

GUARD CHAINS
FOBS
BRACELETS


C. SYDNEY SMITH & CO.

Established 1870

Manufacturers of GOLD CHAIN AND JEWELRY

9-11-13 Maiden Lane, New York

Factory, Providence, R. I.



Trade-Mark




Patent applied for

Our Motto: "QUALITY THE BEST"


Henry Lederer & Bro., Inc.

227 Eddy St., Providence, R. I.

Large variety of BRACELETS, FESTOONS
VEST, NECK and GUARD
CHAINS and FOBS



**ARTISTIC
NOVELTY AND
ATTRACTIVENESS IN DESIGN**



are noted characteristics of our comprehensive line of


SEAMLESS RINGS

Their distinctive originality makes them stand out in bold contrast with other makes, compels attention and assures quick sales at good-profit prices.


Great wealth of styles and patterns in all our specialties

Rings, Scarf Pins, Ear Knobs, etc.

THE MORGAN JEWELRY CO.



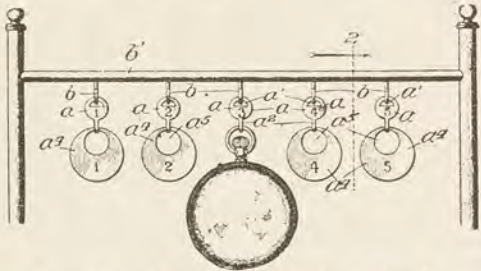
Manufacturing Jewelers
62 Page Street
Providence, R. I.



United States Patents

Patents of interest to the trade, recently issued, especially prepared for this journal by Wm. N. Moore, patent attorney, Loan and Trust Building, Washington, D. C.

No. 845,423.—Watch-checking device. William G. Landt, Chicago, Ill. Filed January 25, 1906. Serial No. 297,904.



A combination tag and check of the character set forth, comprising a metal tag provided with an unobstructed hook-receiving perforation and equipped at its lower portion with an integrally-formed hook, and a metal check having a perforation engaging said hook, said tag and check bearing corresponding numbers, for the purpose set forth.



No. 845,737.—Nose guard for eyeglasses. Leo F. Adt, Troy, N.Y. Filed March 6, 1905. Serial No. 248,429.

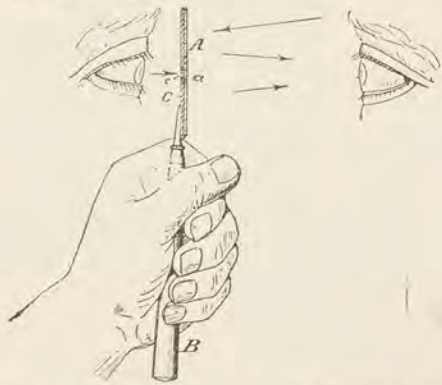
An eyeglass, the combination with the lenses having the attaching devices thereon, and a bridge connecting them, of nose guards each comprising a lower nose-engaging portion, and an upper or holding nose-engaging portion embodying a coil arranged in rear of the lenses.

No. 38,476.—Locket or similar article. Frank W. Arnold, Providence, R. I., assignor to Wightman and Hough Company, a corporation of Rhode Island. Filed February 7, 1907. Serial No. 356,268. Term of patent, three and a half years.



The ornamental design for a locket or a similar article as shown.

No. 845,099.—Ophthalmoscope. Emanuel N. Klein, Cincinnati, Ohio. Filed June 18, 1906. Serial No. 322,147.

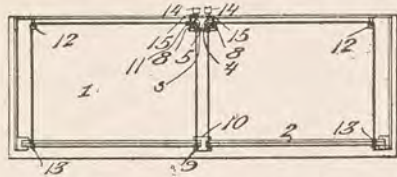


An ophthalmoscope or similar instrument provided with a reflecting mirror which has qualities whereby the ultra-violet rays of the light received by the mirror are affected so as to be prevented from leaving the mirror by reflection.

No. 847,122.—Show case. Hadley M. Sheldon, Albion, Mich. Filed March 17, 1906. Serial No. 306,638.

The herein-described show case provided with sliding sashes and at the front side thereof, in combination with counterbalance weights, a box or compartment at the rear side of the case, a cord or

cable connected to each weight and connected to the sash at the opposite upper corners thereof and extending over guide pulleys and passing around a



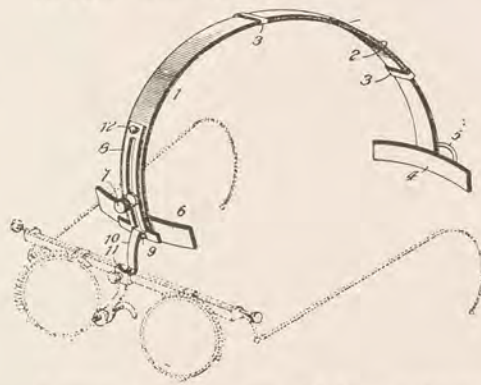
pulley carried by each weight, handles connected to the weights, said handles extending through a slot in the case for moving said weights up and down within said box or compartment for raising or lowering the sash.

No. 38,475.—Locket or similar article. Frank W. Arnold, Providence, R. I., assignor to Wightman and Hough Company, a corporation of Rhode Island. Filed February 7, 1907. Serial No. 356,267. Term of patent, three and a half years.



The ornamental design for a locket or a similar article as shown.

No. 846,708.—Device for supporting trial frames. John P. Weaver, Terre Haute, Ind. Filed May 18, 1906. Serial No. 317,562.



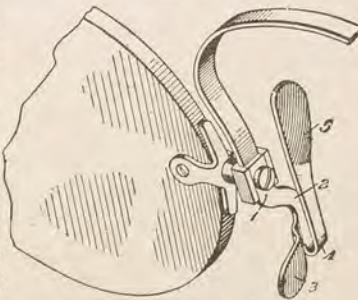
A device for supporting trial frames, the combination with extensible head-embracing members, of an adjustable member secured thereto and carrying a swinging hook adapted to engage and support the trial frames, substantially as set forth.

No. 846,597.—Spring ring. Eugene W. Morehouse, Providence, R. I., assignor to B. A. Ballou & Company, Inc., Providence, R. I., a corporation of Rhode Island. Filed September 1, 1906. Serial No. 332,900.

An article of the class described, consisting of an open seamless tubular ring provided with a split end portion and a circumferential slot, and a sliding bar mounted in said tubular ring and provided with an operating member made integral with said sliding bar and projecting through said circumferential slot, substantially as described.

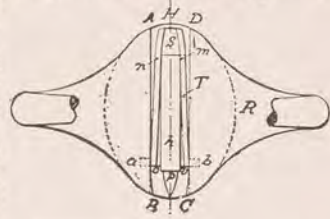
No. 845,042.—Nose guard for eyeglasses. Leo F. Adt, Albany, N. Y. Filed December 8, 1906. Serial No. 346,884.

A nose guard for eyeglasses composed of flat material embodying lower and supplemental nose-engaging portions arranged in edgewise relation and connected by a resilient bend flatwise of the material and arranged on substantially the same level with the lower nose-engaging portion.

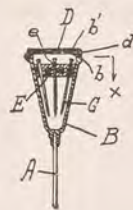


No. 845,197.—Finger ring and pencil. Florisel A. Rojas, New York, N. Y. Filed August 2, 1906. Serial No. 328,937.

1. Finger ring having a spring-retained marking member within.
2. Finger ring having an extensible marking member within.



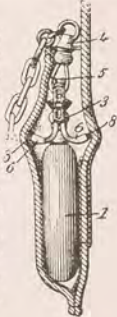
No. 846,518.—Hat pin. George N. Steere, Cranston, R. I., assignor to George N. Steere & Company, Cranston, R. I., a firm. Filed August 10, 1906. Serial No. 329,961.



1. In a hat pin the combination with a hollow head and a pin shaft fixed to the head, of means wherein the head for retaining pins, and a cover hinged on the top of the head.
2. In a hat pin the combination with the head and pin shaft, of a strip fixed within the head provided with perforations to receive pins, and a cap-shaped cover hinged to the head

No. 847,207.—Watch guard. Alfred Schneider, New York, N. Y. Filed December 11, 1906. Serial No. 347,337.

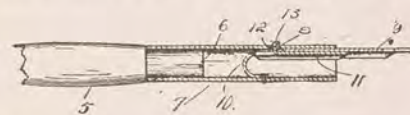
1. A watch guard having clamping arms curved longitudinally and transversely adapted to be attached to the bow of a watch, and fractional arms connected to said clamping arms, substantially as shown and described.



2. A watch guard having a yoke curved longitudinally and transversely, adapted to be secured to the bow of a watch by spring tension, and oppositely-disposed parallel frictional arms connected with said yoke, substantially as shown and described.

No. 845,178.—Penholder. Henry L. Kinter, Curran, Ill. Filed August 25, 1905. Serial No. 275,810.

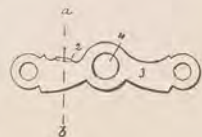
A penholder comprising a pen-receiving sleeve provided with an opening in its wall, a resilient pen-clamping strip arranged within the sleeve, said strip being of the same width throughout and having one of its ends bent downwardly and beneath



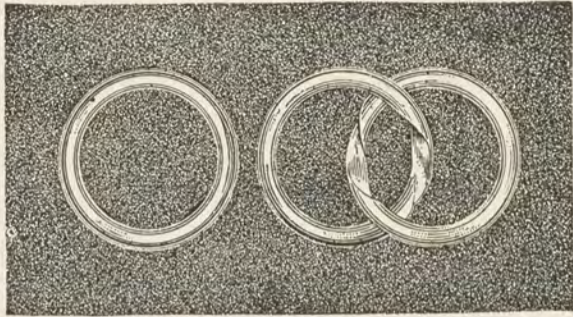
its body portion and secured to the sleeve at a point opposite the opening therein, the said strip having its body portion bearing against the side of the sleeve in which the opening is formed and being adapted to clamp a pen therebetween and the said side of the sleeve, and a finger formed upon the strip by stamping up a portion of the strip rearwardly of the opening in the sleeve so that the said portion extends through the opening and bending the upper end of the said portion in a forward direction to form a head, substantially as described.

No. 846,308. Balance-wheel bridge for watches. Ernest H. Horn, Waterbury, Conn., assignor to the Waterbury Clock Co., Waterbury, Conn., a corporation. Filed October 29, 1906. Serial No. 341,088.

A sheet-metal balance-wheel bridge for watches, provided with a flat integral spring-receiving finger arranged to stand flatwise in a plane passing through the center of approximately the center of the pivot bearing of the bridge, and formed with a hole to receive the outer end of the balance or hairspring and the pin by which the said end is secured in place.



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.

Its mysterious construction is another reason for its increased demand.

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.

Whenever engraving is desired, it is done in the inside flat surface. They are easily opened as shown on illustration by inserting a sharp instrument, for instance a pin, in the inside pin hole.

They should not be pried open, as this would destroy their adjustment.

14 karat, 3 dwts., each, \$1.25 per dwt.; in dozen lots, \$1.10 per dwt., net
18 karat, 3 dwts., \$1.40 per dwt.; in dozen lots, \$1.25 per dwt., net

LEONARD KROWER, Manufacturing Jeweler

536-538 Canal Street

New Orleans, La.

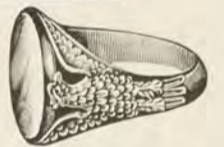
The Allsopp Rings

THE UP-TO-DATE LINE OF

Signet and Set Rings



No. 6314
Tiger
Diamond, Ruby Eyes



No. 6077
Eagle. Signet

In twenty years we have built up a business second to none in Rings exclusively. ALLSOPP QUALITY, DESIGN and WORKMANSHIP appeal to the most fastidious. It will pay you to examine a selection package.



ALLSOPP BROS., Allsopp Building, NEWARK, N. J.

Art and Sentiment

in

Signet Locket Rings

(Patented)



1754



1752



1750

Pacific Coast representatives
A. EISENBERG & CO.
San Francisco, Cal.

An ideal ring for every jeweler's stock

Send for Catalogue

CHARLES M. LEVY

Manufacturer of Rings and Locketts

90 William Street

NEW YORK

Advertising that Brings Results

In the current issue of *Profitable Advertising*, a magazine devoted to the art of publicity, a just tribute is paid to one of the most prominent and accomplished advertising men connected with the jewelry trade, Wm. G. Snow, advertising manager of the International Silver Co., Meriden, Conn. Says our contemporary:

It is reported by those who have access to the facts figured out that the business of the International Silver Company (Meriden, Conn.) has increased something like 160 per cent. during the ten years just past, an increase which, so those in the trade say, is practically equal to the total sales of brands of the same class of goods by other makers. This is an increase added to an old, long-established, and vigorously handled business, and under the stress of active and able competition.

This is a remarkable fact. To what policy, to what person, are we to ascribe it? An inquiry opens the way to some interesting facts. It is not of special consequence that a concern is called the International Silver Company, and makes knives, spoons, forks, and certain other articles. The interesting proposition is that a concern that had always been well managed, and whose business had been vigorously promoted, could be made to double its business during six years, and to continue the rate of increase; the sales last year amounted to \$10,000,000. Another fact is that this increase has occurred during the time that the advertising of the concern has been planned and directed by its present advertising manager, W. G. Snow.

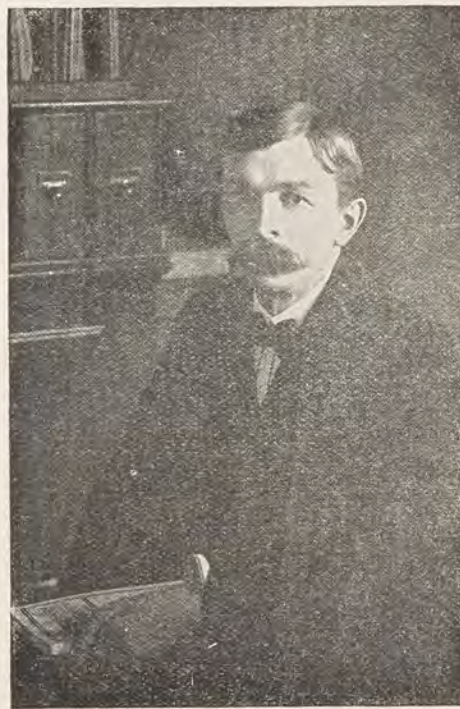
We have, then, the fact of the increase and the man's name; we wish to know a little more about the man, and something about his methods.

W. G. Snow went to the Meriden Britannia Company in 1883. He had tried several things, among which were printing and editing amateur papers. He was turned loose in the factories. Then, after a few months, he was put at figuring costs and estimating prices for special work. Then he began to compile catalogues, and looked after the making of the illustrations of the product. When sixteen concerns became the International Silver Company Mr. Snow was made advertising manager. He was qualified and ready for that large task, and he took it up, not only with special interest and enthusiasm, but with full knowledge and appreciation of what it meant to him.

For ten years this advertising has been done in furtherance of two prime objects: To inform possible purchasers regarding the qualities of the goods it was desired to sell, and to assist the retailer in selling them.

This is not a novel programme. Nor has the working out of the programme been startlingly novel. It has been original and effective.

Mr. Snow had been qualified for this work, by natural taste and by the direction he had given his education by his amateur printing and editing experiences. He had spent several months getting factory knowledge. This had not made a skilled silversmith of him, but it had given his editorial mind ample opportunity to familiarize itself with those salient features of the business which he needed to make frequent use of, and which he must rely upon to qualify and clarify all of his advertising work. Yet with all this preparation there must also be an



Wm. G. Snow
Advertising Manager International Silver Company

original advertising idea. Merely to be able to write advertisements that would show no traces of ignorance—that would be good literature also—would not bring the business.

The old concern of Rogers Brothers, which was absorbed by the Meriden Company, was established in 1847, and those figures had formed a part of the trade-mark. Here was the necessary idea! Tell about what happened in 1847. So the *Silver Standard* came to be. It is a little 8-page paper, 6½ by 8 inches, about half of it devoted to resurrected 1847 news and the other half to silverware. It is so printed as to lend the flavor of old-time form to the old-time news. It has proven to be clever, interesting, and effective as an advertisement.

It is difficult to account for the interest this little paper has evoked, without giving the matter some thought; considering the times in 1847 and 1907, and estimating the

tremendous difference. We are inordinately fond of looking backward into our history at our youth, or toward our youth, and whoever can treat of our romantic past entertainingly wins our interest. This is made clearly apparent by the fact that the *New York Sun* devoted more than a column editorial to some copies, recalling the people and time of 1847; and several other papers have treated their readers to long reviews.

What is the value and force of such advertising? Human interest. Just human interest, an element never thought of by many advertisers, but by Mr. Snow made a means leading to a great—a notably great—business success.

It would be interesting to examine Mr. Snow's work more in particular, and seek in it for principles which might be applied to the general advertising question. It assuredly shows that to produce an advertising success an advertiser must have a thorough knowledge of the goods to be sold, a thorough knowledge of the people the goods are to be sold to, a thorough knowledge of the proved principles of advertising and a thorough knowledge of himself. All of these qualifications and accomplishments Mr. Snow has in a marked degree.

Appeal from Earthquake City

ED. KEYSTONE:—Hearing of and believing in the natural goodness of heart of the citizens of the United States, especially to those who are in distress, I, as a German, make bold to apply to you for your influence and interest in obtaining material aid for me on account of my heavy and severe losses in this city from earthquake and fire, on the 14th of January of this year.

I am a watchmaker and jeweler and have been here for twenty-five years, and had succeeded in establishing a fair and prosperous business. The earthquake and fire not only destroyed my home, but demolished every article of stock in trade—tools, chronometers, jewelry, watches and all that I had in my store for sale and repairs. A merciful God permitted me to escape with my wife and children and to seek shelter in the open until I could obtain an old washshed for a place of refuge.

I make the appeal to you, that through your valuable paper and your representing my circumstances to my brethren in the profession, that some aid may be afforded me either in tools, materials or means to enable me to start again in my work.

With my wife and my children before me, you can readily understand that it is necessity that compels me to appeal to you, and through you to our brethren for aid and assistance, and I feel in my heart that my appeal to you will not be in vain.

I have had direct dealings with W. Green & Co., the Spencer Optical Co. and several others. I have carried in stock the leading American watches and clocks and jewelry through agents. If any reference is required I can send you many, besides the above mentioned, who are in the city of New York.

Yours respectfully,
Kingston, Jamaica, W.I. RUDOLPH H. FORSTER.

VANITY BAGS

That we have without question the largest, most artistic and popular line of **VANITY BAGS** on the market, is shown by the enormous demand for these goods, made in **Sterling Silver** and **Silveroin**, which is a solid white metal of the same appearance and wearing qualities as sterling silver, and which is controlled exclusively by this house.

Our "exclusive" finish on these is unsurpassed.

Our new line of **Oriental Buckles** and **"New Idea" Bracelets** are unique and artistic in style, and beautifully finished.

Ask your Jobber for the

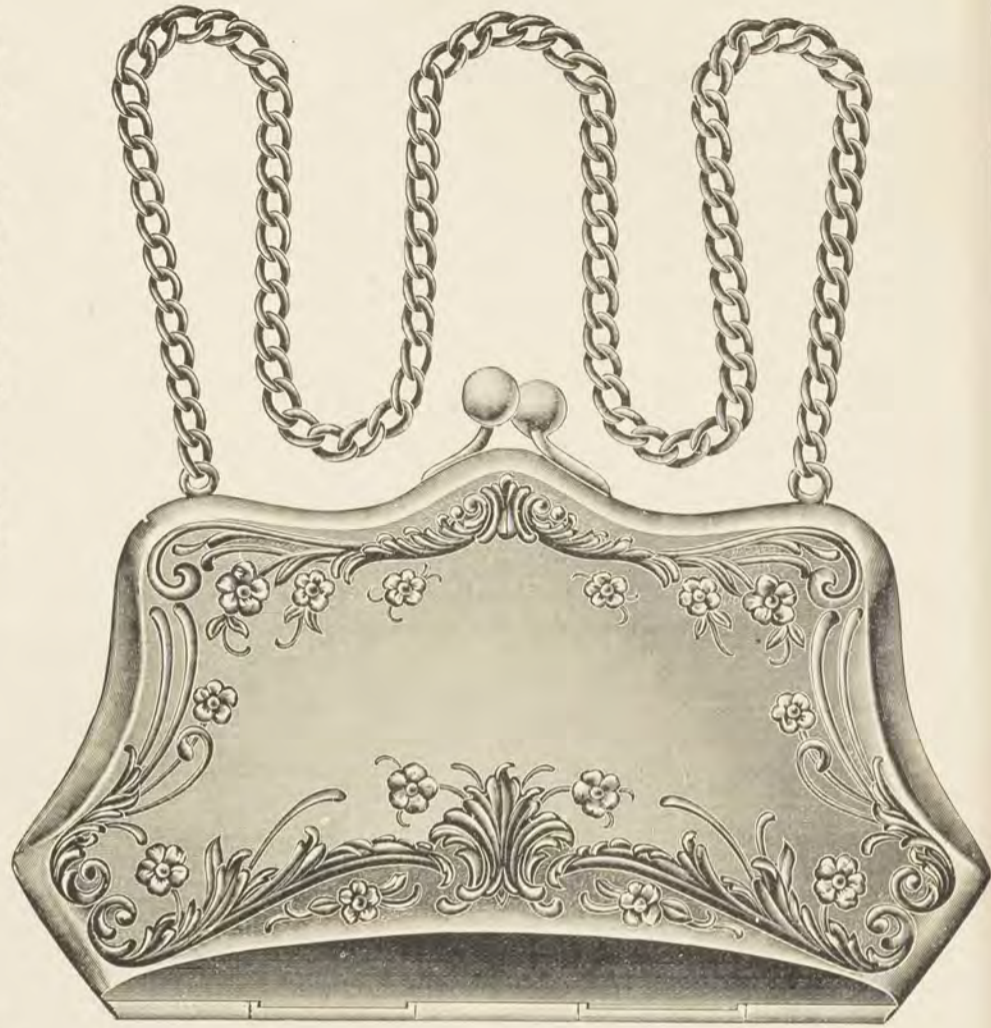
BRISTOL'S "READY SELLERS"

Manufactured by

The Bristol Manufacturing Co.

ATTLEBORO, MASS.

NEW YORK OFFICE—3 Maiden Lane



No. 202



No. 193



No. 204



SAN FRANCISCO LETTER

The prosperity here prevailing is well reflected in the increasing bank clearings. For the week ended at this writing, the bank clearings have amounted to the enormous total of \$53,523,530.14, against a total of \$45,521,881.08 for the same week of 1906. It is now nearly eleven months since the disaster came to San Francisco, and the business houses are doing a larger business than ever before. The increase of the bank clearings reaches nearly 18 per cent. Oakland's clearings for the week just ended amount to a total of \$4,296,379.65, which, if added to San Francisco's total, would make the sum of \$57,819,909.79 for the two bay cities, or more than \$12,000,000 in excess of the same week last year.

E. Hubacek, a retail jeweler, of this city, who resides at 2964 Twenty-fourth Street, was held up by footpads last month and relieved of a wallet of diamonds valued at \$1000. The victim could not give a very good description of his assailants, and the police cannot locate the missing jewels.

L. Nordlinger, of Nordlinger & Son, one of the leading retail jewelry firms of Los Angeles, has returned from his wedding trip. Mr. and Mrs. Nordlinger were entertained by their friends in Chicago and the East while away, and returned in good health after a very enjoyable trip.

The engagement has been announced of Mrs. J. P. Trafton, Los Angeles, Cal., to Dr. E. J. Fleming, of the same city. The wedding will occur in April. Mrs. Trafton has had entire charge of the growing business of the wholesale jewelry firm located on South Spring Street. THE KEYSTONE wishes the happy couple a bright and prosperous future.

Nathan Weisbaum has re-established himself in business in the growing town of Hanford, Cal. His new retail jewelry store is a welcome addition to the thriving business center, and the new and complete set of store fixtures are in keeping with any that are to be seen in his vicinity.

Morris Mayer, of the wholesale firm of Mayer & Weinschenk, returned from his annual Eastern trip last month and immediately started out to call upon his host of friends among the retail trade. Morry, while away, annexed a large assortment of ready sellers, that he is now offering to the trade throughout the entire Coast.

The Standard Jewelry Co. has opened a very attractive new retail jewelry store on Market Street, near Fourth. The new store is centrally located, and it is close to the new eighteen-story building being erected by the Humboldt Savings Bank.

W. H. Bishop, one of the enterprising retail jewelers of Nevada, whose store is one of the attractions of the mining town of Rhyolite, was among the out-of-town tradesmen in this market last month. Mr. Bishop was able to lay in a fine stock of money-getters before leaving for home.

Geo. Hilgerloh, of Manhattan, Nevada, was among the visiting buyers in this market last month. It has been a year and a half since George left San Francisco for his new home, and his many friends in this city were glad to see him. The new jewelry store under our friend's able management is doing a thriving business.

Geo. Fake has erected a very sightly street clock in front of his retail jewelry store, on Broadway, Oakland. His new addition is of fine iron

and is on the curb line, showing four dials, which are illuminated by electricity by night.

S. A. Andrews and wife, of Tacoma, Wash., paid their friends in San Francisco a visit last month. After having spent a very enjoyable vacation visiting all the points of interest in the southern section of California, Mr. Andrews was agreeably surprised to see the amount of progress made in San Francisco since the big fire.

Leon Nordman, president of the Nordman Bros. Co., wholesale jewelers, of San Francisco, is home, after spending a month among the manufacturers of the East. The boys in his home office are kept busy checking and marking the ready sellers that Mr. Nordman has been sending West.

George Marcus, of the California Jewelry Co., wholesale dealers in precious stones, of this city, has returned from Europe after a year's absence. It is needless to say that he returns with a fine assortment of brilliants of the better grade.

A. Eisenberg, Jr., of the well-known firm of A. Eisenberg & Co., is making his initial trip to Europe. He sailed from New York the latter part of March for the diamond markets, and expects to be away for about six weeks.

J. S. Lehrberger, of the well-known jobbing firm of that name, has received a visit from the stork. The young lady reached home on March 2d. This makes a very interesting family of six—three girls and three boys. We are pleased to report that the youngest and her mother are doing nicely.

T. Howard has installed his new store fixtures in his store in Marshfield, Ore., and is amply repaid for enlarging his premises, as his business is keeping up to his improvements.

W. Stammers, who conducts one of the leading stores in Selma, Cal., is now located in his new quarters on East Front Street. Mr. Stammer's new fixtures are models of good taste.

Fred. Roth, the diamond representative of M. Schussler Co., left home for the East and the diamond markets of the Old World on Saturday, March 16th. Mr. Roth will send over some large consignments from the other side, and will follow his last shipment in about six or seven weeks.

O. M. Howard, our old friend, has been appointed general time inspector for the Northwestern Pacific Railroad, and is filling his new position to the entire satisfaction of his host of friends among the railroad men.

T. G. Patton, the retail jeweler, of Placerville, was seen in the wholesale jewelry district recently, and, from the indications, business must be good in his home town, as he was purchasing a fine line of the better class of staples.

H. A. Harris is the newest addition to the traveling force of the firm of J. S. Lehrberger & Co. Mr. Harris comes indirectly from the old house of Geo. Greenzweig & Co., and will solicit business in and around the city. Mr. Harris swells his new firm's force up to nine employees—not a bad showing for one of our youngest wholesale houses.

Fred. Levy, president of M. Schussler & Co. is back home, after being away for two months. Mr. Levy is accused of prolonging his stay among his New York friends until all of the confusion in connection with moving his offices from their old quarters into their fine new commodious headquarters was over; but we know he was delayed through a slight illness, which, we are happy to say, passed away without any serious consequences.

Missouri Society of Retail Jewelers

The executive committee of the above association met on March 14, in the Merchants' Hotel, Moberly, Mo., for the purpose of arranging for their annual meeting and transacting other important business. There were present at the meeting, R. G. Carpenter, of Moberly; H. Haverkamp, of Tarkio; S. J. Huey, of Excelsior Springs; President, R. D. Worrell, of Mexico; Secretary, C. E. Range, of Trenton.

After the transaction of routine business, the president read an invitation from Herman Mauch, of St. Louis, president of the Missouri Retail Jewelers' Association asking the Missouri Society to meet with the Missouri Association in St. Louis sometime in May. This invitation was accepted and arrangements will be made for a three-days' programme which promises to attract the largest gathering of jewelers ever held in the state. The date of this meeting will be announced later, and all the jewelers of the State are earnestly urged to attend.

Revival of the "Swastika" Emblem

The revival of antique ideas, which has proved so profitable to the jewelry trade, is interestingly evidenced in the Swastika emblem now so much seen in jewelry designs. Credit for the revival of this emblem claimed by the enterprising Alaska jeweler, P. E. Kern, of Skagway, who noticed this popular form of cross on various antiques—especially on baskets, carvings, etc., made by the Indians in various parts of this continent. The emblem does not appear to be the special possession of any particular country, having been used in many different countries at various periods in the world's history. Mr. Kern recognized its suitability for jewelry purposes, more especially as it signifies good luck, and he placed an order with a Providence, R. I., manufacturing concern for a quantity of jewelry made in this design. The idea proved quite popular, and the Swastika promises to again take a prominent place in the emblem world.

The symbol has been handed down from pre-historic ages and has been used in countries so widely apart as China, Africa, Greece, Western Europe, and among the Indians and Esquimos of the American continent. It seemed at one time to have been very popular with the Greeks who named it Gammadion, from the fact that its shape resembles a combination of four Gammas, Gamma being the Greek letter which corresponds with the English G.

Renowned Among Clock Faces

The art of the clockmaker has achieved many remarkable triumphs during many centuries. Sometimes it is a clock wonderful for the complexity of its movements and its busy population of automatons that attracts our admiration, like that in the Cathedral of Strassburg; at other times the immense size of the machinery and the dials excites astonishment. This is the case with the celebrated clock in the tower of the Church of St. Rombaut at Mechlin. A writer in *La Nature* thinks this clock possesses the largest dials that exist in the world. There are four of them, one on each side of the great square tower, and their extreme diameter is nearly 37½ feet. The figures showing the hours are nearly 6½ feet high, and the hands have a length of nearly 12 feet.

The New Watch Oil

THE  OIL

Poor watch oil has been the bane of the watchmaker for years past. Much of his best work has been undone by oils which, regardless of cost, cannot be relied upon.

The R. & L. Watch Oil is the watch and clock oil of the future. Invented by two practical watchmakers, it has stood every test and come out ahead. It is the only watch oil which

POSITIVELY WILL NOT GUM

and it will wear from one to two years, giving perfect satisfaction in every way.

The R. & L. Watch Oil has **no bad odor**. It will stand a lower temperature than any other watch oil—in fact, it is in a class by itself—absolutely the best watch oil made.

Write for circular and price-list.

Ranlett & Lowell Co.

Sole Manufacturers

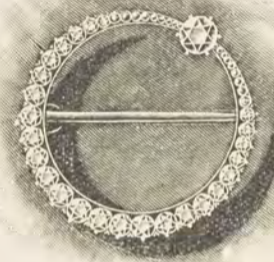
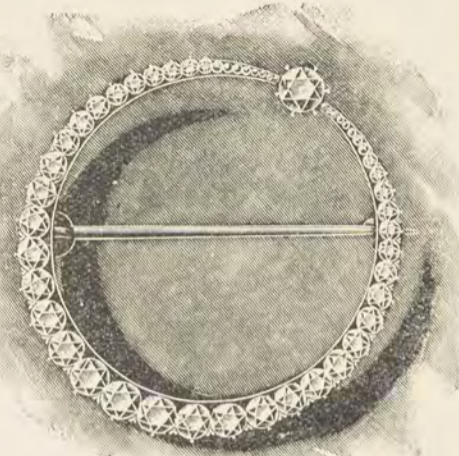
Jewelers' Building BOSTON, MASS.

Diamond Oriental Crescents

Made in twelve sizes

From \$100 to \$800

Write for Selection



The enormous demand for these last fall merits you adding same to your stock at once.

Abel Brothers & Co.

64 & 66 John St.
Abel Bldg.

ORIGINATORS OF

Cor. William St.
New York

Fine Diamond Jewelry, Artistic Diamond Mountings and Gold Jewelry
Miners, Cutters and Importers of Diamonds, Rubies, Sapphires, Pearls and all known
Precious and Semi-Precious Stones

Offices at LONDON PARIS IDAR OBERSTEIN AMSTERDAM ANTWERP

CUTTLE FISH BONE

BUY FROM HEADQUARTERS
WE CARRY ALL GRADES

The mark, **P=E=A=CO.**, insures quality

Secure Our Prices Before Buying Elsewhere. It Will Pay You

P. E. ANDERSON & COMPANY

IMPORTERS

7 and 13 Gold Street, NEW YORK CITY



Magic Silver Polish THE WORLD'S BEST

We offer to the trade this Magic Polish which we claim to be the best in the world. It is utterly impossible to have Polish any better. The slightest touch of this Wonderful Polish will remove tarnish of years' standing without the slightest injury to the article. We absolutely guarantee this Polish to be free from grit or acids.

Ask your jobber for Magic Silver Polish. Once used always used. Price, \$1.50 Dozen

Manufactured by the

WESTERN POLISH CO.

Sioux Falls, S. D.

If your jobber does not keep it, orders will be filled direct

Get Acquainted with Raven



There is money in it; he may not look good to you, but you will forget how he looks after you hear him talk. Raven is like a sinned cat: "A right smart better than he looks." If you are interested enough in an auction to look up the record of Raven you will find it a pretty clean one. Raven has been doing this auction stunt for a long time, and there is no guess work or experiment about it, you can bank on that. Raven guarantees a good, reasonable profit at the close of each day's business, and never fails to make good. Raven can't sell fifty thousand out of a twenty thousand stock in ten days, but will get all there is coming to you—don't lose any sleep about that.

Sales made since Xmas:—The Geo. E. Childs estate, Flint, Mich. (sold out clean, fixtures and all), at a profit above original cost and expense. This store was for thirty years the leading store of Flint. W. H. Hagerty, of Waterloo, Iowa. Sutter Bros., Lewistown, Mont. A. B. Griswold, the leading and best known jeweler of Bay City, Mich. And am now conducting a rousing big sale for Will Stolz, of Saginaw, Mich.

If you will write these firms I will get your sale on the strength of what they say, and you can't write too quick to suit Raven.

JOHN H. RAVEN
HOLLAND, MICH.



Causes of Failure of Retail Merchants

Many Unfavorable Conditions that Make the Pathway of the Business Man Thorny and Hard to Travel

It is as true of business as seamanship that unless a man is posted exactly on what hidden dangers lie in the path of his craft the chances are he will "go under."

The retailer learns in the hard, rugged school of experience, but, nevertheless, he can learn much from the mistakes of others at much less cost. The following words are taken from *Bradstreet's*:

"Those who are disposed to learn from the experience of others who have tried and failed to make a success in business life will find considerable of value in the analysis of business failures, their causes," etc.

A study of the causes of bankruptcy—that morgue into which the corpses of those killed in the battle for commercial existence find their way—is instructive.

Lack of Capital Ruins Many At the top of the list is the lack of capital. This alone is held responsible for one-third of the failures in the country. Incompetence is held accountable for nearly one-fourth of the commercial deaths. Specific conditions (disaster, etc.) cause but 16 per cent. of traders to "go under." Competition as an assigned cause of failure has been less marked than for a decade past. Below are the figures for the last year, taken from *Bradstreet's* record:

Lack of capital	33.4
Incompetence	22.4
Specific conditions (disaster, etc.)	16.3
Fraud	9.2
Inexperience	4.8
Unwise credits	3.5
Neglect	2.9
Failures of others	2.2
Competition	1.5
Extravagance	1.1
Speculation . . . . .	.7

The retail storekeeper often feels himself at a disadvantage when he is located in a town of some few thousand inhabitants. He regards himself as isolated and cut off, as it were, from the great outside world of action.

Hard to Keep Up to Date There is some excuse for this feeling. He lives in an atmosphere of greater conservatism than that which obtains in large cities, and it doubtless is hard to keep abreast of the times when you are forced continually to be educating the community into the advantages of paying spot cash instead of getting goods on credit. Further, many people in the country are too much in love with low prices regardless of quality, and the storekeeper to make a success has to combat this error.

Yet the fact remains, that the smallest retailer in the smallest town is just as much

a merchant as the biggest storekeeper in Chicago or New York.

The salesman or "drummer," generally, is the connecting link between the retailer and the world of wholesale business. The house in Chicago, New York or St. Louis which the salesman represents is impersonal to a great extent. The credit man views him mainly through spectacles of various hues, furnished from time to time by commercial agencies in the shape of reports on his rating. But the drummer looms large on his horizon as something tangible and human—a man to whom he can confide his opinions and troubles and learn what is passing in the sphere of his particular business in the big cities.

Salesman Sometimes Works Ruin Often the salesman really is the retailer's friend and knows it to be to his ultimate advantage to sell the right kind of goods, at the right price, to the storekeeper. Frequently, however, the drummer is out to get orders in any plausible manner, and then the unfortunate storekeeper, too late, discovers he has been duped. The goods which he expected to sell readily at a large profit remain on his shelves, eating up valuable space and interest on the money invested in them.

Right here is where the average retailer "falls down." He doesn't know how to buy wisely. This is the consensus of opinion of the leading men in the biggest wholesale houses in Chicago—men who have spent their lives in studying the retailer, his habits, faults, virtues, and reasons why sometimes he goes to the wall.

Another fault universally attributed to the retailer is lack of system. He doesn't keep track of what profits he makes on certain lines and what he loses on others. Also he often neglects to keep proper record of what money is due to him.

Too Free with Credit The large stores in Chicago soon would be put out of business if they traded on the "hit-or-miss" principles of many small concerns. As statistics show, quite a number of failures are caused through extending too much credit to customers. But there is no computing what an infinite source of annoyance and vexation the credit system is to the country storekeeper. Inability to get his money means inability to buy fresh stock frequently and means consequent loss to him. The writer was told by a salesman that one hardware man, situated in a town of about 3000, had no less than 400 accounts on his books. One customer owed \$225, another \$100. "If I could get all this money outstanding, I'd retire from business," said the storekeeper sorrowfully.

The manager of the country trade credit

department of one of the biggest wholesale houses in the world speaking on the matter of failures among retailers in general, said:

"We have many thousands of cases of dealers who 'go under' coming before our notice, and if I were asked to name the most prolific cause of disaster, I would say it is want of ability in buying—either in attempting to do too large a business on too small a capital or buying too much stock.

Over-Stocking Often Costly "In a lecture I recently gave before some college students I stated that a business man now has as much need of training as a professional man. Yet hundreds of men embark in a retail business with but little knowledge of merchandise, and are entirely ignorant of the first principles of successful trading, buying in the lowest market and selling in the highest.

"Buying too much stock largely comes under the caption of trading on an insufficient capital. If a man has a capital of \$5000 and invests that amount in merchandise and then gets another \$5000 worth on credit, he is courting disaster; yet it sometimes occurs. It may be possible for a man with a capital of \$5000 to carry a stock of \$7500 and prosper in good times; but he has no reserve fund and is not safeguarding himself against emergencies.

"I remember the case of a man who had a capital of \$10,000. Not deeming it enough, he borrowed another \$10,000 from a friend of his, and gave a judgment note. Everything went well for a time. Business was good and prospects bright. Then a rumor—entirely unfounded—reached his friend that things were not well with the retailer. Immediately he required payment of the note, and the \$20,000 worth of merchandise was sold for \$10,000 at a forced sale. The unfortunate merchant who a short time before had possessed \$10,000 in hard cold cash was left penniless.

Knowledge of Business Essential "It hardly is possible for a man to succeed in a business which he doesn't know, and he should not only know it thoroughly to make a success, but should have some gift for management. The retailer, to make money, should be able to instal a system of keeping track of his position all the time and not make a guess as to how many goods he needs to buy. The man who buys a small stock of goods and does not get into debt that he cannot quickly discharge, also is able to turn his stock over more readily. His money is not tied up. It is in the quick turning over of stock that profit is made under modern retail business, and another vital point in these strenuous days of competition is that a man to succeed always must discount his bills." —George Brett

688f



No. 31

Emblems for the B. of L. F. & E.

You are having calls for emblem jewelry of the newly-named Brotherhood of Locomotive Firemen and Enginemen.

Our design has been thoroughly advertised in the "Official Magazine" and by direct correspondence with 700 subordinate lodges.

This design was originated by us and is fully covered by trade-mark registered in the United States Patent Office—persons manufacturing or selling an infringing design will be prosecuted.

Nearly 75,000 members to be equipped—you want to get your share of the business quickly.

Write direct for price-list—all goods are best quality, solid gold only, and guaranteed. Glad to send memorandum package at our expense.



No. 37



No. 31 1/2



No. 40

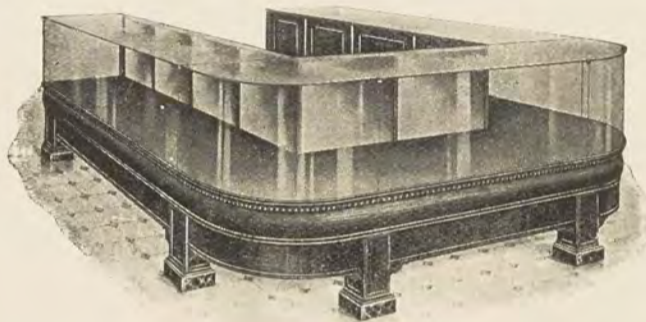


No. 83

These illustrations show a few of our designs. Write for complete Catalog.

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235 SUPERIOR ST., CLEVELAND, OHIO



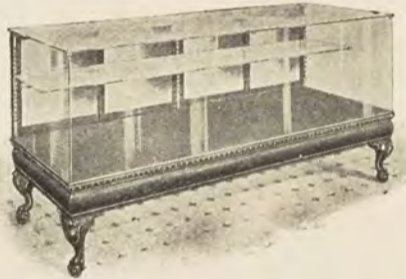
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One case or your complete outfit.

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INGERSOLL WATCHES
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Plain Polished, Sterling Silver
Heavy hand-made.
Height, 6 3/4 inches.
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ALLSOPP & ALLSOPP

Branch Office, SAN FRANCISCO, CAL.

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Underground in the Heart of Chicago

Subterranean Roadways—Freight Carriers Under the City—A Wonderful Achievement

A trip underground has always about it something of fascination. Whether it be to the buried cities of the Old World, to the Mammoth Cave of Kentucky, to the vast areas of our country's mines, or merely down a ladder into an old cistern, there comes over one always, I imagine, a tingle of excitement as of an unexpected introduction to that which is uncanny, says E. S. Hanson, in the *Epworth Herald*.

