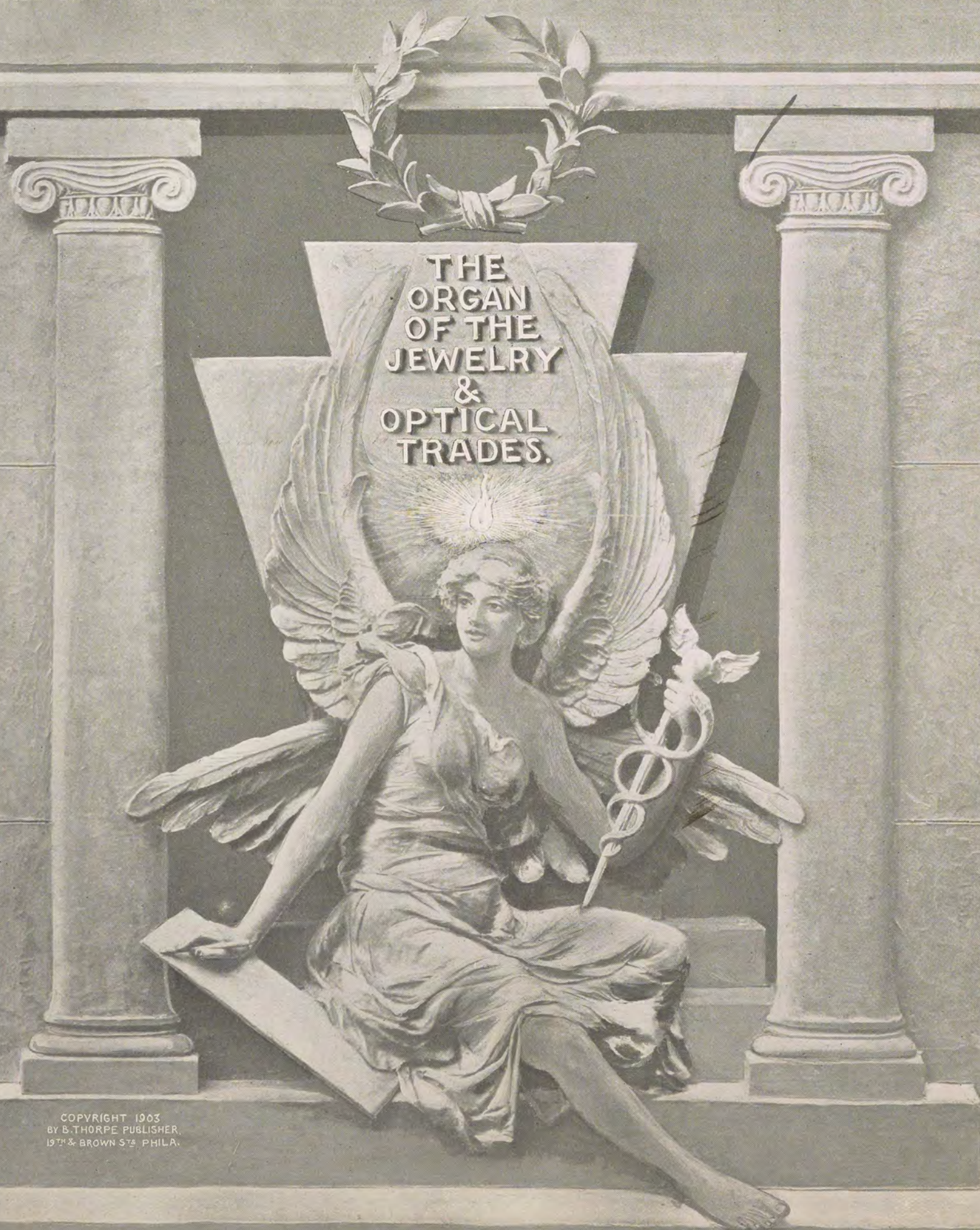


THE KEYSTONE



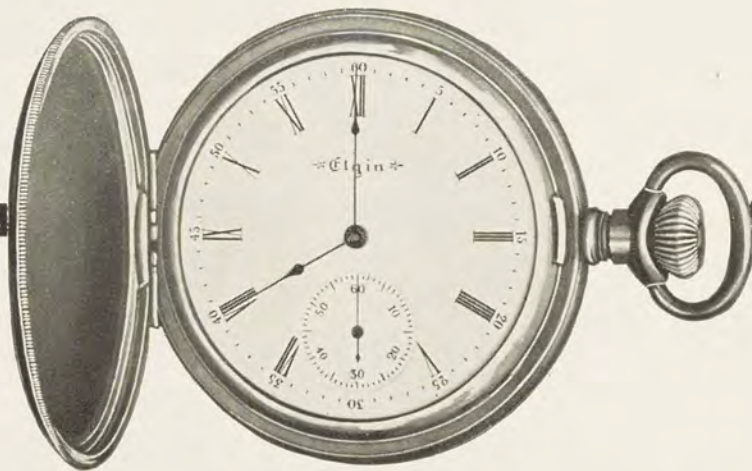
THE
ORGAN
OF THE
JEWELRY
&
OPTICAL
TRADES.

COPYRIGHT 1903
BY B. THORPE PUBLISHER,
197 & BROWN STS. PHILA.

Vol. 24

October, 1903

No. 10



From Opening Time To Closing Time

all the time—is the time to push
ELGIN WATCHES. A stock of

Elgin Watches

will help your business in two ways. It will enable you to get your share of the enormous and ever increasing Elgin trade.

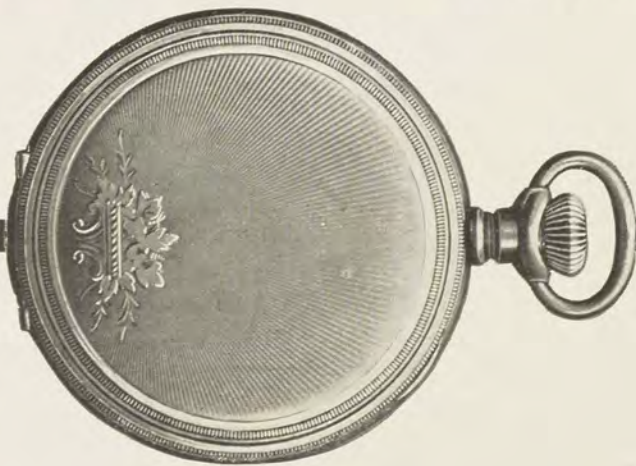
And it will help your store generally because every Elgin customer means a satisfied customer—the very foundation of successful business.

See Jobber's list for prices or write the Company. Every dealer should send for the Elgin book, "Timemakers and Timekeepers," giving a history of the development of the watch.

ELGIN NATIONAL WATCH COMPANY,

Factories, ELGIN, ILL., U. S. A.
NEW YORK OFFICE, 11 John Street.

General Offices, 76 Monroe St., CHICAGO.
SAN FRANCISCO OFFICE, 206 Kearny Street.



F&B.

F&B. GOODS

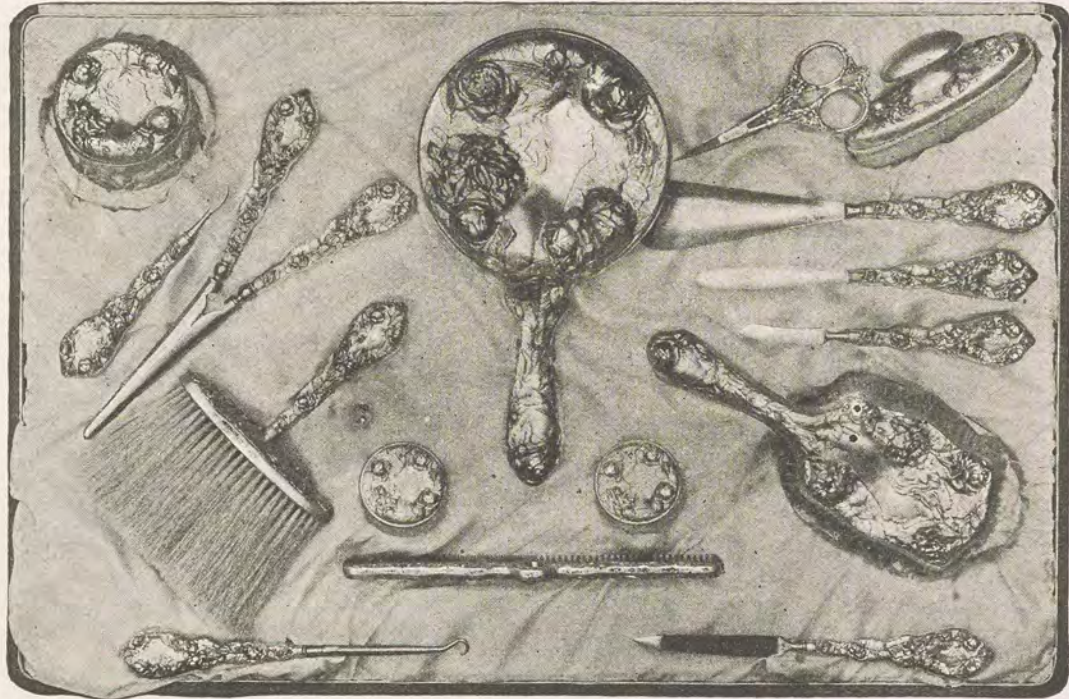


WEAR WELL, BECAUSE THEY ARE MADE WELL.

It is not the trade-mark **F&B** on an article that makes it good ; but it is the brains, workmanship and high-grade materials put into the goods bearing this trade-mark, that makes them the best and most reliable goods on the market to-day.

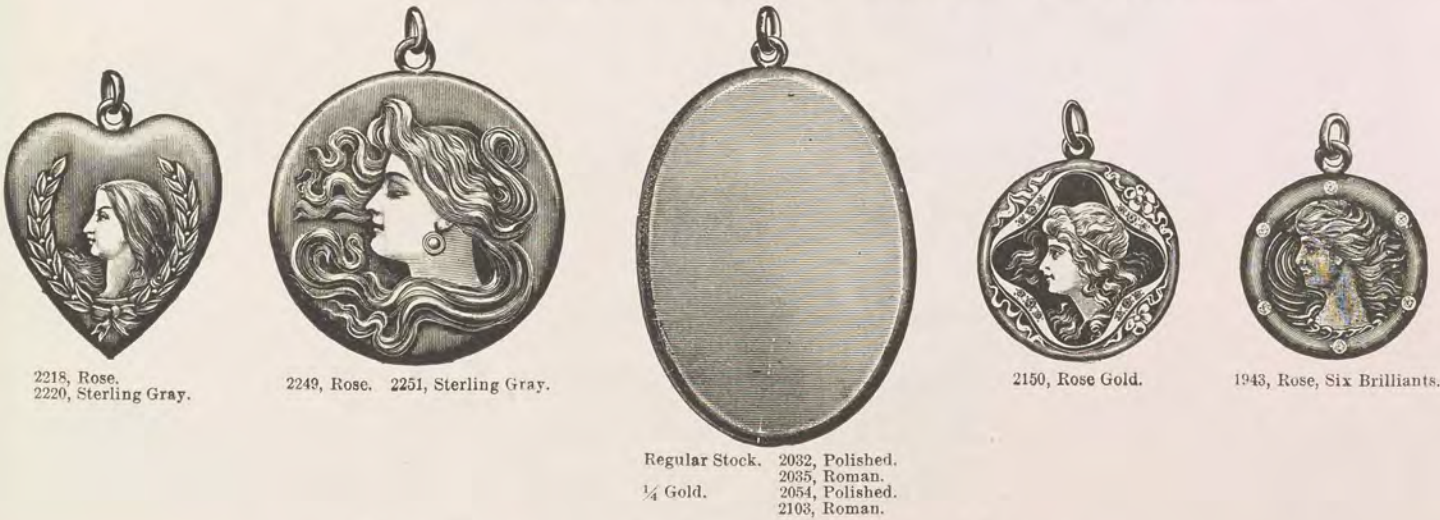
If you want the goods that will sell best, bring the largest profit, and bring satisfied customers back again,

Buy **F&B.** Goods.



Set No. 450. DOVE OF PEACE PATTERN. 16-piece Toilet and Manicure.

**Our Locketts
and Vest Chains
are winners.**



2218, Rose.
2220, Sterling Gray.

2249, Rose. 2251, Sterling Gray.

Regular Stock. 2032, Polished.
2035, Roman.
1/4 Gold. 2054, Polished.
2103, Roman.

2150, Rose Gold.

1943, Rose, Six Brilliants.

If you have not received our Catalogue, send for one.

Theodore W. Foster & Bro. Co.

MANUFACTURING JEWELERS AND SILVERSMITHS,

100 Richmond Street, Providence, R. I.



THE KELLER JEWELRY MFG CO.
 64 NASSAU ST., NEW YORK.

Headquarters for handsome, quick-selling, profit-making Fall and Holiday stock in

**Rings, Link-Buttons, Brooches,
 Scarf-Pins, Locketts, Fobs, Neck Chains,
 Lorgnette Chains, Tie Clasps, etc.**

A great variety of new, fascinating designs at prices that sell.
 We will send selection packages to responsible parties where our representatives cannot call.

THE KELLER JEWELRY MFG. CO.

64 Nassau Street, New York.

Factory, 8 Lum St., Newark, N. J.

Telephone, 3270 John.

It is generally conceded that the finest and most complete Watch and Chain stock in the jobbing trade is being shown this Fall by The Non-Retailing Co., of Lancaster, Pa. This reliable house concentrates all its efforts on these two lines—Watches and Chains—and specialism always wins out. Square dealing, prompt service, the best stock and "right" prices make a combination hard to beat. Jewelers who have not as yet opened an account with The Non-Retailing Co., Lancaster, Pa., would do well to connect with them and get into the good things they have going.

CABLE ADDRESS:-
"LISSAUCOMP, NEWYORK."

MAX J. LISSAUER,
MAX S. KALLMAN,
MARCEL MIRABEAU.

ESTABLISHED 1865

TELEPHONE-CALL:-
1849 CORTLANDT, N.Y.

LISSAUER & COMPANY

DIAMONDS
WATCHES
JEWELRY
LISSAUER & COMPANY
12 MAIDEN LANE, NEW YORK.

IMPORTERS OF
DIAMONDS
AND PEARLS.

WHOLESALE
JEWELERS

MAKERS OF THE
L & CO.
PANSY
GOLD CASES.

MANUFACTURERS OF
WATCHES
AND JEWELRY.

NEW YORK.

12 MAIDEN LANE,
P.O. Box 1625.

12 MAIDEN LANE, NEW YORK.

Our Mr. Max J. Lissauer, returning from Europe on the S. S. "Deutschland," made a record trip, but he also made a record in the advantageous purchases of DIAMONDS and PEARLS while abroad. We invite examination of these goods, which we offer to the trade at attractive prices.

Loose or Mounted Diamonds, Pearls,
Watches and Jewelry sent on selection
to responsible jewelers.

Lissauer & Company

P. O. Box 1625. 12 MAIDEN LANE NEW YORK.

"L. & Co. Diamond Disk" sent free on application.

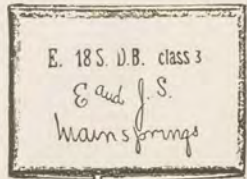
Your orders are solicited.

Our goods are insured while in transit.

The RIGHT COURSE



Square Dealing—Reliable Goods—Low Prices



E. & J. S. Mainsprings.



Superior Mainsprings.



Hercules Mainsprings.



E. & J. S. Balance Staffs.



E. & J. S. Balance Jewels.

are the cardinal principles on which our business is conducted. We are prompt in filling orders, do our very best to please our customers and insist that they shall have full value for their money. Our stock is ample and we have plenty of competent men to select orders and get them correct, whether large or small.

OUR PRICES.

	Per Dozen.	Per Gross.
E. & J. S. Mainsprings, a favorite of many years' test	\$1.25	\$14.25
Superior " a reliable every-day spring	1.00	11.25
Hercules " the best cheap spring made	.75	8.75
E. & J. S. Balance Jewels, American made, all sizes	1.50	
Eagle " " " " " "	.75	
E. & J. S. " Staffs, " " " " " "	1.00	
Eagle " " " " " " "	.75	

These materials give splendid satisfaction. Send us a trial order.

All prices less 6 per cent. for cash.

Don't Forget

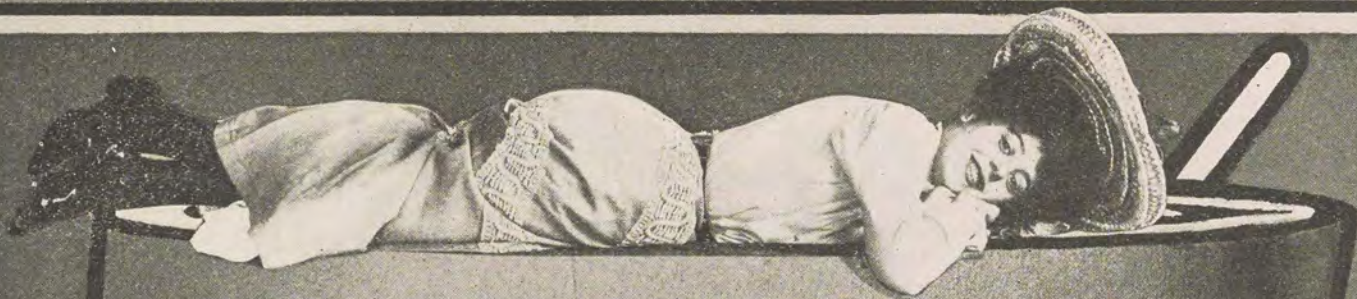
we have, without doubt, the largest general assortment of **Genuine Factory Materials** for American watches carried in this country. This includes many odd parts which have not been made for some years but are still called for at the repair bench. Selecting and matching small pieces we make a specialty.

Our Tool and Material Catalogue

is at the service of our customers, also special order blanks, envelopes, etc., free of charge on request with your business card.