You are sure to think, on going down, of the stories you have read of men who have lived all their lives away from the light of the sun, and of the sightless fishes which are found in subterranean pools. God's sunlight is such a mighty factor with us that we feel orphaned without it.

Descending to the Tunnel

And such was the way I felt when I was one day taken to the basement of the big building, given standing room on a platform elevator and lowered forty feet or more into the ground. Our party then took seats in a little open car, which had benches on the sides and a narrow aisle in the middle, like a diminutive



Coming to the surface with excavated material

carryall: a dumpy little electric motor car, getting its power from a trolley wire above, which we could have reached with our hands, backed up to our car and was coupled on. There was a muffled whistle from a compressed air tank, and away we sped over a track only two feet wide, through miles and miles of passages which the tall members of our party could traverse with safety only by closely heeding the injunction to "look out for your heads," crossing other similar tracks at regular intervals, turning corners which had familiar names upon them, like street signs; on and on, for forty miles, cramped in the little car, with no "scenery" save bare walls of steel-ribbed concrete—yet the trip is one of the most interesting which one may take anywhere in the country.

And this all happened right here in Chicago. Yet there are in Chicago even now well-informed people who do not know of the existence of this little system of roads which I passed over. In fact, it is stated that several miles of this tunnel were built and in operation almost under the very buildings of down-town property holders before they knew of its existence.

And now, you ask, what is it and what is it all for? And to tell that, we shall have to go into a little bit of history.

Origin of the Tunnel

Some years ago a new telephone company was formed in Chicago. To carry its wires through the down-town district it planned a system of tunnels large enough for men to work in. To facilitate the removal of

the dirt excavated and the handling of construction material, a track was put in and equipped with cars and motors. This proved to be so advantageous that the idea was developed that this system of tunnels could be utilized for carrying of freight, thus relieving the streets of the business district of a large amount of their traffic, which has become so extensive as to be almost an unsolvable problem.

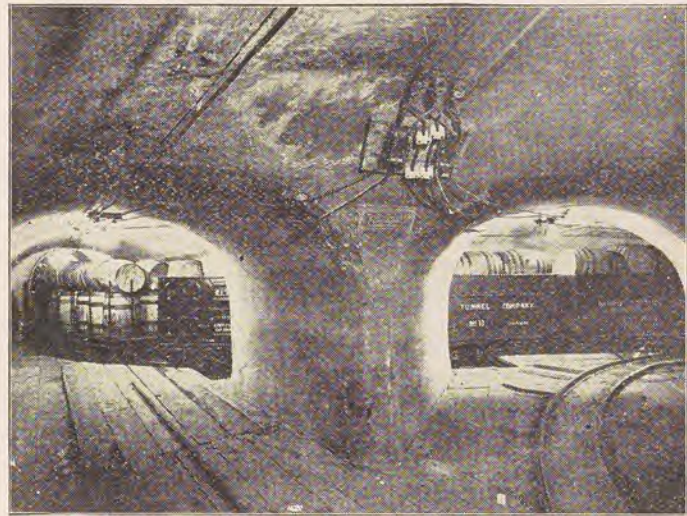
And so there has been built under each one of these streets another street, bearing the name of the thoroughfare above, a tunnel six feet wide and eight feet high, carrying a two-foot track, over which thousands of tons of freight are now being hauled every day and which will carry more and more as time goes by.

This tunnel system has connection with the railroad terminals, the post office and a large number of the mercantile houses in the city. This very paper that you are now reading may have been whirled along on this underground railroad from the big new post office to the railway station from which it started out to your town. The paper on which it was printed may have been taken in this way, when it came from the mills, from the freight depot to the storage warehouse. And if you have ever seen a load of these big rolls of paper going through the street, piled high in the air and drawn by four big horses, you know what it means to have a part at least of this traffic taken off the streets.

Delivering Freight

One of the scenes that particularly caught my attention, was the cars running into the basements of mercantile establishments. And not only can it be unloaded in the basement, but taken on the elevator to any other floor where the goods are needed, thus saving a large amount of handling. And then there is the matter of the delivery of coal, the removal of ashes, the carrying away of excavated material from the sites of new buildings, all being accomplished in this subterranean way. The hundreds of thousands of tons of coal delivered annually to the big buildings in Chicago's "loop" district alone are a source of annoyance and delay upon the streets, even when wagons are kept in motion; and if, as is not infrequently the case, one of them breaks down on the street-car track during the rush hours, the annoyance is aggravating and the loss of time incalculable.

More than fifty of these mercantile buildings already have connection with the tunnel, and some of them are now receiving their coal in this way. Two different methods of handling the coal are in use. The first is to have a side track run directly into the sub-basement, on which the cars of coal are taken directly to the bins and dumped. By the second method the coal is dumped in a hopper at the tunnel level and elevated to the sub-basement by means of buckets on an endless carrier. A similar carrier takes it to the different bins, the complete delivery being accomplished automatically at one operation. As compared with team delivery, the statement of time in which coal can be delivered in this



A loaded freight train rounding a curve

way seems ridiculous. It is stated that on a delivery which was timed, a car of coal was received by the subway in one minute and twenty seconds, and in eighteen minutes afterward the load had reached its destination in the coal hole of a big Dearborn Street building. This was accomplished, too, with no noise, no dust, no obstruction of the streets, no labor disturbances.

One of the most roomy tunnel installations with the Chicago Subway is beneath the post office. It has double tracks, high arches, and automatic delivery system by endless belt line—all now in actual operation. Not only the newspapers of Chicago, but all the mail from the railroads passes to the post office through the Chicago Subway, saving the great delays of the teaming transportation system.

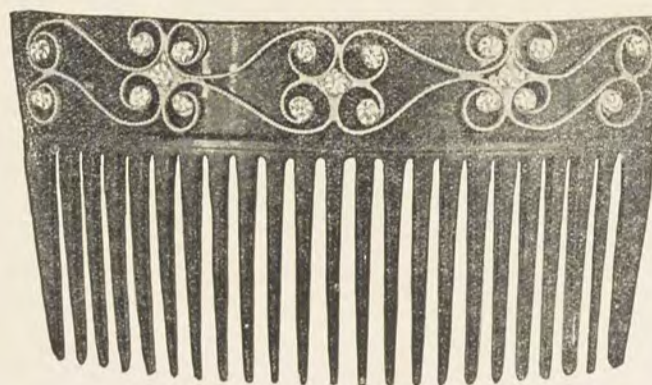
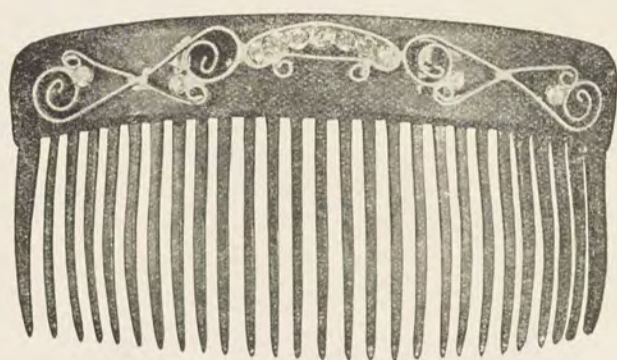
The subway is dry and sweet, with an even temperature of about fifty-eight degrees, and perfectly ventilated. When the problem of ventilation appeared, the management did not send for sanitary engineers or experts on ventilation, but sent a man through the district to inquire what basement boilers had poor drafts. Then to the owners of such boilers was offered a draft of air from below. The result was magical. Poor furnaces and bad chimneys quickly became economical and the demand for subway air was such that it has since had to be systematically regulated. The ventilation problem was solved without expense to the subway.

This tunnel system has not the historic interest of Herculaneum and Pompeii, nor the attraction of the Mammoth Cave for the one who is interested in the wonders of nature. But for the student of present-day achievements, no more delightful underground trip could be planned. For what could more vividly impress upon one's mind the vastness of the engineering enterprises of to-day? And this enterprise originated with and has been carried out by one man, who I am told is getting a larger salary than the President of the United States.



Belt conveyor to post office

There is Always Something New in "Checo" Brand Combs



If you want the latest patterns in combs, use **"Checo" Brand Combs.** No matter if you saw the line last week, there is something new this week. Something you should have in stock. It is an easy matter for you to see these combs. Just write us to send you samples by prepaid express. If you find any that don't suit you, send them back at our expense. Don't put this off till some other time, but **WRITE NOW.**

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Silver-plated Pins, per doz.,	\$1.00
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25% Discount to Retailers	

Silver-plated Pins retail at 10 cents and Sterling Silver at 25 cents. They are finely made of heavy metal, and on the Sterling Silver Pins the best French enamel is used.

We also make to order Badges, Medals and Buttons in Gold, Silver, Bronze or Ribbon, and we rigidly guarantee everything we make.

The **CONE CAP** STYLES of
Waterman's Ideal Fountain Pen
 SHOWN IN ALL SIZES

(Cuts actual size)



Size No. 12 Plain Black; also Chased, Mottled or Cardinal.
 Also made in sizes listed

No. 12 \$2.50	No. 14 \$4.00	No. 16 \$6.00	No. 18 \$8.00
No. 13 3.50	No. 15 5.00	No. 17 7.00	



Size No. 13 Chased, Gold-mounted, Middle Band, 18-K. Filled.
 Also made in sizes listed

No. 12, G. M. M. \$3.50	No. 14, G. M. M. \$5.00	No. 16, G. M. M. \$7.00	No. 18, G. M. M. \$9.00
No. 13, G. M. M. 4.50	No. 15, G. M. M. 6.00	No. 17, G. M. M. 8.00	



Size No. 14 Cardinal, with Clip-Cap. This colored pen used largely for red ink.
 Also made in sizes listed

German Silver Clips add 25c. to all prices.

No. 12 \$2.50	No. 14 \$4.00	No. 16 \$6.00	No. 18 \$8.00
No. 13 3.50	No. 15 5.00	No. 17 7.00	



Size No. 15 Gold-mounted, Chased Bands, with Clip-Cap (also with two plain bands as on No. 13).
 Also made in sizes listed

Gold Filled Clips add \$1.00 to all prices; Solid Gold Clips add \$2.00 to all prices.

No. 12, G. M. \$3.50	No. 14, G. M. \$5.00	No. 16, G. M. \$7.00	No. 18, G. M. \$9.00
No. 13, G. M. 4.50	No. 15, G. M. 6.00	No. 17, G. M. 8.00	



Size No. 16 Filigree; Sterling Silver with Clip-Cap, Black or Cardinal.
 Also made in sizes listed

Sterling Silver Clips add 50c. to all prices.

No. 12, Fil. \$5.00	No. 14, Fil. \$7.00	No. 16, Fil. \$9.50	No. 18, Fil. \$12.00
No. 13, Fil. Not made	No. 15, Fil. 8.50	No. 17, Fil. 11.00	



Size No. 17 Chased; also Black or Mottled, with Chased or Plain Gold-mounted Cap.
 Also made in sizes listed

No. 12, G. M. Cap \$3.50	No. 14, G. M. Cap \$5.00	No. 16, G. M. Cap \$7.00	No. 18, G. M. Cap \$9.00
No. 13, G. M. Cap 4.50	No. 15, G. M. Cap 6.00	No. 17, G. M. Cap 8.00	



Size No. 18 Mottled; also Black, Chased or Cardinal.
 Also made in sizes listed

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L. E. Waterman Co., 173 Broadway, New York

CHICAGO BOSTON SAN FRANCISCO MONTREAL LONDON PARIS

The Story of Waterman's Ideal Fountain Pen

told in Five Words

First Word—THE PEN



EVERYBODY writes. Almost everybody writes differently. Each has some preference in the selection of a pen. This we recognize.

Therefore, for the man who wishes a stub pen we have a stub pen; a Falcon for the man who likes a Falcon pen; for manifolding we make a stiff pen that writes like a pencil and makes a better copy; for stenographers we have special points, and much of our success has been due to our ability to satisfy stenographers; for bookkeepers we have pens that make fine lines and deposit little ink, so that blotting paper is unnecessary.

In short, pens are made for the finest work and the most delicate shading.

These pens are made in all sizes, and the size of the gold pen determines the price; because, as the pen increases in size the barrel increases in ink-holding capacity and the whole increases in price.

Make your mark with Waterman's Ideal Fountain Pen, whether you want the finest of fine lines or the coarsest of coarse ones. We have a pen to suit your hand. *Insist* on being satisfied.

Pens are of 14-Kt. gold unaffected by the acid in any ink. Points are tipped with iridium.

Second Word—THE SPOON FEED



WHEN the Spoon Feed was first introduced it was the only one of its kind on the market. It was flat and broad. At the present time almost every fountain pen has a flat broad feed. There is no virtue, however, in mere width of rubber. The merit of the Spoon Feed lies in the semi-circular pockets cut into the side, which are not visible ordinarily, and

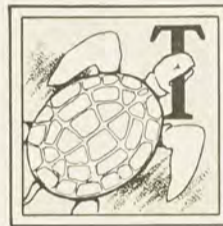
which hold any overflow of ink caused by air pressure or otherwise. This is the feature that is patented. This is the Spoon Feed.

It eliminates the flooding so common to all ordinary fountain pens. It makes it a safe pen for bookkeepers and other careful writers.

The feed question is the rock upon which all other makes have foundered, whereas with the Ideal this proper feed principle has had the effect of making it the Standard of the World. No other feed will give such a perfectly uniform flow of ink, no other pen gives always enough and never too much. This is perfection. Beyond it there is nothing to attain.



Third Word—THE CLIP-CAP



THIS Clip is fastened to the cap in such a way as to make it almost a part of the Cap itself. It enables one to carry a fountain pen in either coat or vest pocket with a positive sense of security. When vests are discarded it is a boon. It will hold your pen securely either inside or outside of your loose summer coat. It will keep the pen from rolling off the desk.

Clips add to the cost of the Cap or the pen as follows: German Silver, 25c.; Sterling Silver, 50c.; Rolled Gold, \$1.00; Solid Gold, \$2.00.

The careful writer needs it. The careless one cannot keep a pen without it.

Fourth Word—STYLES



THE plate of pens shown, illustrates gold pen sizes from No. 2 (the smallest) to No. 8 (the largest), and indicates the relative sizes of our cone cap holders, No. 12 to No. 18. These are shown in the most popular styles. Almost every one of the different styles shown is made in all of the sizes illustrated—but the ones shown in the illustrations are only a few of those we carry. Waterman's Ideal Fountain Pen has come to be regarded by people of good taste as an Ideal gift and, therefore, many presentation styles are manufactured, because a gift should be beautiful as well as useful.

It is an exceptionally appropriate gift from employer to employee, because it will be a convenience to the recipient and a satisfaction to the donor, in that it will save time for both.

Fifth Word—THE BEST WORD IN THE "IDEAL" WORLD



THIS word makes all the difference in the world, because it means the genuine. It enables you to select the best. You will find this word "Ideal" stamped on every Waterman's Ideal Fountain Pen. It means extra care taken in the process of manufacture; it means the best materials, the widest range of pen points (which is an important matter); it means the most valuable patents in the fountain pen world; it means reliability and satisfaction and the guarantee of exchange until satisfied.

The word "Ideal" is your protection. Look for the word in the world. Almost a quarter century old.

Unless the gold pen is adapted to your style of handwriting, even this fountain pen will not give maximum satisfaction. Pen points are made to suit the varying tastes of all writers. *Insist* on being satisfied.

L. E. Waterman Co., 173 Broadway, New York

CHICAGO

BOSTON

SAN FRANCISCO

MONTREAL

LONDON

PARIS

Salesmanship a Profession

THE day is not far distant when the scientific salesman will be looked upon as one of the most valuable assets the company possesses, says David Murdock in *Selling Magazine*. Salesmanship is a profession. Where is the professor who needs to give more study than the salesman to the different temperaments of human nature?

We have the manufacturer's salesman, jobber's salesman, or retail salesman, each of which is required to carefully study human nature. To have a good commercial education and be born with the business instinct. He has at all times to have a smart and well-groomed appearance without giving the impression of being a "sport." The most successful, all will admit, is strictly temperate. He who imbibes even a little soon falls by the way and makes room for the more wise, energetic and clear headed.

The Value of Time

One of the many things a salesman has to learn before he can hope to achieve any great success is the value of time. It is the only kind of capital that costs nothing to get and everything to lose. Too many on the road to-day pass their nights in places where they gain no knowledge or education. They don't get to bed till early morning, and the consequence is that they don't feel like starting out at a business hour. You can meet them leaving their hotel any time up to mid-day, leaving the energy and hustling abilities necessary for the day's duties far behind them. The spendthrifts of time are sure candidates for failure. They never attain any standing, they retard the progress of the firm they represent—luckily only for a short time.

If some salesmen took the same feverish interest in their firm's welfare as they take in ball games, pugilistic statistics, shows, etc., and followed up customers as closely, they would have a much larger salary coming at the month's end. The human mind holds only so much, if you fill yours up with all the latest winners, you are bound to crowd out the things which go to make you a successful business man, and a credit to your profession.

Salesmanship is the art of raising to its highest degree every factor that may influence a sale, and the spirit of the art is thoroughness. To meet with any success whatever, you must have absolute faith in the firm you represent, have a thorough knowledge and confidence in the goods you offer for sale.

Confidence and the Ready Reply

Confidence is a strong factor in the success of a salesman. Without it he might as well stay at home, call it off at once, get another situation. The more confidence a salesman has the better front he will put up, and the front always counts in making sales. Sometimes more depends on the salesman's character and magnetism than on the goods themselves.

If the salesman is shaky, not sure of his ground, uncertain and slow in replying to the questions asked, he has prejudiced his chances of taking

away an order. The buyer is quick to detect that he lacks confidence in himself or his goods, and so loses confidence in him.

The salesman must also have absolute self control; he has but one nature and one disposition, but is coming in contact with thousands, no two of whom are exactly alike, and methods that will be agreeable and proper in the eyes of one man, are offensive and fatal to the other. He may approach and greet one man with outstretched hand, when another would consider this an act of familiarity and an affront to his dignity.

Take the matter of tools. Many, yes quite a large proportion, of the firms to whom you have

where the goods are to be on sale, or to the salesmen they may have on the road, and will also ask to have his goods put in some prominent part of the store in full view, as soon as they arrive. These requests will in all cases be granted, and prove beneficial to all parties concerned. I have known of cases where under these conditions the goods ordered were sold before delivery had been made.

Value of Getting Together

Let me put forward the following proposition to those jobbing or retail houses who employ salesmen either behind the counter or on the road.

If you get interested in some new line of goods that you find will add to your bank account, you certainly want to carry them in stock, and as it is admitted you have some trouble in getting your traveling men to take up new lines, why don't you call as many of your salesmen together as possible into the manager's room or other place at an appointed time, and have the representative of the manufacturer of this new line you are about to carry, in attendance with his samples to demonstrate and enlighten your salesmen on the advantages of this particular line over some other line. Make them familiar with the process of construction from the raw material to the finished article. Your salesman will be better prepared to meet a competitor when he has a comprehensive knowledge of the goods he is about to sell, their advantages and the quality of the material entering into their construction. This information enables him to discuss his business more intelligently, makes him master of his trade, and places his adversary who has not a corresponding knowledge, at a disadvantage.

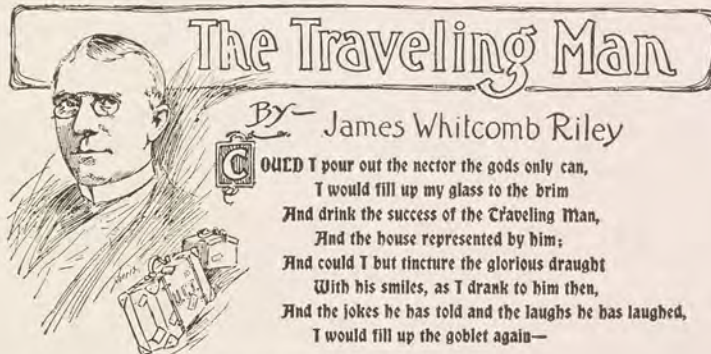
Another way equally beneficial, if your staff is sufficiently large to warrant such a course, is to have an inexpensive dinner, say once a month, where the proprietors or heads of the different departments can meet their help on an equal footing, exchange their different views on current matters pertaining to their business, and at the same time be full of social good fellowship. Have each meeting addressed by a representative from the manufacturer of some special article you carry in stock; in

this way you are instructing your help in the business, increasing the friendliness of relations between employees in their work and making them more valuable to the concern.

The contented element of a business house is no unimportant one, and without it no business can be carried to its full effectiveness.

New Use for the Sand Blast

The cutting and wearing power of a stream of blown sand, long since utilized for various purposes, has lately been employed for testing building materials at the Gross-Lichterfelde Institute in Germany. Granite, pine wood, linoleum and other substances used in the construction and furnishing of buildings, are subjected for about two minutes to the action of a blast of fine quartz sand, under a pressure of two atmospheres. The results show the resisting powers of the substances tested to the effects of wear. This test is applicable to other materials,



And drink to the sweetheart who gave him good-by
With a tenderness thrilling him this
Very hour, as he thinks of the tear in her eye
That salted the sweet of her kiss;
To her truest of hearts and her fairest of hands
I would drink, with all serious prayers,
Since the heart she must trust is a Traveling Man's.
And as warm as the ulster he wears.

I would drink to the wife, with a babe on her knee,
Who waits his returning in vain—
Who breaks his brave letters so tremulously
And reads them again and again!
And I'd drink to the feeble old mother who sits
At the warm fireside of her son
And murmurs and weeps o'er the stocking she knits.
As she thinks of the wandering one.

I would drink a long life and a health to the friends
Who have met him with smiles and with cheer,
To the generous hand that landlord extends
To the wayfarer journeying here;
And I pledge, when he turns from this earthly abode
And pays the last fare that he can,
Mine host at the Inn at the End of the Road
Will welcome the Traveling Man.

sold tools, will immediately on their arrival have one of the storemen unpack them and place them in some dark corner or on a shelf, without, in many instances, knowing what the goods are. The buyer, it sometimes occurs, does not know the goods have arrived, nobody in the store knows anything about them. The clerks at the counter of this particular department never heard of them. Some customers may have called to purchase these particular goods, but before the one clerk asks the other and an argument takes place as to whether they have such a line in stock, the customer has left, going somewhere else. The salesman calls again on his next journey, probably three months later, and finds the goods still on the shelf, therefore no repeat order.

The scientific salesman does not consider he has performed his duties by merely booking an order and going on to the next call—not at all. As soon as he has convinced the buyer of the value of his goods, and booked an order, he inquires of the buyer if it is convenient at this time for him to demonstrate their merits to the clerks behind the counter

AIKIN-LAMBERT CO.'S

Self-Filling Fountain Pen

Retail 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.

NEW and GOOD

Mercantile Fountain Pen

Made and fully guaranteed by

AIKIN-LAMBERT
CO.

19 Maiden Lane

NEW YORK

WRITE FOR SAMPLES AND PRICES

STEEL DIE EMBOSSING
AND
COPPER PLATE ENGRAVING
& **PRINTING TO THE TRADE**

W. M. FREUND & SONS.
174-176 STATE ST.
CHICAGO.
EST. - 1865

QUALITY

REMOVAL

We will remove to 45, 47 and 49 Randolph Street about May 1st, where we will occupy the entire top floor. In our new quarters we will have double our former space, better light and increased facilities for taking care of our growing business. There will be no interruption in filling orders.

Crescent-Filler

Your Stock Not Complete Without It

The Conklin Pen has become a big factor in the fountain pen business. We are spending thousands of dollars advertising the merits and superiority of the Conklin Pen in all the leading magazines and publications of this country, and the people are beginning to understand its great advantages and are demanding it in preference to all other fountain pens. Can you afford to not handle the Conklin? Some other dealer is supplying your trade now. Send us your stock order to-day. One price to dealers everywhere.

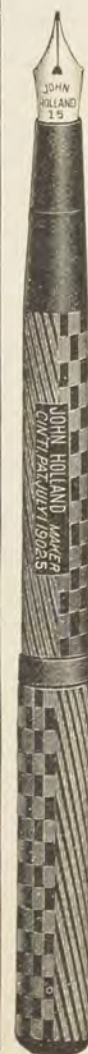
Conklin's Self-Filling Fountain Pen

How it Fills Itself

It is really self-filling. As the illustration shows, a pressure of the thumb on the Crescent-Filler compresses the reservoir inside the barrel of the pen. The pressure released, the pen is full, ready to write. No complicated parts, nothing to take apart, nothing to lose, nothing to get out of order. The same movement that fills the pen cleans it. The writing qualities are unequalled. The flow of ink perfect from the first stroke to the last dot. Cannot leak or "sweat."

No dealer need hesitate to lay in a stock of CONKLIN PENS. The Conklin has "made good" everywhere. We guarantee every pen you sell. You'll double your order in a short time. We furnish every dealer who sells the Conklin with a lot of very attractive advertising matter and other good helps for selling.

THE CONKLIN PEN CO.,
14 Manhattan Building, Toledo, Ohio, U. S. A.
93 Reade St., New York. 520 San Pablo Ave., Oakland, Cal.
1652 Curtis St., Denver. S. & W. Building, Winnipeg, Can.
Address of Foreign Agencies furnished upon application.

JOHN HOLLAND
Dropper and Self-Filling
FOUNTAIN PENS

Patented July 1, '02; Nov. 20, '05; May 29, '06

Each fitted with our Patent Elastic Fissured Feed

GUARANTEED PEN PERFECTION

Made in 7 sizes and over 100 styles

Handsome show cases supplied gratis for the display of stocks.

Our productions have been in daily use for two-thirds of a century, and have earned a reputation for superior writing qualities and great durability in the hands of the writing public throughout the world.

We also make a line of good, popular-priced pens, offering the greatest possible value for the money, that can be handled to advantage in connection with best goods.

The John Holland Gold Pen Co.

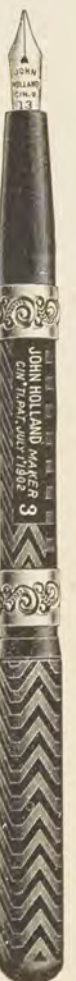
Factory and Home Office

EST'D. 1841 127-129 E. Fourth St., CINCINNATI

Eastern Sales Department, 82 Duane Street, New York

Manufacturers of Fountain, Stylographic and Gold Pens.

Fine Pencils, Pen Holders, Thermometer Cases





The Prospects for Springtime

Conditions are very favorable for the trade this year. A careful scrutiny of the field, including reports from all sections of the country, seems to prove beyond question that there will be the biggest stationery business in 1907 that has ever been known. So far everything points to a continuation of the favorable conditions, but the future is always more or less shrouded in mystery and uncertainty, and the possible market cannot be accurately gaged so far in advance.

The stationer, or he who deals in stationery as a side line, can do no better than to buy staple goods for selling through the season. It is a matter which requires some consideration, and the result of the study of the conditions which surround each dealer will depend upon his knowledge of his particular field. Without this knowledge intelligent buying, the kind that promises to produce business, and therefore profits, is impossible.

When one undertakes to offer suggestions regarding the goods a dealer should buy, he is confronted with a problem which is more or less troublesome. The difficulty is to indicate to dealers so differently situated the best goods to buy to satisfy the dealer's particular grade of trade and at the same time secure as much profit from the sales as possible.

In stationery, as in everything else, the best class of trade pays the best profit. That is to say, if a dealer handles a good class of goods he is more likely to make a good profit than he is if he handles cheaper grades. It requires greatly increased sales of the cheaper class of goods to pay the profits which the smaller sales of the better class pay. It is, therefore, essential that the dealer know his trade and that he buy the goods which will sell best in his particular locality.

The staple goods this season are all superlatively attractive. For example, the spring papeteries are marked by a richness and restraint in treatment which have combined to produce lines that are unequalled for beauty and utility. The same observation applies to other goods which are included in a stationer's list. And the quality of these offerings is such as to warrant liberal buying, the actual quantity purchased to depend, of course, upon the circle of customers.

In handing the papeteries for spring and summer, it is well to remember that certain large manufacturers make a specialty of pound paper and offer very attractive goods

under pound-paper brands. More and more each season pound paper is coming to be popular. Certain large department stores are buying it up by the ton. One large department store in New York placed an order with one firm for five tons at one time. And sales are everywhere increasing. The papeterie hasn't lost any of its popularity, but all people are writing more letters and the increase naturally increases the quantity of paper wanted. The pound paper offers opportunity to secure certain papers for a lower price, relatively, than they cost in papeterie form and purchasers who use considerable quantities are buying in this way. It will be well for the dealer who has never sold pound paper to investigate the possibilities of his locality and introduce it there if he deems it wise.

The New Spring Goods

The spring papeterie boxes are attractive, as before stated, but they are not as showy as the fall and holiday lines. The fact that there was a lithographers' strike a good part of last year, which has not yet terminated in this country, has had much influence on the box tops which are now being offered. But even though some are not as showy as they would have been under more favorable conditions, the tops are quite satisfactory in the main and the display which they enable a dealer to make can scarcely be criticized.

It is well to remember that often one's trade doesn't really care so much for the especially showy boxes, accepting them only because they are offered. There are customers who would prefer the plainer ones if they could be obtained. With the artistic boxes offered this spring, there is fully as much real merit as is usually seen in the elaborate holiday lines. The displays will contain elements which have never previously appeared and which will, under certain conditions, improve the show windows and the cases in which they are exhibited.

Advertising by Sample

There is one good plan for calling attention to the department, which numerous dealers have adopted with advantage. They have sent samples of new papers or new surfaces that they have introduced. There is nothing quite so satisfactory to a lady who wants good stationery, as to see and use a piece of the paper she may be asked to buy. Ocular demonstration is much more satisfactory and forcible than description. No one can so describe a paper that it can be appreciated. But if the dealer sends out a sample, then the possible buyer can use it and see its good qualities. To be sure, there is never any risk in buying a paper made by leading houses, but occasionally one finds a

surface that is a little less than satisfactory and it is better to have the customers see and try samples before buying a box or more. On the other hand, if the paper is good or has some feature which should especially commend it to users, a sample will make this quite evident. Under these circumstances it is very easy to understand what an important part samples may play in building up a dealer's business.

New Rules for Post Cards

Any one may make his own post cards, souvenir or otherwise, and he won't have to mark them "post card," according to one of the last orders issued by Postmaster-General Cortelyou before his retirement from that office. Moreover, these private mailing cards may be of any color or combination of colors so long as the color scheme does not interfere with the legibility of the address or the postmark. The cards must conform, though, in weight and size to those printed by the government. They must not be larger than 9 by 14 centimeters (about $3\frac{9}{16}$ by $5\frac{9}{16}$ inches) nor smaller than 7 by 10 centimeters (approximately $2\frac{3}{4}$ by 4 inches). The cards must not be folded.

Mr. Cortelyou's order also forbids the use of mica, glass, tinsel, metal and similar substances on the post cards unless these be enclosed in envelopes. This prohibition is made to protect the lungs of postal employees from the flying particles of the barred substances, which come off the cards at the slightest handling or friction.

Ambidexterity

A standing puzzle is the almost universal tendency of men and women of all races to use the right hand in preference to the left. Examination of skeletons has shown by the differences of bone development that this tendency is of very ancient origin. It is often ascribed to the fact that the left hemisphere of the brain—which controls the right side of the body—possesses, in normal persons, a superior development. But those who think that the preference for the right hand is an acquired habit, although one of immensely long standing, suggest that perhaps the left cerebral hemisphere has become better developed as the result of the overuse of the right limbs.

At any rate, a society has been founded in London for the cultivation of ambidexterity, and it will be for the physiologists of the future to determine whether education in the use of the left hand can affect the development of the right side of the brain.

THE "CLEAN-TO-HANDLE" FOUNTAIN PEN

Moore's Non-Leakable Fountain Pen

Retails from \$2.50 up



THE FOLLOWING CLAIMS WE GUARANTEE:

1. That the pen is filled without unscrewing the section, thus avoiding soiling the fingers with ink when filling.
2. That the pen is drawn back into the barrel or reservoir after using, and when the cap is turned on is absolutely AIR and INK tight.
3. That it can be carried in any position in any pocket and cannot leak.
4. That the pen is always ready to write the instant it touches the paper.

- These pens, being constructed upon entirely different principles from other fountain pens are, without doubt, the nearest perfection of any pens manufactured.
5. That the barrel being AIR-TIGHT, the ink never thickens or dries up, and if the pen is not used for a year, it writes just as readily.
 6. That we have the ONLY desirable fountain pen IN THE MARKET for LADIES' USE.
 7. That our "Tourist" or Military Pen is the best pen made for travelers or military use.
 8. That we use nothing but the highest grade gold pens.
 9. That we use pure gum rubber, and the superior finish and lustre of our holders is very noticeable when compared with others made from common stock.

Sectional View of Pen Closed for Carrying



American Fountain Pen Co.

Boston, Mass.

R. W. SPENCE, New York Agent, 152 Broadway
I. P. PATCH, Philadelphia Agent, 1029 Chestnut Street



Get Ready For Your Spring Trade
by stocking

THE CROCKER FOUNTAIN PEN

You Blow it to Fill it
You Blow it to Empty it
You Blow it to Clean it

You Don't Blow it to Sell it

There is no need to, it sells itself and every purchaser is a satisfied one. Guaranteed Unconditionally.

IT Fills the quickest
Keeps the cleanest
Writes the best

Write NOW for the most liberal proposition ever made by anybody, in which We Spend Every Cent in advertising you!

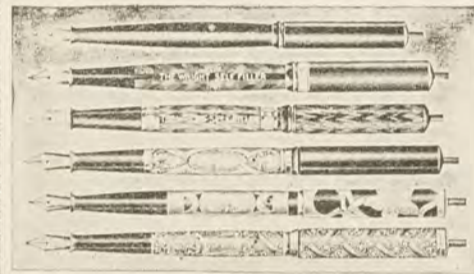
THE S. C. CROCKER PEN CO.

Dept. K

79-81 Nassau St., New York City, N. Y.



When writing to advertisers, kindly mention The Keystone



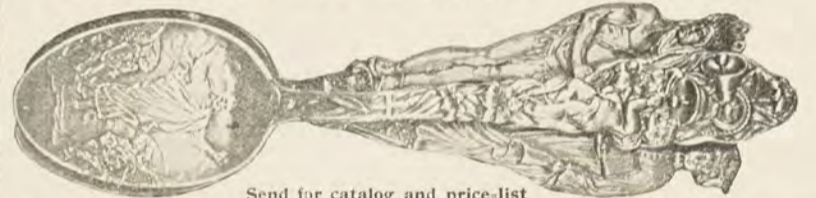
THE WRIGHT SELF-FILLING FOUNTAIN PENS

The Wright Writes Right
Self-Filling, Self-Cleaning
Easy and Quick to Sell

Retail at \$1.50 to \$12.00 each. Send for our new catalog and special offer on assortments with display cases free.

WRIGHT PEN COMPANY
623 Washington Ave.
St. Louis, Mo.
Wm. Weidlich & Bro.
Proprietors

SOUVENIR SPOONS For any city, town or state
We engrave names or views in bowls



Send for catalog and price-list

WM. WEIDLICH & BRO., 623 Washington Ave., ST. LOUIS, MO.

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.

HERING & CO., 47 Ann Street, New York

NIAGARA RING MFG. CO.,

Buffalo, N. Y.

Offices: Nos. 16, 18 and 20 East Eagle St.
Factory: Nos. 374 and 376 Washington St.



Sole Manufacturers of the World-Renowned



"Niagara" "Rings of Quality"

Each Ring guaranteed to wear a life time. Each Ring "SOLID GOLD" 10 K. fine. Over three thousand original designs to choose from and new ones added continuously

Grout's Excelsior Iron Watch Signs

GROUT'S EXCELSIOR SIGN CO.
126 Dearborn Street, CHICAGO, ILL.

All Genuine Signs have "Grout's Excelsior" on Dials
ORDER THROUGH YOUR JOBBER

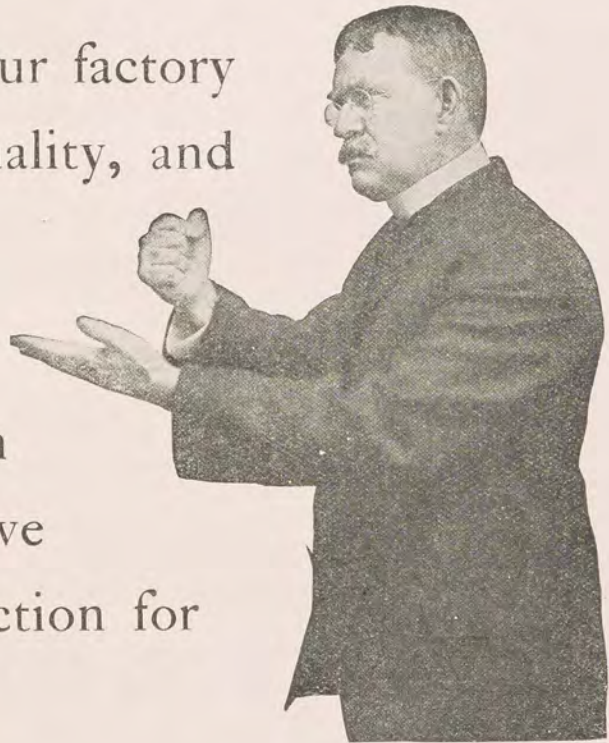
Grout's SIGNS have
stood the Test of Time

More Than Legal Quality

Legal quality is one thing, **STANDARD QUALITY** is another.

EVERYTHING that leaves our factory is absolutely a **STANDARD** of quality, and perfection in every particular.

Visit our factory. Investigate our original methods of production and thus learn why our **RINGS** have been standard of quality and perfection for 41 years.



We again call the attention of the jobbing trade to the new effects in **JADE, CHRYSOPRASE, AMAZONITE, TOURMALINE, MALACHITE** and the various new stones that appear in our fall line which is now ready.

Arnold & Steere

Providence, R. I.

New York

San Francisco

Chicago

ALEXANDER H. REVELL & CO.

Rees, Dayton, Eastman and Hawthorne Streets, Chicago, Ill.



Fixtures in this store designed and furnished by us

Manufacturers of

**Strictly
High-Grade
Jewelry Store
Fixtures**

We will be glad to have you correspond with us when in need of Store Fixtures or Show Cases.
We give our personal and prompt attention to all inquiries.

DIAMONDS LOOSE AND MOUNTED

MAKERS OF FINE JEWELRY

JOS. NOTERMAN & CO.

512-514 RACE STREET

CINCINNATI, OHIO

DIAMONDS RECUT AND REPAIRED

Quality, Finish, Originality are characteristic of the work of those whom we teach **Engraving** by our **distinctive** method.

IS YOUR WORK PLEASANT AND REMUNERATIVE; or is it a dull grind—distasteful and monotonous? Is it of such a nature that any one with little or no experience can do it as well as you? If so, you are in a fair way to become a machine.

It is as simple to have fascinating and remunerative work as not. Our instruction is by personal supervision, and individual **in every case**. We can give you the gist of the most thorough and complete apprenticeship training, without its tedious and unnecessary grind, **and qualify you to earn from \$20.00 to \$35.00 per week**. No other field of endeavor offers better possibilities of steady and well-paid employment than Engraving and Designing.

OUR ARTISTIC BROCHURE SENT ON REQUEST

The W. L. Newmeyer School of Engraving

W. L. Newmeyer, Master

Garfield Building, Cleveland, Ohio



The State legislatures have passed two-cent-fare laws affecting the railroads in Iowa, Missouri, Indiana and Nebraska. Wisconsin will have a 2½-cent rate.

E. W. Brannon, who represents the Schwarzkopf Manufacturing Company, of Newark, N. J., in the Western territory, spent several days in Chicago the middle week of March.

Henry G. Pfordresher, who looks after the plated chain line of Geo. L. Brown & Co., of Attleboro, Mass., among the wholesale trade of Chicago and the Middle West, returned to Chicago headquarters the middle of last month after a successful trip over his territory.

Fay MacDonald, who covers the Southern territory for the John Holland Gold Pen Company, of Cincinnati, is enjoying a good trade this season. He is a popular man with the trade.

D. W. Wisner, widely known in the Western trade from his long connection with Heintz Brothers, Buffalo, but who has recently become a partner in the house of M. Wolff & Company, of New York, and who is now looking after their interests in his old territory throughout the Northwest, was among the injured in the wreck on the Pennsylvania Railroad near Johnstown on February 22d, and though not seriously injured he was painfully hurt and has been confined to his home in Chicago most of the time since the accident. Mr. Wisner came out with two broken ribs and some internal injuries. He was in car "B" which was completely wrecked, and came out of the debris in an overcoat, losing his suit, money and grip. His trunk of samples was in the baggage car and was uninjured. Mr. Wisner, in common with other passengers on the wrecked train, was taken to Pittsburg, where the railroad company provided him with suitable clothing and sent him on to Chicago. At last accounts he was up and around his home and was able to come down town once. Mr. Wisner told his friends in the trade that he expected to be out among his customers early in March.

George E. Spencer, who is familiarly known as "Major," looks after the interests of the John Holland Gold Pen Company in the territory west of the Mississippi and south of Missouri, where he has many friends as well as a fine business.

D. C. Dwyer, New York agent of the John Holland Gold Pen Company, met with quite a painful injury in February and was laid up for a month but is now out among the trade again fully recovered.

Harry C. Cohen, who makes the largest towns and cities from Chicago to the Pacific Coast and also the entire Southern territory for Jules Racine & Company, left Chicago headquarters on March 5th for an extended trip over his territory. He expects to be absent until the early part of June.

Fred. W. Wilkinson, who covers the far western territory for the A. Wittnauer Company, New York, is rejoicing over the arrival of a little daughter at his home in Brooklyn early last month.

E. Baumgarten is covering Virginia, Maryland and Pennsylvania territory for the John Holland Gold Pen Company of Cincinnati and is working up a nice trade.

W. M. Pyle, well known in the Western trade from his long connection with several of the watch companies, is now on the road in Indiana, Illinois and Iowa for the John Holland Gold Pen Company, of Cincinnati. Mr. Pyle has long resided at Peoria, Ill., where he still makes his home.

Will. Torrence, who covers the far western country for Leys, Christie & Company, of New York, and makes his headquarters in Chicago, is being congratulated these days by his many friends in the trade upon the arrival of a little new woman at his home recently.

A bill was recently passed in the Missouri legislature making the penalty for violating the two-cent-fare law \$100 to \$500. This affects all railroads in the State.

R. H. Jarvis, is the California and Pacific Coast man for the John Holland Gold Pen Company, of Cincinnati. Mr. Jarvis makes his headquarters at Los Angeles and is working up a good trade on the coast for the above well-known house.