Cincinnati, Ohio.





Tried in the Crucible

of time, our plan of handling the old gold, old silver and sweeps of the jewelry trade has not been found wanting, but rather it is growing in popularity with the years, as our constantly increasing and expanding business shows.

This old, tried and true plan of ours is this: You send us your Sweeps and Old Gold and Old Silver. We send you a check immediately. If our offer is not satisfactory, send back the check and we will return your shipment without cost to you. In doing this you take no chances, as it is no sale until we hear from you.

Goldsmith Bros.

Sweep Smelters, Refiners and Assayers,

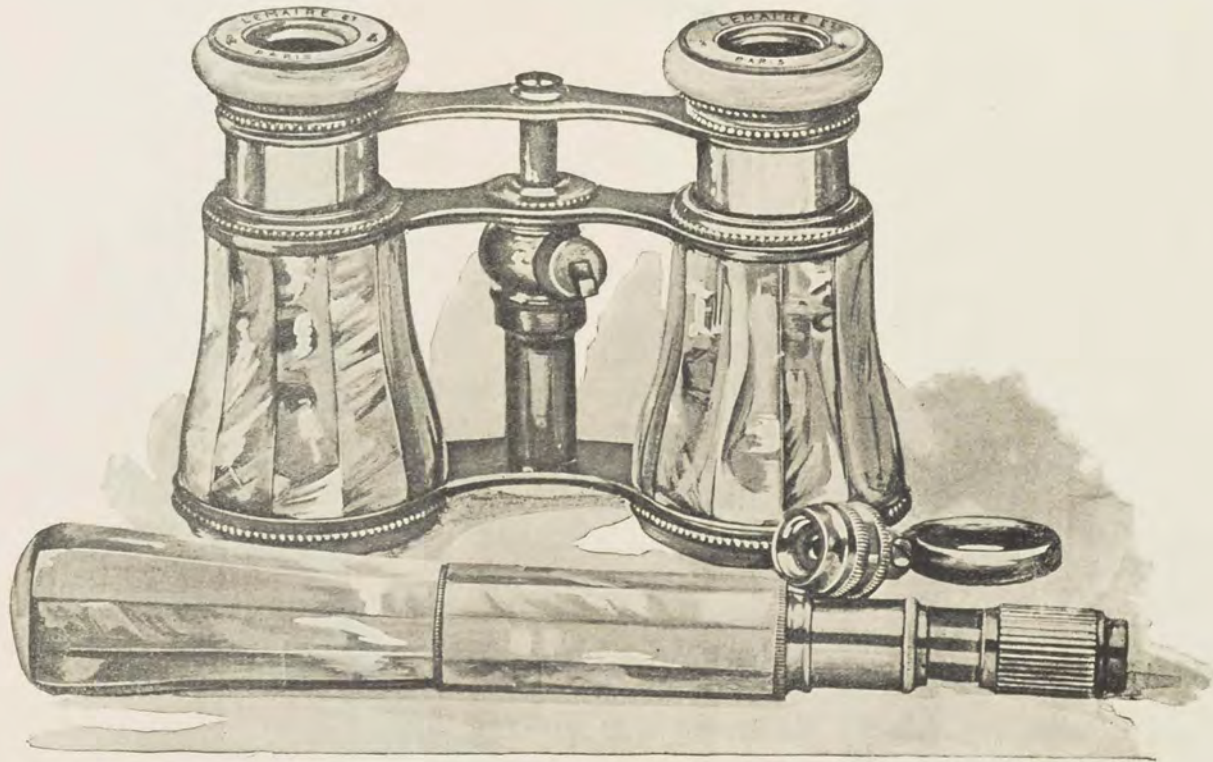
63 Washington Street,
Chicago, Ill.



Lemaire ^{Opera and Field} Glasses

(BLANK'S PATENT)

THE ONLY GLASSES ALLOWING THE
UNRESTRICTED USE OF BOTH HANDS



For Sale by All Jobbers.

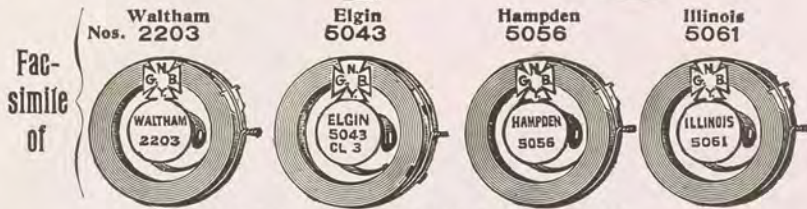
HAMMEL, RIGLANDER & CO. }

35 MAIDEN LANE,
NEW YORK,

Sole Agents.

"Imperial" Mainsprings

are the best, the most reliable, have quality, finish, elasticity, temper, strength and durability, are coiled and tagged, arranged in the most convenient manner, and "Guaranteed."



"Imperial" American Springs, coiled and tagged.

None genuine unless marked "Imperial" and bearing our Registered Trade-Mark, as shown in cut.

N. B.—We carry in stock 175 different styles of "IMPERIAL" American and 450 sizes of "IMPERIAL" Swiss Mainsprings.

Price,
\$12.00
Per Gross.
1.00
Per Dozen.

We send Gratis our
20-Drawer

Solid Oak, Walnut or
Cherry rub-finished
Cabinet,
with patent snap lock,
and include

**36 Glass Screw-Top
Bottles**

for materials, arranged
in grooves in top
of Cabinet, ready for use.



The Cabinet itself is worth \$6.00 and is far superior in appearance than is represented by the cut. "Capacity, 6 Gross of Springs."

IMPORTANT NOTICE.

With a first order of one gross of the "Imperial" American or Swiss Mainsprings, we send gratis our improved handsome polished, rub-finished Solid Black Walnut, Oak or Cherry Mainspring Cabinet, shown in cut. It is well made, cabinet finished and dovetailed throughout, and the cover closes with a patent snap lock, nickel-plated. It is the only cabinet made that will properly systematize and keep in thorough order the many American and Swiss mainsprings necessary at the present time, and will be greatly appreciated by all watchmakers. Besides being very useful, it makes a very handsome appearance. It has twenty drawers, with fancy knobs, brass trimmed, and the top is arranged in grooves for thirty-six screw-top bottles for watch and jobbing materials. It will hold 6 GROSS "Imperial" American or Swiss Springs. We also include two sets of perforated gummed labels, with name, number and size of the springs, so the drawers can be numbered as desired. These numbers correspond to a directory of all American springs which is printed on the inside cover showing the correct style, width and strength by Dennison's Standard Mainspring Gage, and the proper numbers and names for ordering.

WORTHY OF ATTENTION

The following letters are samples of unsolicited testimonials, received from most reliable sources in every State of the Union.
MESSRS. W. GREEN & Co., New York City, N. Y. Utica, N. Y., Sept. 15, 1902.
Gentlemen: Please send us the following mainsprings:
1 dozen 5057. 1 dozen 5043.
3 " 2203. 1 " 2220.
2 " 5053. 1 " 2209.
2 " 5046. 1 " 2210.

Be sure and send your "Imperial" mainsprings, as will not accept any others, having had the best possible success with them. We consider them far superior to any other mainsprings in the market, and your service is all we could desire.
Yours very truly,
EVANS & SONS.

W. GREEN & Co., New York.

Gentlemen: We are duly in receipt of mainsprings ordered from you with cabinet, and will say that both springs and cabinet are much superior to what we expected. Enclose check herewith and return thanks for your prompt and courteous attention. Yours very truly, J. BAIN.

MESSRS. W. GREEN & Co., New York City, N. Y.

Gentlemen: Please send us one dozen 6 size N. Y. Standard mainsprings with plain end, stamped "Imperial".
Respectfully yours,
P. S.—I have not had a single Imperial mainspring to replace, and have been using them for twelve months.

Pittsburg, Pa., Oct. 10, 1902.

Greenville, N. C., Oct. 19, 1902.

W. L. BEST.

Worthy of Your Attention—Great Labor and Time-Saving.

"Nothing better can be made—absolutely dust-proof and fully warranted."

Showing Motor in Use on Lathe.

The W. Green & Co. No. 4 Improved

Noiseless Polishing, Buffing and Grinding Electric Lathe Motors,

for Watchmakers, Jewelers, Dentists, Silversmiths, Machinists, etc.

Made from one-sixteenth to three-quarters horse power.

With electric power circuit now in almost every community the trade have an opportunity to use, much to their advantage, an electric motor, for grinding, buffing, polishing, etc. They will consequently be interested in the motors here illustrated, which are specially made for this purpose and fully warranted in every respect. In the construction of the motors all possible precautions for the durability of the machine and the protection of the operator have been taken. The wearing parts are well made and are interchangeable. The chucks are held by a lock nut, which is quickly adjusted. Automatic lubrication is provided for. The motor consumes under average working conditions about as much current as one 16-candle power lamp. The direct-current motors are supplied for any voltage from 6 to 250; while the alternating-current motors for any voltage from 52 to 220, and for any frequency from 6 to 125 cycles per second.

NOTE.—In ordering be sure and state horse power, current, voltage or cycles required. All our alternating-current motors are self starting. With reasonable care these motors will last, in constant use, for ten years.

SPECIAL NOTE.

The strength of our direct-current motors can be instantly reduced by aid of the adjustable switch or regulator attached to the motor to any reasonable power desired. They can be attached in one minute to any ordinary electric-light socket, and are absolutely guaranteed, therefore do not hesitate to place your order. "Our motors are always ready for immediate use, no further adjustment being required."
(Speed, 2300 to 3000 revolutions per minute.)

Voltage.	Horse Power.	Price of Direct Current.	Price of Alternating Current.
110	1-5, including 5 new style adjustable chucks	\$30.00	\$ 42.00
220	1-5, " "	35.00	47.00
110	1-4 to 1-3, extra long spindles	47.50	82.50
220	1-4 to 1-3, " "	52.00	90.00
110	1-2 to 3-4, " "	67.00	115.00
220	1-2 to 3-4, " "	72.00	126.00
500	1-4 to 1-3, " "	62.50	
500	1-2 to 3-4, " "	84.00	

Extras for One-Fifth Horse Power Only.

Special Adjustable Motor Pulley for attachment to Watchmakers' Lathe, Dynamo, Fan, etc.	\$1.75
Adjustable Chuck for use with emery paper, inside of rings, etc.	1.50
Extra Burr or Adjustable Drill Chuck	3.00
Spare Chucks	.50

W. GREEN & CO., 6 Maiden Lane, New York, U.S.A.

("We handle everything known to the trade and solicit correspondence.")

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

Ask your jobber for
this label—



Note the



and
beware of
imitations.



The *True Blue*¹⁴¹⁷
*Beaded Label
French
Watch
Glass*

Ask Your
Jobber
For Them

**SUSSFELD,
LORSCH & Co.**

Wholesale Agents

NEW YORK: 37 Maiden Lane
PARIS: 21 Rue de l'Echiquier

RINGSET OUTFIT devised for the manufacture of **Seamless, Half-Round and Flat Band Solid Gold Rings,**

equal to the best wrought gold rings, has been described and illustrated for some months past in THE KEYSTONE. A California dealer in Watches, Clocks and Jewelry read our ad. in THE KEYSTONE, ordered an outfit, and on July 17th wrote the following unsolicited letter. At our request he has consented that we may publish the same.

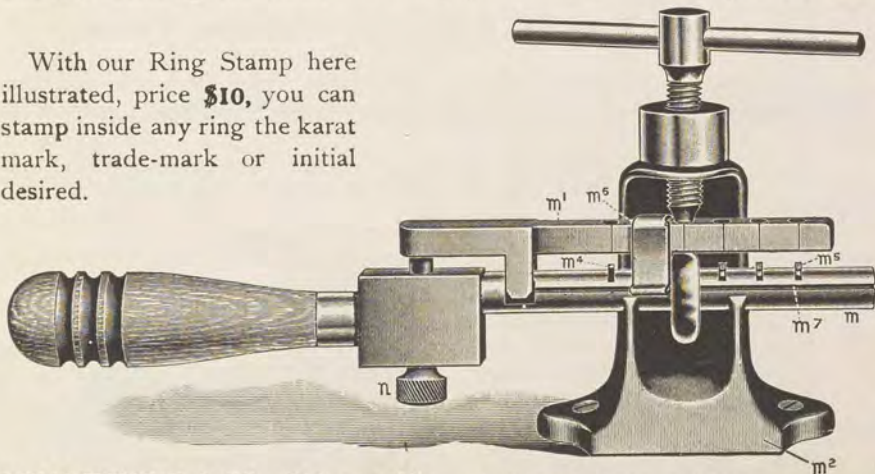
RINGSET COMPANY, Boston, Mass.

Visalia, Cal., July 17, 1903.
Gentlemen:—The outfit for making Seamless Rings, purchased from you, is all right, and am pleased with the results obtained from its use. I made up over 60 dwts. rings with it in the thirty days I have had it, and every one turned out perfect.

Yours truly,
V. E. LAPORTE.

This is the universal opinion of those using our outfit. A letter to our factory, 8 Waltham Street, Boston, enclosing ten cents, will bring you a mold in which you can cast gold and test the quality of our Seamless Solid Gold Rings, and convince you of the value of our outfit.

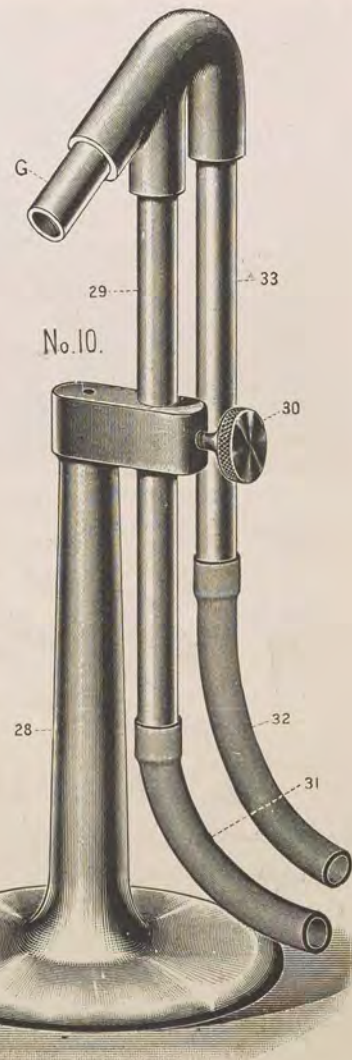
With our Ring Stamp here illustrated, price \$10, you can stamp inside any ring the karat mark, trade-mark or initial desired.



SWARTCHILD & CO., Chicago, Ill.
W. Green & Co., New York, N. Y.
Nordman Bros., San Francisco, Cal.
King & Eisele, Buffalo, N. Y.

M. Myers, Boston, Mass.
J. B. Bechtel & Co., Philadelphia, Pa.
Baltimore Watch & Jewelry Supply Co., Baltimore, Md.
Reed-Bennett Company, Minneapolis, Minn.

Our Blow-Pipe and Stand, price \$2, is a leader. Our outfits can be had of the following jobbers:



RINGSET COMPANY, Boston, Mass.

1418
1885

The Ledos Mfg. Co.

1903

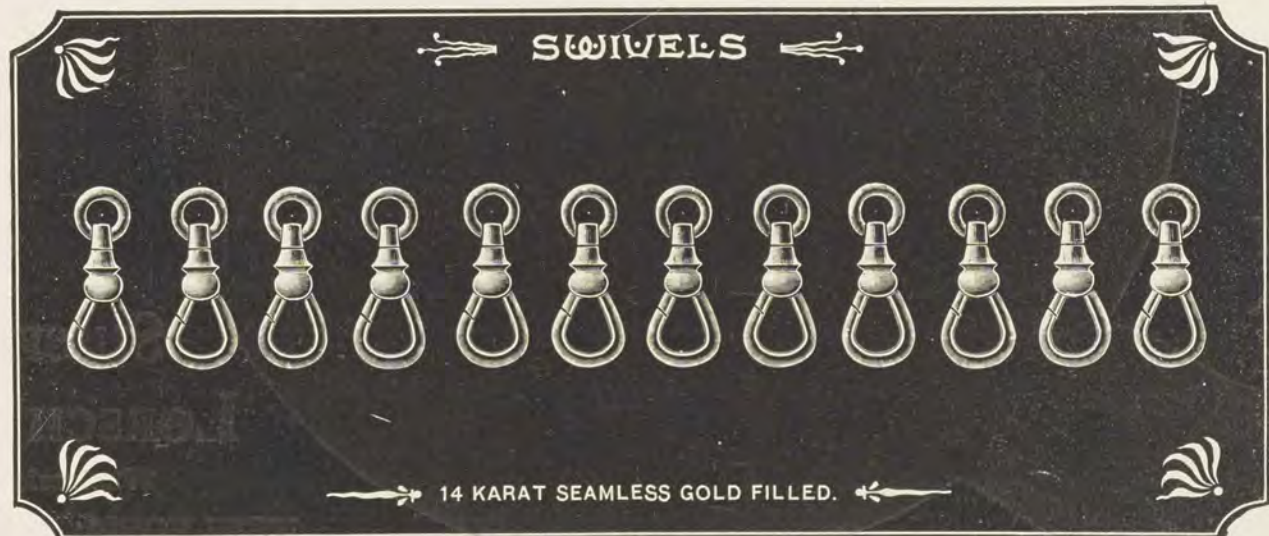
34-36 Pearl Street, Newark, N. J., U.S.A.

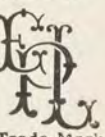
Manufacturers of

WATCH CASE MATERIALS AND JEWELERS' FINDINGS.

Registered

Trade-Mark



Registered

Trade-Mark

ORDER FROM YOUR JOBBER.

No. 37. \$1.50 per doz.

WE SELL JOBBERS ONLY.



"IT'S FROM WINTER." THEREFORE "RIGHT."

NOW READY.