W. A. Fay, Western representative of the John T. Mauran Manufacturing Company, of Providence, returned to Chicago headquarters the middle of last month and left for factory headquarters ten days later to get his new fall lines. Mr. Fay expects to return West by the first of May, when he will immediately start out over the Western circuit soliciting orders for the fall season.

Wm. J. Dunn, who succeeds Fred. R. Sheridan as Chicago and Western representative of Arnold & Steere, takes charge of this firm's Chicago and Western office May 1st.

James C. Hazlam, the veteran and well-known traveler for the John Holland Gold Pen Company, of Cincinnati, returned to headquarters from a trip which took him as far east as Portland, Maine, early in March. In a few days he left for another trip that would take him as far west as Portland, Oregon. Mr. Hazlam covers only the larger cities for the above company, but there are few travelers in any line that travel more miles in a year than does Mr. Hazlam, yet he thrives and grows fat at his job.

T. H. Hawkins is a new man on the traveling force of the John Holland Gold Pen Company, of Cincinnati, and covers Ohio, West Virginia and Michigan territory. So far this season Mr. Hawkins has had good success with the Holland line.

J. B. MacDonald, Western representative of the Wolcott Manufacturing Company, Providence, R. I., spent several days in the St. Louis market last month calling on the wholesale trade.

E. F. Skinner, Western salesman for the Roy Watch Case Company, spent several days in St. Louis early in last month in the interests of his company.

Microphone Detective

In France Monsieur Hardy has invented an application of the microphone to detect fire damp in mines. This is its principle: If sound waves from two pipes of equal pitch impinge on microphones connected in series with a telephone, a

clear note is heard, but if one of the pipes emits a slightly different note, beats will be heard in the telephone. Here is the application: One pipe is placed in the mine, the other above ground, and they are blown simultaneously. If the air in the mine is charged with fire damp, it will produce a different note from that produced by clear air, owing to the difference of density, and in consequence a series of beats in the telephone gives warning of the presence of fire damp. The same apparatus is very sensitive to the presence of coal gas.

Boost Club Dinner

The regular monthly dinner of the Boost Club was held on the evening of March 21st, in the beefsteak garret, at Reisenweber's, Columbus Circle, New York, with a large attendance of members. The occasion proved most enjoyable and the after-dinner oratory was especially fine. The speakers included Wm. H. McElroy, formerly editor of the New York *Tribune*; Hy. Mayer, caricaturist; John B. Wood, president of the 24-Karat Club, and Judge Henry McCarthy, of the City Court. The institution of these monthly dinners has proved highly popular and they will be a most effective means in building up the organization. It has been noticed that each succeeding dinner is better attended than its predecessor and more and more appreciated by the members. In fact, all seem to look forward to this monthly event with the most pleasurable anticipation. Since membership was thrown open to others than stationers, the roll has been considerably lengthened, the newcomers including many who are leaders in the business community, bankers, railroad officials, professional and business men who have proved themselves exceptionally successful in their various lines and who are recognized as men of character, education and ability. It will thus be seen that a suitable motto for the club would be "Onward and Upward," as there is not only increase of membership but a higher tone has been given the entire organization.

"Modern American Lathe Practice"

A new volume which will form a most valuable addition to the library of the mechanic and technician is entitled "Modern American Lathe Practice." It contains 416 pages and 314 detail engravings made from special drawings. The author is Oscar E. Perrigo, M.E., who is himself a thorough master of lathe practice and has a happy faculty for conveying his knowledge to others. The publishers are the Norman W. Henley Publishing Co., New York. The book is strictly up to date in its descriptions and illustrations which represent the very latest practice in lathe and boring mill operations as well as the construction of and latest developments in the manufacture of these important classes of machine tools. The book is wonderfully complete, beginning with lathe history and tracing step by step the evolution of the perfected machine. All types of lathes are discussed in minutest details, with lucid explanations of all the principles on which they are constructed. The lathes described and illustrated include engine lathes, heavy lathes, high-speed lathes, special lathes, turret lathes, electrically-driven lathes and many others. The attachments are also described in detail, as also are lathe tools, gear mechanisms, etc. The book can be obtained from this office on receipt of the publishers' price, \$2.50.

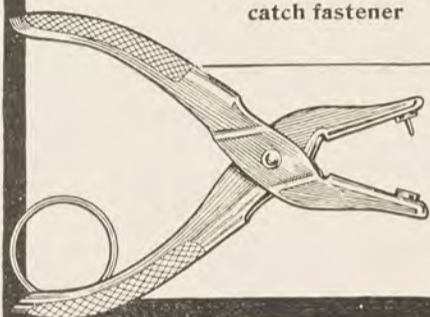


TAG YOUR RINGS WITH WASHABLE TAGS



IDEAL TAGGING OUTFIT
Complete, Only \$2.50

- 1000 Tags and Eyelets . . . \$1.50
- 1 Pair Ideal Pliers75
- 1 Bottle Waterproof Ink25
- 1 Neat Hardwood Box, with catch fastener



The Ideal Celluloid Tag is something that every jeweler should have.

Because it saves time—and saves money.

And because it gives your rings a more attractive appearance.

You don't have to take off the tags when you wash or polish your rings, because the ink that goes with each outfit is waterproof and won't wash off.

No danger of getting the tags mixed and getting them on the wrong ring.

The Ideal has a large, flat writing surface which makes it better than any other tag.

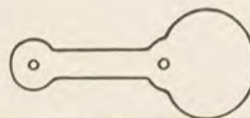
A complete outfit only costs \$2.50. Better send for it to-day if you want it soon, for the demand is very large.



POSITION OF TAG WHEN RING IS IN TRAY

BASTIAN BROS. CO.

29 South Ave.
ROCHESTER, N. Y.



PROTECTION for Fine Watches

WORTH LOOKING INTO

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At Forty, and Seventy

BY JOHN TWEEZER

By a singular coincidence, in separate conversations with two men on the same day last week both opened the same subject—they were “two souls with but a single thought.” One was forty years of age, the other confessed to seventy. On reflection it occurred to me that many a KEYSTONE reader has faced the same questions in his self-communings, and therefore this abstract of the conversation is sympathetically submitted to that large body of my readers who have reached middle and old age.

“When a Man Comes to Forty Year”

The younger of the two men smiled pathetically as he said:

“This morning I was brought up with a sharp turn. A young lady—a *very* young lady—in a street car rose to give me her seat. I am sure it was an unconscious tribute to old age! It set me thinking. Am I really beyond the boundary line? Must I henceforth take a back seat for the youngsters? Is there much to look forward to in life, after forty?”

“Surely, the best half of life is in front of the man of forty, if he be anything of a man. He has then only come into his own. The work he will do will be done with the hand of a master, not the raw apprentice. His appreciations are then so nicely adjusted that he sees things in their right relations to each other. The trained temper does not rush at work like a blind bull at a haystack, but advances to it with the calm and ordered pace of conscious power and deliberate will. In earlier years false lights betray him into wrong directions, false standards make for him false measurements. At forty, if he have some little capacity for wisdom, he looks upon ‘success’ at its true value, and knows that genuine happiness is found neither in great wealth or real poverty, neither in being the notable leader nor the servile menial. The middle course, he finds, is the best course and middle age, with its sure pleasures and quiet enjoyment, is the best age.”

“Then you agree with Thackeray:

‘Forty times over let Michaelmas pass,
Grizzling hair the brain doth clear—
Then you know a boy is an ass,
Then you know the worth of a lass,
Once you have come to Forty Year.’”

“Yes, Thackeray held to a sane philosophy. To a man who has spent his early years in striving to understand the deeper problems of life and has made some headway to comprehending them, there is no such thing as staleness in life at Forty Year. To no man is the world so new, the future so fresh. The commonest experiences become interesting, as parts of an intelligent whole. Knowledge is always opening out before him

wider expanses and more commanding heights. His youth is gone, but there is left to him his capacity to work hard with intelligent purpose, to enjoy rationally, to appreciate correctly, to judge wisely, and to be a real full-grown man in a manly way; which after all, is about the best attainment possible in this good, beautiful and pleasant world.”

And so, after discussing the subject further in its various aspects, he came around to my point of view. Two hours later I found myself in the presence of a dear old friend of seventy, to whom I related the incident as above set forth.

At Seventy Years

“Well,” said he, “I agree with you that there should be much to content one, at forty, in the broader comprehension of things, the calmly-ordered methods, the comfortable optimism and serene view of life. But now at seventy—well, it requires a very brave philosophy to be hopeful and happy in contemplation of one’s share in the world’s waiting work. What is the place of a man of seventy in every-day affairs? What earthly good are we of seventy, anyway?”

“What good? Why, viewed in the light of things done by *very* old men, seventy seems almost too youthful an age to *begin* doing good! Sophocles wrote the ‘Oedipus at Colonus’ when he was ninety; Titian wielded his marvelous brush at ninety-eight and Michael Angelo painted some of his greatest canvasses at ninety; Goethe was his best at eighty-two; Wordsworth wrote some of his finest sonnets at eighty and Sidney Bartlett made one of the most powerful arguments ever heard at the New York bar at ninety; Sir Isaac Newton toiled at science at eighty-five and Humboldt at eighty-six; Lord Brougham did the work of a half dozen men at eighty-nine; Ben Franklin was a power in the world at eighty-four. I might fill this page with similar historical examples to prove that the man of seventy *is* ‘of earthly good,’ if he determines he *shall* be.”

“Ah, but there is another side—the side from which Emerson viewed it, in his sad letter to Carlyle, ‘under the melancholy glimmer of a rush-light’; or as Lord Chesterfield saw it, at seventy-nine, when he said, ‘Tyrawley and myself have been dead these two years, but we do not wish it to be known.’ It is the painful consciousness that we are failing, failing in every function and faculty; that our history is all in the past; that we have had our day. Society has arranged to do without us. Our notions are obsolete; our reason is called obstinacy; our circumspection is imbecility; our experience is accepted as the pale shadow of needless distrust.”

“Oh, come now—if you consider the *punishment* of old age you must also consider its *privileges*. There is first, the sense of

freedom. Youth is a forced apprenticeship; our feet carry us well but they may stir only at the command of the master. Middle life increases the burden of our responsibilities. Old age alone is *free*. The world, erstwhile our task-master, then grudgingly signs the order for our release. No longer do the six week-days pound constantly at our door and cry out, like Bluebeard in the story, ‘Will you come down there from above?’”

“But you do not know, cannot know that sorest punishment of old age—the dulling of incentive. It is the fact that *we are no longer judged by our contemporaries* that takes off the edge and stimulus to exertion in old age, as Goethe somewhere explains. Those who were our contemporaries in early life whom we wished to excel or whose good opinion we hoped to win, are gone, and have left us by ourselves in a sort of new world to which we are strangers. *There* is the reason why I, at seventy, find life hardly worth living. Therein is the hopelessness of age.”

“Well, the remedy is to establish *constant* contemporaries—to keep the heart and mind young, whatever the decrepitude of the body; and this can only be done by living to the times. Do not retire from business; leave to younger hands the care of the wearying details, but keep your hand on the helm. Cultivate the society of youth and freshness and vivacity; visit the play and the picture gallery; keep in constant touch with the news of the world. When Bonstetten reached ninety he wrote Madame de Staël, ‘To resist with success the frigidity of old age one must employ the resources of the mind, the heart and the body; to keep these in parallel vigor one must exercise, study and love.’ Avoid encasing yourself in the hard shell of habit and convention; open your soul to the revivifying influence of youthful enthusiasms and middle-age enterprise; and thus grow *backward* into youth again, instead of allowing age to keep even pace with the years. ‘A man is just as old as he feels,’ the trite proverb says. The calendar may tell one story, but the mind and heart record the real fact. That was a happy correction which Dr. Holmes made, when a friend congratulated him on being eighty years old, ‘No, my friend—say eighty years *young*.’ And if you will live in this spirit you will continue to appreciate the full flavor of life, the fine realities of mission and purpose, as happily expressed by Philip James Bailey:

‘We live in deeds, not years; in thoughts, not
breaths;
In feelings, not in figures on a dial.
We should count time by heart-throbs. He most lives
Who thinks most, feels the noblest, acts the best.
* * * * *
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J. T.

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Reviews of Current Ophthalmological Literature of the World

The Treatment of Myopia

That the best German ophthalmologists are slowly coming around to the views long upheld here in America and particularly in Philadelphia regarding the full correction of myopia is again shown by the address of Prof. H. Sattler, of Leipsic, Germany. In his address before the Fifteenth International Congress at Lisbon, the celebrated ophthalmologist recommends very strongly the giving of the full correcting glass in myopia, even of low degrees. With this it is usually possible to prevent the myopia from advancing, provided that the children are watched and prevented from holding their books too close, and from bending over their work; and provided also that a good light is always secured. In young people the full correction of a myopia of 10 D. and over is generally well borne, and if the myopia progresses, it is usually to only a slight degree. Even in high grades of myopia a correction should be ordered which will give a working distance of 20 to 25 cm., that is, a reduction of only 3 or 4 D. from the full distance correction. This he considers a protective measure against the occurrence of serious complications such as retinal hemorrhage or detachment. Almost all the cases of non-traumatic retinal hemorrhage and detachment which he has observed have been in patients who have worn an insufficient correction for near work. Usually the asthenopia from insufficiency of convergence is removed by the glasses which increase the distance of the near point, and thus restore the equilibrium between convergence and accommodation. A slight remaining insufficiency may be relieved by decentering the lenses, and if there is a decided facultative divergence, a cautious tenotomy of one or both external recti should be performed. In myopia above 18 D. he recommends strongly the removal of the lens instead of the discission operation of Fukula.

Autointoxication in Relation to the Eye

Every refractionist has had cases whom he treated for many years to mutual satisfaction but who come back later and complain that for some time they did not see as well as before. Examination reveals no opacities of the lens and no visible lesion in the retina or chorioïd, but different glasses will give no improvement. In these cases we usually have to do with a peculiar condition of the system in which the latter is overcome by a poison arising from faulty metabolism. Such decrease of vision has long been recognized in regard to uremia in Bright's disease of the kidneys and to the overuse of tobacco, but

that even other eye troubles may be caused by such autointoxications of the system is the latest verdict of the most advanced ophthalmologists. Dr. De Schweinitz, of Philadelphia, some time ago read a paper on "Autointoxication in Relation to the Eye," in which he clearly states the present most advanced views on this subject. He summarizes his conclusions in the following remarks:

Although we do not know the entity of a single autointoxication except the acidosis of diabetic coma, and although we know that no known end product of any known metabolism, to quote Alonzo Taylor, we do know, from clinical analogy, that autointoxications exist, even if their true nature is as yet a secret. We do know, too, that after food is swallowed and before the end products of assimilation are eliminated, there may be processes arising under abnormal conditions which yield poisonous products foreign to normal metabolism, the reabsorption of which may be followed by definite symptoms. We have reason to believe, in the absence of other causes, that under these conditions ocular troubles may also arise largely in the corneoscleral and uveal tracts, and probably, in so far as the nervous apparatus is concerned, in manifestations to which we apply the term acute or chronic retrobulbar neuritis. We do not know whether these toxins, whatever they may be, actually are the only and sole cause of these conditions, but such examinations as have been made by Elschnig, Kraus, by Groyer, by Edsall and by myself, at least indicate that, to use Elschnig's term, they may be considered accessory causes. As Edsall and I have said, they may be able to play a certain part in the production of the symptoms, and at times are probably the direct cause of their continuance, even when other more commonly accepted etiologic factors have ceased to be active.

Changes in the Curves of the Cornea in Connection with the Movements of the Eye

We usually think of the astigmatism of the eye as a fixed quantity which at most may change very slowly with advancing years. That this view, however, is not quite correct and that the cornea actually changes its shape under certain conditions has been shown lately by Dr. G. Chiari, of Italy. This author undertook a series of measurements on the cornea of young individuals by means of Javal's ophthalmometer. He first determined the astigmatism of the cornea, as usually, with patient's head straight forward; he then brought the head of the person in a lateral position, so that the person had to move his eyes sideways in order to look again into the tube of the instrument (the head itself remaining fixed). From his observations the doctor has come to the following conclusions: The contraction of the lateral recti muscles, such as occurs when the eye is moved to the side, influences the corneal curves of the astigmatic cornea and in most cases this influence shows itself equally on the vertical and the horizontal meridian in such a manner that the horizontal meridian shows an increase in the curvature

while the vertical meridian shows a decrease. We see, therefore, that on looking through our spectacle lenses from the side there is an increase in the astigmatism if the latter was against the rule, but a decrease if with the rule.

Some Observations on Worth's Method of Treatment of Convergent Squint in Young Children

Some time ago we published in THE KEYSTONE a detailed description of Worth's amblyoscope, which is now also manufactured by an optical firm in Philadelphia. Dr. Linn Emerson, of Orange, N. J., in a recent number of *Ophthalmology*, now has given his experience with this apparatus and reports good results with it as well as with the whole method of treating squint, as put forward by Worth.

Dr. Emerson also holds that the one true and efficient cause of both heterophoria and strabismus is a deficiency or absence of fusion sense, but he admits, as predisposing causes: hypermetropia and hypermetropic astigmatism, anisometropia, specific fevers like whooping cough, measles and diphtheria, violent mental disturbances, injuries received during birth and congenital defects. He usually employs the following plan of treatment: 1. Correction of the refractive error under atropine; 2. Occlusion of the fixing eye; 3. The prolonged use of atropine in the fixing eye and training of fusion sense with the Worth-Black amblyoscope, supplemented by the stereoscope with Kroll's pictures. Only after this treatment has failed operative procedures like advancement are resorted to.

The Use of Cycloplegic Drops for the Correction of Errors of Refraction

This delicate subject has often been touched upon in these columns of THE KEYSTONE whenever a review of an article in the current ophthalmic literature gave occasion to do so. We have always asserted that, barring a few exceptions, good refractive work can be done without paralyzing the accommodative apparatus of the human eye. We are glad to say that, judging from the reports in the ophthalmic journals, more and more ophthalmologists are coming around to the same opinion. Take for example Dr. Manuel Uribe Y. Troncoso, of Mexico, who recommends the use of cycloplegics only in children, in cases of weak and mixed astigmatism, in suspected spasm of accommodation, in slight degrees of myopia and for cases of strabismus especially in children. For adults, however, he does not think the drops absolutely necessary, but believes that a gradual correction which begins with the correction

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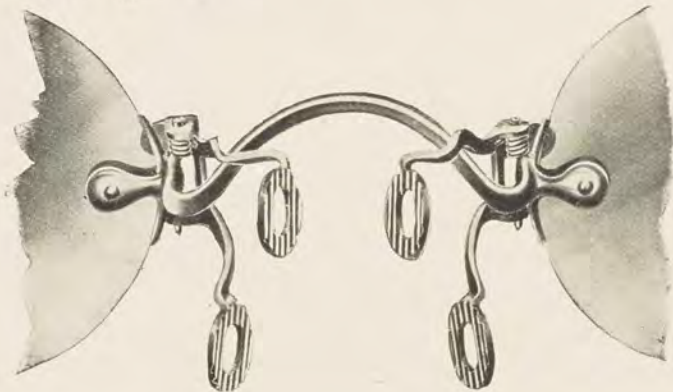
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Ophthalmological Reviews

The Use of Cycloplegic Drops

(Continued from page 691)

of manifest hypermetropia is much preferable. This he proves by the statistics of one thousand cases among his own patients.

In a review of this article by Dr. Marie Louise Benoit in the *New York Medical Journal*, the same opinion is expressed and further fortified by reference to the investigations of Tscherning regarding the aberration of the more peripheral parts of the refracting surfaces of cornea and crystalline lens. She there says :

The results obtained with cycloplegics should not be considered sufficient for prescribing glasses because the mydriasis inherent to the cycloplegic effect may be the cause why we see corneal zones which do not take part in the vision, and may lead to erroneous results, as demonstrated by Tscherning, so that even in the normal diameter of the pupil there may exist some corneal zones of very different refractive power. If we use cycloplegics after the test with the retinoscope and the subjective examination, it is well to compare results obtained before and during the cycloplegic state. All of these data have a bearing on one another in prescribing appropriate glasses. In particularly doubtful cases, it will always be necessary to repeat the subjective examination after the cycloplegic effect has passed away, in order to be absolutely certain of the glasses we should order.

The Inverted Image and Its Use for Determining the Refraction of the Eye

Lohnstein's method depends upon the fact that the lateral motion of the convex lens, producing the inverted image, gives rise to a lateral motion of the image also, the motion being different in the different states of refraction. This motion is referred to a mark which must be put, not upon the lens, but at the focal point of the lens. In emmetropia the image moves the same distance as the lens; it moves less in myopia but more in hypermetropia. Lohnstein calls his method the kinesiopic one, because it depends upon the relative motion of mark and image. This instrument is manufactured by E. Sydow, in Berlin, N. W., Albrechtsstrasse L 17, and appears to be especially useful in cases where the upright image gives no satisfactory results.

Instead of making use of the motion of lens and image, one may also proceed by the following method. Here the lens is not moved, but is placed at a distance equal to twice the focal distance from the patient's eye, while the eye of the observer is again at twice the focal distance away from the lens on the other side. The two eyes, therefore, are apart from each other by four times the focal distance of the lens. The observer, who is supposed to be emmetropic, looks at the inverted image and gradually brings up behind the mirror of the ophthalmoscope the strongest convex and the weakest concave lens with which he is able to obtain a distinct image. The refraction of the examined eye then is simply the difference between the dioptric strength of the ophthalmoscopic lens and the image-producing lens, provided the eye of the examiner has not accommodated. Lohnstein uses a lens of 13 D. The pupil

must be at least of medium size. The medium and higher degrees of myopia are best suited for this method.

Important Rules for Determining the Exact Correction in High Myopia

Nobody can doubt that Dr. C. Hess, of Wurzburg, Germany, is one of our most advanced ophthalmologists, especially in the line of physiologic optics. In a recent number of the *Archiv. für Aughkk.*, he discusses the treatment of myopia and shows himself to be an ardent defender of the full correction. But in order to obtain a good full correction he gives the following rules, which are not in accord with the prevalent practice among our American ophthalmologists, but which confirm the views so often expressed in these columns of THE KEYSTONE, namely, that good refractive and sometimes even better refractive work can be done without the use of mydriatics. Professor Hess says :

The simply *objective* examination of the refraction as basis for the ordering of the glasses in myopia frequently leads to incorrect results. The total refraction of the eye may differ from that of the optic zone of the cornea in a manner that cannot be foreseen. Even the upright image does not allow of an accurate determination of the refraction because the fovea, which alone should come in question, is not a good object for this purpose. Besides the pupil becomes narrower on illumination of the fovea and the use of mydriatics is inadmissible for an accurate determination. Even on skiascopy one ought not to put the sole reliance and especially not if the pupil has been dilated. These artificial values, thus found, may only be used as a starting point for the subjective examination. For the definite selection of the glasses only the subjective examination under normal conditions of illumination and pupil can be depended upon. As fully correcting only that glass may be regarded which on repeated subjective examination under the ordinary conditions of illumination and the normal width of the pupil has been shown to be the weakest one with which in the eye, not atropinized, the best visual acuity can be obtained.

These few sentences from the pen of this distinguished scholar may appear very barbaric to men like Dr. G. M. Gould, but the reviewer is convinced that it will not be very long before they will be accepted by most refractionists, even in Philadelphia.

Still Another Set of Test Types

Several times it has been proposed that an authoritative body like the International Ophthalmological Congress should settle once for all the question of test cards and give us one that could be used wherever ophthalmologists are working. It would seem, at first glance, that such a proposition could be fulfilled very easily, but on deeper thought the problem will be found not a very easy one. In fact the reviewer doubts whether there ever will be a test card that will comply with all the varying conditions of actual work. However it should not be impossible to set once for all the sequence of the different lines on the test cards, whether the latter be made up of different letters and numbers or of differently placed Es or Cs. Let the ophthalmologists agree first of all on the gradation of the different test lines and then let each refractionist take his choice from a certain number of test objects as approved by the body of authoritative ophthalmologists. At present the authorities even differ as to

the gradation. Here is another one by Armaignac, of France. He has worked out a series that is neither in exactly arithmetical nor in strictly geometrical progression. The terminals of his series are letters respectively 7.3 mm. and 73 mm. high. The height in mm. of the series ranges as follows : 7.3, 9, 12, 16, 22, 29, 38, 48, 60 and 73. These have an angular value at 5 meters respectively of 5, 6, 8, 11, 15, 20, 26, 33, 41 and 50 minutes, and represent a visual acuity respectively : 1.0, 0.9, 0.8, 0.7, 0.6, 0.5, 0.4, 0.3, 0.2, 0.1.

[Under the old-style numeration, the nearest approximates are, respectively : $\frac{20}{20}$, $\frac{20}{25}$, $\frac{20}{30}$, $\frac{20}{40}$, $\frac{20}{50}$, $\frac{20}{60}$, $\frac{20}{80}$, $\frac{20}{100}$, $\frac{20}{130}$, $\frac{20}{160}$, $\frac{20}{200}$.]

Armaignac claims that this series presents to the eye a regular, harmonious progression in which the gradation seems perfect, each letter differing from that which precedes and from that which follows by a quantity which appears equal from one end of the scale to the other.

He uses the usual block letters of Snellen, but recommends confining them to the simpler and similar forms like O, C, U, V, D and G. Or still better, use only O and C, with the opening of the C varied in direction: up, down, right or left. This would make them useful as tests for illiterates as well.

Refractive Errors and Automobile Accidents

It must be admitted that increased speed of motor vehicles means increased danger for both the driver and the people in the streets. A driver, therefore, of an automobile ought to have all those qualifications which reduce this danger to a minimum. Undoubtedly good eyesight is one of those important requisites, and it would appear perfectly proper that all chauffeurs ought to be examined as to their eyesight before they are allowed to run their cars on the public highways. The following editorial from a recent issue of *The Journal of the American Medical Association* expresses this thought as follows :

It has long been the custom to subject locomotive engineers to certain visual tests, especially tests for color perception, in order to safeguard the interests of the public. It is a question whether chauffeurs ought not also to be examined with regard to their visual acuity. Even now, seldom a week passes without some automobile accident being recorded in the daily press, and without doubt many of the minor accidents are never reported at all. The number of automobiles in use is constantly increasing, and as this form of carriage becomes more available for commercial purposes this increase will become more and more rapid. Clements, in the *British Medical Journal*, points out that the chauffeur must be an accurate judge of pace and distance, and that this necessitates normal visual acuity. He calls attention to a series of motorists who consulted him regarding their vision after having undergone a number of minor mishaps, most of which, but for lucky chances, might have been much more serious. In all the patients Clements found errors of refraction, generally in the form of hypermetropia. In all instances, too, the danger of accidents of a certain class disappeared under correction of the error of refraction. In most of the instances referred to the accidents occurred about dusk and at turns in the road, the chauffeur miscalculating the distance and running into a ditch or bank. Clements calls attention to the fact that the convex goggles worn by autoists are practically hyperopic [this must be myopic, as is evident to every reader of THE KEYSTONE who has handled these glasses.—ED.] lenses, and that they may just turn the balance in favor of spasm of accommodation.



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[Each of these clinics is complete in itself and one of them is published each month in this department. They cover all manner of eye defects, from the simplest to the most complicated, and give the most authoritative procedure in the diagnosis and correction of the various visual defects. In order to make these clinics of maximum benefit, we invite our readers to join in them by sending us any criticisms or suggestions they may have to make in regard to the treatment here given. The first clinic of the series appeared in the May, 1904, issue.—E.D.]

Inspection of Spectacles and Eyeglasses and Neutralization of Lenses

It is a matter of prudence and importance that you should carefully examine the finished product as received from the manufacturer in order to determine if your prescription has been faithfully filled. Neglect of this precaution may nullify the results of your patient and skilful work in measuring the error of refraction. Therefore it becomes absolutely necessary for you to know how to test and neutralize lenses correctly and expeditiously, as well as to correct any mal-adjustment of the frame or mounting that becomes apparent when placed on the patient's face.

INSPECTION OF SPECTACLES

In the case of frames examine the lenses to see if they are in properly. You know that a lens can move in the eye wire so that one end or the other will tilt up or down, which in the case of cylinders becomes a serious matter. Take your screwdriver and loosen the screw, turn the lens to its proper position, and then tighten the joint.

Turn the glasses sidewise to see if they are both on the same plane: if not, there is probably a twist in the bridge, which can be rectified by the use of two pliers, one for holding and the other for turning. If there is a concave surface on the lens (as in periscopic convex) see that it is next to the eye. If both surfaces are concave, see that the strongest concave is next to the eye.

Place the glasses on patient's face to see if the angle of the lenses is right; nearly vertical for distance, or tilted for reading. See that the temples work smoothly in the joints: sometimes the loosening of the screw or the application of a drop of oil becomes necessary. Note the angle of the crest of the bridge and see that it corresponds to the slope of the nose. See that the width of the base of the bridge is right so that it fits the nose neatly. If it is too tight or too loose, the half round pliers can be used to widen or narrow it, which if much will necessitate bending of the shanks of the bridge in order to keep the lenses in alignment.

Note if the pupillary distance is as ordered, and see if the temples fit comfortably against the side of the head: the wires must not cut into the flesh, neither must they stand away from the skin. Either of these faults can be remedied by bending temples close to joints, but care must be taken to see that both temples are at the same angle, else the glasses will not be equally distant from the eye.

If the ears are sensitive and if in spite of loosening the curve of the temple as much as allowable, complaint is made of the pressure on the cartilage of the ear, in which case you may slip a piece of fine rubber tubing over the wires to prevent the cutting, or use a special device now on the market for this purpose.

ADJUSTING EYEGLASSES

As I have told you before the guards of eyeglasses should conform to the slope of the sides of the nose, with a little extra tightness at the tops to prevent tilting forwards. Then attention should be given to the spring to see if it is too tight or not tight enough, or if the tension is just about right. You can tighten the spring with half-round pliers and weaken it with flat-nosed pliers. If the guards fit properly, it is not necessary that the spring should be tight; in fact, we want to avoid all unnecessary pressure as otherwise your patient will soon have a sore nose. Another point is to see that the spring is of the proper length, and this is something that is often overlooked. When you alter the tension of the spring, you will find it necessary also to readjust the guards.

If the lenses of eyeglasses droop, they can be raised by bending the spring just where it enters the stud closer to the lenses, and at the same time bending the lower parts of the guards inwards. If the lenses tilt up, the spring should be bent away from the lenses and the lower parts of the guards bent outwards.

If one of the lenses sets farther from the eye than the other,

you should look to see if the fault does not lie in the bearing surfaces of the guards, when probably a little slant made in the faulty one will bring the lens into proper position.

DETERMINING THE STRENGTH OF LENSES

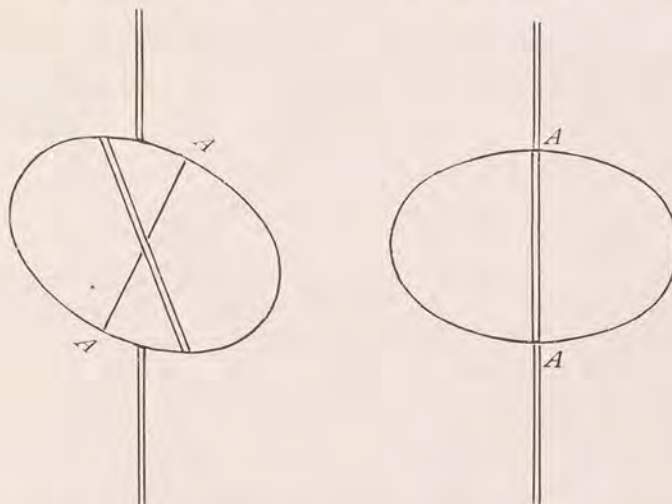
In the inspection of a lens the first point to be determined is whether it is convex or concave. If the lens is strong the convex or concave curves are so marked, that as soon as we look at the lens we can see its character. But in the weaker lenses that are in common use, we are accustomed to determine this point by the apparent motion caused by the lens.

I take the lens in my hand, holding it eight or ten inches from my eye and looking through it at the letters on the distant test card. I then move the lens from side to side, and this will cause an apparent motion in the letters looked at. If the motion is in the same direction as the lens is moved, it is concave; if the motion is opposite, convex. By this means it is easy to detect as low a power as .12 D. and any one can use it without any special skill or preparation.

Instead of moving the lens from side to side, it may be moved closer to and farther from the eye. If the object looked at magnifies as the lens is pushed away from the eye, it is convex; if it grows smaller, concave. There is one precaution that should be observed in both of these methods, and that is in the case of convex lenses, which must be held within their focal distance, or the results will be reversed.

Having determined in this way if the lens is convex or concave, the next step is to ascertain if it is simple or compound, and whether cylinder or prism is present. Holding the lens in your hand at a distance from your eye as before, look through it at some object presenting a straight line, as the window sash or a picture frame.

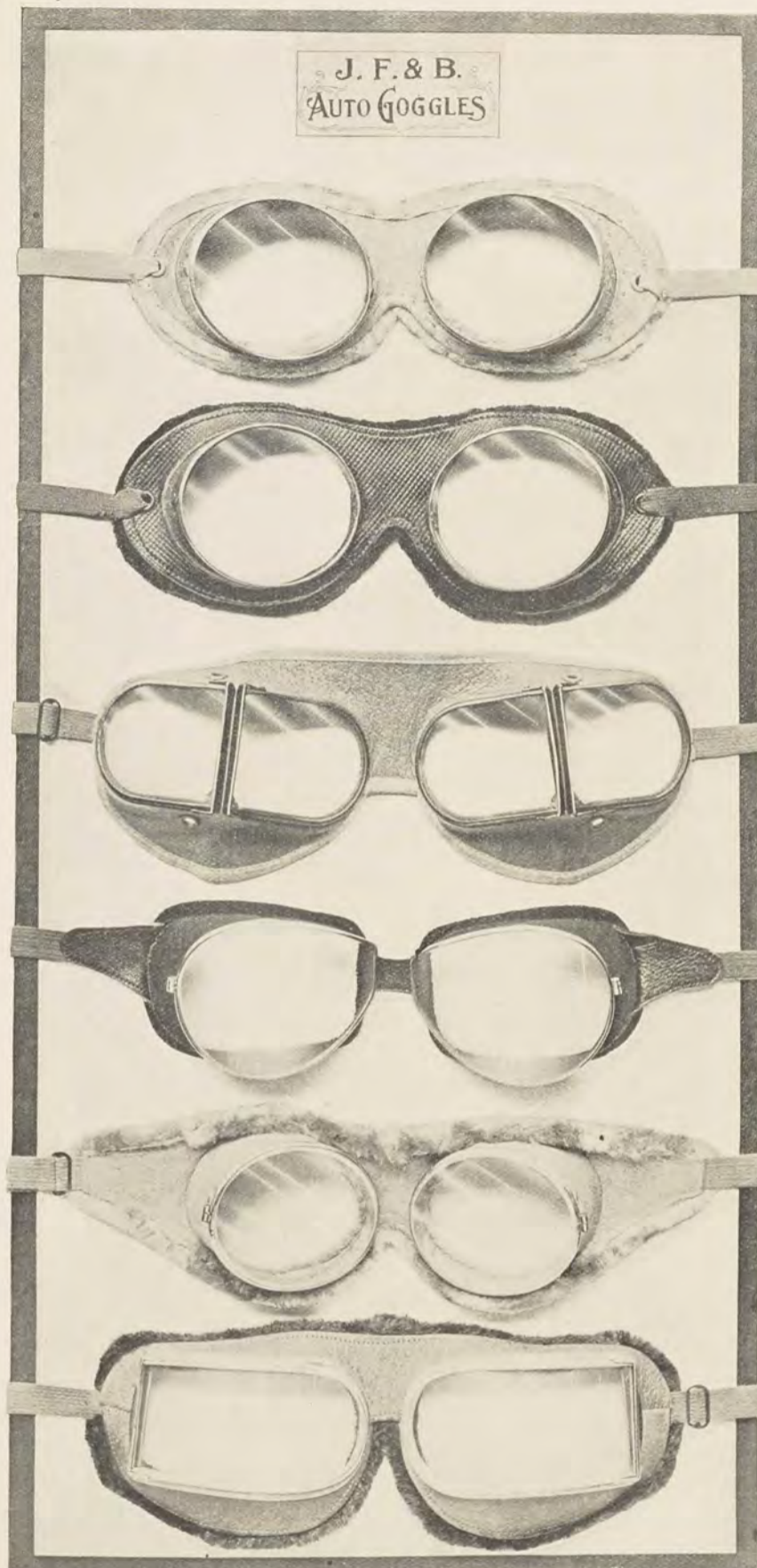
Rotate the lens around the visual line acting as a longitudinal axis, and note the effect on the straight line looked at.



If that portion of the line seen through the lens appears to move, or in other words if there is a break in the continuity of the line seen through the lens as compared with that above and below it, then a cylinder is proven to be present. If this oblique displacement is in a direction contrary to the motion of the lens, the cylinder is convex: if in the same direction as the motion, concave. The drawing on the blackboard indicates the action of a convex cylinder. To locate the position of the axis of the cylinder, it should be slowly rotated until the line seen above, below and through the lens is continuous, as illustrated on the blackboard. The line would also be continuous in the meridian at right angles to the axis; in other words, the line is continuous only in the chief meridians of the lens, viz., the meridians of least and greatest refraction. In the case of a weak cylinder (.12 D. or .25 D.) the oblique motion produced is slight and you must watch closely to detect it. In a cylinder of higher power (1 D. and over) the effect is very pronounced. I would advise you all to get a few cylindrical lenses of various strengths and spend some little time in practicing with them until you become proficient in the detection of a cylinder.

In looking through a lens at a straight line, there is one word of caution I wish to give you, and that is not to confound lateral

(Continued on page 697)



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Clinics in Optometry

(Continued from page 695)

displacement with oblique displacement. In looking through a simple sphere at any place except its optical center, the straight line will be broken, but the broken lines will be parallel, and they can be made to coincide not by rotating the lens but by moving it from side to side. But in the case of a cylinder the displacement seen through the lens is oblique and is caused not by moving the lens from side to side, but by rotating it.

TO DETERMINE SPHERICAL LENSES

The majority of lenses are spheres, either simple or compound, that is, at least one surface is spherical in curvature.

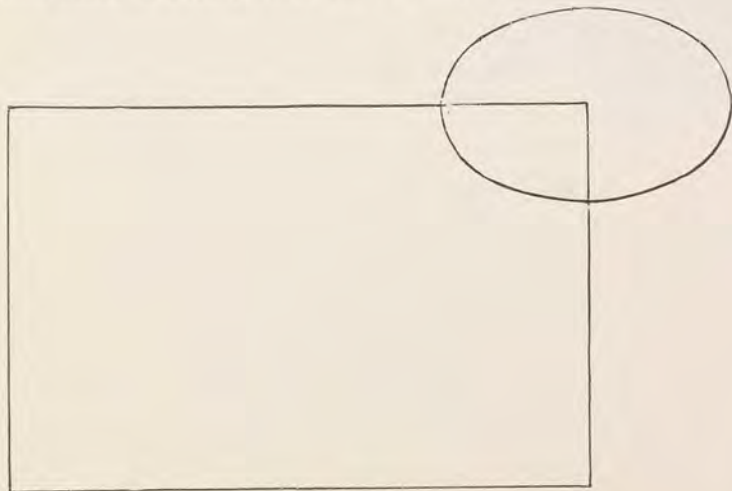
Sometimes we meet with plano cylinders, in which lenses there is no power in the meridian of the axis, all the refractive value being in the meridian at right angles. In testing to determine if a lens is a simple sphere, we may use the straight line again, rotating the lens around its optical center and taking care to keep the latter in alignment with the straight line: if no "twisting" action is developed, there can be no cylinder present.

To determine a prism. The presence of a prism in a lens is usually disclosed by simple inspection and noticing a difference in thickness in the two opposite edges of the lens.

In the absence of a prism the edges of the lens should be of the same thickness at opposite points. Of course, if the prism is of low degree, it may escape detection on a casual examination; but we have a very simple method by which we may determine its presence. Hold the lens in the fingers as previously described and look at the same straight line directly through the optical center. If the line is continuous above, below and through the center, the absence of a prism is proven. But if the line is broken, a prism is present, the displacement of that portion of the line seen through the lens being in the direction of the apex.

Proving the optical center. Before handing the finished glasses to your patient, each lens should be carefully examined with reference to the position of its optical center and also the distance between the two, as otherwise an error in these important particulars may be overlooked. In the cheap glasses sold by peddlers and in the five and ten-cent stores, proper centering is probably the exception, such glasses being known as second-class or even third-class.

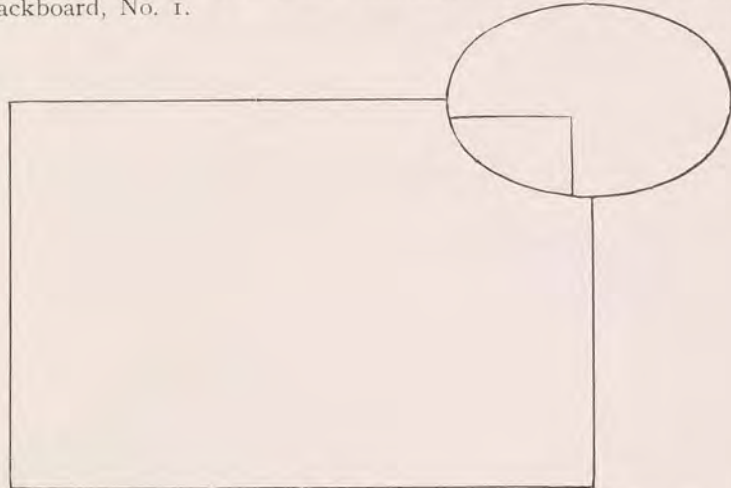
In first-quality lenses, unless otherwise ordered, we assume that the lenses are properly centered and that the optical center and the geometrical center coincide, as otherwise our measurements for pupillary distance, however carefully made, are vitiated, and an undesired prismatic effect introduced into the lenses. Therefore it becomes necessary for you to be able to locate the optical center of a lens, which can be easily done as follows:



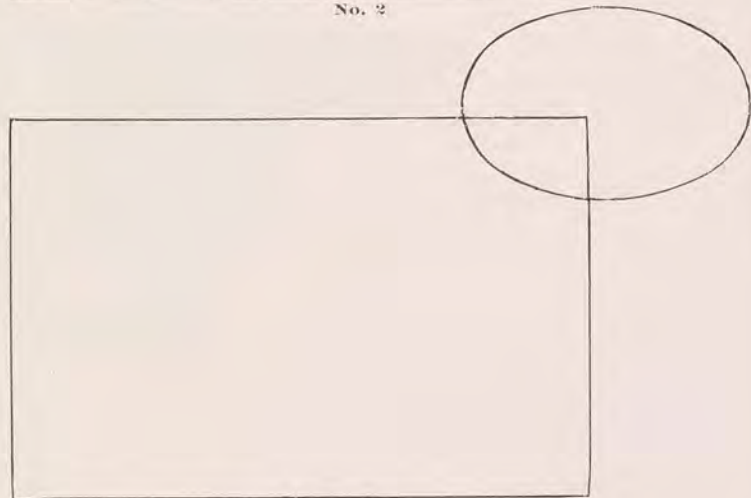
No. 1

Place a rectangular card on the table or tack it on the wall: hold the lens some distance from it and from your eye. The edges of the card seen through and outside of the card, will appear continuous only when the corner of the card is exactly at the optical

center of the lens. This I have illustrated in the diagram on the blackboard, No. 1.