WINTER'S
ENCYCLOPEDIA
AMERICANA
OF STORE FIXTURES
AND FITTINGS

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

Plans, Interior Views, New Suggestions,
Separate Fixtures, Cases, Counters, Floor
Cases, Soda Fountain Fixtures, Tables,
Chairs, Desks, Specialties, etc.
Illustrated fully. Described and listed
in so plain a manner that you can make
your own plans and estimate the cost of
your fixtures.

Sent postpaid on receipt of 25 cents.

M. WINTER LUMBER COMPANY,

Established 1865

SALES AGENTS.

Finlay-Dicks & Co., Ltd., New Orleans, Sales Agents for Mississippi,
Louisiana and Alabama.
C. D. Smith Drug Co., St. Joseph, Mo., Sales Agents for Missouri, Kan-
sas, Nebraska, Oklahoma Ter. and Ind. Ter.
Jos. W. Schlumpf, 318-319 Pacific Blk., Seattle, Wash., Sales Agent for
the State of Washington.
R. H. Birdsall, 42 Front Street, Portland, Oregon, Sales Agent for the
State of Oregon.
Texas Drug Co., Dallas, Texas, Sales Agent for the State of Texas.
Evans & Sons, Ltd., Montreal, Canada, Sales Agents for Canada.



We do not claim to be the largest in the world, but we are proud of our factory, our reputation and our line. We do claim to make the best, at prices that are right. Not how cheap, not how much, but how good. Ask our customers.

If you want good, practical, substantial, "ahead of the times fixtures," write us.

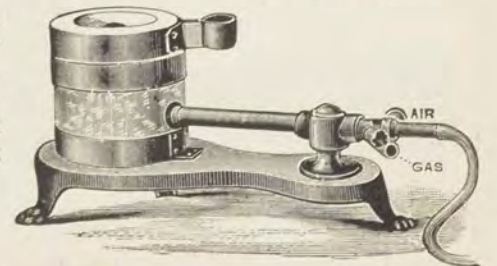
ANTI-OXIDIZING **FLUID** HARD SOLDERING
50 cents **9/10 LABOR SAVING** By Mail.

TRY a bottle and you will not do without it, and if you do not find it a labor saver will refund your money.

A. Levytansky, Victoria, Texas.

No. 40-A Crucible Furnace

melts up to ten ounces gold or silver rapidly, with very small consumption of gas. Occupies small bench space. Is always ready. Will melt gold in from five to eight minutes, starting all cold.



PRICE.
Furnace as illustrated, \$3.50
Foot Blower required,
No. 9-A, 5.00

Sold by Dealers in Jewelers' Supplies.

Buffalo Dental Manufacturing Co.

Write for Catalogue "B-k."

Buffalo, N. Y., U.S.A.

1904

¹⁴¹⁹
1904

Twelfth Annual Catalogue

Mailed October 1st.

To the
Jewelry Trade only.

Uniformly
Low Prices.



TRADE MARK.

Among the vast number that are annually issued, there is always one that stands out above all others—

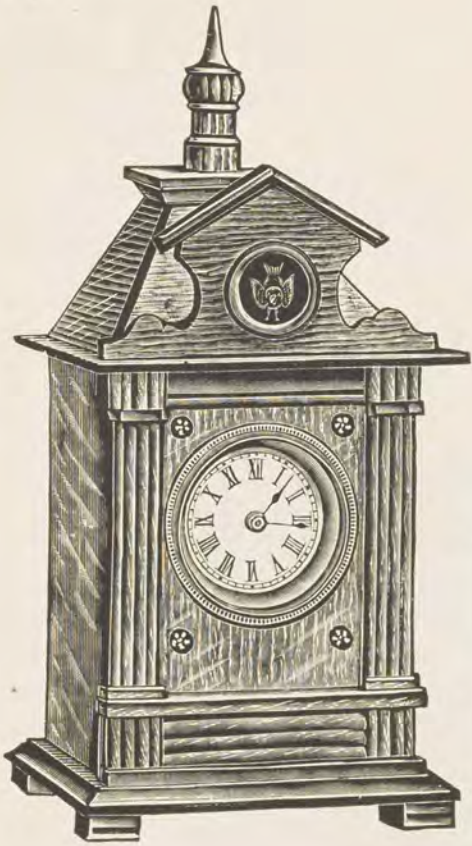
“THIS IS IT.”

St. Louis Clock & Silver Ware Co.

— Exclusively Wholesale —

616 Locust St.,

St. Louis, Mo.



Headquarters for Clocks

We are known among a large proportion of the trade of the Central West and the South as the leading clock house in that territory. This year more than ever before do we merit this distinction. Our aggregation is the most comprehensive and varied ever shown—all styles, all makes, all sizes—our line of novelties being especially strong.

We illustrate herewith several patterns of the popular-selling Grandfather's Clocks in imitation of the regular old-time "Grandfather's Clocks," which come in hangers and standards; also we illustrate a quick-selling novelty in imported Cuckoo Clocks, 1 day, striking the hour and half-hours. No live jeweler's stock of clocks is quite complete without these novelties.

We buy with an accurate knowledge of the trade requirements; we sell with a thorough understanding of what the trade deem fair and liberal treatment. If you are purchasing clock stock, consult us first—it will save you time and money. Our situation makes us the natural supply center for the jewelers of the Central West and the South. No other house has such facilities for quick and economic clock distribution. When you deal with us you save in time, freight and price. Let us have a trial with your Fall clock orders.

Is your name on our mailing list for our New Fall Catalogue? It is if you received our last season's Catalogue, but if you did not the chances are that your name is not there. But we want it there, and if you will send us a postal request we will see that you get the handsomest and most up-to-date Jewelers' Catalogue issued, free of expense. Kindly send in your name. The new book will be out about October 1st.

ALBERT BROS.

Wholesale Jewelers and Importers,

N. E. Cor. 4th & Plum Streets,

Cincinnati, Ohio.



¶ Our low-priced steel spectacles
lead the world.

¶ Send for descriptive catalogue.

¶ If your jobber cannot fill your
order, advise us so that we may
send you the names of jobbers in
your vicinity who carry our goods
in stock.




T. A. WILLSON & CO.
READING, PA., U. S. A.

Manufacturing Opticians.

Established 1870

PERFECTION



The "L. S. & Co." Chains are as perfect as the Venus de Milo itself. Perfection can't be attained in a day, a week or a month.

Perfection can only be reached by one continuous up-hill effort to excel—and it has taken over thirty years of patient toil to attain the perfection reached in "L. S. & Co." Chains.

Every "L. S. & Co." Chain that goes over your counter is a series of links that binds you to your customer's continued patronage.

"L. S. & Co." Chains are the great connecting links between custom obtained and retained. They bind the customer to the dealer—what better advertisement can there be than a pleased patron?

The public knows that an "L. S. & Co." chain is the best in the world—if you don't keep the best, how can you expect to please your customers?

Time now to think of your holiday supply of chains—and not only time to think but to order.

If you let the holiday season of 1903 go by without putting in a line of "L. S. & Co." chains you are going to lose a golden opportunity to win trade and make money.

Louis Stern & Co.,
Chainmakers & Silversmiths,
Providence, R. I., U.S.A.

A. G. SCHWAB ^{AND} BRO.

CINCINNATI.

Importers of **DIAMONDS**

Agents for

ELGIN AND WALTHAM MOVEMENTS.

Solid Gold and Gold Filled Cases.

Full Line of

Jewel Series Waltham } Complete Watches
00 Size = Elgin } in Gold Cases.

Smallest Watches made in

THE UNITED STATES.

Latest Designs in

Solid Gold and Gold-Plated Jewelry.



Hold-On Clutch For Scarf Pins

Advantages:

- 1—It Holds.
The harder you pull the pin the tighter the clutch holds.
- 2—Releases the Easiest.
Just pull the ball.
- 3—All One Piece.
No parts to lose.
- 4—Point of Pin Always Protected.
- 5—Also made to hold on any part of Scarf Pin.



"Hold-On" attached to Scarf Pin

To release, pull the ball

Made in Plate, Roman or Polished	\$ 3.00 dozen net.
Made in 10 K. Gold	21.00 dozen net.
Made in 14 K. Gold	24.00 dozen net.

IF YOUR JOBBER DON'T CARRY THEM, WRITE US.

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

1903

1423

No Well-Informed Jeweler

Doubts the desirability of

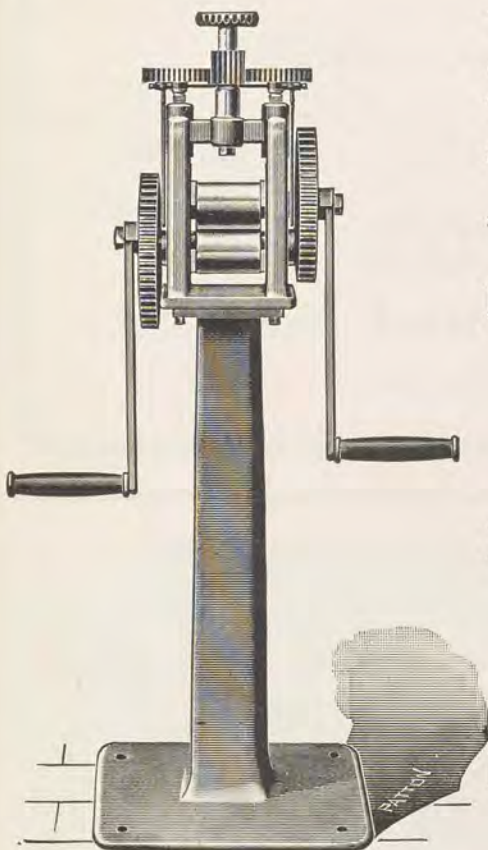
as a prominent part of his stock. They are always of standard quality and desirable styles at a price that affords the Retailer a good profit.