No. 2



No. 3

In diagram No. 2 the lens is improperly held in relation to the card, while in No. 3 the lens being correctly held, the optical center is shown to be displaced downwards and sideways. If this method is used with care, the results are satisfactorily accurate.

Neutralization of spherical lenses. To neutralize is to nullify or make of no effect. As I told you a few moments ago when we look through a convex or a concave lens in motion, a certain effect is produced on the object looked at, causing it to move against or with. When we neutralize the lens we destroy or stop all such effect or motion. Neutralization is the most common method of measuring the strength of lenses. In taking a lens in your hand for this purpose, you first determine whether it is convex or concave by the method I have already described to you, and at the same time you gain some idea of the strength of the lens, because the more rapid the movement of the object looked at, the stronger the lens.

If the lens in your hand is convex, you take from the trial case a concave of the estimated strength, and place them in apposition center to center, and make a trial of the combination as you previously made of the single lens, and carefully note the apparent movement.

1. If the motion is still opposite, then the concave lens you have chosen is too weak, and another and stronger must be tried.

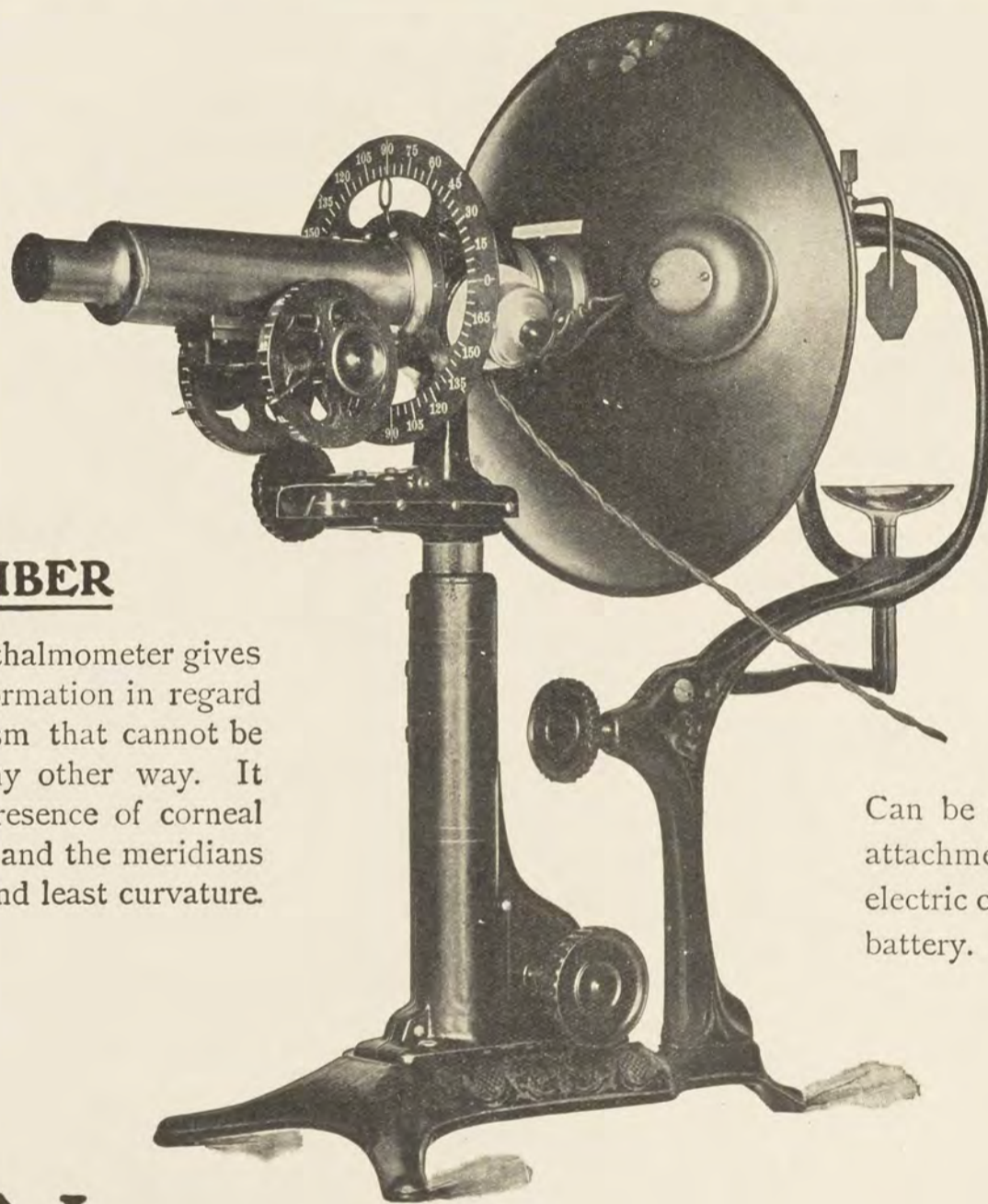
2. If on the contrary the motion is now in the same direction as the two lenses are moved, then your concave lens is too strong and a weaker one must be tried.

3. If no motion is apparent the neutralization is perfect, and you are looking through what corresponds to a plano lens, because the power of the convex lens has been destroyed by the concave and the value of the first lens can be read off the handle of the second lens, always taking the precaution to change its sign.

Therefore, to determine the strength of a spherical lens, you combine it with successive lenses of opposite sign from the trial case until one is found that checks all motion. In lenses of high power we watch for the neutralization at or near the center of the lens, as motion and distortion may still be noticeable near the periphery.

(Continued on page 699)

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Clinics in Optometry

(Continued from page 697)

Neutralization of cylindrical lenses. You have already determined that the lens is cylindrical according to the method previously explained to you and also its nature, whether convex or concave. In moving the lens you have discovered the meridian in which there is no motion, which indicates the position of the axis, and the neutralizing cylinder taken from the trial case must be placed with its axis in exactly the same position. If the lens under test is a convex cylinder, then you must try successive concave cylinders until one is found that stops motion in all directions. If a concave cylinder 1.50 D. with its axis vertical is required, then the lens under examination is + 1.50 D. cyl. axis 90°.

A sphero-cylindrical lens. This is a compound lens composed of a sphere and a cylinder, and its neutralization is a matter of some difficulty, especially for beginners. With such a lens there is motion in all directions, but you will soon find that there is one meridian in which motion is least rapid. Take from the trial case a sphere of the proper sign and strength to neutralize the movement in this meridian. You will find there is still motion in the meridian at right angles; in other words, by the use of the sphere to neutralize one meridian, you have now in your hand what amounts to a plane cylinder, which you proceed to neutralize according to the method I have just described to you. The neutralizing lenses you have now in your hand are a sphere and a cylinder, which represent the value of the lens you are testing. For instance, if your neutralizing lenses are + 1.50 D. sphere and the 1 D. cylinder with axis held horizontally, then the compound lens you are testing is - 1.50 D. S. \odot - 1 D. cyl. axis 180°. In a case like this where two lenses are required for neutralization, you will at first find some difficulty in handling all three of the lenses at once and keeping the axis in the proper position.

Neutralizing Prisms. The strength of a prism may be expressed in two ways: by its refracting angle or by its power to bend a ray of light from its course. The latter system has advantages over the former, but this is a point which we have not the time to discuss at present.

A prism may be neutralized by another prism taken from the trial case and placed in apposition, the base of one over the apex of the other. A straight line viewed through the prism is broken, that part seen through the lens being deflected towards the apex. The neutralizing prism with base over apex would bring the line back and if of the proper strength make it continuous.

Neutralization affords a most satisfactory method of determining the refractive value of a lens, whether simple or compound, but it has its disadvantages. Sometimes you may get a perfect neutralization by a sphere and cylinder both of which are concave, thus showing convex values, and yet by the feel and shape of the lens you know that one of its surfaces is concave. Let me illustrate by writing two formulæ on the blackboard:

$$\begin{aligned} &+ 1.50 \text{ D. S. } \odot + 1 \text{ D. cyl. axis } 90^\circ \\ &+ 2.50 \text{ D. S. } \odot - 1 \text{ D. cyl. axis } 180^\circ \end{aligned}$$

By following the method I have described to you of neutralizing the weakest meridian first and then the other meridian by a cylinder, you will get

$$- 1.50 \text{ D. S. } \odot - 1 \text{ D. cyl. axis } 90^\circ$$

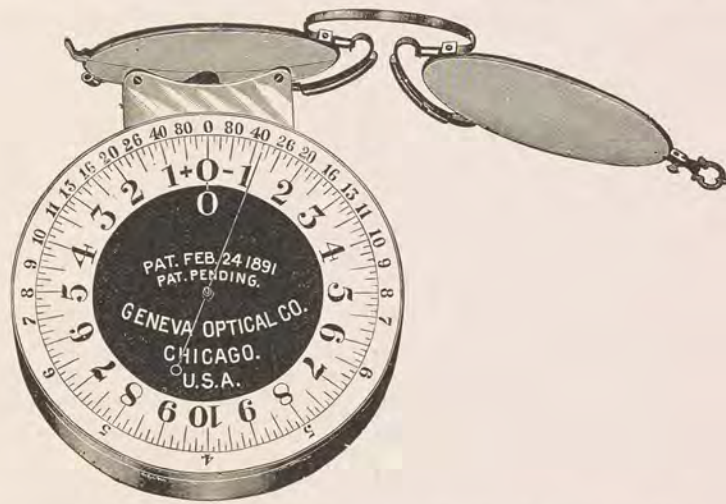
and you assume that the lens is the one first written (+ \odot +), but as you examine the surfaces of the lens you can see that the inside surface is concave cylindrical. Now the fact of the matter is that this is all in transposition. The two lenses whose formulæ are written on the blackboard have the same refractive value, one being transposable into the other, and by means of neutralizing lenses you can determine only the refractive value of the combination, but not the curvature of each surface.

The Lens Measure. This leads me to mention the lens measure, a little instrument which I would advise you all to purchase, as affording the quickest and most convenient method of determining the strength and composition of lenses, although at the same time I would insist that you should first be a master of the art of neutralizing lenses from the trial case.

You are all familiar with the appearance of a lens measure, and you probably all know that of the three projecting pins the two out-

side ones are stationary, while the central one being movable shows the amount of curvature which is indicated by the hand on the dial.

I have frequently handed a lens and the measure to a young student and asked him to tell me the strength of the lens. He presses it against one surface, the hand moves around to 2.25 on the convex side, and he answers "plus 2.25." "That is not



correct," I say. He tries it again, the hand stops at the same place, and he looks at me in bewilderment when I shake my head no. Now, what is the trouble, or wherein does the error of the student lie?

Let me say to you and emphasize it, that every lens has two surfaces and both of them must be taken into account. The trouble with our friend was that he measured one surface only.

Both surfaces of the lens must be measured separately and then their values combined by means of algebraic addition: Sometimes both surfaces have the same curvature as in bi-convex or bi-concave, sometimes one surface is convex and the other concave, as in periscopic, and sometimes one surface spherical and the other cylindrical as in sphero-cylinders.

Now, then, taking the lens which our friend tried to measure, on pressing the measure against the other surface we find it to be - 1.25 D. which as you know is the standard for the concave surface of periscopic convex lenses. Now then by algebraic addition, we have

$$\begin{aligned} &+ 2.25 \text{ D.} \\ &- 1.25 \text{ D.} \\ &+ 1 \text{ D.} \end{aligned}$$

This lens then is a periscopic lens whose value is + 1 D.

The lenses in the trial case are double, that is, the same curvature on both sides. I will take one and measure it, finding + 1.25 D. on both sides.

$$\begin{aligned} &+ 1.25 \text{ D.} \\ &+ 1.25 \text{ D.} \\ &+ 2.50 \end{aligned}$$

By algebraic addition we find the value of this lens is + 2.50 D.

Keeping the measure steadily pressed against the lens, I rotate it through all the meridians of the lens at the same time watching the dial: if the pointer remains stationary, the curvature of the surface is spherical, its value being indicated by the figures at which the pointer stops. Both surfaces are tried in the same way.

If, however, a rotation of the measure causes the hand to move, you will know that you have to do with a cylindrical surface. You turn the measure to the point where the hand points to zero, and the three points are then standing on the axis of the cylinder. Turning the measure again you see the power begin to increase until at right angles to the axis, the full strength of the cylinder is shown. If you are measuring a plano cylinder, the opposite surface will be plane and the hand will point to zero in all meridians. If the lens is a sphero-cylinder, you must measure both surface to discover its refractive value. If the lens measure shows + 1 D. in all meridians on one surface, and + 1 D. in the horizontal meridian and zero in the vertical meridian on the other surface, the lens is + 1 D. S. \odot + 1 D. cyl. axis 90°.



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LENSES: Their History, Theory and Manufacture

(Continued. Part II)

In point of antiquity lenses as **History of Lenses** aids to imperfect vision lead all others, and to us it seems fittingly so, for so wide-spread is their use, so great the relief they give, so real the ills they remedy, that we cannot conceive of a spectacleless world. And still they are comparatively modern, for although we have no authentic records, the consensus of opinion seems to place the invention of spectacles in the 13th or 14th centuries. It seems strange to us that so little should be known regarding the beginnings of this now indispensable article, but the truth is it is not always possible to rightly estimate the importance of a new thing and to foresee conditions that may tremendously affect its use. So with spectacles, which received their first great impetus when the invention of printing made the making and reading of books more common. The development of indoor employment of all kinds, the change in modes of life, the applied arts and sciences requiring study and technical skill, all these entailing close application have been the cause of rendering necessary artificial aids to vision.

We can say with certainty that **Among the Ancients** the Greeks and Romans of antiquity were unacquainted with glass lenses of long focus, nor do the large collections in European museums contain any examples, though there have been found in various places convex lenses of short focus made of glass or of rock crystal.

There was found in a grave in Nola a plano-convex piece of glass about 4.5 cm. diameter mounted in gold; in Mayence one of 5.5 cm. diameter; a similar one in Pompeii; a bi-convex one in England; finally the oldest lens we have, a plano-convex lens found in Nineveh, of rock crystal, not exactly round, 1.6 x 1.4 inches in diameter, .2 inches thick and with a refractive power of 10 diopters. It is remarkable that all these are convex lenses. The fact that lenses have been so seldom found, that the one is mounted in gold, leads to the assumption that they were the rare possessions of wealthy and prominent people.

While these lenses were not spectacle lenses in our sense because of their short focus, still we are forced to assume that they were used as burning and as magnifying glasses.

Passages in Plinius and Seneca show us that the Greeks and **Primitive Magnifying Glasses** Romans were well acquainted with the magnifying power of a globe filled with water, but they ascribed to the water, not to the curved surface, the fact that by means of such an object they could better decipher small, illegible script.

Seneca says, "However small and obscure the writing may be, it appears larger and clearer when viewed through a globule of glass filled with water."

A seal said to have belonged to Michael Angelo and made, it is said, at a very remote time, has engraved upon it fifteen figures in a circular space of 14 mm. diameter. Not all the figures are visible to the naked eye. Cicero mentions an Iliad of Homer written upon parchment which was comprised in a nut shell.

Pliny tells that a Milesian executed in ivory a

square figure which a fly covered with its wings. Unless their vision surpassed that of the most skilled modern artists these facts prove that the magnifying power of lenses was known to the Greeks and Romans two thousand years ago.

Pliny tells us that the Emperor **Nero's Glasses** Nero viewed the gladiatorial combats by means of a polished emerald, which fact, if true, would seem to indicate that they were in those days familiar with the use of spectacles; but Nero from reports must either have possessed astigmatic eyes or eyes containing little coloring matter. His passionate indulgence in chariot racing would tend to disprove the theory of his being shortsighted, as would to a certain extent his portraits which have come down to us in statuary and on coins.

From Pliny's statement it is impossible to tell whether Nero's emerald was curved or not and whether Nero looked through it or into it as a mirror. The ancients regarded the emerald as eye strengthening, so that the emperor may have used it as a cure for his weak eyes, or its green color may have served really to protect them from light.

The search for traces of polished **In the Middle Ages** lenses of long focus in the middle ages is likewise unsuccessful. The few passages from various authors refer only to magnifying glasses. The Saracen Alhazen, who lived during the 11th century, speaks of the great magnifying power of a section of a glass sphere. Vitellio, the expounder of his writings, as late as 1270, longs for a section of glass sphere so that he might see small objects.

Roger Bacon, who lived from 1240-1292, and who surpassed all his contemporaries not only in remarkable wisdom but also in his extraordinary knowledge of nature, in 1276, in speaking of the properties of glass lenses of which he possessed a large collection gathered at a great cost, remarks upon their usefulness to the aged.

At about the same time, 1260-1280, spectacles were known in Germany, for Meissner says explicitly that old people had made use of spectacles.

But it is in Italy that we find immediate news concerning the inventor and invention of spectacles, and indeed two names lay claim to the grateful thanks of the countless thousands who are users of glasses.

The Invention of Spectacles Salvino d'Armato is reputed to have invented them in 1285 approximately. In the church of S. Maria Maggiore, in Florence, there was discovered a tombstone containing the inscription, "Here lies Salvino d'Armato, called Armati, of Florence, the inventor of spectacles. God forgive his sins."

To Alessandro della Spina also is the invention attributed and thus: Spina was a Dominican monk in the monastery of St. Katherine, in Pisa. In one of the old chronicles of the monastery the following is related: "Brother Alessandro della Spina, a modest and good man, understood how to make use of everything he saw or heard of. He himself perfected spectacles which were first made by some one who would divulge nothing regarding them, and he distributed them freely and cheerfully."

One more bit of evidence to fix the invention in this period: Giordano da Rivalta in a sermon preached in the piazza of S. Maria Novella, in February, 1305, said: "It is not yet twenty years since the invention of spectacles which secure better sight, one of the most useful arts in the world. I myself have seen and have talked with those who first made them."

Again a manuscript dating from **Used in the 13th Century** 1299 contains the words: "I am so weighted with years that without my glasses, called spectacles, I have strength neither to read nor to write. These have been recently invented for the convenience of poor old people whose sight begins to fail."

In conclusion this very remarkable incident: "Pietro Buonaparte, Podesti of Padua, ambassador at the Austrian court in 1319, created a great sensation at the marriage of the grand duke's sister by appearing with a pair of spectacles upon his nose, these being a recent invention of the Florentine Salvino, called Armati." Thus the preponderance of evidence seems to favor the theory that to Florence at the end of the 13th century belongs the honor of the invention.

It is true they were used, at about the same time, by old people in Germany, and also in Flanders. In view of the difficulties in the way of intercourse at that time it may be questioned if the invention may not be credited to other countries as well as Italy.

In 1660, Manzini in a book dedicated to St. Lucia, the patron saint of those suffering from diseases of the eye, says that he has in vain endeavored to determine the inventor of spectacles. The task at this time, more than two hundred years later, is still more difficult.

The first mention of spectacles **First Mentioned by a Physician** from the physician's standpoint is made by Bernhard von Gordon (1305), who was professor in Montpellier. He states that spectacles are unnecessary, thanks to his eye remedy, which is so effective that the aged are enabled to read small letters without spectacles.

His young contemporary, Guido de Chauliac perhaps is honest, when, after praising his eye-wash he adds: "If this fails to cure, one must then resort to spectacles."

At that time nothing was known of the refraction of the eye. Our knowledge of the laws of optics, particularly with reference to glass lenses, dates from Franciscus Maurolycus, of Messina (1494-1575), and from John Kepler (1571-1630).

Although as we have seen, spectacles have been spoken of as if they were well-known objects, as a matter of fact they made their way into favor very slowly, for the physicians of that time not only did not recommend them but even tried to dissuade people from using them. Most of them concerned themselves not at all about spectacles; very few understood their operation, and until the 19th century they seem to have regarded the fitting of glasses as beneath their dignity and accordingly this task fell upon those who understood how to invest the operation with an air of mystery. It was not until the middle of the 19th century that definite printed type came to be used for testing the sight.

Regarded as Magical Until after the discovery of the laws of optics which was more than two hundred years after the invention of spectacles, the latter were held to be invested with magical powers which enabled their owner to read and write. So

(Continued on page 703)

The man who drives the automobile wants vision all around — at the sides as well as in front — our *number 17209 goggle* fills that want.



Aluminum frame, extra large bent glass, $1\frac{5}{8} \times 3\frac{1}{4}$ inches giving unobstructed wide field of vision. Leather mask, lined with green silk, bound with chenille.



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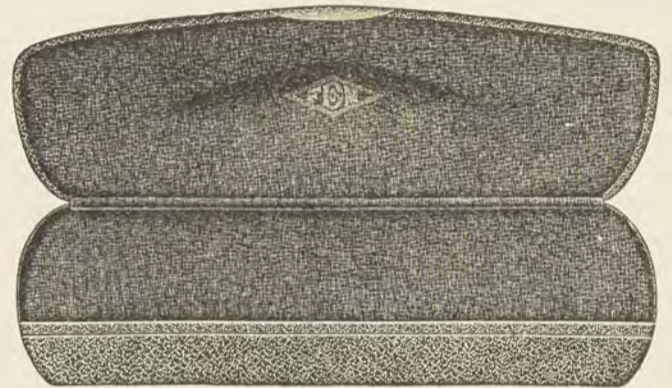
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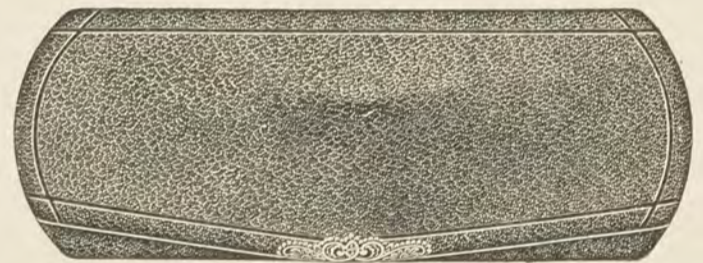
☞ Is covered with Moroccoine, the finest substitute for leather ever produced, it being impossible to distinguish it from the best morocco leather. The Case is a beauty and outwears leather, three to one.

☞ Is lined with Royal Purple Velvet, equal in appearance to silk velvet.

☞ Shows the finest finish and workmanship.

☞ Costs you less, much less than any spring case on the market.

☞ Is covered in black and colors.



☞ All users will be interested in the new silver tip, attached to the cover. This tip adds much to the beauty of the case, prevents the wearing of the edge and raveling of velvet; can be obtained at an extra cost of 35c. a gross.

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Lenses: Their History, Theory and Manufacture

(Continued from page 701)

we read that Paracelsus, the renowned quack and chemist, speaks of spectacles as a crystal in which one can foresee the future, and as late as 1551 it is related that Roger Bacon polished a glass and must have been aided in this by the devil, since strange and wonderful things might be seen in this glass.

Quite remarkable is the part played by spectacles in founding a new religion, for when in 1823 Joseph Smith, the prophet of Mormonism, discovered the new revelation he was able to read it only with the aid of a pair of spectacles of likewise miraculous origin, and described as large and heavily framed in silver, the handiwork of some 18th century maker.

Spectacles in Pictorial and Plastic Art

If we turn to pictorial and plastic art to enlighten us concerning spectacles we find a statue from the 15th century wearing them; but probably owing to the difficulties of representing glass lenses in stone, the examples that have come down to us are few. In painting it is different and there are numerous pictures, mostly caricatures, of people with spectacles. But large as the number is, it is infinitesimally small when compared with those that show none, and this is the more remarkable in that they depict persons in all walks of life. Thousands and thousands of people are depicted in the paintings of the 16th, 17th and 18th centuries, and none of them wear glasses. If we compare these with paintings of the 19th century the contrast is striking, for in these we frequently see persons with spectacles.

Reasons for Prejudice Against Spectacles

It would seem, in view of the fact that the eye is practically unchanged in the last few centuries, that there must be some reason which prevented people from adopting this aid to the vision. There were, indeed, several: first, physicians advised against them; then the difficulty of intercommunication during the middle ages and the beginning of our own time would necessitate considerable time to make an invention known; they were long regarded as magical, only the laws of optics discovered later enabling an understanding of the action of lenses. As has been stated before, the entire mode of life gave little occasion for the use of glasses. Very seldom indeed are women depicted wearing them, and not a single instance of a child or young person; all the men have every appearance of being very old.

It is not surprising that people hesitated to wear them for they were very awkward and heavy and called attention to a personal defect or infirmity. The price, too, was for several centuries prohibitive and sometimes they were not to be obtained at any price.

The lenses were made from ordinary fine and Venetian glass as well as crown and flint glass. Various kinds of crystals were also used of which specimens have come down to us. During the middle of the 19th century the most desirable and most costly lenses were made of Brazilian crystal, which was characterized by extraordinary clearness. The lenses were cut round, oval, square and octagonal.

Classification

At first, probably during the time of Armati, the lens was etched with a number indicating the age for which it was suitable. This was a quite arbitrary classification and determined, as a rule, by

the most limited experience. For unknown reasons this absurd method was abandoned, without, however, a better one being substituted for it. The designation of lenses according to focus appears only in the middle of the 19th century. Definite rules for designating lenses are given by the Spaniard, Daza de Valdes, of Seville, in a rare manuscript, from which it would seem that his system was, with some few differences, similar to the present dioptric system, the whole being computed from a purely practical standpoint, since his knowledge of optics and the anatomy of the eye was very meager.

Round pieces of glass made in Germany were sent to Venice where they were cut into pieces and polished into lenses. In all books of the 18th century, about art and manufactures, the polishing of lenses for spectacles forms an ever recurring chapter. According to all appearances Germany was the chief country engaged in their manufacture, and centered in Nuremberg, Regensburg and Augsburg, cities all famed for their industries.

Concave Lenses

We have thus far made no distinction between the kinds of lenses, whether convex or concave. Historically they differ only in that concave lenses came into existence much later than convex lenses. We find among the ancients no reference to diverging lenses, although short sight was well-known as a defect of the eye. From some remarks of Pliny, short sight must, in fact, have been very common, as, indeed, we have abundant evidence that it was during the middle ages.

Roger Bacon is the first to speak of concave lenses (1276); then there is a long period of silence until 1593, when Porta explains the action of the concave lens upon a short-sighted eye. About one hundred years later Zahn writes of the grinding of concave lenses.

It took a far longer period of time for these lenses to come into general use than the convex, but it is safe to assume the middle of the 16th century as the approximate date, and by the 18th century they had become quite common.

Toric Lenses

Many observers of early times had noted that there were persons with weak eyes who were neither near sighted nor far sighted and whose vision was aided neither by concave nor convex lenses. Thomas Young explained this by the discovery of astigmatism. The painter Cassas recognized in 1818 that his eyes were astigmatic, but not until 1844 did he succeed in having the defect remedied when Surcipi, a Roman optician, ground for him a pair of lenses the outer surface of which was spherical-convex and the inner surface, toric concave.

Bifocals

About 1760 Benjamin Franklin had a pair of spectacles made, each lens consisting of two half-ovals, the upper one being concave, the lower convex. This was the origin of the bifocal lens now so widely used.

Periscopic Lenses

Periscopic lenses although mentioned by Kepler in 1611, were described in 1716 in a book by Hertel, but their invention is commonly ascribed to Dr. Wollaston (1808), an English physician and physicist, who became well known in the world of science and who strongly recommended them.

Although Kepler in 1604 advanced the correct theory of lenses, and it was not until the time of Cramer, Donders and Helmholtz that it became possible to determine with accuracy the defects of abnormal eyes and the steps to be taken for the correction of errors of refraction.

Microscope Lenses

Those who in its beginnings worked with the microscope were those who were engaged in the art of polishing lenses, so that the history of the microscope is coincident with the development of glass polishing. We find lenses first used for microscopic purposes about the end of the 16th and the beginning of the 17th centuries, and from that time on there are many references showing that the simple microscope, as the modest forerunner of the modern compound microscope is called, was a well-known instrument.

The story of the development of the microscope does not concern us except in so far as it relates to the lenses used, for this development was, until the beginning of the 19th century, mainly along the lines of the stand and the accessories. The investigations of Newton, Huyghens, Dollond and others in the nature of light, resulted later in the combination of crown and flint glass to form achromatic lenses and a new impetus was thus imparted. About the middle of the 19th century the first immersion lenses were produced, first the water and later the oil. The well-known work of Professors Abbe, Carl Zeiss and Dr. Schott has resulted in bringing the modern microscope to its present state of perfection.

Telescope Lenses

Passages from Roger Bacon would seem to prove that he had theoretical proof of the possibility of constructing a telescope and a microscope, though on the other hand it is asserted that he imagined some effects of telescopes which can not be performed by them and that hence he could not actually have looked through one.

The practical discovery of the instrument is attributed to three different persons, two of them spectaclemakers in Holland, about 1608. All the original Dutch telescopes were composed of a convex and a concave lens. The inverting telescope, a later invention, is composed of two convex lenses.

Galileo, by reason of his skill and patience, overcame the difficulties of grinding and polishing the lenses and was able to produce telescopes of greatly increased power, so that his name has been associated with this form of instrument.

Kepler first explained the theory and some of the practical advantages of a telescope constructed of two convex lenses, but it was not until the middle of the 17th century that his telescope came into general use. Huyghens constructed the first powerful telescope of this type.

Newton's discoveries naturally had an important bearing upon the telescope as upon the microscope, and in this field, too, it was the invention of the achromatic lenses that paved the way for all following improvements in lensmaking.

Chester Moor Hall, of Essex, made the first achromatic reflecting telescope, though patent rights were granted to Dollond, who no doubt arrived at the invention independently.

The history of the development of the telescope consists not in new optical discoveries but in utilizing new appliances for figuring and polishing, improved material for lenses, more exact methods of testing, and convenient methods of mounting.

Field Glass Lenses

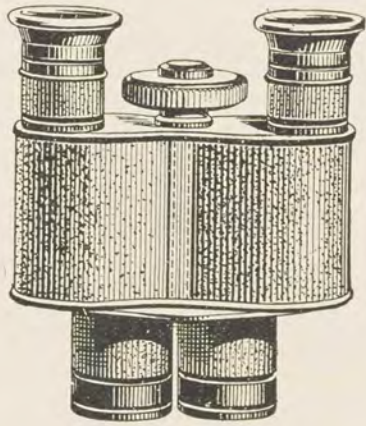
The Galilean telescope with the Dollond improvements was the binocular used until the invention of Zeiss-Stereo binoculars by Professor Abbe in 1895 made practical the use of Porro prisms discovered by Porro in 1850.

These prisms cause the image to appear erect and also shorten the required tube length.

(TO BE CONTINUED)

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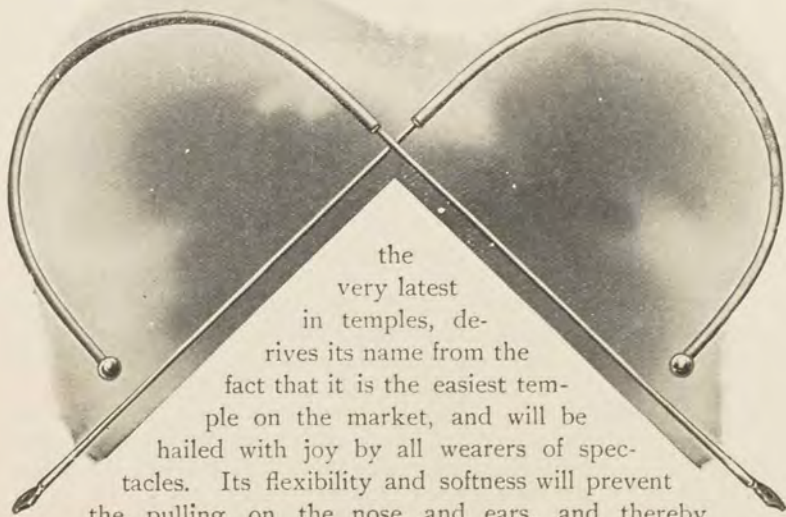
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(Continued. Part XXVIII)

Lecture Contrôlée.—Javal's long-known plan of holding a pencil vertically midway between the patient's eyes and a page of print to see whether he can read continuously without suddenly bobbing his head to avoid the pencil, is a test not of stereoscopic vision nor even exactly of single binocular vision, but of the power of rapid alternate binocular vision.

(a) If one eye be amblyopic he cannot, of course, read that part of the print which lies behind the pencil, as viewed from the good eye, without bobbing his head.

(b) If both eyes have sufficient visual acuity and yet are not working together, there must either be a head-bobbing or else a pause from disconcertment when the deviated eye has to suddenly take up fixation, followed immediately by a second pause before the sound eye can resume it. An excellent arrangement by George Bull enables the patient to place against his forehead a light framework which supports both the print and a vertical rod in front of it. Previous to this he employed a bent strip of brass to be held against the book by a wooden spring-forceps. A somewhat similar arrangement, but to be held by the thumb only, has been used by Priestley Smith. What I use myself is a Holmes stereoscope with two crosspieces, one for holding the print, the other for holding a series of upright strips of metal or whalebone, the strips being made of a dull black. Javal, too, has constructed a "multiple controller" consisting of five bars side by side.

Hering's Drop Test.—In this test the patient sees an object for so brief an interval that there is scarcely time for a full movement of convergence to occur. It tests, therefore, rather what has been called the "notion" of relief, than the "measurement" of it. It requires a flattened cylinder or shallow rectangular wooden box about ten inches long by three or four broad, and open at both ends. From the farther end two wires project forwards and outwards, connected at their extremities by a horizontal thread which is provided with a small bead at its mid-point for the patient to look at through the cylinder. Fig. 44 shows a very satisfactory home-made arrangement consisting of two cylinders of cardboard fixed together, the only disadvantage of which is that the two circular extremities are apt to solicit their own fusion and thus interfere with the free movements of convergence. Whatever form is used, it is important to exclude all vision of the operator's hands. Small objects, such as beans or marbles, of different sizes, are dropped from



Fig. 44
Home-made form of Hering's Drop Test.

one hand into the other, some beyond the thread and others within it, taking care that on the whole those which fall beyond the thread are a little larger than those which fall within it. If stereoscopic vision exist, he will almost always give a correct answer to the question on which side of the string the ball falls; but if not, nearly half the answers will be wrong.

CHAPTER VII

Strabismus

Definition.—Strabismus may be briefly defined* as "inconcert of the fixation lines," or as "a defection of one fixation line from the other. It exists whenever the two visual axes are not directed simultaneously to the point of fixation. Only one fixation line deviates as a rule, and the angle of its defection measures the squint.

Chief Division.—The chief division of true squints is into *paralytic* and *non-paralytic*. This division is almost identical with

that into *incomitant* and *comitant* squints, since in nearly all paralytic squints the conjugate movements of the eyes are incomitant, *i. e.*, are unequal in certain directions of vision, as evidenced by increasing separation of the double images; while, on the other hand, in nearly all non-paralytic squints their equality is so preserved that the squint remains of the same magnitude in whatever direction the eyes look, provided accommodation remains unchanged. We shall see, too, further on, that in paralytic squints the "secondary" deviation, *i. e.*, that of the better eye when it is placed behind a screen so as to oblige the squinting eye to take up fixation, is greater than the primary, while in non-paralytic squints they are equal. (Paralytic squints are treated in the next chapter.)

Horizontal or Vertical.—When an eye squints in or out, the squint is horizontal and is called "strabismus convergens," or "divergens," as the case may be. When an eye squints up or down, the case is one of vertical squint and may be "s. sursumvergens" or "s. deorsumvergens,"* according as the squinting eye is higher or lower than its fellow. Horizontal and vertical elements very frequently co-exist, and it is rare to find a pronounced old convergent squint that has not a slight vertical element as well.

Alternating or Unilateral.—In the first, alternating squint, the patient fixes with either eye at pleasure, the other squinting while he does so, for the reason that the two eyes are of such equal value that he has no preference.

Worth finds that fifteen per cent. of constant squints belong to the alternating variety and divides them into "accidentally alternating squints" and "essentially alternating squints." The first class only differs from monolateral squints in the accident of the eyes being of equal refraction. The second class has a congenital total inability to acquire fusion. Since there is no "anopsia" in alternating squints, there is, of course, no "amblyopia ex anopsia." Alternating squints of the "essential" class are, of course, only capable of cosmetic correction.

A large number of squints are transitions between the completely alternating and the completely monolateral varieties, one eye squinting very much more than the other, but not exclusively. Needless to say, even the occasional use of the generally squinting eye greatly retards the development of its amblyopia, though there is little doubt that the longer such a squint is neglected the more it tends to become completely monolateral.

In contrast to squints of this kind, in which either eye takes up fixation indifferently, most squints are "*unilateral*," the patient having a distinct preference for one as the "working" eye. The way to distinguish to which of these classes a squint belongs, is to screen the working eye; this makes the other take up fixation. If, on unscreening, the transference continues unchanged, the squint is alternating; if, however, the squint reverts to its original eye, it is unilateral. In *unilateral* squints the squinting eye is nearly always determined by some diminution of visual acuity, either retinal or from higher ametropia, astigmatism or corneal nebulae, conditions which always predispose to the development of squint. Traumatic cataract and macular hemorrhage are mentioned by Percival.

Strabismus Convergens Concomitans.—The great majority of convergent squints are of this kind, being purely due to excessive activity of the converging innervation.

Nearly all cases of concomitant convergent squint disappear under chloroform, showing that the internal recti are not contracted or structurally altered, but only unduly innervated.† In most cases this activity was at first occasioned simply by association with excessive accommodative effort called forth either by hypermetropia or possibly, in a few cases, by paresis of the ciliary muscle, as suggested by Javal. Convergent concomitant squint is sometimes congenital, but far more frequently commences about the age of three years, when children first begin to regard small objects attentively. Possibly at this age accommodation begins to require a greater effort than before, from changes in the consistency of the lenses or a diminution of its early rotundity. Or, it may be, that sometimes at the age when a squint begins, the insulation between accommodation and convergence is still more incomplete than usual, so that strong accommodation is impossible without equally strong associated convergence from overflow of nervous force. The frequent association of squint with some other defects of the nervous system has been pointed out in France.

*I prefer the more manageable terms, "s. ascendens" and "s. descendens," but have retained those in the text in deference to usage.

†I have seen one case, but only one, in which the eyes (previously divergent) converged under chloroform.

[TO BE CONTINUED]

*It will be seen that I have not felt able to adopt one author's suggestion to make defect of the fusion faculty a necessary part of the definition of squint. To do so would make the definition far too narrow and leave unprovided for several varieties of squint due to quite other causes.

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Doing Things in the Dark Room

"Dark Room," as used in the above title, is to be taken to mean the home of your photographic orgies, whether they take place in the dark or in the daylight. There is hardly any act in daily life, let alone the photographic part of it, which cannot be done both a right and a wrong way. I might mention the perversity of collars in fitting on collar buttons, when stiff, and the ease with which the ordinary cussable process is accomplished if the buttonhole is moistened, as an example of the first. And there are a whole host of little points like that in photographic work which the amateur has to learn for himself, and which he sometimes doesn't learn for a long time, greatly to his regret when he is finally instructed.

Take, for instance, the process of weighing chemicals. Your scales, perhaps, weigh up to two ounces. You have a formula which calls for ten grains of this, thirty of that and an ounce of something else. Now scales which weigh up to two ounces—such scales, at least, which are sold to photographers for dollars two or three, are not made for weighing half grains with any degree of accuracy. Consequently, in weighing out the ounce called for the chances are many to one in favor of your scales giving you an ounce and ten grains, or an ounce less ten grains, although this excess may seem large. But try it. Measure an ounce on your scales as light as you can and still have the pans balance. Have ten grains weighed out—on another scale if necessary—and add gently to the material now weighing an ounce. If your scale tips so the pan goes down, it is an unusually good scale. The chances are the points will simply vibrate a little and come to rest.

Now, an error of ten grains either way in weighing an ounce is a total possible error of twenty grains, or about four per cent. And if you are apt to make a four per cent. error in weighing one part of your formula, what is the use of being more exact than four per cent. in the rest of it? Bearing this point in mind, delicate weighing of tiny fractions of a grain of chemicals in a formula in which an error is to be made becomes needless. But it is wise to make your errors all on one side—either have your weight full—seeing the pointer rests beyond center, or scant, having it beyond center on the weight side.

I suppose all of us have declaimed an American declaration of independence and other Fourth of July remarks about chemicals which refuse to dissolve in quantity. Some of the sodas have a pleasant habit of caking in the bottom of a bottle in

which they are put for stock solution, the same cake being almost impossible of dislodgement. The best plan is to avoid the cake, of course. One way to do this is to have a small mortar and pestle—wedgewood—and of either eight or sixteen ounces capacity. Take small quantities of your weighed out chemical and triturate vigorously with enough water to make a syrup. Pour this syrup into your bottle, with more water, and solution takes place quickly. Another, easier, but longer process, is to suspend your chemical in a muslin or double cheese-cloth bag in a wide mouth bottle or jar, tying the chemical in with a string and hanging it just inside the container by the same means. Have the water surround the bag and the chemical will dissolve and ooze away in a time remarkably short compared to the time it would take if simply put in a bottle and left to its own devices.

If your chemicals should cake in bottles, with solution above them, the cake can be best removed—I am supposing you wish to preserve it and the container—by boiling said container in a water bath. Cork it at your peril, however! The best way is to set the bottle, with its refractory cake and solution, in a pan on two pieces of wood. Surround the bottle with water to a height equal to the solution inside, and heat slowly until boiling. This treatment, if given time enough, will fetch almost any cake to a solution.