Don't wait for our travelers but order, for selection or otherwise, direct from



M. B. BRYANT & CO.,

7 Maiden Lane, NEW YORK.



We can furnish complete outfits of Machinery and Tools for the Manufacturing Jeweler.

Rolling Mills
(Hand or Power)

Drop Presses

Draw Benches

Bench Drills

Bench Shears

Turning Lathes

Polishing Machinery

The W. W. Oliver Mfg. Co., Manufacturers,

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

Illustrated Catalogue on application.

L. A. LITTLEFIELD,



Manufacturer of

**SILVER PLATE
SPECIALTIES**

Write for Catalogue.
Factory,
New Bedford, Mass.

"South Bend" Demagnetizers



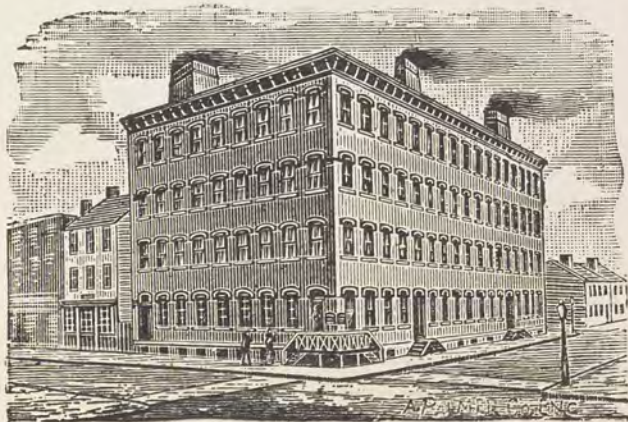
ORDER FROM
YOUR JOBBER.

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

Agents for England,
GRIMSHAW & BAXTER,
29 Goswell Road, London,
carry stock.

THE MILLER-KNOBLOCK ELECTRIC MFG. CO., South Bend, Ind.

L. LELONG & BROTHER



**Gold and Silver REFINERS, ASSAYERS and
SWEEP SMELTERS**

BULLION SOLICITED

SMELTING FOR
THE TRADE

SWEEPINGS
OUR SPECIALTY

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

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

Old Gold Wanted.

Send us a trial shipment of your Old Gold, Silver and Platinum. We will remit same day as received, and if remittance is not satisfactory we will return package at our expense.

We are also especially equipped for refining Jewelers' Sweeps and Filings.

SCHWITTER & KENNEDY,
Sweep Smelters and Assayers. 25 John Street, New York.

WORKS: 28-32 Cumberland Street, Brooklyn, N. Y.

By Steamer Deutschland. (Special.)



1/2 size.

Enameled Chatelaines, \$4 NET.

Gold Inlaid, . . . 4.75 NET.

including Leather Box and Pin to match.

Jeweled and thoroughly examined before shipment. Subject to return if not satisfactory.

Chicago,
405
Masonic Temple,
L. KATLINSKY.

L. Witsenhausen
37-39 Maiden Lane.
N.Y.

Be a GOOD  Engraver.

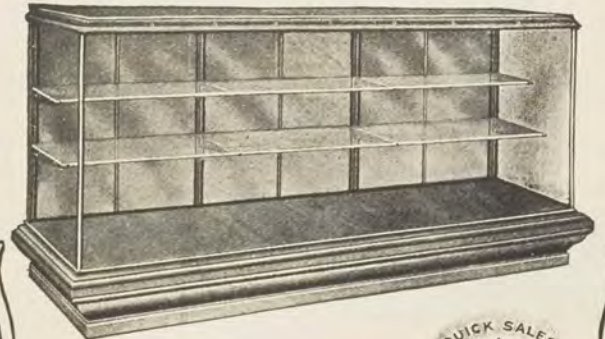
The Art of Engraving is taught in this school in the most thorough and practical manner. Everything connected with the school is the best—personal instructions, private tables, north light, located in the best building in the city. For Fourteen Years this school has been known to the trade as strictly high class. Our students and their work is our best advertisement. We are daily in receipt of letters asking for our students.

It pays to be a good **ENGRAVER**

REES ENGRAVING SCHOOL,

F. H. REES, Author of
"The Art of Engraving,"
Proprietor and Instructor.

Cor. of Lake and Market Streets,
ELMIRA, N.Y.



**KEEP UP
APPEARANCES.**



You can afford any kind of improvements rather than let it be said that your store looks "old-fashioned" and "out-of-date."

Every day we are renewing the youth of old stores by fitting them out with

"Quick Sales" SHOW CASES.

These cases are our idea of how a show case should be built, to attain the very height of stylish appearance, convenience and honest service.

And we ought to know; our factory is new, but has a man in charge who has made good show cases for over thirty years. All this experience goes into every case we turn out, making it the newest, handsomest and most satisfactory case you can buy.

Only first quality of materials are used.

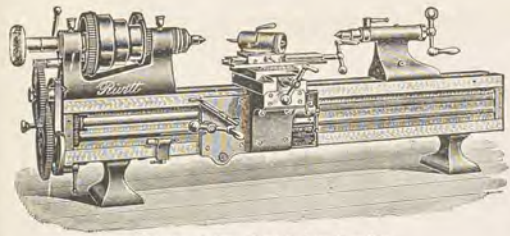
Designs and prices on request.

DETROIT SHOW CASE CO.

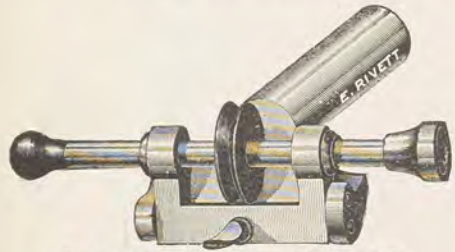
482-490 W. Fort St., DETROIT, MICH.

Canadian Branch, WINDSOR, ONT.

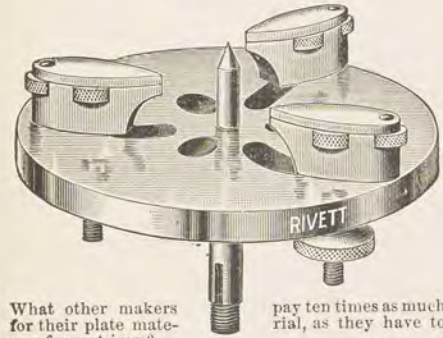
JOHN PETZ, Pres. and Supt.
HERBERT MALOTT, Secy. and Treas.



Rivett 8 in. Precision Lathe.



Rivett Pivot Polisher. Price, \$13.00.
Costs much less; does much more work.



What other makers pay ten times as much for their plate material, as they have to pay for cast-iron?
Universal Face Plate.
Made only with Solid Nickel Plate.
Price, with Patent Jaws, \$14.00.
" " Plain Jaws, 9.00.

The "RIVETT" lathe is in every first-class School.

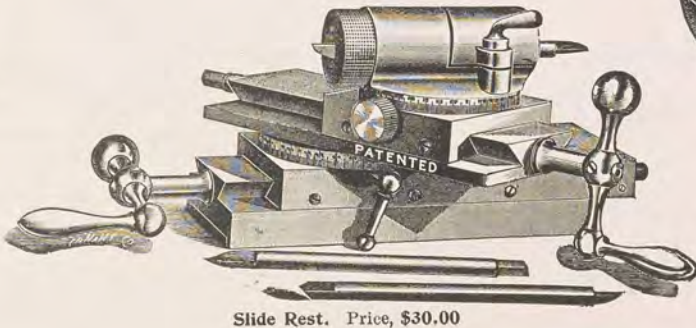
Students who are contemplating entering a Horological School should investigate as to the tools they use.

"A good workman is known by his tools."

And a good school, and a good teacher are also known by the tools they use.

Investigate. Send for catalog.

Faneuil Watch Tool Co.,
Brighton, Boston, Mass., U.S.A.

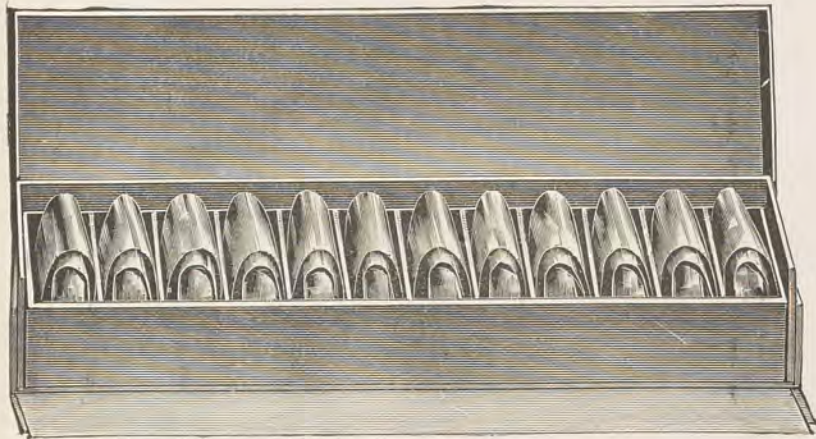


Slide Rest. Price, \$30.00



The Rivett Staking Tool.