Filtering Solutions

There are some baths which require either to be filtered or to be decanted. A combination toning bath for solio, for instance, or the hypo alum toning bath for bromide paper. Now filtration is a slow, tedious process, with plenty of accidents possible, in the way of bursting filter papers to undo the process just as it is well done. Hence decanting is the popular form of freeing a solution from its precipitate. But not one in ten decants properly. To try to pour off the clear liquid in the easy language of the instruction books, is to save about half of it, and then, probably, to get some of the precipitate along with it. The proper way to do the job is to use a syphon, and the proper syphon to use is the key to the matter. Most syphons are makeshifts—a bit of rubber tubing, or any glass tube handy bent to a U. But the point to notice is, in these, or one made for the purpose, the diameter of the tube. A large tube, say half an inch, syphons so quickly that there is no time to comfortably graduate the end of the syphon with reference to its position above the precipitate—besides which, a large syphon is hard to start. The proper syphon is one made of a glass tube an eighth of an inch inside diameter or less—bent to a U with one leg longer than the other. Fill this with water by laying flat in a dish,

Put your finger over the end of the long leg and insert the other leg into the bottle, an inch below the surface. Remove your finger and the syphon will start. As the level of the solution in the bottle decreases, lower the syphon, and when near the precipitate, say half an inch from it, stop your downward movement. The syphon will stop of itself when the level of the liquid, being decanted, reaches the end of the leg in the bottle. In this way almost all of a liquid can be decanted without disturbing the precipitate and without hurrying so that the process is spoiled through haste.

Measuring by "Parts"

It seems to me, and I have no doubt it does to many who will read this, that instructions as to the meaning of certain words in writing formula are superfluous at this time, when the explanations have been made so many times before. But your editor can tell you that he has been asked these same questions since the beginning of time, and that he expects to go on answering them until the end of it. So many join the ranks every year, and some, who have learned, forget. Hence I hope to escape without the necessity for an apology if I explain once more what "a part" is.

Take of water, ten parts; of sodium sulphite, two parts; of hydrochinon, so many parts, etc. "What is a part!" I suppose has been written in the photographic editor's brain in letters of fire, and yet a part is no more nor less than—a part! And may be grains, ounces, pounds or tons; it may be inches, feet or miles; minims, pints or barrels. A "part" is some division of the whole, no matter what, so all other "parts" in the formula under consideration are the same. Formulas are so given that any quantity can be made to suit the individual. You may make your solution up in gallons, using immense quantities, while I may only want enough for a few operations. So the formula man says "parts," and we select the measure which pleases us best. Read "ounces" or "pounds" or any other measure for "part," when you come across it in a formula, but if you start with ounces keep on with ounces, a part not being changeable in the middle of the process of solution making.

You have been impressed with the reiteration of the photographic text book, "Use hypo trays for nothing but hypo." Yet this is a caution only and need not be a mandate to you. Any dish used for hypo can be made fit for other use, provided (1) it is not porous; (2) it is not cracked, and (3) the cleaning be thorough. If the dish be cracked, be wary. Cracks hold chemicals and frequently produce stains, in such operations as toning prints in the cracked tray.

—C. H. Claudy, in the *American Amateur Photographer*.

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AGENTS { California Optical Co., San Francisco, for Pacific Coast
Globe Optical Co., Boston, Mass., for New England
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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.

"R. J. P."—*In a recent number of The Keystone, under "Adjustment of Spectacles," it is stated that in determining the near point the smaller sized type is usually selected; but where such type cannot be read without glasses, we supply a known convex lens which will permit of such type to be seen and a near point to be measured. Please state what account is to be taken of this convex lens in estimating the near point?*

A known convex lens that is used to establish an artificial near point, must be added to the convex lens that is then required to restore the receded near point to 8 inches. For example: a patient in the sixties being unable to read without glasses, we place in the trial frame +2 D., with which the near point is 13 inches. This indicates an amplitude of accommodation of 3 D.; now, as the normal amount should be 5 D., there is therefore a deficiency of 2 D. And as this 3 D. of accommodation was possible only with the assistance of the +2 D. lens, it must be added to the result, and hence in this case the proper glass to restore the near point to 8 inches and build up the accommodation to 5 D., is +4 D.

"M. E. C."—*I have a patient fifty-eight years old, a painter by trade, is subject to liver trouble, face has a melancholy expression and is a little yellow, almost constantly, and has been for years. He has indigestion, though not at all bad; his right shoulder is somewhat lower than the left and he walks with a hitch in the left leg. This man has suffered with severe headaches for twenty-five years. These headaches are so regular in their appearance that he can tell you two weeks in advance within an hour of the time they will come; they come on every week. He plans his work accordingly. He has tried almost every known headache cure and has had his eyes fitted many times by prominent men in this profession, but all without success. I found 5° exophoria in left eye, together with very slight compound hypermetropic astigmatism: R. +.50 cyl. +.25 cyl. ax. 90° = 5° prism base in. L. +.50 cyl. +.25 cyl. ax. 90°. This brings him to 1/15 O. U. I cannot induce an eye or headache, neither can I make any impression upon it when he has it with the use of any glass or combination. I have tried to bring out more exophoria with the use of prisms, letting him wear a 10° prism over one and a 10° prism over both eyes for a week, together with his correction. His correction seems to be a perfect one, yet these headaches appear with great regularity. He seems to have a partial control over the deviating eye and can bring it almost in line at will. A 5° prism brings in line all right. When he first put on my last correction it changed the day of the appearance of the headache and he thought it was not as severe as usual. I have seen him when walking along the street suddenly fall forward or to the side as if staggering. The headache begins with a slight frontal ache, then goes over the top of the head to the back, finally settling into a very severe occipital ache, which puts him in bed for just one day or about twenty-four hours. What can I do more than has been done?*

The first thought that arises is as to the correctness of the lenses ordered. They are weak, which would lead us to infer that the error of refraction is small, and yet we are told that these

lenses bring the vision only to 1/15 in both eyes, which is 2/3 of normal vision, presuming our correspondent is using the metric system of expression, of which 3/8 is the standard or normal. This being the case the questions to be solved are: Is this the proper formula, can the vision be raised to normal by any other combination, or is there some organic defect that accounts for the impaired vision?

We are not told the acuteness of vision of each eye separately. This is important to know in order to determine what effect the exophoria is producing and whether it should be corrected at all, or in whole or in part. We note that the full amount of exophoria is corrected and that the prism is placed all over one eye, both of which procedures are contrary to custom. The teaching is to correct only about one-half the exophoria and then to divide such prism between the two eyes.

A further investigation of the refractive condition of the eyes and of their muscular equilibrium may throw more light on the case, but from the history as given us we are inclined to think that these headaches are at least partly bilious in their character and that the patient is as much in need of medical as optometrical attention.

"C. E. G."—*What would you do in the following case of a deviating eye: Young lady, wearing R. E. -2 D. +1 ax. 75°. L. E. 1.50 D. -1 ax. 150°. Vision 3/8 both eyes. This young lady has been afflicted with deviating R. E. since birth. When looking straight ahead both eyes are straight. Turning the eyes to the left the L. E. turns over all right, but the R. E. turns directly up so that only 1/4 of the iris is visible. Turning the eyes to the right both eyes move over all right but she notices the effort. Turning both down the right one turns slightly out and when turning both up the R. E. turns slightly out.*

This does not seem to be a case of divergent strabismus because when looking directly in front, both eyes are straight, and yet there is apparently a deficiency or lack of convergence power, most likely paralytic in its character. A case like this is beyond the reach of glasses, and therefore, in answer to the question of our correspondent as to what course to pursue, we would say the patient should be referred to a medical specialist. We note the glasses she is wearing do not afford normal acuteness of vision, but if they are the best that can be fitted then the optometrist has reached the limit of his usefulness.

"J. C. S."—*In the August number, 1905 (somewhat late), I notice the following in bifocals: Wafer +3 D. on -1 D. Lens +1.50 D. on +.50 D. cyl. ax. 90°. +1.50 D. sph. +.50 cyl. ax. 90°, add 2 for reading, your answer is: -3 D. +.50 cyl. ax. 90°. After cementing, now I can't make this come out as your answer would lead me to believe, but still get a plus lens, and the total with cement is just .50 short.*

The article referred to in the August, 1905, KEYSTONE, had reference to the curves of segments in relation to the curves of the distance lenses to which they are to be attached, and emphasis was laid on the point that the concave surface of one must exactly correspond to the convex surface of the other. The diagram about which inquiry is made shows an attempt to place a -1 D. curvature over a +1.50 D. curvature, but the statement is made that the segment would not adhere because of the difference in the curvatures, and that it would not be proper to try to make them stick. Then the argument was pursued a little further to the point of supposing that a workman made the two curvatures hold together by using an extra amount of cement (an unworkmanlike job which must be condemned whenever it is mentioned), and then it was shown that the result would not be what was desired because the space between the -1 D. curve and the +1.50 D. curve, amounting to .50 D., is filled up by the cement, thus causing a discrepancy of .50 D. in the result, and it is this loss of .50 D. of refractive power which our correspondent fails to understand.

"C. G. B."—*Kindly advise me concerning a case I am having a little trouble with. Mrs. W., age thirty-six, fair health but bothered with headaches, nervousness and dizziness. Vision: O. D., 1/10; O. S., 1/10. Accommodation equals 10 D. Muscles, 10° esophoria; with double prism on right eye and red glass on left eye, the red light is to the right of line of white lights and it takes a 10° prism base in to put light on a line. The strongest glasses I can get on is +1.25 D. both eyes, and she complains that even that is hazy at distance. The strongest glass I can get on and get 1/10 vision is +1.25 D. both eyes. This woman had now +.75 D. both eyes fitted by an oculist, and an optician fitted .75 D. both eyes with 2° prism base in on each eye, and these made more trouble than ever. She could wear neither correction for three months when she tried me.*

Our correspondent's statement seems a little confused, and we must correct some seeming errors. In the first place, he says there is 10° esophoria, and then goes on to say that the red glass, being over the left eye, shows the red light to the right, which is corrected by a prism 10° base in. This, of course, indicates exophoria, not esophoria.

We are told the accommodation equals 10 D., but we have no record as to how this is obtained. This would be possible only in the presence of myopia at this age, but would be impossible in an emmetrope of this age and entirely out of the question in hypermetropia, as this case seems to be. This measurement must be taken again and revised.

Ordinarily, we try to crowd on the strongest convex lenses the patient can be induced to accept, on the supposition that there is a certain amount of latent hypermetropia that calls for correction; but, in the presence of exophoria, we must go slow in such procedure, because convex lenses always tend to increase an exophoria. Therefore, if this case is really one of exophoria, the convex lenses must be weakened, or else their adverse effect on existing muscular conditions must be neutralized by prisms bases in.

It should be remembered that hypermetropia usually causes and is associated with esophoria, and under such conditions we know that convergence and accommodation are maintaining their accustomed relation to each other.

But when hypermetropia is associated with exophoria, we know that the normal relation has been disturbed, and such cases usually suffer from asthenopia and are difficult to treat. In the first condition the use of convex lenses corrects both the hypermetropia and the esophoria; but, in the second case, while the convex lens corrects the hypermetropia it only aggravates the exophoria. Hence, we must keep the convex lenses weak, or else we must do something to neutralize the adverse effect of the convex spheres on the exophoria. As prisms bases in have been tried unsuccessfully, we would suggest an effort to strengthen the convergence by exercise with prisms bases out, repeated daily for some length of time.

"R. D. W."—*How is the schematic eye adjusted for the following formulas: (1) +1 S. +1 D. cyl. ax. 90°. (2) -2 D. cyl. ax. 180° +1 D. cyl. ax. 90°, mixed astigmatism. I have been unable to find any book that explains how the schematic eye is adjusted in practice for the above examples. I have your book on retinoscopy, also have Jackson's and Thorington's.*

The schematic eye is composed of two cylinders, one sliding into the other. When the artificial retina is placed at the focal distance of the lens the eye is said to be emmetropic; when pushed closer together, hypermetropic, and when drawn out, myopic. Certain marks on the outside of one of the cylinders indicate the amount of myopia or hypermetropia. In order to make the schematic eye astigmatic, a cylinder is placed in one of the cells in front of the eye. For instance, in order to adjust the eye for this formula, +1 S. +1 D. cyl. axis 90°, it is pushed in to 1 D. of hypermetropia and then a -1 D. cylinder is placed in front of it, axis at 90°.

To meet the second formula the eye is left at 1 D. of hypermetropia, and a +3 D. cylinder is placed in front of it, with axis at 180°.

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Optical Organizations

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American Association of Opticians (1898)

BRIGGS S. PALMER, President, Boston, Mass.
WM. E. HUSTON, Secretary, 4404 Main Street, Kansas City, Mo.
Next meeting, 1907, Kansas City, Mo.

Canadian Association of Opticians (1896)

F. E. LUKE, President.
H. J. GEIGER, Secretary and Treasurer, Toronto.

The Optical Specialists' Association of America (1904)

H. L. STOKAS, President, Oskaloosa, Iowa.
G. E. BOYCE, Secretary, Waterloo, Iowa.

American Association of Wholesale Opticians (1893)

LEO WORMSER, President, 2 Maiden Lane, New York.
J. B. WHITE, Secretary, 72 N. High St., Columbus, Ohio.

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.
Annual meeting and exhibit, May 14, 15, 1907, at Boston.

Northwestern Optical Association (1901)

E. C. ROBERTS, President, Red Wing, Minn.
F. J. PRATT, Secretary, 415 Robert Street, St. Paul, Minn.

STATE

Pennsylvania Optical Society (1895)

J. F. BRINKERHOFF, President, West Philadelphia, 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.
Next meeting, April 9, 1907, at Indianapolis.

Michigan Society of Optometrists (1896)

P. SCHOLLER, President, Hancock, Mich.
E. EIMER, Secretary and Treasurer, 105 Western Avenue, Muskegon, Mich.

Iowa Optical Society (1897)

A. F. THOMPSON, President, Adel, Iowa.
GEO. J. FEIGE, Secretary, Des Moines, Iowa.

Illinois Optical Society (1898)

GEORGE A. ROGERS, President, Chicago, Ill.
O. J. HALBE, Secretary, Room 1616, 42 Madison St., Chicago.

California State Association of Optometrists (1899)

L. B. LAWSON, President, Santa Rosa, Cal.
H. W. CLARK, Secretary, care A. Huguenin, Sutter Street and Grant Avenue, San Francisco, Cal.

Washington Association of Opticians (1899)

LEWIS E. CAPPS, President, Seattle, Wash.
H. A. LEMBEKE, Secretary, Tacoma, Wash.

Granite State Optical Association (1900)

W. E. BURPEE, President, Manchester, N. H.
JOSEPH GROFFERON, Secretary, Manchester, N. H.
Meets third Wednesday of January, March, May, September and November.

Wisconsin Association of Optometrists (1900)

J. N. WILCOX, President, Waterloo, Wis.
E. E. THOMAS, Secretary, Milwaukee, Wis.
Next meeting, July 10 and 11, 1907, at Milwaukee.

Minnesota Optical Association (1900)

I. M. RADABAUGH, President, Hastings, Minn.
C. A. SNELL, Sec'y., 804 Nicollet Ave., Minneapolis, Minn.

Maine Association of Opticians (1901)

A. M. WENTWORTH, President, Portland, Maine.
ROBERT B. SWIFT, Secretary, Portland, Maine.

Tennessee Optical Society (1901)

H. J. COOK, President, Knoxville, Tenn.
WEAKLEY RUTH, Secretary, Shelbyville, Tenn.

Colorado Optical Association (1901)

R. B. FINCH, President, Denver, Colo.
R. H. BIEGEL, Secretary, 636 Sixteenth St., Denver, Colo.
MISS E. H. CHAPMAN, Cor. Sec'y., 1655 Welton St., Denver, Colo.

Kansas Association of Opticians (1901)

F. W. HUNT, President, Burlingame, Kans.
WALTER STARCKE, Sec'y. and Treas., Junction City, Kans.

Missouri Association of Opticians (1901)

M. E. SCHMIDT, President, Booneville, Mo.
ELMAR H. SCHMIDT, Sec'y. and Treas., Washington, Mo.

Virginia State Optical Association (1902)

V. B. GILBERT, President, Richmond, Va.
W. WAYT ROYALL, Secretary, Martinsville, Va.

Ohio Optical Society (1902)

F. P. BARR, President, Lancaster, Ohio.
EDWIN L. JONES, Secretary, Sandusky, Ohio.

Kentucky Optical Society (1902)

C. H. BOWEN, President, Winchester, Ky.
L. BACHUS, Secretary, 511 W. Market St., Louisville, Ky.

North Dakota Optical Association (1903)

A. O. WOLD, President, Langdon, N. Dak.
W. R. BLAKELY, Secretary, Grafton, N. Dak.

New Jersey Optical Society (1903)

L. B. HILBORN, President, Newark, 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. GALLETT, Secretary, Aberdeen, S. Dak.

Texas Optical Association (1903)

E. E. TAYLOR, President, Houston, Texas.
DAVID L. WORTSMAN, Secretary, Dallas, Texas.

Rhode Island Society of Optometry (1903)

J. F. DODGE, President, Providence, R. I.
W. W. FERRIS, Secretary, 514 Westminster Street, Providence, R. I.
Meets second Monday of each month.

South Carolina Optical Association (1903)

P. H. LACHICOTTE, President, Columbia, S. C.
GEO. F. MIMS, Secretary, Edgefield, 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)

L. A. HINES, President, Savannah, Ga.
C. E. FOLSOM, Secretary, 28 Whitehall St., Atlanta, 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)

S. P. SCHUESSLER, President, Baton Rouge, La.
JACQUES BECK, Sec'y., 129 Carondelet St., New Orleans, La.

Nova Scotia Optical Society (1905)

T. C. GRANT, President, New Glasgow, N. S.
A. G. JOHNSON, Secretary, Halifax, N. S.

New Mexico Association of Optometrists (1905)

OTTO G. BEBBER, President, Albuquerque, N. Mex.
GEO. F. EVERETT, Secretary, Albuquerque, N. Mex.

Nebraska Optical Society (1906)

C. C. McLEESE, President, Davenport, Nebr.
J. H. HUKILL, Secretary, Lincoln, Nebr.

Oregon State Association of Optometrists (1906)

G. A. CUTTING, President.
B. E. FISKE, Secretary, Macleary Bldg., Portland, Oregon.

Mississippi Optical Society (1906)

E. R. VON SCUTTER, President, Jackson, Miss.
ALBERT I. ORR, Secretary and Treasurer, Vicksburg, Miss.

Alabama Optical Society (1906)

E. H. HOBBS, President, Selma, Ala.
J. H. TINDER, Secretary, Birmingham, Ala.

Arkansas Optical Society (1906)

T. J. ELLIS, President, Jonesboro, Ark.
W. B. DESHAZO, Secretary, Rogers, Ark.

Oklahoma Optical Society (1906)

A. Y. BOSWELL, President, Tulsa, Ind. Ter.
C. O. LYNCH, Secretary, Oklahoma City, Okla.

Wyoming Optical Society (1906)

E. H. CARTER, President, Laramie, Wyo.
C. C. ELLIS, Secretary, Thermopolis, Wyo.

Utah Association of Optometrists (1906)

F. J. ALEXANDER, President, Salt Lake City, Utah.
J. E. BROADBUS, Sec'y., 60 Main St., Salt Lake City, Utah.

Idaho State Association of Opticians (1907)

B. D. HUBBARD, President, Boise, Idaho.
J. A. JENKINS, Secretary, Boise, Idaho.

LOCAL

New York City Optical Society (1897)

W. B. FISHER, President.
ALBERT COHEN, Rec. Sec., 81 Fulton Street, New York.
Meets second Wednesday of each month.

Rochester Optical Society (1897)

HARRY M. BESTOR, President, Rochester, N. Y.
C. I. SUMERISKI, Secretary, 104 State Street, Rochester, N. Y.

Utica Optical Society (1901)

RICHARD PERLEN, President.
C. T. EVANS, Secretary, Utica, N. Y.

Chicago Optical Society (1902)

J. ROSE, President, Chicago, Ill.
P. H. KREITZ, Secretary, care C. D. Peacock, State and Adams Streets, 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)

J. P. SIMCOX, President.
ERNEST V. SYRCHER, Secretary, 11 Genesee St., 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. CUFE, President.
J. A. McAVOY, Secretary, Lowell, Mass.
Meets second Thursday of March, September, November.

Southern Tier Optical Society of New York (1905)

I. PUTNAM, President, Elmira, N. Y.
C. H. VER NOOY, Secretary, Watkins, 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, Mich.

Southern California Optical Society (1905)

C. B. ELLIOTT, President.
G. A. PICON, Secretary, 342 S. Spring St., Los Angeles, Cal.

Opticians' Club of Columbus (1906)

F. W. WALLIS, President.
J. CRAWFORD, Sec'y., 603 Brunson Bldg., Columbus, Ohio.

Milwaukee Optical Club (1906)

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Pittsburg Association of Opticians (1906)

J. T. LITTLE, President.
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District of Columbia Optical Society (1906)

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Omaha Optical Society (1907)

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San Francisco Optical Society (1907)

JNO. W. DAVIS, President.
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Indiana has an Optometry Law

THE final passage of the optometry bill by the Indiana legislature is a triumph of immeasurable value for the optometrists of the entire country. Indiana holds so prominent a position among the States that the passage of the law will give such prestige to the cause as will greatly facilitate similar legislation in other States. In the name of the opticians we extend congratulations to Indiana, the land of poets, novelists, statesmen and wide-awake, progressive optometrists.

The bill was signed by Governor Hanly on March 11th and takes effect immediately. For this final triumph great credit is due the committee on legislation of the Indiana Optical Society, and more especially C. N. Jenkins and H. E. Woodard, the latter being chairman of the committee. Before three legislatures previous to this last, these gentlemen, with others, appeared with their bill. Though they failed on these occasions, each new effort added friends to their cause and

(Continued on page 713)

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Indiana has an Optometry Law

(Continued from page 711)

strength to their purpose. This time comparatively little opposition was met with until the bill reached the house committee, where an effort was made to kill it, but by the timely assistance of friends outside of the committee the measure was saved. The disappointment in New York State is largely compensated for by this triumph and by the success which has attended the efforts of the optical societies of several other States. The passage of the optometry bill in Tennessee was announced in our last issue, and word has reached us that a similar bill has passed the Utah legislature. The Indiana bill, as finally signed by the governor, is as follows:

A bill for an act to define and regulate the practice of optometry, providing for the issuance of certificates to practice, providing for a State board of registration and examination, and defining their duties, providing for the collection and disposition of fees and dues, defining certain misdemeanors and providing penalties therefor.

Section 1. Be it enacted by the General Assembly of the State of Indiana, That there be and is hereby created a board which shall be known as the Indiana State board of registration and examination in optometry, whose duty it shall be to carry out the provisions of this act. Said board shall consist of five members, four of whom shall have been resident opticians, engaged in the actual practice of optometry in the State of Indiana for a period of five (5) years prior to their appointment; and the fifth an oculist who in like manner has been engaged in the practice of his profession for five years prior to his appointment; not more than three of whom shall belong to the same political party. The appointments to this board shall be made by the governor within thirty (30) days after this law goes into effect. Of those appointed two shall serve for one (1) year, one for two (2) years and the other two for three (3) years. The successors of all shall serve for a term of three (3) years each, and shall hold his office until his successor be appointed. Appointments to fill vacancies from any cause shall be made by the governor for the residue of such term. The members of the board, before entering on their duties, shall each take and subscribe to the oath required to be taken by other State officers, which shall be administered by the secretary of the State and filed in his office; and said board shall have a common seal. Any members of said board may be removed by the governor for cause.

Section 2. Said board shall at its first regular meeting, which shall be held within fifteen (15) days after their appointment, and annually thereafter, elect from its members a president, secretary and treasurer, who shall severally have the power during their term of office, to administer such oaths and take such affidavits as are required by the provisions of this act, certifying thereto under their hand and the seal of the board. Said board shall meet at least once in each year in Indianapolis, Indiana, and in addition thereto, whenever and wherever the president and secretary thereof shall call a meeting; a majority of said board shall at all times constitute a quorum. The treasurer and secretary shall each give bond in the sum of not less than two thousand (\$2000) dollars, with sureties to be approved by the governor, which bond shall be filed with the auditor of State. The secretary of said board shall keep a full record of the proceedings of said board, which record shall at all reasonable times be open to public inspection. Said board shall from time to time establish and record, in a record kept for that purpose, a schedule of the minimum requirements which must be complied with by applicants for examination before they can be examined or receive a certificate.

In like manner said board shall establish and put on record a schedule of the minimum requirements and rules for the recognition of schools of

optometry so as to keep the requirements of proficiency up to the average standard of the State. But no rule or requirement shall be made that is unreasonable, or that contravenes any of the provisions of this act.

Section 3. Every person before beginning the practice of optometry in this State after the passage of this act shall pass an examination before the State board of examiners. Such examination shall be confined to such knowledge as is essential to the practice of optometry. Any person having signified to said board his desire to be examined shall appear before such board at such time and place as they may designate, and before such examination shall pay to said board the sum of five (\$5) dollars, and if he shall successfully pass said examination shall pay to said board a further sum of ten (\$10) dollars, on the issuance to him of a certificate. All persons successfully passing such examination shall be registered in a record which shall be kept by the secretary of said board, as licensed to practice optometry, and shall also receive a certificate of such registration to be signed by the president and secretary of said board.

Section 4. *That the practice of optometry be defined as follows: The employment of mechanical means for testing and measuring the refractive and accommodative conditions of the eye, without the employment of drugs or medicine, and the measuring and grinding of lenses, the fitting, bending and adjusting of spectacles and eyeglasses with lenses for the betterment of vision: Provided, That the fitting or peddling of spectacles and eyeglasses by itinerant opticians prior to this act shall not be construed to mean the practice of optometry in the meaning of this act.*

Section 5. From and after the passage of this act it shall be unlawful for any person to practice optometry in the State of Indiana, unless he shall first obtain a certificate of registration from the board, hereby created, and file the same with the clerk of the circuit court of the county in which he proposes to practice, as in this act provided.

Section 6. Nothing in this act shall be considered to apply to physicians and surgeons authorized to practice under the laws of the State of Indiana, nor to resident merchants so long as they sell spectacles as any other piece of merchandise without representation of qualification on the part of the seller.

Section 7. Every person who has been engaged in the actual and continuous practice of optometry as defined by section 4, in the State of Indiana, for three (3) years immediately prior to the time of the passage of this act shall within ninety (90) days thereafter file affidavit in satisfactory proof thereof with said board, which shall make and keep a record of such persons, and shall in the consideration in the sum of five (\$5) dollars issue to him a certificate of registration.

Section 8. All persons entitled to a certificate of registration under the provisions of section 7 of this act shall be exempt from the provisions of section 3.

Section 9. Every person receiving a certificate under the provisions of this act shall present the same for record to the clerk of the circuit court in the county in which he intends to practice, and shall pay to such clerk fifty (50) cents for recording the same, which certificate shall be recorded by the clerk in a record to be provided for that purpose.

Section 10. In case of change of residence from one county to another in this State, the holder of an optician's license shall obtain a new license in the county where he proposes to reside by filing with the clerk of the circuit court the license obtained by him in the county in which he last resided, in the same manner as provided for on the presentation of his certificate from the State board of registration and examination in optometry, and the clerk shall issue him a new license.

Section 11. It shall be the duty of the clerk of the circuit court in which an applicant resides or proposes to locate, to issue to the person presenting such certificate as hereinbefore provided, a license over his official seal in the following form:

State of Indiana, county of _____ ss:
I, _____, clerk of the circuit court of _____ county, in the State of Indiana, do hereby certify that _____ has complied with the laws of Indiana relating to the practice of optometry in the county and State aforesaid.

Witness my hand and seal of said court this _____ day of _____ _____ clerk.

Section 12. The clerk shall furnish annually on the first day of January to the Indiana State board of registration and examination in optometry, upon blanks furnished by such board, a duplicate list of all certificates received and licenses issued by him during the preceding year, and shall include therein the date of issue of such license, and the name and residence of the person receiving same.

Section 13. Any person entitled to a certificate, as provided for in section 7 of this act, who shall not within ninety (90) days after the passage thereof, make written application to the board of examiners for a certificate of registration, accompanied by a written statement, signed by him, and duly verified before an officer authorized to administer oaths within this State, fully setting forth the grounds upon which he claims such certificate shall be deemed to have waived his right to a certificate under the provisions of said section 7. Any failure, neglect or refusal on the part of any person holding such certificate to file the same for record, as hereinbefore provided, for thirty (30) days after the issuance thereof, shall forfeit the same.

Section 14. Every person to whom a certificate of examination or registration is granted shall display the same in a conspicuous part of his office wherein the practice of optometry is conducted. And whenever practicing said profession of optometry outside of or away from said office or place of business, he shall deliver to each customer or person so fitted with glasses, a bill of sale, which shall contain his signature, home post office address and the number of his certificate of registration.

Section 15. Out of the funds coming into possession of said board each member thereof may receive as compensation the sum of five (\$5) dollars for each day actually engaged in the duties of his office and actual expenses incurred in attending the meetings of the board. The secretary and treasurer shall be reimbursed for all necessary expenses incurred while discharging their duties to the board at their homes. Said expenses shall be paid from the fees and assessments received by the board under the provisions of this act, and no part of the salary or other expenses of the board shall ever be paid out of the State treasury. The treasurer shall pay per diem the expenses as provided herein, only on the itemized verified statement of the person entitled thereto. All moneys received over and above said per diem allowance and expenses, as above provided for, shall be held by the treasurer as a special fund for meeting expenditures of said board and carrying out the provisions of this act. Said board shall make an annual report of its proceedings to the governor on the first Monday in January of each year, which report shall contain an account of all moneys received and disbursed by them, pursuant to this act: Provided, however, that all moneys in excess of five hundred (\$500) dollars, as shown by such report, on hand and unexpended shall be paid annually into the general school fund.

Section 16. Every registered optician shall in every year after 1907 pay to the said board of examiners the sum of two (\$2) dollars as a license fee for such year. Such payment shall be made prior to the first day of April in each and every year, and in case of default in such payment by any person his certificate may be revoked by the board of examiners.

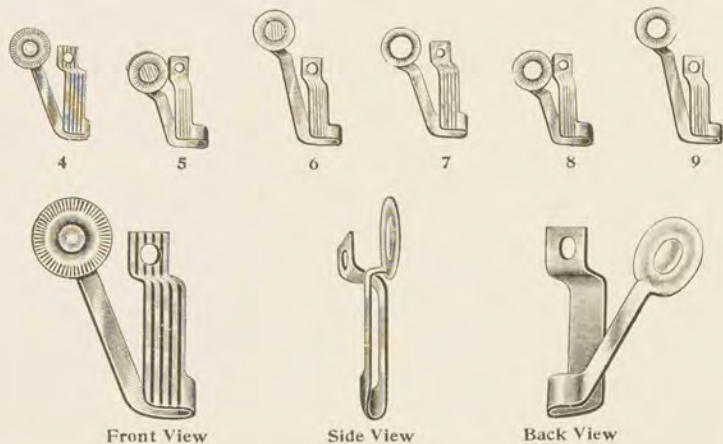
Section 17. Said board may refuse to grant a certificate to any person guilty of felony, or gross immorality, habitual drunkenness, or afflicted with contagious or infectious disease; and may, after notice and hearing, revoke a certificate and any license which may have been granted thereon for like cause. An appeal may be taken from the action of the board to the circuit or superior court of the county in which the certificate was refused or revoked by the board, upon application giving a good and satisfactory bond to be approved by the court, to secure the cost of such an appeal, should the appeal be determined against him.

Section 18. To open an office for the purpose of practicing optometry or to announce to the public in any way an intention to practice optometry in any county in the State shall be to engage in the practice of optometry within the meaning of this act.

Section 19. Any person who shall after July 1, 1907, be, or engaged in the practice of optometry in this State without first having obtained a certificate of registration from the board created by this act, shall be deemed guilty of a misdemeanor and upon conviction may be fined not less than ten (\$10) dollars nor more than one hundred (\$100) dollars.

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The Minnesota State Association of Optometrists

The seventh annual meeting of the Minnesota State Association of Optometrists was held at the State Capital Building, St. Paul, February 27th and 28th, and was one of the most successful yet held. The association is to be congratulated on the interest all the members seem to take in making each meeting more successful than its predecessor. The first session was devoted to the regular order of business, the secretary and treasurer's reports showing a cash balance on hand of \$235.11. The matter of amendments to the optometry law was laid over to next annual meeting for further action.

A permanent amendment to the by-laws was adopted, making the membership fee and dues \$3 for the first year, no matter what part of the fiscal year the application is made. Thereafter the dues remain the same as heretofore.

Iver Langaud, St. Paul, and John R. Gordon, Houston, were recommended for membership and elected. Three applications for membership were laid over to next meeting for action.

A special committee was authorized to revise the constitution and by-laws and report at next meeting. The changes recommended included one to provide for associate members.

The secretary's salary, which includes his allowance for his duties as librarian, was increased to \$100.

The election of officers was the most spirited, with possibly one exception, in the history of the association and the following were elected: President, I. M. Radabaugh, Hastings; first vice-president, A. Swenningsen, Moorhead; second vice-president, Henry Jache, St. Paul; secretary, C. A. Snell, Minneapolis; and treasurer, E. W. Kittridge, of Minneapolis; member of board of directors, H. T. Holverson, Alexandria.

The membership committee reported the past year as the most successful in the way of obtaining new members in the history of the association with the exception of its second year, the association having added twenty-four new members during 1906.

The entertainment and instructive part of the programme were excellent. The subject for discussion was "Astigmatism," and if any one attending all the sessions went away without understanding this subject in all of its phases it was because he did not pay close attention to what information was furnished.

S. B. Millard, Minneapolis, opened the subject with a "Blackboard Demonstration of the Emerging Rays of Astigmatic Eyes," the discussion of which brought out some very interesting information.

This was followed at the evening session by H. M. Hitchcock, Redwood Falls, with a "Clinical Demonstration of the Diagnosis of Astigmatism by Use of Trial Case and Charts," one of the members, F. J. Schisler, Winthrop, being the clinical patient. Mr. Hitchcock explained each move made and its object, also the results. He had to have "time's up" called by the president, so as not to interfere with the rest of the programme, but on a demand from the audience for more time, it was granted and he completed his demonstration.

Edw. Grievish followed with a clinical demonstration of the use of the stenopaic disk and also the use of the ophthalmometer. In opening, Mr. Grievish begged the indulgence of his hearers, saying that to follow after the brilliant demonstration of Mr. Hitchcock, placed him in an embarrassing position, as it was wrong in the committee to place the most popular actor in the first part of the pro-

gramme and the weak ones afterwards; but before he was through with his demonstration it was very hard to say which was the most successful, as Mr. Grievish proved himself one of the most able demonstrators that have yet appeared before the association, and all desire to see more of him.

The closing session was opened by J. A. L. Wallman, Little Falls, by a talk on the subject, "The Symptoms of Astigmatism," which was handled in a very able manner. This was Mr. Wallman's first appearance before the State Association, but as stage fright is something that no successful optometrist is ever troubled with, Mr. Wallman came out with colors flying.

C. A. Snell closed the discussion with a blackboard demonstration of "The Value of the Periscope Form of Compound Cylinders as Compared with the Double Form."

One feature noticeable at this meeting was the absence of "papers." All seemed prepared to say what they had to say in an off-hand manner and prove it by actual work, which takes away the stiffness and makes all feel more comfortable, and the way questions were asked and answered convinced the non-practitioner even that the good seed of instruction was being freely sown.

Mrs. Jane Hill Pratt, Fremont, Nebr., was a guest of the association, and at the last session addressed them in a very neat speech in which she advocated the universal adoption of some inconspicuous badge or emblem to be worn by all optometrists.

Sischo & Beard, St. Paul, distributed a neat souvenir of the meeting in the shape of an eyeglass stickpin to all in attendance.

President Brown sent a letter of regret from California, saying the best he could do would be to be present in spirit, and advising the association to keep up interest in future as in the past by doing conscientious work and the future would take care of itself. Vice-President Radabaugh handled the gavel so as to get in practice for the coming year's work.

The association paid a neat compliment to First Vice-President-elect Swenningsen for his efficient work on the State board.

Of the over one hundred present fifty-two

were members of the association, which shows interest in association work by both members and non-members. Minnesota feels very proud of its association.

This meeting has convinced the board of directors that they must have more time for the meetings and in future arrangements will be made for a full two-days' session, possibly five sessions in place of three.

The summer meeting is already being planned for and President Radabaugh will undoubtedly have something good in store to offset the honors being heaped on him.

The State board of examiners held a meeting after the close of the association meeting and elected C. C. Staacke, Duluth, president, and C. A. Snell, Minneapolis, secretary. Their first regular meeting will be held March 20th.

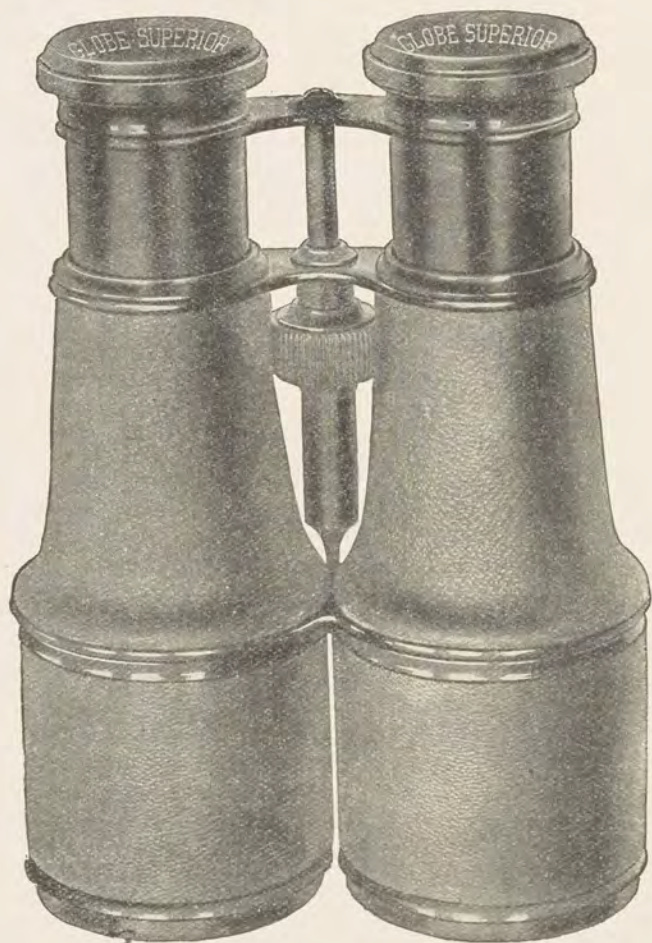
The following registered on the secretary's book:

- J. C. Herdliska, Princeton.
- Wm. Plackner, Arlington.
- W. W. Arnes, Owatonna.
- A. J. Klinek, Little Falls.
- E. M. Schwenke, New Richmond.
- Paul T. Hunziker, Jordan.
- G. E. Prescott, Princeton.
- H. J. Heran, Elbow Lake.
- L. J. Korstad, Zumbrota.
- Hans Clara, Story City.
- Albert J. Krueger, North Branch.
- J. A. L. Wallman, Little Falls.
- C. Arveson, Sleepy Eye.
- Geo. R. Clark, St. Cloud.
- Martin Irgins, Glenwood.
- John Langeland, Rothsay.
- H. T. Holverson, Alexandria.
- E. F. Hubner, Stillwater.
- A. Swenningsen, Moorhead.
- J. R. Gordon, Houston.
- Thos. F. Wilson, Ortonville.
- Chas. C. Staacke, Duluth.
- H. M. Hitchcock, Redwood Falls.
- C. M. Krogh, Canby.
- F. J. Schisler, Winthrop.
- I. M. Radabaugh, Hastings.
- A. M. Fargaman, Fergus Falls.
- F. A. Ohlson, Springfield.
- C. A. Sherdahl, Montevideo.
- W. G. Gould, Glencoe.
- F. W. Harper, Renville.
- H. F. Alden, Sauk Center.
- J. H. Girvin, Mankato.
- A. H. Moeller, Bird Island.
- John Rosendahl, Mapleton.
- W. G. Hansen, Hutchinson.
- Geo. H. Lang, Mankato.
- H. O. Schleuder, Springfield.
- P. M. Smith, A. M. Lord, J. J. Dowd, Wm. E. Gure, E. W. Grievish, E. B. Segerstrom, F. A. Jacobs, Mrs. Stanton, Miss Carrie S. West, Mr. and Mrs. E. W. Kittredge, Ludwig M. Nelson, S. I. Whitney, S. B. Millard, C. A. Snell, A. G. Miller, N. M. Klairs, John Hansen, O. A. Holmes and A. E. Paegel, Minneapolis.
- Miss Dora Bell, James McGuire, Henry Jack, F. A. Upham, F. Heitzman, M. Schweiker, P. T. Onast, H. E. Withey, Geo. H. Drat, Edw. L. Martin, E. E. St. Horr, Martin Johnson, Arthur F. Williams, N. D. Armes, B. Busby, J. M. Knowlton, Miss Ethel D. Cundiff, J. H. Zimmerman, M. A. Potter, J. H. Carlson, W. A. Seaman, C. C. Sharpberg, I. W. Langaard, V. A. Fall, Roy Rowlin, G. Franklin, R. M. Williams, Geo. T. Hartmann, R. E. Gillette, H. A. Strugeon, Roy Huber, Garfield Hildebrandt, St. Paul.
- Mrs. Jane Hill Pratt, Fremont, Nebr.
- A. A. Walstrom, De roit, Mich.
- Bertha E. L. Krause, Ellendale, N. Dak.
- G. R. Simmons, Langford, S. Dak.
- E. B. Woodward, Bismarck, N. Dak.
- A. J. Wordman, Eldora, Iowa.
- I. Reiner, Hutchinson, Minn.



Members in attendance at the convention of the Minnesota Association of Optometrists

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New England Association of Opticians

The regular monthly meeting of this association was held at Young's Hotel on the evening of March 10th. A feature of the meeting was a lecture by Edward P. Colby, M.D., a distinguished Boston nerve specialist, who is neurologist at the Homeopathic Hospital and Boston University. The subject of his lecture was "Nerve Reflexes, with a Brief Consideration of Some of the Neuroses." The lecture was a very important one from the point of view of the optometrist, and was listened to with much appreciation, the eminent doctor being paid the compliment of an unusually large attendance.

The following were admitted to associate membership: J. D. Driscoll, Louis Francis La Ponite and Edmund H. Allen. It was announced that hereafter all members of the New England Association were also members of the American Association as long as they were in good standing in their own association.

Among the other subjects discussed at the meeting were the code of ethics and the arrangements for the big convention which will be held at the American House on May 14th and 15th.

Indiana Optical Society

The Indiana Optical Society will hold a spring meeting at Indianapolis, April 9th. The election of officers, which was postponed at the January meeting, will take place at that time. As the optical situation in the State has been completely transformed by the passage of the optometry law, it is important that all the opticians who can should attend the next meeting. The business to be transacted is to be of unusual importance, and the new law may make advisable some change in the constitution and by-laws of the society. The opticians of the State are requested to make a note of the date and to make a special effort to attend the meeting.

The Pennsylvania Optical Society

The Pennsylvania Optical Society held its annual examination for the dioptrician grade at the Continental Hotel, Philadelphia, on March 12, 1907. The examining board consisted of H. F. Freeman, of West Chester; J. C. McAllister, of Media, and C. A. Longstreth, of Philadelphia. The board had prepared a very comprehensive set of questions covering the theory and practice of optics, including anatomy of the eye, transposition of lenses, frame fitting, etc. J. H. Hartsch, of Philadelphia, and Thos. H. Browne, of Germantown, came before the board and took the written examination, which was followed by one on the practical use of the trial case, where each candidate had to show his skill in fitting a patient who had defective eyesight. In the evening the examining board announced that the papers had been examined, and both gentlemen had passed and were now members of the dioptrician grade.

In the evening the association had a special meeting at the factory of McIntire, Magee & Brown, 723 Sansom Street, Philadelphia, where they were treated to a demonstration of optical shop work. The members were given the opportunity of examining the actual work of lens and surface grinding, the making of bifocals, the fitting of frames and all other optical work.

At the close of the demonstration the members were invited to the office of the firm, where a very generous collation was spread, which was much appreciated. After a vote of thanks to their kind

hosts, the society adjourned, after one of the most satisfactory meetings in their history.

The paper placed before the candidates for the dioptrician grade, for their written examination, was as follows:

1. Describe the human eye, with its constituent parts.
2. What are the functions of the different parts of the eye?
3. Name the different kinds of lenses necessary for correcting errors of refraction.

4. Draw a diagram of the human eye, showing the position of the retina and where parallel rays of light focus in a case of mixed astigmatism; also, in a case of compound hyperopic astigmatism.

5. When two lenses of different powers give equally good vision, what is the rule about determining which lens is best to use when the lenses are convex? What when they are concave?

6. If a patient's vision is $\frac{3}{8}$ and he can see all the radiating lines on the clock dial or fan equally black and distinct, and can also read the very smallest print at accommodation distance easily, can there be any defect of vision? If so, what?

7. At what distance from the patient should your distance test card be placed in order that the rays of light emanating from it should be practically parallel?

Can a satisfactory test be made at a shorter distance and how short would you say?

8. What usually causes strabismus or squint in children? How would you correct it in a child under five years of age?

9. When do you use the pin-hole test? Explain why the stenopaic slit or pin hole corrects astigmatism without lenses.

10. What is meant by the accommodation of the eye?

At what age does it begin to decrease?

11. Where astigmatism, presbyopia and hyperopia are present, in what order would you correct them?

12. If your patient has +2 D. of astigmatism in the vertical meridian, and you place a +2 spherical lens before his eye, what effect do you produce on that eye?

13. What is the manifest hyperopia? What is the latent hyperopia? How would you measure each?

14. Transpose the following into a spherocylinder +3 cyl. axis 90° crossed with -2 cyl. axis 180° .

Transpose the following into a cross cyl. -2.50 combined with +3.75 cyl. axis 45° .

15. What is meant by binocular vision? What is necessary for its accomplishment, and what are the advantages that accrue from it?

16. What are the measurements necessary to be taken in properly fitting a spectacle frame to the face?

17. What effect is produced in having the pupillary distance too wide? Why?

18. Explain the fogging system in correcting hyperopia.

19. What effect is produced by a decentered spherical lens?

20. How is the Maddox rod used, and what is the result obtained from the use of it?

Wisconsin Association of Optometrists

The members of the Wisconsin Association of Optometrists will hold their seventh annual convention in Milwaukee on July 10th and 11th. Quite an entertaining and instructive programme is being arranged for this meeting, and no optician in the State, who has at heart the interests of his profession or his own advancement, should absent himself on this occasion. One of the most instructive features of the programme will be a quiz in which questions will be asked and answered, much to the benefit of the members. As it has been decided that the Wisconsin Retail Jewelers' Association will hold its convention at practically the same time, an additional inducement is furnished for a large attendance. The particulars of the programme will be published in a future issue.

The Optometrical Society of the City of New York

The usual monthly meeting of the above society was held on March 13th, in Parlor D. R., of the Fifth Avenue Hotel. In the unavoidable absence of the president, Mr. Frankel occupied the chair. After the reading of the minutes of the previous meeting, Mr. Ryer, chairman of the by-laws committee, read the several changes made in the by-laws, which were accepted as read. Mr. Frankel, chairman of the auditing committee, stated that the committee had gone over the books of the financial secretary and treasurer and found same correct.

The following new members were then elected: J. J. Ashley, Jr., of Brooklyn; Cyrus F. Mitchell, of Westerly, R. I.; I. M. Kurtis, of Brooklyn, and Otto Lind, Jr., of Jersey City, N. J.

Applications for membership were received from the following: E. B. Lichenstein, A. Zadek and S. Mendelovitz, of New York City; Wm. Knoop, of Brooklyn; J. M. Garcia Diaz, of Jersey City, and Chas. Himmelberger, of Newark. These names were laid over for action at the next meeting.

A letter of thanks was received from the Optical Society of the State of New York for the check of \$50 contributed by the city society for the use of the legislative committee.

The following members have sent their application for membership to the Optical Society of the State of New York: R. D. Elting, H. Schumann, C. F. Hughes, Paul Shapiro and Otto Offenhauser, Jr.

The secretary called attention to the interesting fact that on the 12th of July of this year, the society will be in its tenth year.

The lecture by Mr. Ryer and the "Quiz" by Prof. Lockwood followed, and the answers to the "Quiz" questions showed the members' diligence in study.

The secretary announced that the medical bill referred to in our last issue, as being introduced in the State Legislature, was favorably reported by the committee. He also announced the glad tidings that the optometry bill had been passed by the Indiana legislature and signed by the governor. Several speakers discussed the possible danger to opticians which lies in the medical bill, and urged the necessity of every optician becoming a member of one or the other of the trade organizations.

Oregon Optometry Law Amended

The opticians of Oregon, through the medium of the State society, were successful in having an amendment to the optometry law of the State passed during the recent session of the legislature. The amendment rectifies several shortcomings of the old law, which it will make much more effective for the purpose intended. The board of examiners have set a high standard in the examinations, and all who succeed in passing are thoroughly competent in the specialty of eye refraction. At the last examination, out of a class of four there were three who passed—namely, A. A. Keene, of Salem; A. E. Roy, of Stayton, and C. D. Pons, of Salt Lake City. Of the three who passed, two took the examination twice and one three times. This shows that the test is not mere formality, but one which calls for deep study and thorough competency in the practical work of refraction.

The board of examiners have just issued a neat little booklet containing the names of registered opticians of the State, and also those whose names have been dropped from the register.

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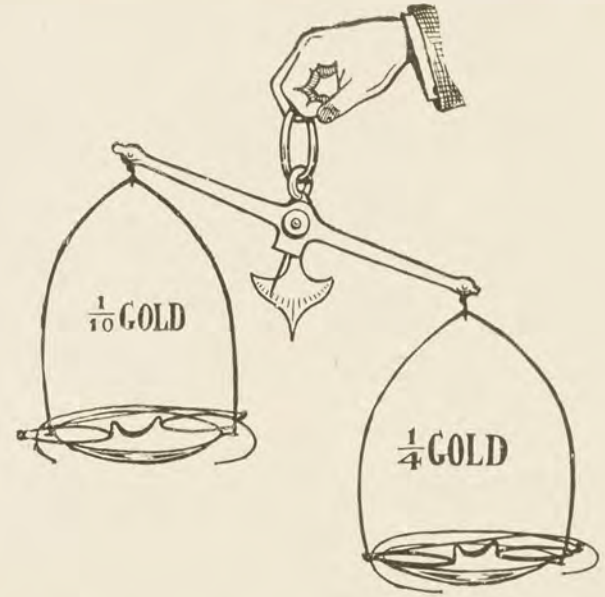
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The Lasting Qualities of Spectacle and Eyeglass Frames

The truth of the old saying, "All is not gold that glitters," is forcibly demonstrated by many of the so-called "gold filled" spectacle and eyeglass frames which are put upon the market.

They all look beautiful (when they are new) and apparently are very much alike, but Time, that great detective, who uncovers all frauds sooner or later, demonstrates in a very forcible manner the difference between those frames which really have a respectable amount of gold in their make-up and those which have not come much closer to the real article than the word "gold" itself as used in their advertisements.

Even in those frames which may rightly and properly be called "gold filled," constant use shows plainly the great difference between the 1-10 and the 1-4 gold filled frames.

Take for instance the so-called 1-10 Gold Filled Cable Temples. The inside core is German silver and the three outer strands, which are wound around this core, are 9-10 alloy and 1-10 gold, which will make entire temple average only about 1-20 gold.

You can very easily imagine that it is a very difficult matter to spread this 1-10 of gold in an even manner on the surface of the three strands which are wrapped around the core.

It is practically impossible, on account of its extreme thinness, to prevent this surface coating of gold from being almost entirely lacking in some spots while it will be correspondingly thicker in others.

As a consequence of this, after a comparatively short time, the gold disappears and the alloy shows. The same thing is true of the bridge as well as of the temples. The exceedingly thin shell of gold soon wears through. Frequently, on account of this thin shell, the bridge cracks and perspiration gets into the crack. The acid in the perspiration causes oxidation of the alloy to take place and presently an indignant customer comes into your store to inquire how such a thing could possibly happen if the spectacles which you sold him were really "gold filled."

You are doubtless familiar with these troubles in the 1-10 gold filled frames. It is not the fault of the maker; it is simply that, with the small amount of gold used in their construction, these troubles are bound to occur sooner or later.

We now have frames in which these troubles will not occur. They cost you a little more money for the simple reason that there is more gold in them.

They are what we call 1-4 14 K. Gold Filled Bridge and Temple Frames, that is to say, 25% of pure 14 K. gold covering 75% alloy. The use of this amount of gold permits the making of a perfectly smooth even shell, which contains the same amount of gold in all its parts so that the wear will be even and true throughout and, as you can readily see, they will last many times longer than the 1-10 10 K. or 12 K. gold filled frames. They will seldom or never crack and will give much better satisfaction in all respects to your customers.

The cable temples on our 1-4 14 K. Gold Filled Frames are also made with German silver core, but to have the entire temples average 1-4 gold the three outer strands are nearly 1-2 gold. This will give as good wearing surface on cable temples as the plain riding temples have, which claim cannot be made for any other gold filled cable frames on the market.

In fact, we give with all of our 1-4 14 K. Gold Filled Frames a **positive guarantee for the life of the customer** and will replace any frames, free of charge, which give out or show any imperfections.

We also want to call your attention particularly to another good point in our 1-4 Gold Temples. The tip or ball of the temple is "struck-up" from the same stock and is not soldered or clamped on as is the usual method of manufacturing the temples.

Soldering the ball tends to soften the end of the temple, which is frequently the cause of trouble later on. When clamped on it leaves an opening for the perspiration to do its work, besides the ball frequently comes off.

We also have the 1-4 14 K. Gold in Rimless Spectacle and Eyeglass Mountings.

The cost of these 1-4 14 K. Gold Frames to a customer is not very much more and they give infinitely better satisfaction and as your experience has doubtless taught you, "A satisfied customer is the best advertisement" that you can possibly have.

We will be glad to send sample of any of the following at dozen rates.

PRICE-LIST OF 1-4 14 K. GOLD B. & T. FRAMES

R PRICES PER PAIR		STOCK PRICES PER DOZ.	
\$1.35	No. 746. Plain Riding Temple Frames	\$13.50	
1.80	No. 748. Cable " "	18.50	
1.35	No. 749. Plain " "	13.50	Mountings
1.80	No. 745. Cable " "	18.50	" "
1.65	No. S863. "Neverwobble" Eyeglass Frames	17.00	
1.30	No. S860. " "	13.50	Mountings

Johnston Optical Co., Detroit, Mich.

Utah Association of Optometrists

For a comparatively young organization, the Utah Association has to its credit a remarkable achievement in that it has already succeeded in having passed through the State legislature a bill for the regulation of optometry. The members of the association did excellent work in forcing the passage of the measure. It was the intention of the society to have the bill so drawn that it would compel every one who had not been in the optical business for more than two years to pass an examination; but, as may naturally be supposed, there was determined opposition to this provision, and it was found necessary to eliminate it in order to secure the passage of the measure. The Utah opticians deserve the congratulations of the trade at large. Several other States succeeded in having the bill passed during the recent session, and each addition to the list is a triumph for the cause.

San Francisco Association of Optometrists

A local association of great promise is the San Francisco Association of Optometrists. Each member seems to take an active and earnest interest in the work of the organization, and all strive harmoniously for practical results. At a recent meeting a new price-list for the retail optometrists to be guided by was introduced, and met with the approval of the association. A copy of the list was mailed to every registered optometrist in San Francisco, with the compliments of the association.

The San Francisco Association has promised its aid in making the convention to be held in Los Angeles in the month of May, one of the most successful ever held on the coast. A comprehensive programme is now being prepared for this convention, which will repay the time and expense of the trip.

California State Association of Optometrists

At the last annual meeting of the California Association of Optometrists, the following officers were elected: President, L. B. Lawson, Santa Rosa; first vice-president, F. Lee Fuller, Los Angeles; second vice-president, W. H. Davis, Oakland; secretary, H. W. Clark, San Francisco; financial secretary, H. Nordman, San Francisco; treasurer, A. J. Schohay, San Francisco. New directors—F. W. Laufer, Oakland; W. E. Benson, San Francisco. The next meeting of this society will be held in Los Angeles, Cal., on May 6th and 7th next.

The New York Optometry Bill

A hearing on the optometry bill recently introduced in the New York State legislature, was held before the assembly committee on public health, on Tuesday, March 5th. The medical opposition to the measure was represented before the committee by Dr. Shaw, of Albany, a specialist on children's diseases and a member of the legislative committee of the State Medical Society. The arguments used were practically the same as those used on the previous occasion by Dr. Root on behalf of the medical society. The tenor of Dr. Shaw's plea was that the examination of eyes and the fitting of glasses should be interpreted as medical practice, and that those who wished to follow this specialty should first study medicine and get a diploma in the usual way.

Mr. Lembke, of New York City, read a set of resolutions passed by the Opticians' League of New York, an organization of dispensing opticians, who opposed the bill. Mr. Mundorf, a member of the league, spoke against the measure, holding that no man should have the privilege of examining eyes except a physician. He practically nullified his argument later in his address, by the statement that if any of his customers would not go to a physician, he would fit them with glasses rather than lose the sale.

Messrs. Arrington and Cross again appeared in advocacy of the measure, and made forceful pleas in its favor. Mr. Arrington maintained that the burden of proof had always been on the side of the optician, as had been proved in the States where optometry laws had already been passed. In these States the law has worked most satisfactorily. In Minnesota, for instance, there was not a spectacle peddler to-day, and the doctors and optometrists were working in perfect accord, greatly to the benefit of each other and the public. He said that the bill in its present form was perfect, and that the time would soon come when the physicians would join with the opticians, as many of them now had, and ask the committee to report the bill.

Mr. Cross followed with a very clear and concise statement of conditions as they to-day exist in the world of optometry. He described in a very lucid manner the working of the human eye, and explained away convincingly the contention of the doctors that the fitting of glasses was really practicing medicine. His plea was a powerful one, well presented, and on the conclusion of his address he was heartily congratulated. Among the other opticians present were Frank A. Elmer and Edmund Spencer, of Hudson; M. E. Kenney, of Utica; C. V. L. Pitts, of Kingston, and Mr. Sargent, of Albany.

At the close of the proceedings, the committee went into executive session and later adjourned without reporting the bill.

Big New England Convention

Preparations are about completed for the annual convention of the New England Association of Opticians, to be held at the American House, Boston, May 14th and 15th. In addition to the two-days' session, there will be held an exhibit of optical goods and kindred lines, which is expected to be the finest ever held in this country. The handsome exhibit hall in the American House has been almost doubled in size, which will permit of a larger and finer display than last year, which was conceded to be the best-arranged optical exhibit held in this country. Most of the leading manufacturers have applied for space, and elaborate preparations are being made for the construction of booths and the decoration of the hall. The decoration will be of a uniform color, all the booths being constructed under the supervision of the exhibit committee.

The social features of the convention have received due consideration, and in addition to the usual banquet given the visitors by the local wholesale trade, the committee of arrangements have secured 500 seats at one of the local theaters and tickets for the performance will be given to all those registering at the convention. Arrangements have also been made for automobile tours of the city and suburbs for the ladies who will attend.

A number of prominent speakers have been secured to address the convention on interesting topics of the day, special attention being given to the practical questions that confront the optometrist.

Rooms can be secured at the American House, on the American plan, from \$1 a day upwards. Exhibitors desiring space should apply at once to W. W. Slade, chairman of the exhibit committee, 403 Washington Street, Boston, Mass.

Spectacles as Support for False Nose

David Dodson, a farmer, was recently supplied by the University of Pennsylvania Dental Department with an artificial nose. The new facial appendage is quite life-like, and is held in place by a pair of spectacles and a false mustache. The nose was constructed by Philip Kurtz, a senior dental student at the University.

In search of a nose, Dodson went to the University officials nearly two years ago. He was first taken in hand by the medical department. Two operations were first performed by Dr. Charles H. Frazier in an attempt to graft one of the man's fingers to that part of his face where a nose should have been. Each time, however, the pain became so great that Dodson tore off the embryo nose as it was beginning to grow on his face.

The spectacles for Dodson were made to special order by McIntire, Magee & Brown, the well-known wholesale and manufacturing opticians, of Philadelphia. They have a heavy gold frame, which was soft-soldered to the silver strip on the nose. It was necessary to make the temples of very heavy steel wire, nearly one-eighth of an inch thick, so that they would be strong enough to hold the nose firmly in place. The temples were shaped back of the patient's ears and were gold plated.

Medical Legislation that Threatens Opticians

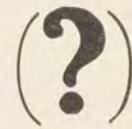
In our last issue we called attention to a bill introduced in the Michigan Legislature which, if passed, would compel every optician and optometrist to appear before the Michigan State Board of Medical Registration and take an examination. This was the first instance in which the oculists particularly specified the optometrists in their medical legislation. The bill is, of course, being vigorously opposed by the Michigan Optical Society and opticians of the State generally.

We find also that the Illinois oculists have left off all disguise in their opposition to the optometrists, and have introduced an amendment to the medical practice acts of the State which, if passed into law, would mean the suppression of the refractionists. The proposed amendment is as follows:

Any person shall be regarded as practicing medicine, within the meaning of this act, who shall treat, or profess to treat, operate on, or prescribe for any ailment or physical injury to, or deformity of another, or who shall examine or test the eyes of another person, and prescribe the use of glasses; *therefor*, Provided, That nothing in this section shall be construed to apply to the administration of domestic or family remedies in case of emergency, or to the laws regulating the practice of dentistry or pharmacy. And this act shall not apply to surgeons of the United States army, navy or marine hospital service in the discharge of their official duties, or to any person who ministers to or treats the sick or suffering by mental or spiritual means, without the use of any drugs.

The Illinois Optical Society has taken steps to defeat this amendment. As its passage would mean the suppression of the refractionists of the State, each optician has a personal interest in giving moral and financial support to the society in its laudable effort to prevent such.

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Sphero-prism Test at Near Point as a Method for Determining Latent Hyperopia

Paper read at the annual meeting of Minnesota State Optical Association by H. M. HITCHCOCK, Redwood Falls, Minn.

The principal business of an optometrist is to relieve eyestrain, and nearly all eyestrain results from hyperopia and astigmatism. An unrelaxed ciliary is the chief barrier to exact diagnosis of these errors.

Latent, undetected hyperopia places a serious limitation on the usefulness of a lens treatment for eyestrain. An attempt to determine astigmatism during the act of accommodation is often like playing the game of "hide and go seek," and the wearing of a cylinder that does not accurately neutralize an astigmatic error is usually worse than useless.

We are rarely justified in prescribing prisms or using direct treatment for apparent muscular imbalances or insufficiencies until all abnormal accommodative effort is eliminated.

The progress of the practice of optometry has reached a point where the foregoing have become recognized as among the undisputed facts with which we have to deal, and at all optical schools and by all optical tutors, strong emphasis is placed upon ciliary relaxation as a first step in the procedure in optical diagnosis being essential to successful practice. Details in methods of fogging with plus lenses have become so perfected that this result is readily accomplished during an examination in a large share of our cases, but there remains a considerable percentage of cases of latent hyperopia that does not yield during an examination to the influence of plus lenses. The constant wearing of spherical fogging lenses for weeks or months will no doubt reach most of these remaining cases, but we will place a high estimate of value on a method that will induce complete relaxation in minutes instead of months.

Use of the Sphero-prism Test I have given this introduction to what I have to say in order to bring to our view a proper perspective of the importance of the subject which has been chosen for general discussion at this meeting. Only a few words are necessary to describe the method which I have found useful in detecting latent hyperopia by means of sphero-prism test at near point.

First, give the patient fine clear print to read as it is essential to determine the exact distance to a far point of clear vision with lenses that are used. Begin the test by having in trial frame plus 3 D. lenses combined with two degrees prism base in for each eye. Bring the point to where it can be seen distinctly. At first this point will be quite close to the eyes but will gradually recede. Move the page alternating from within range of clear vision to slightly beyond, continuing the movements back and forward as long as far point of clear vision recedes. Gradually increase the strength of prisms to about four or five degrees for each eye. Whenever the far point recedes beyond thirteen inches, add one D. to plus lenses, continuing until it is impossible to secure clear vision beyond that point, which indicates that complete relaxation of the ciliary has been accomplished.

Now the amount of hyperopia is a simple problem in mathematics. If clear vision at thirteen inches is possible with a plus 5 D. lens there must be 2 D. hyperopia, for 3 D. is the strongest lens an emmetrope can use at the same distance.

I have found the lenses as here specified to be suitable in most cases but no one rule is adapted to all. The use of stronger prisms is sometimes best while in others an opposite result is produced. In this test as in the distant chart test with sphero-prisms, too strong prisms base in will induce contraction of the ciliary muscle instead of relaxation.

The Why and the Wherefore

In all of our optical work it is important to carefully note symptoms which appear to us and accurately observe the results of our procedure, but we need also to seek their true explanation, for it is only where they are thoroughly understood that we can make the best use of our methods and have a safe basis for further progress. We need to know the function of each part of the complex mechanism of the eye, but we must never think of the action of any one part of this optical machine as independent of every other part. We know the close association which exists between accommodation and convergence and that this forced relaxation of the converging muscles with prisms base in is a compelling influence toward relaxation of the ciliary; but this is only a partial explanation of the success of this method.

The alternate contraction and relaxation of a ciliary muscle, induced by the forward and backward movements of the page, is a sort of rhythmic motion which is a further influence toward complete relaxation. These together with the tendency of the eyes to adjust themselves as nearly as possible for a distinct retinal image when the page is carried beyond the point of clear vision, are a trio of influences which can be combined in no other way for the accomplishment of the result we seek.

My use of this method has not been extended enough to warrant me in claiming that it will positively prove in every case, whether there is or is not a latent hyperopia, but I am confident that it will do so when skilfully used; at least I have not yet found an instance where I have known it to fail to entirely relax the accommodation.

Important Considerations

In conducting this test we must bear in mind that for every degree of relaxation of the internal rectus, there is a corresponding contraction of the external, and when prisms are strong enough to require an extraordinary effort of the abducting muscles a counter-acting stimulus is aroused through the third nerve, which accounts for ciliary spasm instead of relaxation when too strong prisms are used. The strength of prisms which is best adapted for use in this method depends upon the power which can be easily exercised by the external recti muscles.

Instead of following this subject into further detail, I will give you an illustration which strikingly emphasizes the value of relaxing simultaneously the accommodation and convergence in both the near and distant subjective tests.

Illustrative Case

This case is a boy of nine years who formerly stood high in his classes but during the last school year had fallen far behind. Severe headaches, nervousness, restlessness at night were among the eyestrain symptoms. Using spheres for chart at twenty feet, minus 2 D. was required to give twenty-twentieths vision. He could not read print at an ordinary reading distance but needed to bring it close to the eyes. The sphero-prism test at near point as above described, demonstrated 1 D. of hyperopia. Test for muscular imbalance showed high degree of esophoria.

I furnished plus correction, insisted on it being worn constantly expecting in this way to reduce the ciliary spasm. Repeated test about every ten days. The boy could read and study easily and rapidly advanced in school work, but distant vision remained fogged both with and without glasses.

At our last February meeting I was much impressed with the demonstration given by Mr. Radabaugh showing his method of combining prisms base in with spheres in distant chart test.

When I returned home I sent for the boy. Although he had been wearing plus lenses for nearly two months, he still required minus 2 D. for distant vision, but with prism combination there was instantaneous twenty-twentieths vision with plus 1 D. lens. A sphero-prism for constant use entirely relieved his eye trouble.

His father told me last week that before the school year closed he was promoted to the second class above him, instead of the next one.

Notice in this case that prisms were not needed for the purpose of aiding weak convergence but to force a repression of excessive innervation through the third nerve, which was manifested by spasm of convergence as well as spasm of accommodation. Note also that the instant effect of prism after failure of convex correction is proof that the convergence was the dominant factor in the associated spasm and could not be successfully ignored.

Most Satisfactory Results

Further significant results of wearing the combined correction for a few weeks were that the lateral muscles were restored to equilibrium, all tendency to spasm disappeared and when school closed, the boy had no need to continue the use of glasses.

This case is typical of others which occasionally come to us where much near work has resulted in excessive stimulus to third nerve action and the apparent esophoria does not signify weakness or exhaustion of the external recti as commonly supposed but an abnormal innervation to the converging muscles, which can be immediately checked by prisms base in.

Whatever good may sometimes result from submitting to the constant fog of plus spheres or of sphero-prism distant corrections, as are prominently advocated, there is much more frequent use and value to the optometrist in the different sphero-prism tests and corrections which are described and demonstrated in the series of discussions at this meeting.

When these methods are perfected and thoroughly understood; when we have learned just how and when to use them and know their limitations as well as their possibilities, they will be a solution of some of our most perplexing optical problems, and will prove a distinct and important addition to the science and practice of optometry.

[This method is certainly to be recommended in all cases where both eyes have the same refractive error. In cases of astigmatism and marked anisometropia however this method could be used only after the astigmatism or refraction of each eye had been corrected separately.—ED.]

Using Pliers

When pliers are used on gold or gold filled goods, especially the latter, says the *British Optical Journal*, where plier marks cannot be filed out without destroying the casing, it is well to place a soft cloth between the jaws of the pliers and the metal. This will help in preventing marks on the metal. Care should be taken to keep an even grip on the pliers to avoid digging into the metal.



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Ohio Optical Society

A meeting of the executive committee of the above association will be held at an early date, when final arrangements will be made for the next annual convention. The place of meeting has not yet been decided, but Columbus, Toledo and Cedar Point are candidates for the honor. The committee of arrangements are already hard at work preparing the programme and the purpose of making the convention one of the most practical and instructive ever held. The papers to be read will be very valuable from an educational standpoint, and no optician in the State can well afford to miss this occasion for the advancement of his own interests as well as the interests of the profession at large.

Texas Optical Association

The annual convention of the Texas Optical Association will be held at Fort Worth on May 22d and 23d. A most inviting programme is now being arranged for the occasion and it offers instruction and entertainment which will well repay those opticians who attend. The committee on arrangements well understand that on account of the enormous dimensions of the State, many of the members have considerable distance to travel and they are planning for a convention which will well repay them for the time and expense. As it will be about vacation time, as many opticians of the State as possible should make arrangements to journey to Fort Worth on that occasion.

Oklahoma State Optical Association

The Oklahoma State Optical Association held its annual meeting in Oklahoma City on March 19th and 20th. A most entertaining and instructive programme was gone through and all those in attendance were much pleased with the convention. The election of officers resulted as follows: President, A. Y. Boswell, Tulsa; first vice-president, W. K. Grady, Stillwater; second vice-president, H. S. Ellison, Hobart; secretary, C. O. Lynch, Chandler; treasurer, J. C. Eisenfelder, Chichasha. This new State board of examiners was appointed: C. A. Wiles, Oklahoma City; J. C. Diss, Lawton, and L. O. Wolf, Chandler.

A feature of the convention was the appointment of a legislative committee who will take steps to have introduced and passed a law for the regulation of the practice of optometry in the State.

Position of Axis in Weak Cylinders

ED. KEYSTONE:—In your October number, page 1843, in answer to "H. E. G." you say "with weak cylinder patient is very often in doubt where vision is clearest," etc. Now I rotate no cylinders to find axis of astigmatism. First I use a plus sphere lens until acuity begins to get worse. Then if the acuity has not reached $\frac{1}{6}$, I add to the plus sphere so as to cause badly-blurred vision, then calling attention to the astigmatic chart (I use a chart where each of the bars is made up of three black and two white lines) and if the blurring is right, there will be but one line (three bars) that will show clear, and if the patient holds the head straight while looking at the chart, you have the correct axis. Now place a minus cylinder with axis at right angles to the bright line, and continue to add minus cylinders until all lines on the chart look alike, but especially the one which was brightest with the fogging lens and the one at right

angles with it. Then reduce with minus sphere the other (or fogging) lens, until you have the best vision attainable, and you have the distance correction (if it is hypermetropia). The fogging does the trick the surest as to axis of any method I have ever tried. Not seeing this method mentioned, I write thus lengthly as it may help some stumbling brother and help him free, whereas it cost me \$100 and a trip from New York (and was well worth the money).

Yours truly,

W. T. HUNTLEY.

Orwell, Ohio

[The statement that it is often difficult to determine the proper position of axis in weak cylinders, did not apply to the case under consideration, where the cylinders were of considerable strength. But this affords an opportunity for our correspondent to call attention to the advantages of the fogging system, and we are glad to give space to his letter for that purpose.

The convex sphere is used, of course, to keep the accommodation in subjection, and must be made strong enough to overcorrect any hypermetropic meridian that may be present. Very often it is found, as convex power is crowded on, that the blackest lines are shifted to right angles to the position they appeared black in the beginning. This only serves to emphasize the importance of getting the strongest possible convex sphere in front of the eyes before attempting to use the concave cylinders. After the correction is found a +.50 D. sphere may be placed over it to see if it blurs both sets of lines equally and thus verify the correction.—ED.]

An Interesting Case

ED. KEYSTONE:—I had the following very interesting case recently, the only one of its kind in nineteen years' experience: Mr. L., age seventy-two; O. D., V. $\frac{1}{30}$, O. S., V. $\frac{1}{30}$; fitted him with O. D. - 9 V. $\frac{5}{16}$, O. S. - 9 V. $\frac{5}{16}$. With these on his p. p. each eye was 22 cm., with newspaper print. Which gives him 4.50 total accommodation minus available accommodation + 3, which is naturally sufficient for his reading distance.

I thought this would be interesting to others, and would like to hear of similar cases.

Yours very truly,

WM. G. WALTON.

Philadelphia, Pa.

Blind Weaver Feels Color

Through a premature explosion twenty-two years ago, while blasting in a stone quarry, Henry J. Smith, of Woxall, Pa., was stricken totally blind. He was then twenty-six years old, and after fully recovering he began to think what he could learn to do to make a living. A kind neighbor, a carpet weaver, gave him encouragement. Henry tried, and after a short apprenticeship, succeeded in the work, and is now able to weave carpet as rapidly as the average worker. Daily he weaves from twelve to fourteen yards of common rag carpet, such as the Pennsylvania German farmers use in their farm houses, and on special occasions he has woven as high as twenty-one yards. His annual average is nearly 1700 yards, and since he lost his eyes he has woven 31,000 yards.

It is a wonderful spectacle to see him separate the different colors of carpet chain. This he does with his fingers, for he has the art of feeling the colors. After he has them separated they are put in different boxes, and here he can instantly tell by the size of the box, without feeling so deliberately, what color he is dealing with. He is getting so accustomed to his work that he is now able to weave finer articles, such as towels and tablecloths.

International Test Card

Referring to the article on page 123, of our January issue, and also the article on page 693, of this issue, on the matter of an international test card, it is interesting to note that the United States, in this, as in all matters optical, has led the way. Recognizing the importance of and appreciating the demand for perfect and correct test types, F. A. Hardy & Co., of Chicago, after much study and research, succeeded in devising such test types which are now being used in this country with much satisfaction. These types are figured on the Snellen standard of visual acuity based on a testing distance of 6 meters. Only such letters as will subtend an angle of five minutes in width and five minutes in height are used. These are all standard for the distance designated, being based on a visual angle of one minute. All letters are of the accepted standard Snellen outline, and attention has been given to the phonetic arrangement. Each line is numbered to the right as an aid by which the attention of the patient may be directed to a certain line of the set. The types are figured in the metric system and the exact equivalents in English feet are given. The use of the more practical metric system makes it possible to figure the intervals in progression, each bearing a fixed relation to the 6-meter line (normal vision), so standardizing the intervals by a simple rule. The 6-meter or 19.7-foot line, indicating normal vision, is taken as a unit of one, and by making the intervals as tabulated, each line may be expressed in tenths of the normal. The vision of a patient reading the 10-meter line at 6 meters' distance would be indicated as $\frac{6}{10}$ of normal; the 12-meter line at 6 meters would be $\frac{5}{12}$; the 60-meter line at 6 meters would be $\frac{1}{10}$, and so on. Vision more acute than normal would be indicated by +. For example, if the 5-meter line can be read at 6 meters the visual acuity would be normal + $\frac{2}{10}$.

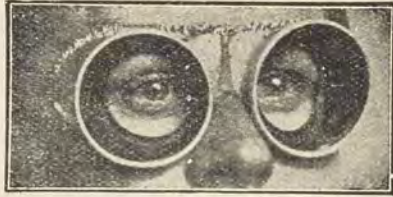
The following table explains fully the system proposed:

Vision at 6 Meters' Distance.	Distance in Meters.	Distance in Feet.
$\frac{6}{6}$	60	196.8
$\frac{5}{6}$	30	98.4
$\frac{4}{6}$	20	65.6
$\frac{3}{6}$	15	49.2
$\frac{2}{6}$	12	39.4
$\frac{1}{6}$	10	32.8
$\frac{1}{8}$	7.50	24.6
1	6	19.7
+ $\frac{1}{6}$	5	16.4
+ $\frac{1}{8}$	4	13.1
+ $\frac{1}{10}$	3	9.8

Those who have used these new test types are said to have expressed themselves as being much satisfied with the results.

New Vacuum Tube

A new type of vacuum tube for use in X-ray experiments has just been brought out in Germany. An aluminum "filter" is placed inside the tube, and it is claimed that this serves to absorb all the rays emanating from the anticathode, which are not true Roentgen rays, and which by striking the glass walls are responsible for the heating effects and chemical changes that gradually change the character of an ordinary vacuum tube.



Listen what
Barney Oldfield says

It is the most perfect Goggle I have
ever used. Barney E. Oldfield.

We are sole distributors for
Non-Steam Lens Polish
which prevents steam or fog or per-
spiration forming on the lens

NON-STRAIN AUTOMOBILE, ENGINEERS' AND FIREMEN'S GOGGLES

Jewelers and Watch Inspectors, write
us for prices

The Ophthalmoscope Co.
Toledo, Ohio, Sta. "B"



Don't Squint

This is what
Charles C. Robertson
says

"I am wearing on the 20th
Century Limited a pair of your
Non-Strain Goggles. They are
all you claim for them—strictly
dust, wind, cinder and storm-
proof. I cheerfully recommend
them. Chas. C. Robertson.
Engr., L. S. & M. S. Ry.

Rochester School of Optometry

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At the first of this year we instituted a separate **MANUAL TRAINING COURSE** in **MECHANICAL OPTICS** for those wishing to learn to do all kinds of prescription work.

This course is very thorough and practical, and at its completion a good position can always be secured.

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Triangle Building, ROCHESTER, N. Y.



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See both sides of street
and who is on step.

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Steel Enameloid Double-Sided Test Cards

English on Face
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Indestructible. Easily cleaned
with damp cloth. Every jeweler and
optician ought to have one. Sent to
any part of the United States on receipt
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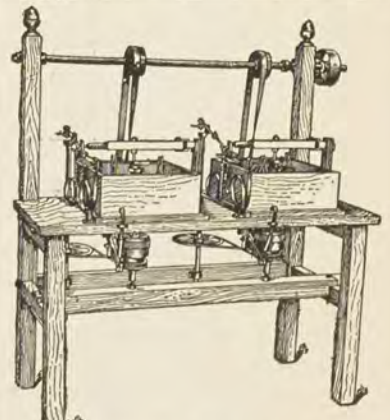
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READING, PENNA.

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185 Summer St., BOSTON, MASS.

The best and most thoroughly equipped optical
school in America. We train pupils to obtain a
thorough knowledge of the optical profession.
For this reason we want men and women who
are anxious to learn, persons who are willing to
devote all their time to study. We do not want
any diploma-hunters—such persons do not need
apply. We charge more for instruction, but you
will find that it is the best investment you made
in your life. Money may go astray, but knowl-
edge is never lost. Full course, \$75.00. Ad-
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KLEIN SCHOOL OF OPTICS
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THE NEW AUTOMATIC Lens-Grinding Machine

The right machine for the optician to do all
his surface grinding; one man can turn out
twice the amount of work than formerly.

TORIC LENSES made in any prescription
of 3, 6, 9, 12 and 15 diopt. base curve.
"ROUGH TORICS" a specialty.

We also make cylinder shells and toric
shells of 3, 6 and 9 diopt.

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Manufacturing Optician, Maker of Toric Lenses
1034 W. Girard Ave., PHILADELPHIA, PA.
Manufactured and sold under Letters Patent
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showing sample cuts especially prepared for opticians' use
and make your selections. Prices surprisingly reasonable.

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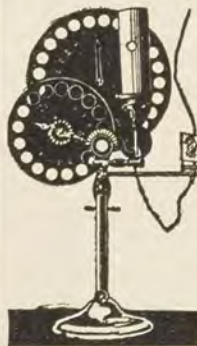
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Write for our
booklet explain-
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**PEERLESS
MFG. CO.**

Optical Dept.



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Get out of the rut and make money
by putting in an up-to-date



OPTICAL DEPARTMENT

¶ We will teach you how to become a skilled optician without any interference with your other business. How? You can take our regular \$25 course in optics by correspondence for \$8. If you desire you may pay \$2 down when you enroll, and \$1 a week thereafter till the entire \$8 is paid. This amount includes the complete course, with diploma. Hundreds of successful graduates all over the world are our best recommendation. Write to-day for our new prospectus.

DEPT. K

ADDRESS, AMERICAN OPTICAL COLLEGE, DETROIT, MICH.

Optical Notes

* R. C. Burleigh, formerly with the Tilton Optical Co., Tilton, N. H., is now with C. N. Quimby, manufacturing optician, of Boston, Mass. Another addition to Mr. Quimby's staff is P. Reno, formerly connected with the optical trade of Providence, R. I.

* D. D. Sullivan, optician, of Fargo, N. Dak., has removed his place of business to the jewelry store of N. C. Pabst, at 612 Front Street, that city. Mr. Sullivan has made arrangements to use one of the windows in the jewelry store and also a rear room for examination purposes, which will give him a better opportunity to increase his trade.

* Irby S. Grady, the accomplished optician, of Jackson, Tenn., recently issued a very handsome 16-page optical advertising booklet with cover, for the purpose of spreading the fame of his optical parlors and his ability as a refractionist. The book is very neatly gotten up—the cover design, which is printed in gold, being quite attractive, and the matter of an interesting kind which invites perusal and makes an effective advertisement.

* Chas. Fried, manufacturer and importer of artificial human eyes, 110 East Twenty-third Street, New York City, has opened a branch office in Philadelphia, at 1716 Chestnut Street. Mr. Fried, as our readers will remember, succeeded to the artificial eye business of the R. Hoehn Co., and his mastery in this line is well known to the trade. The Philadelphia office will be open each Thursday, when an eye expert will be in attendance between the hours of 10 A.M. and 5 P.M., for the convenience of patrons in Philadelphia and adjacent territory. In this way an eye can be made to order and perfectly matched while the patient is waiting.

* An enterprising young firm of opticians with youth, energy and competency to aid them, is Lupien & Lantagne, of Pawtucket, R. I. These young men started in business in Pawtucket about one year ago. Their quarters were then at 40 Elm Avenue, but a very gratifying increase in business made it desirable for them to remove to a better location, which was found at 24 Broad Street, where they have large and well-equipped quarters. Their enterprise is already being rewarded with a prosperous trade, and about May 1st they intend to begin surface grinding for prescription work, having recently installed the equipment necessary for accurate work in this line.

* Among the recent matriculants at the Northern Illinois College of Ophthalmology and Otology, Chicago, were the following: J. H. Arnold, of Kentucky; R. L. Wells, of Washington; R. E. Simpson, of Mississippi; C. L. Stammers, of California; Nicholas, Hajar, of Michigan; James H. Mills, of Texas; S. L. Handelberg, of Nebraska; C. A. Wilcox, of Minnesota; S. H. Dale, of Illinois; F. M. Dale, of Indiana; A. J. DeMars, of Michigan; R. S. Field, of Iowa, and Otto Supe, of Michigan. Recent graduates were A. R. Bjorkquist, of Minnesota; A. R. Stone, of Michigan; W. C. Brookenbrough, of Indiana; S. B. Merrick, of Indiana; F. J. Curlin, of New York. Among those who recently took a post-graduate course were the following lady opticians: Mrs. C. R. Baker, Miss Helen Asner, of Indiana, and Miss Helen Van Wagener, of Wisconsin. Dr. Elva Cooper, of Pennsylvania, was recently chosen as president of the Alumni Association of the college.

* L. Burkett, Ruston, La., requests us to direct the attention of the optometrists of Louisiana, Mississippi, Kansas, Oklahoma, Indian Territory and Texas to the possibility of forming an Interstate Association. He argues that the time has come for a general forward move in the direction of professionalism, and considers that much greater progress could be made through the medium of an association composed of the opticians of the States mentioned. He wishes all who favor united action, and the formation of such an Interstate Association, to communicate with him.

F. G. Burgess, who is well known to the optical trade through his former connection with John Scheidig & Co., the Standard Optical Co. and Goerz Optical Works, is now traveling as the representative of the Southbridge Spectacle Mfg. Co. and Bishop & Co., manufacturers of gold chains, North Attleboro, Mass. Mr. Burgess has been making a tour of the wholesale trade and reports very good success with both lines. He is an experienced salesman with a wide acquaintance in the trade, and with two such good lines, will undoubtedly make a success in his new connection.