Only one quality.
We do not make any cheap tools.



The Best is the Cheapest.

Expert Watchmakers state that the

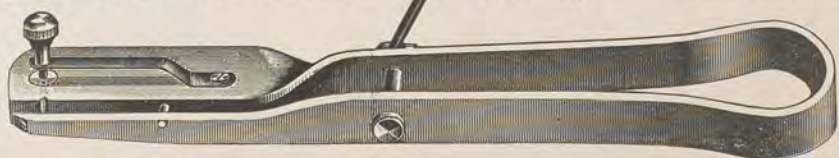
"Lafayette Mainspring"

is the Acme of Perfection. Its advantages above other Springs in the market are manifold; we name half a dozen:

- 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 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 a time is avoided.
- 6th.—The finish of the "Lafayette Spring" is, like its quality, superior to any in the market.

Write your Jobber for a sample to convince yourself of the above facts.

The New Waltham Ruby Pin Setter



DIRECTIONS:—Open Tweezer by means of the lever, and place Roller Jewel in V slot with the flat face out, leaving a small end of the Jewel project above the tweezer. Now place the Roller so the projecting end of the Jewel passes into the hole intended for it. Next place a small piece of Gum Shellac over the Jewel and heat gradually by holding above the flame of alcohol lamp.

Henry Zimmern & Co.

Importers of WATCH MATERIALS, TOOLS, SILK GUARDS and OPTICAL GOODS,

47 Maiden Lane, New York.

USED and RECOMMENDED by all the Leading HOROLOGICAL SCHOOLS.

Clement Combined Lathe Attachment

(For Watchmakers.)

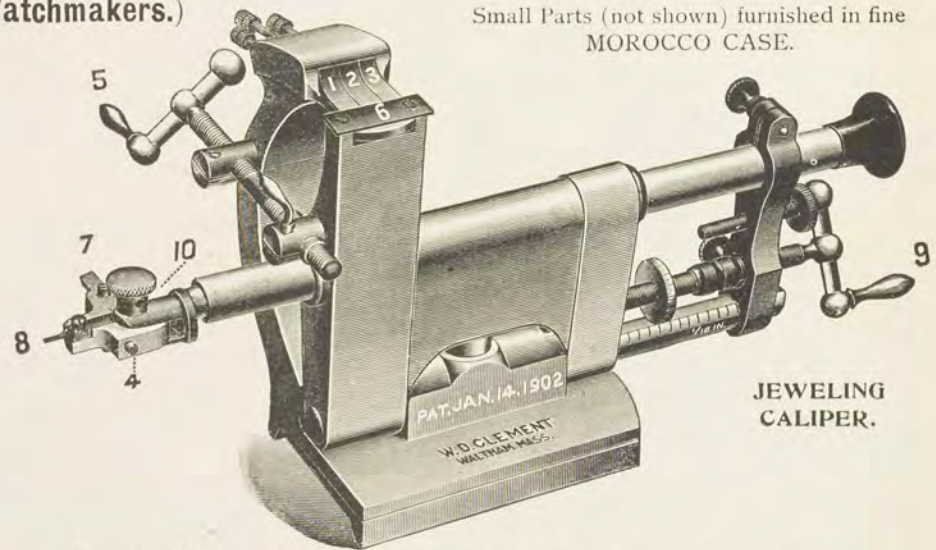
Small Parts (not shown) furnished in fine MOROCCO CASE.

REPLACING

- 1.—Plain Tailstock.
- 2.—Screw Tailstock.
- 3.—Swing Rest.
- 4.—Slide Rest.
- 5.—Pivot Polisher.
- 6.—Filing Fixture.
- 7.—Rounding-up Tool.
- 8.—Milling Fixture.
- 9.—Rusty Pinion Polisher.
- 10.—Profiling Fixture.
- 11.—Turret Head.
- 12.—Table Rest.

And beside, it has thirty new and distinct features.

NOW MADE VERY STRONG.



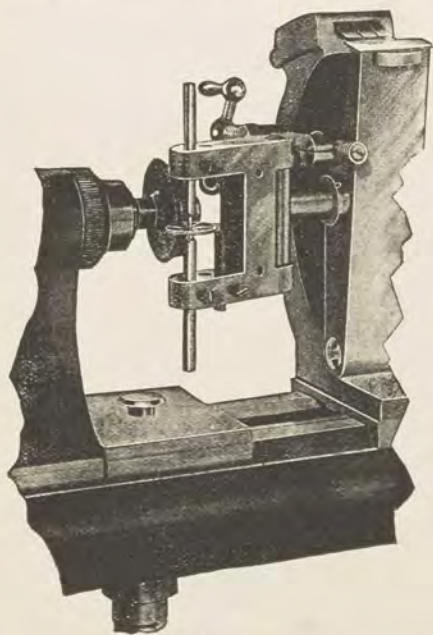
Jewelry Caliper Alone has 10 Important Advantages over any other make. Catalogue tells about them.

This Attachment Now Used in Every Part of the World.

We have a special department to furnish information free to all purchasers who are not familiar with lathe attachments.

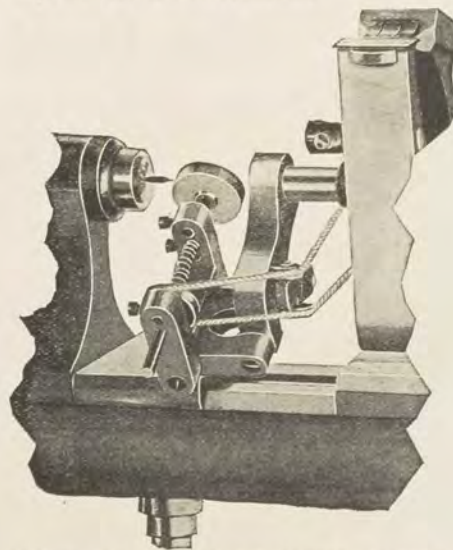
Pivot Polisher Arbor runs in very best hardened steel bearings.

ALL CUTTERS FITTING TURRET HEAD ALSO FIT MILLING AND PROFILING FIXTURE. One space in turret head takes Mascot drills. IN GETTING OUR ATTACHMENT, YOU NEED NO TAILSTOCK. We furnish a fine Morocco case to contain the small parts. EVERYTHING ABOUT THIS ATTACHMENT JUST AS ADVERTISED.



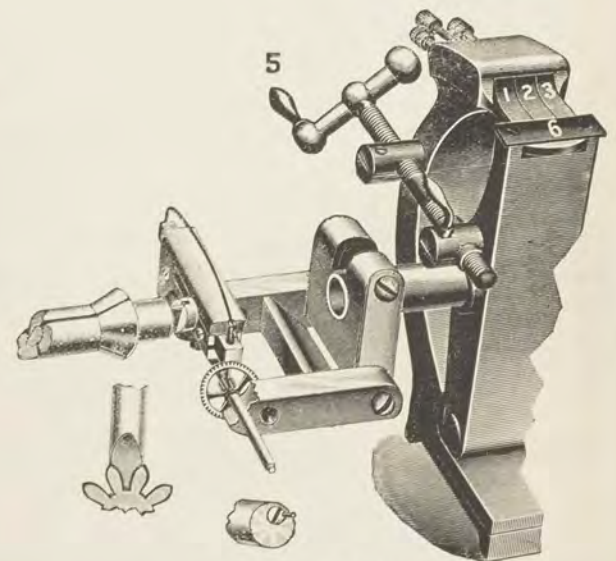
ROUNDING-UP TOOL.

Too well-known to require description.



PIVOT POLISHER AT RIGHT ANGLE OBLIQUE.

Pivot Polisher at right angles in such a position that the workman looks directly between the lap and the work. This position is strongly recommended by all who have seen it, especially by experienced pivot polishers. No overhead countershaft required.



PINION POLISHER.

For polishing rusty or new pinions. Not necessary to remove the wheel. It works like a charm. Is entirely new.

SEND FOR CATALOGUE, TESTIMONIALS AND SAMPLES OF WORK.

Price of Attachment, **\$40.00**, STRICTLY NET. SENT ON MEMORANDUM AT YOUR REQUEST.

Lack of space forbids further description or cuts of other fixtures.

W. D. CLEMENT, WALTHAM, MASS.

See March, April, May or June Numbers of THE KEYSTONE.

The Famous Line of Elk Goods Made By a Famous Elk Firm. 1427



4039 E.
Pat. May 27, '90.



4040 E.
Pat. May 27, '90.



4041 E.
Pat. May 27, '90.



4042 E.
Pat. May 27, '90.



4043 E.
Pat. May 27, '90.

LAPEL BUTTONS.