* McIntire, Magee & Brown, manufacturing and jobbing opticians, 723 Sansom Street, Philadelphia, Pa., have been again compelled by rapidly increasing business to find more room, and have just taken another floor of the building which they now occupy. This gives the firm three floors and a basement, adding about 2000 square feet to their working space. The new extension will give them increased facilities in their optical shop, and also allow them more room for their ophthalmological department, the business of the latter having grown to very large dimensions. On the new floor they will install a new surface-grinding plant, with the latest improved machinery. This will enable them to take better care of the increasing orders for special lenses, segments and bifocals.

* E. B. Meyrowitz, manufacturer of ophthalmological and surgical apparatus, at 104 East Twenty-third Street, New York City, has issued a 250-page catalogue of ophthalmological apparatus and eye, ear, nose and throat instruments. The catalogue is very comprehensive and profusely illustrated. An examination of its pages reveals the wonderful fertility of invention in the field covered by it, and the great improvement made in recent years in the instruments used. The ophthalmological portion, which is especially interesting to our readers, occupies 100 pages of the book and illustrates and describes all the apparatus used in the work of eye refraction. The descriptions of the instruments are very complete and instructive, making the book, in a measure, a text book as well as a catalogue.

* The Huteson Optical Co., of Omaha, Nebr., did a unique piece of advertising recently. An optical booklet, neatly compiled and containing suitable matter, was placed in an envelope. To this envelope a string was attached, and on each envelope was the phrase, "Pull the string." Instead of being thrown on doorsteps or pushed beneath doors, the string with the envelope containing the booklet was hung on the door-knob. Thus distributed, it is safe to say that it came to the notice of some of the inmates of the house, and that the unique injunction, "Pull the string," had its effect in drawing attention to the booklet which was enclosed. The importance of the advertisement may be gathered from the fact that a full 50,000 of these booklets were hung on the same number of door-knobs in the city of Omaha.

Annual Convention of the American Association of Opticians

The annual convention of the American Association of Opticians will be held in Kansas City on Monday, Tuesday, Wednesday and Thursday, June 24th, 25th, 26th and 27th. These dates were fixed upon by the board of directors at the urgent request of the Kansas City Jobbers' Association of Jewelers and Opticians, which association has in charge the entertainment of the convention and the exposition of optical goods which will be held on that occasion. An entire floor of one of Kansas City's leading hotels, the Midland, has been engaged for the convention and exposition. The Kansas City Jobbers' Association has already acquired a large fund for the entertainment of the convention which promises to be the largest meeting of opticians ever held in the West. Detailed information in regard to the programme, transportation, etc., will be published in due course.

Southern Tier Optical Society of New York

A meeting of the Southern Tier Society was held on March 7th, in the parlors of the Elmira Optical Co., Elmira, N. Y. Besides the transaction of routine business, the question of establishing a minimum price-list was discussed at considerable length and all present seemed to regard such a list favorably. A committee was appointed, therefore, to draw up a list and submit it at the next meeting.

The following members were present: F. E. Robbins, I. Putnam, F. Jordan and F. M. Newell, all of Elmira; L. L. Stone, Canton, Pa.; F. D. Montanza, Towanda, Pa.; J. T. Stafford, Athens, Pa.; H. J. Hallock, Wyalusing, Pa.; J. Myron Ringer, Bath, N. Y.; E. M. Dickinson, Galeton, Pa.; W. L. Hopkins, Montour Falls, N. Y.; J. A. Perkins, Horseheads, N. Y.; L. H. Bradley, Watkins, N. Y.; C. H. Ner Nooy, Watkins, N. Y.

Rochester Optical Society

The regular monthly meeting of this society was held at the quarters of the Genesee Optical Co., Rochester, on the evening of March 12th. Fifteen members attended the meeting, and after the usual routine business was transacted all repaired to the office of a local oculist, who delivered a lecture on "Light," which proved very instructive and was much appreciated. The oculist also demonstrated a new 500-candle power lamp and the Victor magnet for removing metal from the eyes. The explanation and operation of this apparatus proved very interesting. Luncheon was then served, and a vote of thanks was extended to the doctor for his kindness and trouble.

Fifty Original Optical Advertisements, printed in book form, ready to tear out and hand to your publisher.

These ads. are absolutely new and unique, of the same excellent character as those that served to bring fame to *Sloan, Optician*, Cleveland, Ohio. Contains in addition valuable pointers on advertising, alone worth the price asked.

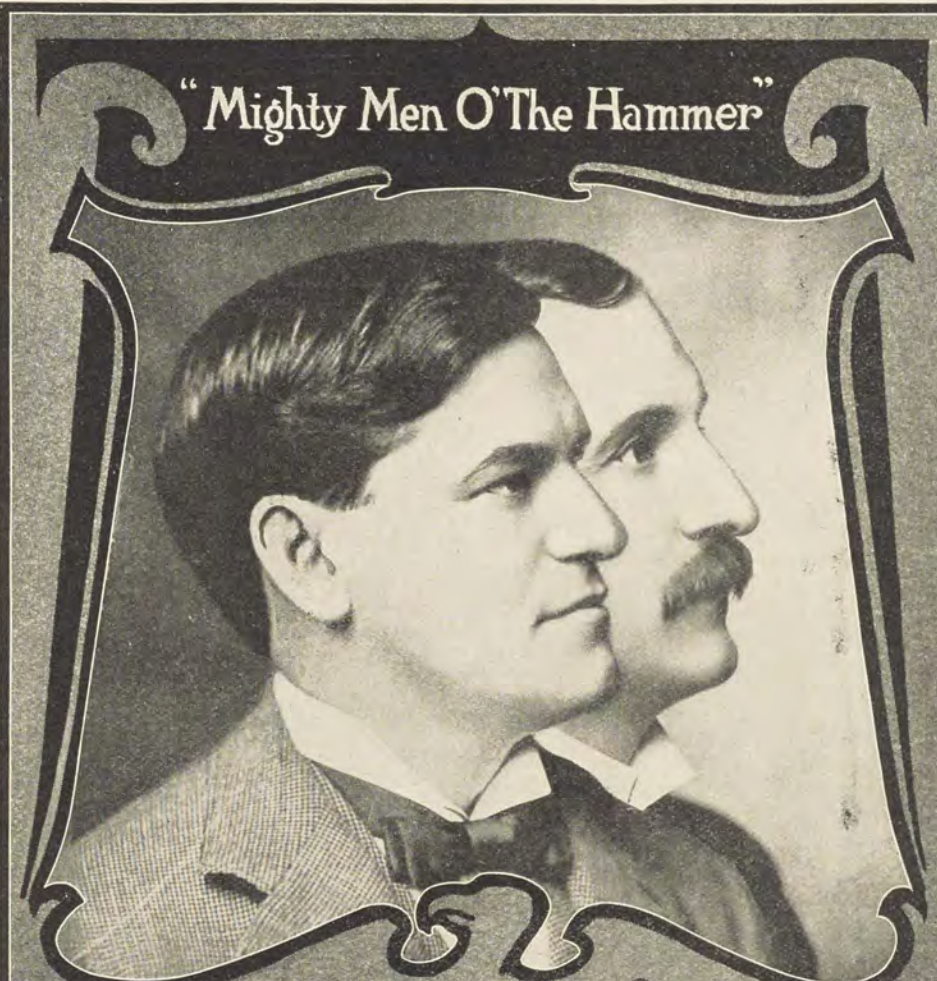
This book containing *Fifty* ads. sent postpaid for \$2.00, and you'll want more of them.

First orders convey exclusive right to use these ads. in your town.

Address, C. W. Sloan, Schofield Bldg., Cleveland, Ohio.

—Adv.

"Mighty Men O' The Hammer"



**AMERICA'S
BEST KNOWN AUCTIONEERS**

From the 5th to the 30th of January of this year, we made the largest exclusive diamond and gem sale, and the most successful ever held in St. Louis, when we closed out the old retail house, of W. A. Gill, at 612 Olive St., that city. This sale amounted to over \$50,000, ninety per cent. of the stock being diamonds and precious stones. Write Mr. Gill and get from him the net results of this sale.

During November and December, on State Street, Chicago, we sold over \$100,000 of merchandise. Later we made a most successful closing-out sale for the old pioneer firm of F. C. Cook & Co., Janesville, Wis. We are now closing out the Jos. Hummel, Jr., stock at Muncie, Ind., having just concluded a most successful sale for the Burns-Barry Co., of Memphis, Tenn. The latter firm asked the advice of nearly a score of New York jobbers before selecting their auctioneer, and we have the proof that we were recommended by all of them except one. Owing to the urgent demand for our services, we have been obliged to turn down sales in Pittsburg, Cleveland and New Orleans during the past few months.

If you want the services of the firm that has held first place among jewelers'

auctioneers for over a decade, that has conducted the largest and most successful sales and that has never made a failure, write us at once and secure dates. We can prove all our claims by trade testimony that will convince you. If you contemplate a sale, your own self interest dictates that you should secure the services of those who can assure its success.

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BRIGGS & DODD, 4915 Washington Avenue, CHICAGO
416 Broadway, NEW YORK CITY

Our Patented Silverware Cases

are lighter and stronger than any other line, and will not warp.

Our Paper Boxes

are right, and will please you.



U. S. Patent No. 783410. Feb'y 28th, 1905
U. S. Patent No. 793041. June 27th, 1905
U. S. Patent No. 810901. Jan. 30th, 1906

Our No. 315 Automatic Bracelet Box

Very Handsome and Inexpensive

Patented, made of steel, not wood or fibre. There is no better box made than our **Empire Automatic**.



Satisfaction guaranteed. Mail orders solicited. **ASK YOUR JOBBER.** If he cannot furnish them, write to us direct.

Manufacturers and Patentees of
"Empire Automatic,"
"The Ideal,"
"The Dandy."

Empire Jewelry Case Co. 146, 148, 150 Clinton St.
BUFFALO, N.Y.

Pitfalls that Beset the Prosperous Business Man

He could not stand prosperity. How often we hear that said of the man who has had his chance and lost? One of them I met a few days ago. His business had been placed in the hands of a trustee since last I saw him, and he is now trying to figure his way out. I knew this man in days when the pull with him was entirely up-hill, and I also remember about the time when he got over the hill and the pull became easier. But the down-hill pull became a canter and he did not "fetch up" until he had pumped the bottom.

Dangers of Political Office In the meantime he had held political office and that had done much to ruin him. There are merchants who can fill a political job and not have it affect their business very much. But they are few. Give the average merchant a political position and it will make several bad dents in his business before he is through with it. If it does not spoil him completely he will be in luck. To make it worse this man became the hireling of a political gang. He probably thought he saw fame and fortune started his way on the run, hand in hand. When the gang got through with him he went back to his business some wiser and a little sadder. He found it hard work to settle down to the straight, hard pull again. He also found that his "manager" had not handled the business as well as he had given him credit for. That is a discovery which most merchants who leave their affairs in the hands of others ultimately make, no matter how bright a face they try to put on the situation for the time being.

Of course, as this man's hindsight is better than his foresight, he now sees where he made his mistake. He can figure out with a one-cent lead pencil just what that political job cost him, or, in other words, about what he would have been worth had he left that job alone and attended strictly to his business. But his troubles lay in thinking he had at last reached that point where all things good were rolling into his hopper without effort. He imagined he could not lose. His long struggle through adversity taught him nothing. He was not in shape to stand prosperity.

Spoiled by Prosperity It does take a man well-grounded in good sense to handle himself successfully during his first years of prosperity. When it does begin to come your way, it is such a temptation to open the flood-gates of expense

and let the steam pour through rather than store it up in the reservoir for a better use. All through the years a man is laying the foundation for the little fortune he hopes to have some day, he is building air castles of some kind. He will do this and buy that when things begin to come his way. But really, that is just the time he should stand by, keep a clear head, and keep on building with material that comes his way, rather than dissipating it in several directions. This friend of mine, for instance, began to have dreams of big political honors as soon as his business got in better shape. His political experience cost him much good time and money. That was the very time when he should have been turning that time and money toward making his financial position still safer and his grip on the business surer.

There are some men who under the same circumstances would have turned a far different result. But they are made of better stuff. They would have taken that position and filled it to the best of their ability, but they would have made it the side issue instead of the main issue in their affairs. Such men, however, are not the kind of men who truckle to a political gang. They must be men of principle and well-grounded opinions to do this, and such men make poor material for gang bosses to work on.

Can't Serve Two Masters At the best, however, the merchant who takes a political position of any kind does it at a sacrifice to his business. I do not say that he should not do it. All of us have duties to perform to the commonwealth. If good men will not devote time to the public service, plenty of rascals are always on hand to make use of the opportunity. But every time that you accept any such responsibility or duties you must sacrifice your business to a certain extent. It is a plain fact that your business is not as carefully and as profitably handled while you are away from it as when you are there to see that all goes well. It matters not whether you are absent in the dull season or the busy season, your absence costs you something, and you know it. You may try to convince yourself otherwise at times, but the truth will out on you some day when you are casting up results and locating the cause of costly errors.

That is one of the objections which many good merchants make to the retail business.

It has so many leak-holes, due to the world of detail connected with it, that in the absence of the captain the business craft is likely to spring some of those leaks. It is a case of stand by and watch closely all the time. The merchant who has gone on a six-weeks' vacation can testify to that. He knows what he found when he returned. Of course there are ways of systematizing and organizing the work of a store that will stop much of this, but such a system would cost more than it is worth. Some of these system cranks make me tired. They get hold of a pretty theory and work it to death. They seem to forget that you can so load a business craft with expensive machinery as to sink it. Every store must have system and organization, but at the same time it must be simple. And if it is profitably handled you will find that the proprietor must be right there watching the machinery work. When you get an organization so perfect that you can leave it for a week and feel assured that no mistake will be made, you are making no money. I care not whether the business be yours in the retail store or mine in running this newspaper. Some of the biggest concerns in the country have found that out and have been materially reducing such expense in the past few years.

Profits That Do Not Profit To be sure, some alleged merchant who runs his business much like a washer-woman would a steam laundry, is likely to use this as his excuse for having no store system at all. He should remember that results are the only guide. Without doubt he is losing money every day which some economical system would save. He is at one extreme while the system cranks are at the other. The policy of the sensible merchant is plain. He needs organization in his business. He wants business short-cuts, but he also wants simplicity and not cumbersome machinery. Some of these system cranks would put so much business machinery in a man's retail store that his time and that of his head clerk would be entirely consumed in looking after it, leaving other features of the business to take care of themselves.

But I have digressed from the main question. If prosperity comes to you after a hard pull up the hill of adversity, sit tight, keep a clear head, and store up all she brings. Make up your mind to let well enough alone for awhile and build safe and solid for the future. Do not begin looking around for yawning holes into which to pour the money. This advice is easily given but difficult to follow. It reminds me of a friend who was notified of a \$520 raise in his annual salary not long ago, and inside of three days he and his wife had plans for absorbing most of it in furniture purchases.

—W. E. Davis, in *Commercial Bulletin*.

THE AUCTIONEER

For Legitimate Jewelers

Late messages from the EAST, WEST, NORTH and SOUTH

Monroe, Louisiana

Mr. E. R. Tyler, the auctioneer who conducted our dissolution sale, made the biggest hit ever made in our city. The crowd was tremendous, "even with the hot weather," and as we carry a big stock of **High Grade** and **Fine Art** goods we expected our losses would be awful. But things were different from our expectations. The prices Mr. Tyler was able to get for goods and his method of handling the people was a surprise to us and has made future friends for the store. We would be pleased to answer any letters.

LOWE & YOUNGBLOOD

Hampton, Iowa

Mr. Tyler has just closed second successful sale for me. He sold the goods I wanted to sell as well as staple lines, and at larger profits than when he sold for me two years ago. His way of selling and method builds up the sale and makes many new friends for the store.

C. H. HANEY

THE WINGATE-NUSBAUM CO., Cleveland, Ohio
JOHN C. PIERIK, Springfield, Ill.
W. J. STUART, Nelsonville, Ohio
L. W. ENSEY, Troy, Ohio



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HOOPER Jewelers' Auctioneer

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All sales conducted along modern and high-class lines. I do not advertise that I have any new system, for my system is as old as the hills, as solid as the rocks of Gibraltar. A system that has made every successful sale from the beginning of time, and will until the world is on fire. Built on PERSEVERANCE, HONESTY and ABILITY. READ the testimonials from first-class jewelers that I have made in this last year. WRITE THEM; they will tell you more fully how I made a success for them.

Syracuse, N. Y., Jan. 21, 1906.

Mr. H. J. Hooper has just finished a successful sale for us. We can cheerfully recommend him to any one needing a first-class, honest and energetic auctioneer.

BLUMBERG BROTHERS.

Duryea, Pa., Feb. 8, 1906.

Mr. H. J. Hooper has just closed a very successful sale for me, and I can truthfully recommend him as an auctioneer that knows the jewelry line from A to Z. It is wonderful the crowd that he can hold. I have a very large store, but after the second day the room was not near large enough to accommodate the people.

ABE LIEBSON.

Wilkes-Barre, Pa., Feb. 24, 1906.

This is the third sale that Mr. H. J. Hooper has made for us, and we have found him to be always the same hard, conscientious worker. We can highly recommend him to any jeweler needing a first-class, up-to-date auctioneer.

DAVIDOW BROTHERS.

Lansford, Pa., March 11, 1906.

Mr. H. J. Hooper has made a very successful sale for me, and I can say to any one needing an auctioneer that I don't think there is a better man in the business than him. Any one needing an auctioneer I know you can make no mistake by securing him to make your sale.

U. S. RENSCHAW.

Oneonta, N. Y., April 1, 1906.

To Whom It May Concern:—

Mr. H. J. Hooper has just closed a very successful sale for us, and to say that I am satisfied is expressing it mildly. He sold nothing but my own high-grade goods, and sold it at a profit, and I know that he left me in as good standing in the community as I was before the sale started. I can highly recommend him to any one needing an auctioneer. He is a hard, conscientious worker and a gentleman.

C. O. BIEDERMAN.

Niagara Falls, N. Y., April 21, 1906.

Mr. H. J. Hooper has been conducting an auction sale for us for several weeks past. He is having unbounded success, which seems likely to continue for some weeks to come. He is very witty and pleasing to his audience, and keeps them in the best of humor. The prices he obtains are eminently satisfactory, affording us a nice profit. We attribute his success quite as much to his ability as an auctioneer as to the large stock from which he had to sell. To any one desiring the services of an auctioneer we say get Hooper if you can.

FREEMAN JEWELRY CO.

Elmira, N. Y., May 25, 1906.

Mr. H. J. Hooper has just closed a phenomenal sale for me. Not only is he an auctioneer, with all the word implies, but an orator. He is a graduate from one of the best colleges in the country, and the language he uses, especially in large, fine goods, will bring



the applause from most any audience. Any jeweler needing an auctioneer I will highly recommend him as a man that will work just as hard for your interests as he will for his own. Any one thinking of holding an auction sale, if they will write me, I can tell them more fully how he made a success for me.

THOS. J. ROUTLEDGE.

Newport News, Va., June 25, 1906.

We take pleasure in recommending Mr. H. J. Hooper, of New York City, to any one needing the services of a high-class auctioneer. Mr. Hooper has just completed a sale for us which has been perfectly satisfactory, and should we ever need an auctioneer in the future, we would be glad to have him with us again.

ARRITT & COMPANY.

Greenville, Tenn., July 21, 1906.

Mr. H. J. Hooper has just closed a sale for us which we consider very successful, owing to the extreme hot weather we have had here in the month of July. We can cheerfully recommend him to any one needing an up-to-date, first-class auctioneer.

ROSENBLATT & COMPANY.

Patton, Pa., Sept. 19, 1906.

Mr. H. J. Hooper has just closed a very successful sale for us. The sale was beyond our expectations, not only the amount that he sold but the prices he received. We do not think that there is a man in the business to-day that has the ability of holding large crowds as he can.

J. LUXENBERG.

Kingston, Pa., Oct. 6, 1906.

Mr. H. J. Hooper has just closed a very successful sale for us, and I will heartily recommend him to any jeweler needing a first-class man. He understands the jewelry line from A to Z, and has perfect control over his audience. It is wonderful how they will stay and listen. I have heard them say going out that it is better than a show.

A. LISON.

Auburn, N. Y., Nov. 10, 1906.

Mr. H. J. Hooper has just closed a successful sale for me, not only in the amount but he received a handsome profit for me. Any one desiring to have a successful auction would find it to be greatly to their interest to employ Mr. Hooper. I don't think there is a better man in the business—he is a good, hard, conscientious worker.

M. C. KHUNER.

Port Jervis, N. Y., Dec. 24, 1906.

Mr. H. J. Hooper has closed a most successful sale for me and I most heartily recommend him to any jeweler wanting an auctioneer that can handle high-class goods. There wasn't anything in my stock but what was first-class, and he realized a handsome profit for me. He is very pleasing to his audience, and he certainly had the confidence of the people all the time.

J. F. ROCKWELL.

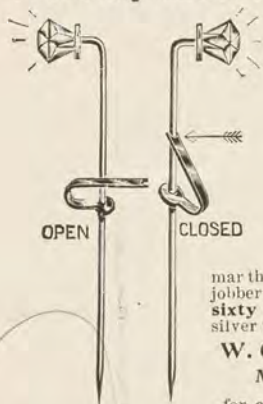
The names that I publish below are merchants that I have sold for direct, there are no wholesalers among them. Anyone wanting the wholesalers I have sold for indirectly, I will furnish by mail.

L. Robins, Oswego, N. Y.	Fung Hai & Co., San Francisco, Cal.
Blumberg Brothers, Syracuse, N. Y.	J. L. Fuller, New York
Sun Fat Company, San Francisco, Cal.	Everett Jewelry Co., 3 sales, Everett, Wash.
Peter Engel, Marysville, Cal.	W. D. Meail, Marysville, Cal.
S. Hollander, Salinas, Cal.	J. Joseph, Los Angeles, Cal.
A. P. Hall, Visalia, Cal.	A. Leibson, Duryea, Pa.
M. Edwards, Syracuse, N. Y.	Davidow Brothers, 3 sales, Wilkes-Barre, Pa.
C. Wilcoxson, Carnegie, Pa.	Maiden Lane Jewelry Co., Elizabeth, N. J.
Keystone Jewelry Co., Pittsburg, Pa.	Dualibil Brothers, Schenectady, N. Y.
E. A. Walker, Pasadena, Cal.	Fred. Ward, Visalia, Cal.
S. E. Rich, San Jose, Cal.	L. E. Gilbert, Modesto, Cal.
Andrews & Wood, Modesto, Cal.	M. L. Stantun, Riverside, Cal.
A. Thurman, Healdsburg, Cal.	A. E. Backs, Woodland, Cal.
J. Frost & Co., Chicago, Ill.	M. S. Osgood, San Jose, Cal.
A. Clark, Spencer, Ind.	Chas. Wilcoxson, Napa, Cal.
C. Hill, Southbridge, Mass.	George Jordan, Redlawn, Cal.
U. S. Renschaw, Lansford, Pa.	George Thomas, Auburn, Cal.
L. M. Lasell, Martinez, Cal.	W. H. Wilson, Marced, Cal.
E. F. Brown, Pasadena, Cal.	South Bend Jewelry Co., South Bend, Wash.
J. Hyman, Sacramento, Cal.	B. Banetti, Ferndale, Cal.
Kohn Brothers, Missoula, Montana	D. E. Gilbert, Modesto, Cal.
F. B. Stearns, 2 sales, Petaluma, Cal.	M. Barboska, Santa Cruz, Cal.
Ike Fields, Grass Valley, Cal.	L. Robins, Utica, N. Y.
George Johnson, San Bernardino, Cal.	Yoshimi & Co., Atlantic City, N. J.
R. F. Stearns, Stockton, Cal.	S. Kritser, Binghamton, N. Y.
Thomas Howard, Marshfield, Oregon	Cummings & Son, San Francisco, Cal.
Franz Mahnecke, Tacoma, Wash.	J. M. Ives, Meriden, Conn.
J. H. Shade, Brooklyn, N. Y.	E. H. Kutner, Albany, N. Y.
John E. Knapp & Co., Salt Lake City, Utah	S. Susman, Stamford, Conn.
James J. Tracey, Seattle, Wash.	Rival Jewelry Company, Los Angeles, Cal.
Charles Hoff, Denver, Col.	A. H. Broom, Boise City, Idaho
Jacob Cohn, New York	Levison Brothers, Oakland, Cal.
L. J. Bennett, Brooklyn, N. Y.	O. A. Dockhan, N. Tonawanda, N. Y.
E. A. Walker, Pasadena, Cal.	A. Benjamin, Denver, Colo.
R. Cohen, Pittsburg, Pa.	M. BasBarker, Fresno, Cal.
F. R. Williams, Buffalo, N. Y.	J. M. Dickson, Stockton, Cal.
R. W. Wilson, Portland, Oregon	J. M. Jacobsen, Ferndale, Cal.
Fred Woodman, Louisville, Ky.	O. M. Lathrop, Troy, N. Y.
M. Rundback & Co., Chicago, Ill.	J. Rupert, Terentum, Pa.
Glendemann & Schweitzer, San Francisco, Cal.	C. O. Biederman, Oneonta, N. Y.
Luke MacDonald, Visalia, Cal.	Freeman Jewelry Co., Niagara Falls, N. Y.
Bemas Brothers, Vallejo, Cal.	Arritt & Co., Newport News, Va.
A. Tucker, Newport News, Va.	T. J. Routledge, Elmira, N. Y.
J. Luxenberg, Patton, Pa.	Rosenblatt & Co., Greenville, Tenn.
A. Lison, Kingston, Pa.	M. Marter, Cottage City, Mass.
M. C. Khuner, Auburn, N. Y.	J. F. Rockwell, Port Jervis, N. Y.

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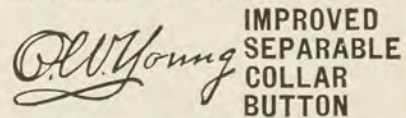
Made with new dies. 1 doz. solid 10 K. gold, asst. sizes, \$3.00; 1 doz. solid 14 K. gold, asst. sizes, \$3.50; 1 doz. gold filled (gold on front twice as thick as on back) asst. sizes, \$1.50; 1 doz. metal, asst. sizes, 50c. Ask your jobber for them, or I will send prepaid at once (only on receipt of price.) Mention order E, and I will forward prepaid one game of "Grip" extra for each dozen Adjusters ordered. Address **CHESTER WELLS, Jeweler, Meshoppen, Pa.**



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Send for Circular (gratis).

Abel Bros. & Co. say that: "the Water Power Lathe gives entire satisfaction on our third floor in factory, 18 E. Fayette St."

ROYAL C. LINTHUM, Agent

See page 324, February issue

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THE A. ROSENBERG MOTOR & MFG. CO.
Baltimore, Md., U.S.A.

Agents wanted who reach the jewelers

Loop Watch Keys



A. N. CLARK & SON, Plainville, Conn.

Balance Staffs and Hole Jewels



Balance Staffs, gray finish . . . dozen \$1.00
Balance Staffs, high grade . . . 1.25
Hole Jewels, Garnets . . . 1.00
Hole Jewels, ruby and sapphire finely finished . . . 1.50
Genuine Roller Jewels and Watch Crystals at catalogue prices. Imperial Mainsprings \$15.00 per gross; \$1.25 per dozen.

Mail Orders Promptly Filled

Jewelers' Guild Distributing Co.
J. F. McEWEN, Manager Manchester, Iowa

Small Advertisements

No advertisement inserted for less than 25 cents.

Under heading "Situations Wanted," ONE CENT per word for first twenty-five words. Additional words and advertisements, THREE CENTS per word.

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. No display other than two-line initial letter.

To insure insertion, remittance 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.

Send bank check or draft, or postal or express money order for \$1.00 and over, or postage stamps for smaller amounts.

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. Address,

THE KEYSTONE PUBLISHING CO.
809-811-813 N. 19th Street, Philadelphia, Pa.

SITUATIONS WANTED

Under this heading, ONE CENT per word, for first twenty-five words. Additional words and advertisements, THREE CENTS per word. No advertisement inserted for less than 25 cents.

FIRST-CLASS watchmaker desires position; age 28 years. Fair jewelry repairer and optician and engraver. Own small tools and trial case. Gilt-edge refs. "S 384," care Keystone.

YOUNG man, age 23, desires position May 1st as good engraver in first-class store. Can repair clocks and jewelry, some watch work; 4 years' exp. and best refs. State salary. "K 382," care Keystone.

EXPERT watchmaker, 25 years' exp., fine tools, sober, honest, educated; good salesman; competent all-around man except engraving. Open for place at once; Texas or nearby States pref. Theo. Isler, Park House, Beaumont, Tex.

WATCHMAKER, optician, engraver; full set tools, trial case. Denver or Colorado Springs pref. All other inquiries considered and answered. Frederick, W. O. W. Bldg., Omaha, Nebraska.

YOUNG man, age 24, with one year's exp. in watchmaking school, wishes to finish trade by working under expert watchmaker. Has fair knowledge on optics; make me your proposition. "L 399," care Keystone.

WATCHMAKER, jeweler, engraver and graduate optician; young man, well experienced, good salesman; California, also Eastern refs. Address, "Watchmaker and Optician," lock box 665, San Bernardino, Cal.

PERMANENT position by watchmaker, 17 years' exp., 3 years in Germany—speak German fluently. Best habits, good refs., age 33. J. J. Weigmann, Durango, Colo.

POSITION by all-around man; watchmaker, engraver and optician, 3 years' exp.; age 19. Full set tools. For further particulars, address E. Strassburger, 563 Lincoln Ave., Chicago.

BY young lady clerk in retail jewelry store. Want position latter part of June or July 1st. Best ref. West of Indiana pref. "G 393," care Keystone.

ENGRAVER desires a permanent position in a jewelry store. Wages reasonable and good refs. Address, G. L. Silliman, Cortland, Ohio.

FIRST-CLASS watchmaker, plain engraver and graduate optician, wishing position in Northern Georgia, Alabama or Tennessee, would accept \$15 per week for 6-hour day. "C 405," care Keystone.

FIRST-CLASS watchmaker, with tools, desires position at once; middle-aged man; competent to handle railroad work. Ad., "E. H. B.," 45 Charles Street, Springfield, Mass.

YOUNG man wants position about June 1st under workman where can learn high-grade and complicated work. Have had 4 years' exp.; can do all ordinary watch work. Nothing accepted unless good chance for advancement. Have all tools; can furnish best of refs. C. F. Hoffman, Sterling, Ill.

PERMANENT position only—watchmaker and engraver. Very best of refs., with 7 years' exp. Can take charge; good salesman; speak German. "Jeweler," Oregon, Wis.

HAVE had about 14 years' experience as watchmaker and engraver; single, Norwegian descent, should like permanent position. Can furnish tools. "Gerteen," Box 582, Mayville, North Dakota.

BY first-class watchmaker, engraver, optician, and salesman. \$25 per week, West preferred. "J 418," care Keystone.

YOUNG man, age 21, wants position under good watchmaker to finish trade. Fair watchmaker, plain engraver, not afraid to work, 1½ years' experience, good references. Address, W. B. Steenstrup, Caledonia, Minn., care Steenstrup & Tomeransen.

SITUATIONS WANTED

BY good all-around watchmaker and optician. Reference, \$21 per week. Steady, no bad habits. Permanent position only. Years experience, married. "B 411," care Keystone.

BY young man, age 21, with 2 years' experience. Wishes to finish trade under competent watchmaker. Own tools. J. A. Podwin, Stanley, Wis.

WATCHMAKER and engraver, good workman desires a position. Have lathe and all tools. "R 414," care Keystone.

POSITION taking entire charge of store when proprietor wishes to retire. 7 years' experience, age 23, energetic, willing to adapt himself. Southwest preferred. "R 422," care Keystone.

WATCHMAKER, jeweler, stone-setter, clocks, some plain engraving, good all-around man. Best ref., capable as manager, twenty years' experience. "S 416," care Keystone.

BY a general letter and monogram engraver. Two years' experience, reference given. T. L. D., Box 3, Caledonia, N. Y.

WATCHMAKER and optician wants permanent position at \$25 a week. Thorough, reliable and honest, with 20 years of experience. "R 430," care Keystone.

ENGRAVER—young lady, general letter, monogram and all-around engraver desires position. Has had practical experience. Address, C. H., Box 116, Johnstown, N. Y.

YOUNG man, 29, married. High-grade workman on watches and jewelry, first-class engraver, graduate optician, thirteen years' practical work. Permanent position. "T 428," care Keystone.

BY young watchmaker and plain engraver. 5 years' exp., A1 refs. State salary. Address, John A. Kunish, Manitowoc, Wis.

I AM an old bachelor, watchmaker, jeweler and engraver. I want a job without too much work or pay. A. J. Hamilton, Cadwell, Ill.

BY young watchmaker and plain engraver. 5 years' exp., A1 refs. Illinois or Indiana preferred. Address, "H 425," care Keystone.

BY young man, competent in watch, clock and jewelry work, good salesman. No bad habits. Kansas. "D 418," care Keystone.

EXPERT letter and monogram engraver, experienced in waiting on fine trade, desires permanent position with first-class house. Best references, samples of engraving. "C 415," care Keystone.

WATCHMAKER and jewelry repairer. Can take charge of bench, own tools, know how to take work in, do it and get prices. Do not engrave. Married. Eugene Brown, Emporia, Kansas.

FIRST-CLASS jeweler on fine platinum work. Knowledge of any work in gold and silver, and all kinds of repairing work. Single, German, 16 years' experience, best of refs., of New York. My usual wages at present, \$24 weekly. West preferred, fare required. "K 434," care Keystone.

POSITION to take charge of optical department in jewelry store, or as salesman, by young man, graduate ophthalmologist, with 8 years' experience in jewelry and optical store. Can give best of refs. Ad., "G 438," care Keystone.

WATCHMAKER, jewelry repairer and optician, age 32. Own complete set of tools and trial case. Satisfactory refs. H. E. Withey, 903 Globe Building, St. Paul.

HELP WANTED

UNDER THIS HEADING THREE CENTS PER WORD

FIRST-CLASS watchmaker and jeweler, good wages; if a good letter and monogram engraver, better wages. Send sample of engraving in first letter; also refs.; state wages expected. No user of liquor need apply. H. E. Adams, Tampa, Fla.

FIRST-CLASS watchmaker and engraver; good all-around man. Steady work, good pay, with chance for advancement according to ability. Only first-class man wanted. State wishes and send refs. in first letter. John J. Lange, 609 Sixth Street, Racine, Wis.

SOUTH Carolina. Competent watchmaker, one who is also engraver pref. Fine workroom, good light, permanent position. \$18 to \$25, according to ability. "L 319," care Keystone.

JEWELERS and engravers! Steady work and good pay to fine workmen. Address, S. Friedlander, 91 N. Main, Memphis, Tenn.

A MAN to take charge of jewelry stock, do watch, clock and jewelry repairing and sell goods. Must be an American. Wages, \$2.50 to \$3 a day. "L 385," care Keystone.

WATCHMAKER, good workman; one who can engrave pref. State exp. refs., salary expected and full particulars in first letter. Address, P. O. Box 208, Cleveland, Ohio.

MANUFACTURING jeweler; must be good at setting and repairing. E. J. Leiff, 131 S. Main Street, Salt Lake City, Utah.

WATCHMAKER and optician, with own tools, except trial case. Prefer one with drug store exp., willing to work. At once; state salary. Drown Drug Co., Logan, Kans.

ASSISTANT watchmaker, good engraver; single. Good job to right man. Send photo, and ref.; state wages wanted. Harry Downs, Bellevue, Ohio.

WATCHMAKER and jeweler, some drug store exp. Permanent position; state salary. Chas. A. Cook, Ocheyedan, Iowa.

HELP WANTED

TRAVELERS for exclusive wholesale watch house in Pacific coast and Northwestern territory. First-class positions for the right men. Give full particulars in first letter. Address, "H 2007," 1201 Heyworth Building, Chicago.

OPTICIAN to work at Jamestown Exposition. Those with previous exp. at fairs pref. Give refs. and exp. Address, Boyd Optical Co., Lancaster, Pa.

FIRST-CLASS watchmaker and salesman. Steady position. Address, Meyer Hurwitz, East St. Louis, Ill.

FIRST-CLASS watchmaker and salesman. Permanent position. Zerweck Jewelry Company, East St. Louis, Ill.

GOOD watchmaker who can engrave. Pleasant permanent position for right man; good hours. J. H. Greve, Mason City, Iowa.

AT once, a first-class watchmaker and engraver—no optician. Will pay good wages; permanent position to the right man. Send ref. L. Daiches, Laredo, Texas.

FIRST-CLASS watchmaker, engraver and jewelry repairer. Steady job to right man. Wages, \$24 per week. R. W. Chamberlain, Marshalltown, Iowa.

FIRST-CLASS jeweler and stone-setter, willing to assist in selling. Sober, AI salesman with best refs., permanent and pleasant position. State salary and give refs. in first letter. Gabriel Jewelry Company, Mobile, Ala.

FIRST-CLASS watchmaker, jeweler, engraver and good salesman, in growing California town. One who understands optics pref. Good salary and steady position to competent man. Address, with refs., "B 395," care Keystone.

AT once, first-class engraver and optician—permanent position to right man. State wages and send sample of engraving. W. J. Gamm, Madison, Wis.

FIRST-CLASS jeweler on fine diamond work. One who can set stones. A steady situation for the right man. C. J. Kretschman, care Cowell & Hubbard Co., Cleveland, Ohio.

YOUNG man with exp. Tool and material department. Address, Meyer Jewelry Co., 1018 Main Street, Kansas City, Mo.

WATCHMAKER and jewelry repairer. Must be first-class on medium grade work and furnish AI refs. Gilbert Jewelry Co., La Grange, Ga.

WATCHMAKER and graduate optician. E. R. Farnsworth, Clayton, Mich.

WATCHMAKER and jeweler; must be a good salesman. Steady position to right man. I. L. Talbot, Ladd, Bureau County, Ill.

A REPRESENTATIVE to travel in West Virginia, Kentucky, Tennessee, Georgia, Alabama, Louisiana and Florida with a complete watch, chain and optical line—best stock on the road. Competent man with established business in this section required. Good salary. Address, "T 390," care Keystone.

JEWELER, also man for repairing and stone-setting. Steady position, state exp. and salary. E. H. Warnke & Co., Milwaukee, Wis.

YOUNG man, watchmaker, graduate optician, do some engraving; jewelry repairing and stone-setting. Have AI set of tools, also trial case. Competent to want on trade. "G 440," care Keystone.

WATCHMAKER and jeweler, one who understands something about optics, also an optician. 2832 Germantown Ave., Philadelphia.

OPTICIAN, competent to take charge of optical department, preference given watchmaker or engraver. Philip Jacoby, Kalispell, Mont.

WANTED a watchmaker; state qualifications in first letter; a good place for a good man. Whistler & Norris, Marion, Ind.

AT ONCE, AI watchmaker, experienced on railroad watches and engraver and jewelry repairer; salary \$20 to \$25; send reference with first letter; must be sober and steady. Jos. M. Goldberg, Alexandria, La.

ENGRAVER, assistant watchmaker, opportunit-ly to advance; Iowa; state experience, salary. "B 435," care Keystone.

FIRST-CLASS watchmaker, must be good all-around man, doing some engraving and optical work, also good salesman and well recommended; location in the fine climate of Virginia. "W 432," care Keystone.

ENGRAVER to do letter and monogram work. Permanent position for competent and reliable man. Send samples of engraving, give refs. and state wages expected in first letter. Bogle Brothers, Wholesale Jewelers, White River Junction, Vt.

YOUNG man who is a watchmaker and optician, to take charge of our material and optical department. Good opening for competent and trustworthy man. Give refs. and state wages expected in first letter. Bogle Brothers, Wholesale Jewelers, White River Junction, Vt.

WATCHMAKER and engraver, one who thoroughly understands, and can do first-class work. A permanent job to a competent man \$20 to start. Send refs. and samples of engraving. Chapman & Armstrong, Galesburg, Illinois.

FIRST-CLASS man to buy for and manage an optical department. Prefer one who has been in wholesale business and understands compiling of catalogue. Otto Young & Co., Heyworth Building, Chicago, Ill.

AGENTS wanted, to sell new optical instruments as a side line. Peerless, 315 Grand Ave., Milwaukee.

HELP WANTED

BY an old-established Western jobbing house, an experienced watch and jewelry salesman for Nebraska, Colorado, Idaho and Washington. Must have established trade. Address, Norris, Alister & Company, Chicago, Ill.

WATCHMAKER, must be able to handle all classes of watch work. Steady position with good wages. Must be of good habits and furnish ref. Would prefer one who has some knowledge of optics. Wm. J. Kappeler 314 S. Main Street, Akron, Ohio.

LOCKMAKER wanted. First-class workman with exp. on traveling and finest mantel clocks. Address, with ref., J. E. Caldwell & Co., 902 Chestnut Street, Philadelphia.

FIRST-CLASS diamond-mount and setter, also two jewelry repairers. Good, permanent position to right men. E. Maritz Jewelry Mfg. Co., St. Louis, Mo.

FIRST-CLASS watchmaker and engraver, also assistant watchmaker and jeweler, permanent position. State exp., send refs. and photo. in first letter. Will pay good wages to right man. The Sweningsen Co., Moorhead, Minn.

OPTICAL workman, good all-around workman desired. J. Holden, optician, Syracuse, N. Y.

ALL-AROUND man for jewelry store, good workman. Box 666, Eagle Grove, Iowa.

GOOD watchmaker and engraver in Southern Indiana, \$20 to start, more if work justifies. "K 419," care Keystone.

WATCHMAKER, high-grade, experienced workman, as active partner in well established and paying school for watchmaking and engraving; give full particulars and references in first letter; don't apply unless competent. "T 433," care Keystone.

JOBING jeweler wanted, permanent position. Address, Anderson & Bousquet, 368 1/2 Main Street, Worcester, Mass.

GOOD jobbing jeweler who is also an engraver and stone-setter; experienced, steady, of good character and habits, about June 1st or before; only good workmen need apply; nice location in the East. "B 437," care Keystone.

FIRST-CLASS optician who can pass the California State board examination in optometry, must have good appearance and references, state very full particulars as to ability, wages expected and other matters in first letter. E. W. Reynolds & Co., South Broadway, Los Angeles, Cal.

FIRST-CLASS jeweler and engraver, only a well-recommended man need apply. Address in first letter, age, references and salary wanted. Chas. S. Stiff, Little Rock, Ark.

A COMPETENT watchmaker and optician, only a man of ability and good references need apply. Address, stating in first letter, age, references and salary wanted. Chas. S. Stiff, Little Rock, Ark.

DESIGNER and modeler of gold jewelry, one competent to model for die-cutting machine. Address, P. O. Box 232, Newark, N. J.

AT once, a first-class watchmaker and engraver; a steady position and good pay to a steady, reliable man. "M 431," care Keystone.

WATCH, clock and jewelry repairer. Male. Give ref. and salary expected first-class. W. W. Dorrah, Athens, Ala.

A GOOD watchmaker who can engrave, must be sober, no student. Ref. and sample of engraving, steady position, \$20 a week. Ad., A. Holzman, 94 Whitehall St., Atlanta, Ga.

WATCHMAKER, jeweler, engraver. Will pay \$18 to \$20 per week, with chance for an increase. State age, experience and full particulars first letter. Send sample of engraving. Old established house, position pleasant and permanent. Best refs. required. J. L. Duke Jewelry Co., Fayetteville, Ark.

A GOOD watchmaker, jeweler, engraver and graduate optician; young unmarried man preferred. Booze and cigars barred. Wages \$75 per month to right man. Steady work in a town of 6000 near St. Paul. Ad., J. B. Stewart, 651 Olive St., St. Paul, Minn.

IN jewelry store, nice Vermont town, thoroughly reliable man for jobbing, clocks and some watch work. One who has had 1 to 3 years' exp. and wishes to advance. \$8 to \$12 per week to right man. "L 426," care Keystone.

AT once, thoroughly competent man to do a clock and jewelry repairing, engraving and help in the store. Must be good workman and of good habits. A splendid opportunity and permanent position for the right party. "P 450," care Keystone.

WANTED

ANTIQUE jewelry wanted. We are always ready to make cash offers on any antique jewelry containing mosaics, cameos, seed pearls, etc.; also filigree, enameled or truesean jewelry, either all gold or set with diamonds or other stones. Chas. S. Crossman & Co., The "Old Mine" Diamond House, 3 Maiden Lane, New York. Established 1880.

OPTICAL electrotypes (single column advertising). State what you have, price. J. D. Rowland, 210 Summit, Toledo, Ohio.

GOOD stock of jewelry in fair-sized town or city, which the owner will trade for land in first-class agricultural district—either wild or improved. Address, W. F. Cole, 888 Lincoln Ave., St. Paul, Minn.

WANTED

STARK machinist bench lathe, drill press, drop press, screw press, large plating dynamo, large flat and wire rolls, enameling oven, large polishing lathe. Muradian, San Jose, Cal.

IN California, good location for optician, will rent part of store. "C 383," care Keystone.

TO buy small jewelry store in California, by good workman and optician. "C 383," care Keystone.

TO buy a second-hand Moseley lathe No. 2 and chucks. Must be in good order. Send full particulars in first letter. J. T. Shea, Creston, Iowa.

A SECOND-HAND watch sign, polishing lathe, regulator, foot wheel, watchmaker's bench, glass cabinet and numerous other things. Box 80, Silver City, New Mexico.

TO buy for cash, two-story brick store and dwelling, with fixtures only, on main street in a town of not less than 4000 population, price limit, \$3500. Address with full particulars, "K 389," care Keystone.

TO rent jewelry trade and repair work in growing town. Good tools. Box 74, Canton, Ga.

HARDINGE wheel cutter, Saurier's "Modern Horology," W.-W. index plate and jeweling caliper. A. P. Abel, 233 Superior St., Cleveland, Ohio.

TO buy good jewelry business in Illinois, Indiana, Missouri. Will pay cash up to \$3500. "H 404," care Keystone.

A CHRONOMETER for show window. Must be cheap. S. Messerer, 15 Springfield Ave., Newark, N. J.

A HOWARD or Seth Thomas street clock. "H 443," care Keystone.

TO pay cash for 1847 knives, forks and spoons, also sterling flatware. Describe and state lowest cash price. "F 444," care Keystone.

TO buy a good first-class optical case. State condition, price, make and catalogue number. Harry Grim, Plymouth, Ind.

GOOD second-hand street clock, dial 36 or 40 inches. Send particulars. The Davis & Hawley Co., Bridgeport, Conn.

EXPERIENCED salesmen with side line wanted in every State. Empire Jewelry Case Co., Buffalo, N. Y.

DE ZENGS' retinoscope and reduction attachment. "B 429," care Keystone.

SMALL line of good watches, jewelry and mantel clocks to sell on commission at retail. Can give any ref. or bond. Central New York. For full particulars address, "W 427," care Keystone.

BUYER for one of the best and cleanest stocks in best town in Indiana. 10,000 population. Stock and fixtures \$8000; sales last year over \$12,000. Good reason for selling. Worth investigation. "O 421," care Keystone.

ENGRAVING machine, must be in first-class condition and cheap. State make, number and what attachments, also lowest cash price. R. L. Bargelt, Woodstock, Va.

GENUINE Moseley 2 or Webster-Whitecomb lathe. Must be in good condition. Harry Brunk, Lawrenceburg, Ky.

STEEL engraver for Western city, capable of sketching in ink and executing commercial stationery with shaded and clouded effects. Address, "P. B. Company," room 1201 Heyworth Building, Chicago, Ill.

FOR SALE

UNDER THIS HEADING THREE CENTS PER WORD

STORES, STOCKS AND BUSINESSES

GOOD-PAYING jewelry store for sale. Ask questions at once. M. G. Van Loan, Spring Valley, Minn.

ONE of the cleanest stocks of jewelry in Northern Iowa, invoice \$2800. Part time; discount for cash. Rent, heat and light one year free. A snap. Box D, Nora Springs, Iowa.

COMPLETE stock of jewelry, elegant fixtures, no old goods—invoice \$3500. Will reduce stock to suit purchaser. Located in best town in State, 5000 pop.; greatest health resort in America. Write for information. J. A. Mutton, Excelsior Springs, Mo.

JEWELRY business, stock, tools and fixtures in good town of 5000 population, with good repair trade. Write for further particulars. Address, D. A. Keefe, Athens, Pa.

JEWELRY and optical business in town of 5000, Western New York. Invoice about \$3000, can reduce if necessary. Sickness reason for selling. "A 398," care Keystone.

SPLENDID opening for good man, no competition, terms reasonable. Central Illinois town with good country surrounding it. Investigate, it will pay you. "J 396," care Keystone.

ONLY jeweler in Illinois town of 1500. A nice clean stock, invoice about \$1500, can reduce some. Two railroads, watch inspector. Good sales high-grade watches, lots of high-grade work. Watch inspection goes with store. "W 394," care Keystone.

\$9000 buys fine paying jewelry store in Pennsylvania county seat. Ill health reason for selling. "D 397," care Keystone.

RARE opportunity. Pretty Michigan town; jewelry store, building, stock and fixtures, machinery and tools for repairing light machinery. Doing light manufacturing and experimental work. Valuation, \$2500, will take \$2000. Reasons, health and change climate. Worth investigating. H. N. Robertson, Hartford, Mich.

FOR SALE

STORES, STOCKS AND BUSINESSES

OLD established jewelry and stationery store in a live manufacturing town of 2000 inhabitants. Fine chance for a watchmaker and optician. Other business compels me to sell. Address, Postmaster, Phoenix, N. Y.

IN New England; complete optical establish-ment. Population 90,000, good location, good money maker. Good reason for selling. Address "Optician," 6 Hogan St., Jacksonville, Fla.

VICE jeweler's stand, bench and tools for sale. Good public place in good business town. "S 391," care Keystone.

SNAP for jeweler to go in business for himself. Jewelry store with \$35 to \$40 a month bench work. Stock invoices \$850 to \$900. Box 171, Uteia, Nebraska.

PICTURES for sale or to rent in town of 800 and as much of \$2000 stock as purchaser wants. Have other interests to look after at once. E. M. Schwenke, New Richland, Minn.

\$1000 STOCK and fixtures. County seat, 3000 population, good farming and manufacturing. Repairs \$100 a month. Splendid opportunity, rent cheap, good location. Tyler & Enos, Oregon, Ill.

ONLY stock of jewelry in city of 1000. No competition, repairs heavy. Rent with heat and light, \$8. Best reasons for disposing. Lock Box 34, Oregon, Wis.

ABOUT \$3500 will buy good jewelry and optical business in the best town in Southwestern Iowa, population 6000. Location the best. Can reduce stock some. Everything in good shape and will sell right. "C 386," care Keystone.

ONLY jewelry store in Northern Minnesota town of 2000. Good opportunity. Best of reasons for selling. "A 387," care Keystone.

VICE clean stock jewelry and silverware, small safe, full set jeweler's tools. Invoice about \$1250 including fixtures, Bargain if taken soon. Good location. Good reasons for selling. Address, H. Spoelstra, Wilsouville, Nebr.

A RARE opportunity to buy one of best-paying jewelry and optical businesses in the State. Population 10,000, county seat, town growing very fast, delightful climate, practically no competition. Stock \$10,000, fixtures \$2000, can reduce stock. Watch inspector for two railroads, the leading jewelry and optical business in eastern North Carolina, well-bought, clean, up-to-date stock and fixtures. Will sell at invoice price. A snap for someone, will bear the most rigid investigation. Reason for selling, have other business. C. H. Wallace, Washington, N. C.

THE best business in Colorado. Stock, \$10,000; December business, \$5000; work, \$2500 per year; railroad time inspectors; pay roll, \$100,000 per month. Can reduce; best reasons for selling. "A 388," care Keystone.

GOOD jewelry and optical business in East Central Nebraska county seat, population 2500. Clean stock and new fixtures; invoice \$3000; business established 30 years. "C 403," care Keystone.

KANSAS jewelry and optical store, invoice about \$2000, County seat, population 2500. Only optician in county. Inspector for 2 railroads. Reasons other interests. "C 295," care Keystone.

ESTABLISHED business; good town in Sunny New Mexico. Don't write unless you have the money; \$4000 to \$5000 required. Good reasons. "R 401," care Keystone.

OLD established jewelry store in thriving Western New York town, 1800. Inventory about \$2000 to \$2500; big opportunity. "S 402," care Keystone.

VICE jewelry store in good location. Good run of bench work, good clean stock of jewelry, about \$6000. Big and lively town for business. Reason for selling, health of family. If interested, write me. Address, Box 504, Las Vegas, New Mexico.

GOOD jewelry and optical business for sale. From \$300 investment have cleared \$5000 last five years. Stock and fixtures invoice \$2000, can reduce stock. Good reasons for selling. Box 104, Ashley, Ohio.

ON account of sickness will sell small jewelry store doing good-paying business. Fine run of bench work. Can reduce stock and fixtures to about \$600. Nice store, rent \$3.25 a week, good location. 290 Jefferson Ave., Rochester, New York.

RETIRING from business, stock \$3000. Any good man with \$1500 can have all time wanted on balance. Cleaned up \$2500 over all expenses in 1906. Good railroad town, population 3500. Watch inspection for railroad. Will give a good man first-class show if taken at once. J. S. Reed, Milan, Mo.

PART of stock and fixtures can be bought 10% less than cost price, if bought before April 24th. Owner retiring, good opening to start in. Population 2500. Bears fullest investigation. Box 15, Jackson, Mo.

LEADING jewelry business in fine Wisconsin town, population 2500. On account of failing health I must dispose of my well-established business before April 1st. Fine chance for a man to step into a fine established business. Stock will invoice about \$3000, fixtures about \$500, would reduce to suit. "F 406," care Keystone.

MUST sell jewelry business established ten years, because death of husband. Write for particulars. Mrs. Agnes Pavoissien, 813 18th Ave., Denver, Colo.

(Continued on page 734)

STORES, STOCKS AND BUSINESSES

(Continued from page 733)

\$4600 OR invoice, cash, stock and fixtures of established jewelry and optical business. Southeast Kansas, natural gas and oil, live city, fine climate. Address, "S 407" care Keystone.

\$10,000 a year profit for you if you buy my business in a lively growing capital city of 22,000 inhabitants. Sales last year \$26,000, profits about \$10,000, repairs \$3600 per year. Will sell at what the stock cost me and not less than \$15,000 worth cash or bankable paper. The ill health of my family causes me to make this sacrifice of a gold mine of a business. Do not write unless you have the money. "G 412," care Keystone.

REAL estate for sale or exchange for stock of jewelry or other merchandise. Suburb of Philadelphia—8 cents and 30 minutes puts you in Philadelphia via 2 trolley lines and a ferry. Nine acres ripe and ready for builder, including wharf site suitable for coal, lumber or factory wharf on navigable stream. Value \$9000; value increasing daily. Right in booming little town with all conveniences. Town of 4000; no jewelry store or repair shop in town. You can build houses and sell or rent easily, and use your jeweler's bench to make current expenses. Will trade for even value. Might pay cash if any difference, or take back mortgage on property if less than \$9000. Owner traveling man, wishes to quit road. W. E. Oliver, 418 National Ave., Milwaukee, Wis.

HERE is a money-maker: jewelry store, up-to-date fixtures. Established over 40 years, business shows an increase every year. Fine climate, schools, no saloons, one of the prettiest towns in the Central West, population 9000, agricultural section. Invoice about \$15,000, low expenses, \$12,000 will buy it. This store has never been offered for sale before. Must sell owing to old age and paralysis. Curiosity seekers and auctioneers please do not write. "M 408," care Keystone.

WELL-ESTABLISHED paying jewelry store in the best manufacturing town in Schuylkill Valley. Will invoice \$2700; can reduce if required. Best reasons for selling. Address, Cooper & Son, 722 Sansom Street, Philadelphia.

OWING to other business interests, I have decided to offer my jewelry and optical store, located in Northern Indiana. Will invoice \$1500 to \$2000. Country town, best of country, will bear closest investigation. For particulars, "G 409," care Keystone.

GOOD watch and jewelry store on main street live town in Vermont. C. W. Sawyer, Brattleboro, Vt.

JEWELRY and musical store, owing to the death of the owner, George A. Werner. Established and prosperous business in jewelry, musical instruments, phonographs, sewing machines, silverware and china, located in a thriving town of 8000, termination of three trolley lines running through six near boroughs and towns of 15,000. Full line of up-to-date stock and fixtures. The business has been exceptionally profitable for years. Address, Rosa C. Werner, Bangor, Pa.

JEWELRY stock and fixtures for sale in Western Washington town of 3000. Good repair trade, well-established business, practically no competition. Will sell for cash. Stock and fixtures worth about \$10,000, can be reduced. Soap for some one. In business only 3 years. Stock new and up to date. "S 410," care Keystone.

THE finest optical parlors up town, on a fine business street. Established five years. "H 447," care Keystone.

THE leading jewelry store and optical parlors at the seashore, doing \$6000 per season. "O 448," care Keystone.

LEADING jewelry business in one of Vermont's most thriving manufacturing towns. Well established, well paying, long lease, best location. Stock fresh and up to date. Inventory \$3000 to \$4000. "L 426," care Keystone.

JEWELRY store, splendid location, in the best city of the country, central State, with 3 years' lease. Fixtures, safe and stock. A splendid opportunity for a watchmaker and optician. Stock can be reduced at convenience of purchaser and lease made longer if desired. Rent, \$100. A chance for an ambitious man which not often presents itself. Long established house. Address, The Indiana Optical and Jewelry Co., Indianapolis, Ind.

LITTLE cash will buy the best jewelry and optical store in the Central West, about 100 miles from Chicago. Finest place to live in the United States—best known health resort in America here. Must sell on account of other business. If you are looking for a good thing write quick as this is a snap. "C 424," care Keystone.

ESTABLISHED jewelry store near center of city. Receipts about \$1800 annually. Clean stock, steady trade, low expenses. For particulars address, L. F. Tarbox, 210 E. Baltimore Street, Baltimore, Md.

GOOD-PAYING jewelry business in Northern Indiana town of 2500; county seat; no competition. Repairs \$100 month. Stock, safe, fixtures, tools and material. Invoice \$1850. Must quit account of health. Box 631, Knox, Ind.

STORES, STOCKS AND BUSINESSES

\$1500 STOCK and fixtures; Washington State; pop. 2200. "H 263," care Keystone.

\$600 FOR jewelry business, clears \$1800 annually. Fine for beginner. Address, K. Williamson, Gen. Delivery, Chicago, Ill.

JEWELRY and optical business in Jersey City. Established 25 years; big repairs, good optical sales for a pusher. Will sell stock and fixtures to suit buyer. "S 441," care Keystone.

JEWELRY-optical business at cost price, about \$5000. Profits last year above all expenses, \$2400. Growing town of 8000 in Northwestern Pennsylvania. No old stock; modern fixtures. Established 8 years. "D 367," care Keystone.

\$4000—BEST business, Colorado, for money. Net profits over \$5000 year during 4½ years in business. Made enough, wish to retire. J. P. Donovan, Ouray, Colo.

\$200 WILL buy a good jewelry business, nice fixtures and good will. Store and rooms, 4 years' lease, rent \$35 per month. Home trouble, reason for selling. Address, "R 436," care Keystone.

JEWELRY business in best mining town in Colorado. Established 10 years. Only one other smaller stock in town. Best location; stone building; plate-glass front, 2 large show windows, electric lights, December business nearly \$6000. Reducing stock; will reduce to reasonable amount. Clean stock, fine fixtures; room large enough to rent one side if desired. Reason for selling, health requires removal to lower altitude. Best opportunity in State for live business man. Chas. E. Rose, Telluride, Colo. Refer to C. G. Alford & Co., 192 Broadway, New York.

\$4000 jewelry stock and fixtures in best farming community in Northern Iowa, the prettiest country town you ever saw, population 1500, county seat, only exclusive jeweler in town; 1906 business \$6710.20, profit above running expenses \$2394.25, December business alone \$1737.20, have cleared above all running expenses \$12,200 in seven (7) years, rent, light and heat \$10.00 per month. Must change climate on account of wife's health; don't write unless you have the cash, enclose stamp if you mean business. "O 420," care Keystone.

EXTRAORDINARY offer? \$1500 cleared annually on original \$1875 investment 2½ years ago; invoice cash, \$3000 buys; Southern Michigan, fresh stock, modern fixtures, jewelry and optical. "E 417," care Keystone.

GOOD chance for watchmaker and optician with \$5000 wanting a good paying established business on the coast, business good, increasing. For particulars write J. H. Dunaway, Burlington, Wash.

\$1000 WILL buy me out. Established 8 years. Want to go West where my children are. For particulars address, C. S. Graves, West Branch, Mich.

HANDSOMEST store in north Missouri town of 5000. Stock and fixtures invoice about \$6500. Good-paying business, large repair trade. All modern golden oak fixtures. No old stock. Write for further particulars, if you have cash and mean business. "F 718," care Keystone.

SOLID oak jewelry fixtures consisting of 11 6-foot plate-glass show cases, French mirror doors; 11 6-foot tables, carved French legs; 6 10-foot wall cases, felt-lined, with 2-foot mirror section between each; base of each case has 4 drawers and 2 cupboards. One watchmakers' room, 1 diamond room, 1 office and 1 cut glass room. These rooms have glass and wood paneled doors and sides, and glass room has plate-glass mirror step shelves, with back and side walls lined with plate glass mirrors. All of the above fixtures are wired for electric lights. Also umbrella case, regulator, 2 benches and one large roll-top desk. Must be sold at once, and at a price that will make them a genuine bargain. F. M. Truby, Coffeyville, Kans.

FOR SALE

UNDER THIS HEADING THREE CENTS PER WORD

MISCELLANEOUS MERCHANDISE AND EQUIPMENT

SIX polishing lathes made by McWilliams Mfg. Co., Providence, good condition, low figure. Ad., Honesdale Decorating Co., Honesdale, Pa.

A COMPLETE set of jeweler's tools. A bargain, nearly new. Address, A. L. Ernst, Clarinda, Iowa.

EIGHT-FOOT oak wall-case, \$25. Another, \$20. Worth double. L. M. Beck, Ft. Wayne, Ind.

GENEVA ophthalmoscope and retinoscope combined; one adjustable table. One Hardy trial case, complete. All practically new; cheap. Nesler, 11 N. Tejon St., Colorado Springs, Colo.

SECOND-HAND Francis engraving machine. A. M. Conerus, Elroy, Wis.

A \$25 bench and \$10 ball-bearing foot-wheel for sale. Used 2 weeks. Particulars, address, Moore, 163 West Ave., Buffalo, N. Y.

MISCELLANEOUS MERCHANDISE AND EQUIPMENT

A COMPLETE outfit: bench, Webster-Whitcomb lathe, polishing lathe, material, tools, etc. Used 6 months; inventory on application. Box 127, Follanster, West Virginia.

A AUTOMOBILE at a bargain. F. Catlin, Winsted, Conn.

ELECTRIC polishing motor; ¼ H.P., 500 volts direct current, good condition. Reason for selling, change in power current. Chas. Reynolds, Alpena, Mich.

NEW Moseley lathe, bench, hub, foot-wheel, counter-shaft and small tools. C. L. Thompson, Hickory, Washington Co., Pa.

JEWELER'S bench, optical cabinet, Rivett lathe and chucks, testing case and watch-glass case. "G 378," care Keystone.

GASOLINE blow-pipe outfit, nearly new, guaranteed perfect working condition, \$9. L. H. Norris, Hillsdale, Mich.

MOSELEY wheel cutter and rounding-up attachment with six cutters. Almost new, \$15. A. F. Abel, 233 Superior St., Cleveland, Ohio.

CHAMBERS-INSKEEP ophthalmometer, 1901 U model, new \$60; Johnston ametropometer, never used, make us an offer; set complete test lenses in traveling case, \$45, cost \$60. Compartments for stock 1½-inch lenses. Bennett & Quinn, Waterloo, Iowa.

FIRST cash order takes Fay's optometer, \$5, nickel-plated engraving block, \$4. Futh good condition. F. G. Marsh, Reading, Mich.

ONE Moseley No. 2 lathe, with 30 wire, wheel and cement chucks, 1 patent universal face plate, 1 ring stretcher, one polishing lathe; any one as good as new. C. Clark Jones, 67 Kimble St., Utica, N. Y.

FIXTURES for sale on account of removal. Apply E. Geist, 62 E. Seventh Street, St. Paul, Minn.

ONE Seth Thomas regulator, cost \$22; 1 gross diamond resilient mainsprings, ½ gross crystals; first cash offer gets them. "G 439," care Keystone.

SMALL diamond scale; brass watch rack for watches for show window, holds 100 watches in 5 rows, 2 feet wide; also watch sign 15 inches in diameter, quite new; ships chronometer in a box \$35.00, in perfect order. W. H. Enhaus, 31 John Street, New York.

SEVERAL hundred watch, ring and chain trays, practically new, cost \$2.00 each, will sell for 50c, each, cash with order. J. F. Carr, Portsmouth, Ohio.

OUR fine mahogany jewelry store fixtures, window enclosures, cashier's desk and diamond office. Size of store 20x40 feet. Also 5-ply chrome steel-lined, fire and burglar-proof vault, about 5 x 8 x 8 feet inside, with 2 combination lock doors. Fixtures were made by Jorgenson, of Chicago, about 3 years ago, after most modern and carefully thought out plans. Will be available during September when we remove to our new store. Brock & Feagans, jewelers, Broadway and Fourth Street, Los Angeles, Cal.

ONE Johnston ametropometer. New, never used. Bennett & Quinn, 217 E. Fourth St., Waterloo, Iowa.

WEBSTER-WHITCOMB lathe, with nickel-plated counter-shaft, first-class condition. Only used eleven months. Sell reasonable. "A 442," care Keystone.

SEVERAL thousand copies new 50c popular sheet music. Immense bargain, write for particulars. W. Lehr, Bremen, Ind.

JOHNSTON ametropometer, bright, clean, good as new, full instructions. \$12.50 buys it. L. McKown, Brimfield, Ill.

AN opportunity. A fine established business in best small town in Iowa, located in drug store, fine new fixtures, which are practically all furnished. "R 423," care Keystone.

FIRE and burglar-proof safe, good as new, 31½ x 39½ x 16 inches deep inside measurement. Cost \$500, will sell for \$250, F. O. B. Chicago. Jules Racine & Co., 193 State St., Chicago.

FOR SALE OR EXCHANGE

UNDER THIS HEADING THREE CENTS PER WORD

NEW 4x5 Peco C camera and equipment, \$20. Want large Swiss wheel-cutting machine. 18 Hester Ave., San Jose, Cal.

UP-TO-DATE jewelry, silverware and optical goods, and other articles found in a first-class jewelry stock, for sale or exchange for South Dakota farm property. \$2500; can reduce or will assume difference. Best reasons for selling. Address, Lock box 186, Dell Rapids, S. Dak.

AUTOMOBILE to trade for \$400 in stock, clocks, watches or jewelry. Must be good stuff as automobile is in first-class shape and a good machine. 10 H. P., double cylinder; a bargain. Full description to prospective customer. Address, "S 400," care Keystone.

A NEW 11x14 Camera, cost nearly hundred dollars, will exchange for engraving machine, ophthalmometer or other tools or material. Box 324, Crooksville, Ohio.

500 ACRE mountain ranch in Colorado, stock-ed with horses and cattle, all implements, plenty water and timber. Will trade for stock of jewelry, not over \$12,000 to \$15,000 stock. Address, "L 449," care Keystone.

KEYSTONE 16 size hunting engraved case, used 3 months; clock or music spring winder; 50 copies "Ophthalmologist." Want Savage or Winchester 22 calibre repeating rifle, or what have you? Harry E. Holloway, Herscher, Ill.

SPECIAL NOTICES

UNDER THIS HEADING THREE CENTS PER WORD

THE Culman balance chuck when worn will be replaced for 25c. See ad., page 573.

THE Clement combined lathe attachment, costs \$40. See page 577. Fine, new, complete catalogue free.

MONEY loaned to jewelers. Write for information. The Collateral Loan and Banking Co., 647 Euclid Avenue, Cleveland, Ohio.

EVERY watchmaker needs a Culman balance chuck. See ad., page 573.

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.

HELP wanted? The Culman balance chuck will help you to work better, to work faster, to work easier. See ad., page 573.

GET the best balance staffs and jewels. Order direct from the makers; every one warranted. No student's work. Tarbox & Gordon, Omaha, Nebr.

I PAY the cash for watch glasses, watch movement boxes, watch cases, material, etc. John Renillard, 397 Main, Springfield, Mass.

BUSINESS NOTICES

UNDER THIS HEADING THREE CENTS PER WORD

DIAMONDS and old gold bought. Don't fail to get my offer before selling. Express charges paid both ways if offer is not accepted. B. Gebhard, 735 Sansom St., Philadelphia.

THE Clement combined lathe attachment, costs \$40. See page 577. Fine, new, complete catalogue free.

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.

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.

TRADE work! Watches repaired for trade. Send trial package. Cooper & Son, 722 Sansom Street, Philadelphia.

NOTICE—I have moved from 727 Sansom Street to 807 Sansom 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.

ELGIN Horological School, the oldest and most practical school for watchmakers. Spring class in optics opens April 1st. Send for catalogue to Elgin Horological School, Elgin, Ill.

WANTED, students to learn watchmaking, engraving and jewelry manufacturing. Position to graduates guaranteed. For terms and particulars address, Kansas City Polytechnic Institute, 1921 Grand Ave., Kansas City, Mo.

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 636.

NATIONAL College of Optics, Cedar Rapids, Iowa. Personal and attendance courses. Write for catalogue.

WATCHMAKERS' and jewelers' tools and material. Careful attention to mail orders. Cooper & Son, 722 Sansom, Philadelphia.

NEW invention. An attachment to fit any engraving block, to hold all kinds of Carmen and signet bracelets while engraving. Sent postpaid on receipt of 85c. E. O. Ridgeway, Sheridan, Ind.

WANT to correspond with jewelers in country towns who wish to increase sales and repair trade by legitimate means. Particulars free. Lock box 673, Marselles, Ill.

BUSINESS NOTICES

PUT in balance staffs for 50c up; broken jewels 25c. up. Factory methods. Write for particulars. F. C. Rockwell, watchmaker to the trade, Atlanta, Ga.

STORES wanted by cash customers, in New England 3, Colorado 2, Pennsylvania 4, Kentucky 2, New York 5, Ohio 6, California 1, Stores for sale, Michigan 1, Ohio 2, Colorado 1, Iowa 2, Illinois 1, Maine 1, Louisiana 2, New York 4; all well located and doing fine business, prices \$1200 to \$15,000. If you want to buy or sell write us. Commercial Trades Bureau, Rochester, N. Y.

THE Omaha Watch Repairing, Engraving and Optical Institute offers unequalled opportunities to young men who contemplate taking up this work. This is the place where you can get ready to hold a first-class position; it is our business to make you ready. We have the facilities in the way of thorough and comprehensive branches, painstaking and competent instructors. We spare no effort towards advancing our students rapidly as possible. We never claim, as cheap schools do, to make expert workmen in from four to six months' time, which is impossible by any method. We never claim impossibilities. Write for prospectus. Dr. Tarbox & Gordon.

Too Late for Classification

HELP WANTED—Young man who can do fairly good monogram engraving, also with some exp. at watch and clock work. Steady position. P. J. Thomas, Fredonia, Kans.

FOR SALE—Handsome jewelry store, established 6 years, in Central California town of 5000, stock and fixtures invoice about \$6000, will reduce to any figure above \$1000; reason, other business; write for further particulars. "A 451," care Keystone.

FOR SALE OR EXCHANGE—Good income property in Southeastern Minnesota. Value \$3500. W. J. Plack, Detroit, Minn.

HELP WANTED—\$25 a week, permanent position for first-class watchmaker and engraver; send samples of engraving and copy of reference in first letter. Address, J. Levinski, Waco, Tex.

DIAMONDS BOUGHT FOR CASH

If a customer should bring you any Diamonds or Antique Jewelry to sell, and you do not care to buy them yourself, send them to

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The "Old Mine" Diamond House
Established 1880

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Write at once for the most liberal offer ever made for securing patents, designs and trademarks. Send sketch for free opinion as to patentability and ask for the "Inventors' Guide," the finest book published for inventors. Best reference. Established 20 years.

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produce corresponding results.
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Every Jeweler that advertises should try to lend an individuality to their ad. This can be done by using a signature cut. A signature cut makes the ad stand out more prominently, catches the attention of the eye and makes it different from others. My prices for signature cuts are the lowest, because of the large amount of work I do of this kind. Send for information and lowest price.
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31 Revere St. (Room 7), Boston Mass.

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The Most Prosperous, Up-to-Date Jewelry Store in Eastern Indiana

Manufacturing city of 35,000 population. Established 12 years and have made enough to retire. Business nets profit of \$4000 per year. Invoices \$12,000 stock, \$3000 fixtures. Can reduce to suit purchaser. Will give full details to those meaning business.

JOSEPH HUMMEL, Jr.
209 E. Main Street, MUNCIE, IND.

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"The Engraving School That Graduates Experts." A fascinating, high-salaried and easily learned trade, taught thoroughly and practically by correspondence. Your instructor is the foremost authority and master workman in the world. We will teach the beginner better engraving by correspondence than he can gain in years of rigid apprenticeship. We will improve the skill of any engraver one hundred per cent. and make him master of the trade. The demand for competent engravers far exceeds the supply. Send for handsome illustrated prospectus.
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The best school to attend is the one which gives the best attention and the best instructions. We have that school. Send for circular.
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H. R. PLAYTNER, DIRECTOR 115 East King Street Toronto, Ont.

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Paul Manufacturing Co.	575
Pave & Baker Mfg. Co.	678
Peerless Mfg. Co.	724
Philadelphia College of Horology	588, 731
Philadelphia Optical College	692
Prybil, P.	576
Quaker City Cut Glass Co.	602
Queen City Ring Mfg. Co., The	640
Quincy Show Case Works	580
Racine & Co., Jules	668
Rankin, W. A.	732
Ranlett & Lowell Co.	688 j
Raven, John H.	688 j
Rees Engraving School, The	580
Reichhelm & Co., E. P.	576
Reinhard & Patterson	682
Revell & Co., Alexander H.	688 j
Richards & Co., W. E.	682
Robertson Co., The W. L.	731
Robert, Edmond E.	666
Robinson, P. H.	735
Rochester School of Optometry	724
Rockford Silver Plate Co.	672 f
Rockford Watch Co.	664
Rosenberg Motor & Mfg. Co., The A.	732
Rotograph Company, The	638
Roy Watch Case Company	654
Russell, L. E.	735
Rymal, C. L.	730
Saart Co., The W. H.	674
Sadler Co., The F. H.	628
Salman & Co., John A.	644
Sandberg, Wilhelm K.	731
Sanger's Emery Ring Buffs	731
Scherer, August F.	644
Schroeder & Co., John	731
Sereomb Company	584
Sessions Clock Co., The	650
Sickles & Sons, M.	583
Simmons Company, R. F.	598
Sioux City Jewelers' School of Engraving	582
Sloan, C. W.	725
Smith & Co., C. Sidney	686
Smith, Harry	644
Smith Silver Co., E. H. H.	568
Southbridge Spectacle Mfg. Co.	696
Spencer Optical Company	Inside back cover
Sproehne & Co.	662
Stern & Co., Louis	676
Stern Bros. & Co.	649
Stern, M. E.	716
Stilwell, L. W.	636
St. Louis Watchmaking School	573
Stone's School of Watchmaking	731
Stouffer Co., The J. H.	602
Sussfeld, Lorsch & Co.	571, 712, 732
Swartchild & Company	570
Swigart, E. & J.	564
Swigart Optical & Watch Co., The	670
Thomas Clock Company, Seth	672 d
Tiffany Electric Manufacturing Company	654
Tilton Optical Co.	716
Trabert & Co., A.	730
Tyler, E. R.	728
Ullstrom & Co.	731
Union Show Case Co.	574
U. S. Electro-Chemical Co.	566
Victor Talking Machine Co.	584
Wachter Mfg. Co., The	586
Wadsworth, G. F.	730
Wadell Show Case and Cabinet Co., J. P.	566
Wagner, Ant.	724
Wagner Manufacturing Co.	638
Walham Watch Company	596
Waterman Co., L. E.	After 688 j
Weaver Mfg. Co.	730
Webster-Whitecomb Lathes	571
Weidlich & Bro., Wm.	688 j
Wells, Chester	730
Wendell & Co.	562, 587
Western Clock Mfg. Co., The	656
Western Polish Co.	688 j
Wheeler & Co., Hayden W.	610
Wiegel Show Case Co.	636
Wightman & Hough Co.	682
Wilkinson & Co., C. A.	722
Winslow, Krause & Co.	735
Winter Lumber Company, M.	581
Witsenhausen, L.	580
Wolcott Mfg. Co.	626
Wolfe, Guy E.	730
Woolf, Michael	706
Wright Pen Company	688 j
Young & Co., Otto	618
Young & Co., O. W.	730
Zimmerman & Co., Inc., Henry	566

S. MARTIN, Jewelers' Auctioneer



840 Summit Ave., Milwaukee, Wis.

Long distance phone, Lake 663

I sell only for jewelers of standing—those who have a reputation and who wish to maintain it.

I carry no goods of my own to add to the jeweler's stock; I sell your goods only, and the profits are all yours. A sale to be successful for me must be successful for you.

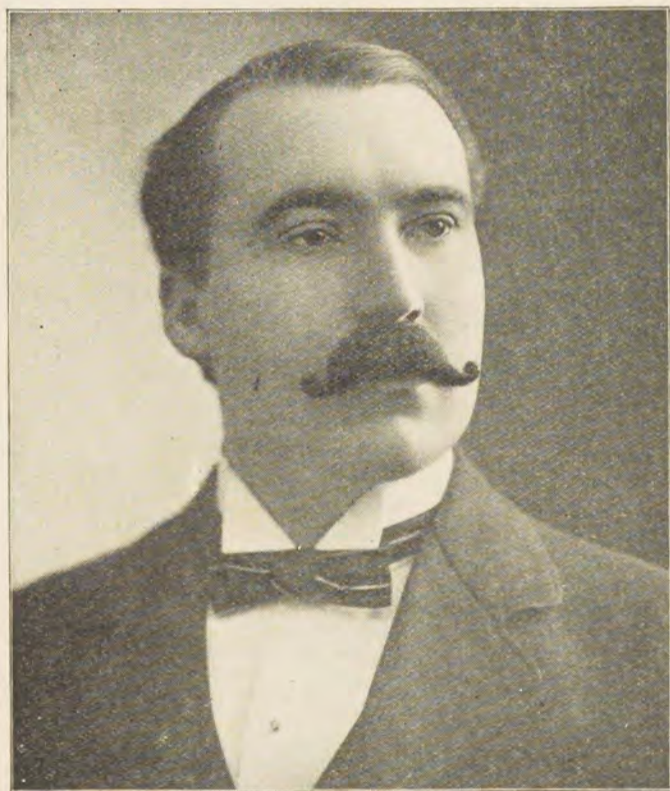
The addition of cheap stock makes the sale the auctioneer's, and not yours; he, not you, profits by it.

The best proof of my ability and the integrity of my methods is my re-engagement time and time again by the same jewelers.

I refer to the MERMOD-JACCARD-KING CO., St. Louis, Mo., 5 sales—the last one ran three months: May, June, July, 1906.

A. H. RICHARDS, El Paso, Texas, 4 sales.

Have just closed sale for H. G. MEYER JEWELRY CO., Meridian, Miss.



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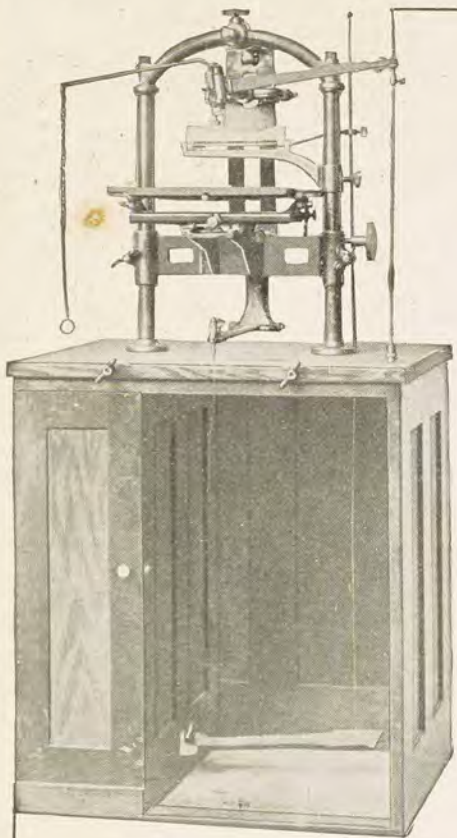
SUCCESSFUL AUCTIONEER

Should you at any time wish to convert a part or all of your stock into cash, write me before doing business with others (as I take my commission out of the profits of sale).

Successful Men are Safe to Follow

The auctioneer who has the ability to turn dead stock into cash at a profit; make new customers for your store, protect your good name and future business against loss or injury, is **the man** you want to conduct your sale.

Remember, it takes a live fish to go up stream—any dead one can go down. The live **man** is the **man** you want. **Auctions** as conducted by me are business-building, well as money-making; as a proof of this fact I can refer you to hundreds of jewelers, in the United States and Canada, for whom I have conducted from one to three sales.



HOW

How can a jeweler expect to make the profit that he should when he does his Engraving by hand?

How can he afford to use his time doing this work, which is seldom charged for, and leave money-producing work undone?

How can he afford to send it away to be done, pay the charges both ways and the cost of the Engraving?

How can he take the risk of a delayed execution of the order and the consequent delay in delivery of the customer's purchase, with its attendant dissatisfaction?

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Send us a postal request for our catalogue and easy terms.

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ALUMNO The Best White Metal Frames

RIDING BOW, \$1.90 Per Dozen
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GERMAN SILVER—RIDING BOW or STRAIGHT,
\$1.15 to \$1.44 Per Dozen Net

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GOLD FILLED SPECTACLES and EYEGASSES

Guaranteed to wear like Gold

Frames, 1, 0 or 00 E.

14 K. $\frac{1}{10}$	12 K. $\frac{1}{10}$	10 K. $\frac{1}{10}$	$\frac{1}{20}$	$\frac{1}{30}$
Riding Bow, \$7.45	\$6.40	\$5.50	\$4.25	\$3.50
Per Dozen, Net Cash				

GOLD

QUALITY GUARANTEED AS BILLED

Less 10 per cent. cash

Rimless Mountings, 10 K. Riding Bow	\$21.75 up per dozen
Rimless Mountings for Eyeglasses, 10 K.	13.75 up per dozen
10 K. Light Riding Bow Frames	21.00 up per dozen
10 K. Medium Riding Bow Frames	23.60 per dozen
10 K. Heavy Riding Bow Frames, 30 dwt.	26.25 per dozen
10 K. Offset Eyeglass Frames	22.90 per dozen

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Celluloid and Nickel

All sizes from 2 inch to 6 inch. Send for Price-List



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For Office in oak, cherry, and leather.
Also for Traveling, with divisions for stock and lenses.
None better made. Send for pamphlet.

Most modern and up-to-date Trial Case. Over 11,000 in use. No fault-finders. They make a friend wherever they go.

FOR THIS MONTH. EXTRAORDINARY REDUCTIONS

in the price of first-class, world-renowned Trial Cases, the Audemair, as follows, Net Cash:

No. 1000, containing 96 + and - spherical lenses with trial frame	\$9.00
No. 1031, " 168 lenses and discs, double-grooved trial frames, with index, worth \$30.00	25.00
No. 1030, " 168 lenses and discs with triple-cell revolving trial frame, worth \$35.00	29.00
No. 1075, " 211 lenses and discs, double-grooved trial frame, space under tray for goods, worth \$55.00	46.00
No. 1052, " 262 lenses and discs, with triple-cell revolving frame, space for tray for goods, worth \$65.00	54.00
No. 952 1/2, " 262 lenses and discs with triple-cell revolving trial frame, antique oak case, worth \$60.00	54.00
Climax Folding Case. Size—8 1/4, 10 1/4, 8 1/2; weight, 5 lbs. 211 lenses and discs, revolving frame, worth \$53.00	38.00
No. 990, Handsome antique oak case, containing 290 lenses and discs with Keratometer, Retinoscope, superior alumino trial frame. Took highest award at Paris Exhibition. Worth \$100.00	77.00
No. 1990, Same contents as No. 990, space for stock under tray, worth \$100.00	77.00

All the above Cases are covered with imitation seal, except when otherwise specified. The reputation of the Audemair Trial Case is well established. With each case we will furnish free one set of test types; Dr. Knowles' book on the eye, and a handsome lithograph of the emmetropic eye in four colors and four representations of the eye, 18x24 ins.

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