The above numbers are made in Solid Gold, Silver Oxidized and Gold Plated. Also with red or green stones set in neck.

FORGET-ME-NOT SERIES IN SOLID GOLD ONLY.

SOLID GOLD.



4080 E.
Pat. May 27, '90.



4081 E.
Pat. May 27, '90.



4082 E.
Pat. May 27, '90.



4083 E.
Pat. May 27, '90.



4092 E.
Pat. May 27, '90.



4093 E.
Pat. May 27, '90.

The Gustave Fox Co.,

MANUFACTURING
JEWELERS,

Cincinnati, Ohio.



4191 E.
Pat. May 27, '90.



4201 E.
Pat. May 27, '90.



4180 E.
Pat. May 27, '90.

Elk Tooth Charms.

Solid Gold.

EAGLE Jewelry Catalogue
and prices to the trade on
application.



Silver Cream Silver Polish.

THE STANDARD FOR THIRTY YEARS.

Since the day we made our debut we have had, in common with all concerns who have made headway in the commercial world, several competitors. Our name has been before the public for thirty years. No other concern in our line has had a like business career. A good many have passed out of existence, some to revive for short periods, others have gone for good. The reason for their interrupted business careers is not difficult to see. To you business men, it is not necessary to say our steady growth has been no game of chance.

Below we give a list of jobbers and manufacturers who sell Silver Cream, and who will be glad to receive your orders :

Albert Pfeifer & Bro., Little Rock, Ark.
Armer & Weinshenk, San Francisco.
Aurora Silver Plate Mfg. Co., Aurora, Ill.
Benj. Allen & Co., Chicago.
A. C. Becken, "
Calvin Clauer Co., "
H. F. Hahn & Co., "
C. H. Knights & Co., "
Lapp & Fliershem, "
Norris, Alister & Co., "
Henry Paulson & Co., "
J. H. Purdy & Co., "
E. Schwarz & Co., "
Swartzchild & Co., "
E. G. Webster & Son, "
Otto Young & Co., "
Rockford Silver Plate Co., Rockford, Ill.
S. T. Nichols & Co., Indianapolis, Ind.
Brinsmaid & Co., Des Moines, Iowa.
R. N. Bromley, "

The M. A. Lumbard Co., Des Moines,
Iowa.
T. R. J. Ayres & Son, Keokuk, Iowa.
Leonard Krower, New Orleans.
Woodman-Cook Co., Portland, Me.
Baltimore Watch & Jewelry Supply Co.,
Baltimore.
Kunz & Rogers, Detroit.
Noack & Gorenflo, "
Scribner & Loehr Co., Detroit.
F. L. Bosworth Co., Minneapolis.
S. H. Clausin & Co., "
Minneapolis Jewelry
Mfg. Co., "
Reed-Bennett Co., "
Sischo & Beard, St. Paul.
Edwards & Sloane Jewelry Co., Kansas
City, Mo.
C. B. Norton Jewelry Co., Kansas City,
Mo.

St. Louis Clock & Silver Ware Co., St.
Louis.
J. L. Teeters & Co., Lincoln, Nebr.
Sol. Bergman Jewelry Co., Omaha.
E. A. Dayton & Co., "
Reichenberg-Smith Co., "
John Ansteth, Buffalo.
King & Eisele, "
J. R. Stadlinger, "
Aikin-Lambert Jewelry Co., New York.
Cross & Beguelin, "
L. H. Keller & Co., "
S. F. Myers Co., "
Rosenzweig Bros., "
W. P. Hitchcock, Syracuse, N. Y.
A. H. Pond, "
M. S. Benedict Mfg. Co., East Syra-
cuse, N. Y.
Albert Bros., Cincinnati.

L. Gutmann & Sons, Cincinnati.
Joseph Mehmert, "
Miami Silver Co., "
A. & J. Plaut, "
E. & J. Swigart, "
Thoma Bros., "
Bowler & Burdick Co., Cleveland.
Scribner & Loehr Co., "
C. C. Sigler Co., "
Hofman Jewelry Co., Columbus, Ohio.
Jos. B. Bechtel & Co., Philadelphia.
S. R. Kamp & Co., "
M. Sickles & Sons, "
Geo. B. Barrett & Co., Pittsburg.
Emanuel Grafner & Co., "
Kingsbacher Bros., "
James Allan & Co., Charleston, S. C.
O. H. Bingenheimer, Milwaukee.
Reliance Mfg. Co., "

NEW YORK.

J. A. WRIGHT & CO., Keene, N. H.

LONDON.

MAINSPRINGS OF QUALITY

As a result of years of experience, of being constantly in touch with those who use and handle mainsprings, learning from their suggestions and profiting by their complaints, "Our Perfect" Mainspring was brought into existence.

To be deserving of this name a spring must be made of the **highest grade of steel**, it must be **finely and carefully finished**, **properly tempered** and **correctly gaged** according to the standard sizes of the respective makes. "Our Perfect" Mainsprings possess these qualities, and we submit them with our guarantee to the test of the most critical watchmaker.

Quality alone, however, counts for naught if the spring is not **properly protected against rust and unnecessary handling**.

We have secured this protection for "Our Perfect" springs. (Patent pending.)

Put up 1 dozen in a box, **each spring wrapped in oil paper** is placed **in an individual envelope** marked and labeled on the outside.

No gaging necessary, no guessing as to the contents, the selection is easily made, the useless handling avoided.

All grades and sizes for American watches carried in stock.

Each spring has the word "Our Perfect" scratched on the tip.

Give "Our Perfect" Mainsprings a trial and you will use no other.



Cut showing Box containing One Dozen Springs.

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



Cut showing individual Envelope containing 1 Mainspring.

SWARTCHILD & CO., Jewelers' Building,
134 and 136 Wabash Ave., **Chicago, Ill.**

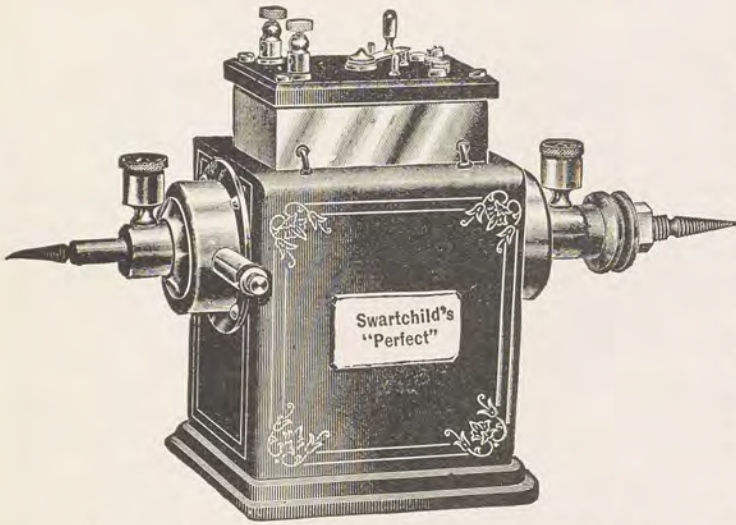
The Largest and Only Exclusive Watchmakers', Jewelers' and Engravers' Supply House in the United States.

Established 1870.



"Our Perfect" Electric Polishing Lathe Motors, 1429

For Both DIRECT and ALTERNATING Currents.



"Our Perfect" DIRECT-CURRENT Polishing Lathe Motor.

No. E 277. Price, \$30.00.

SIZE { Base of Motor, 6 $\frac{1}{4}$ x 5 $\frac{3}{4}$ inches.
Height of Motor, 9 inches.
From end to end of Mandrills, 19 inches.

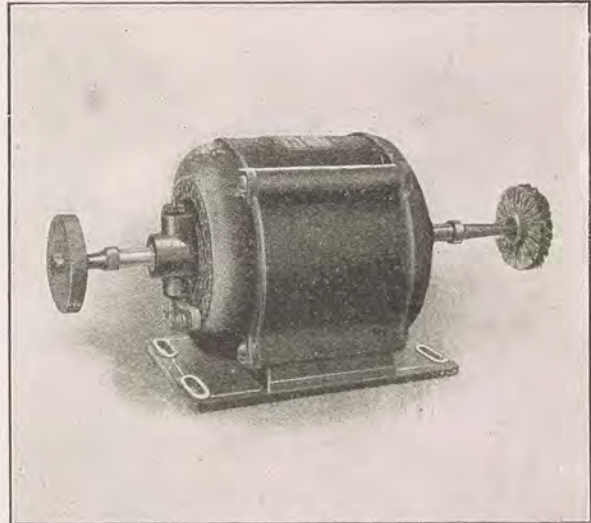
These motors are almost noiseless in operation, and entirely enclosed, thus preventing injury from dust and grit.

They are powerful and speedy, and are run by simple connection with an ordinary incandescent lamp socket. Are sufficiently heavy that it is unnecessary to fasten same.

Cost of running is little; current used is that of an ordinary lamp.

Further information cheerfully furnished upon application,

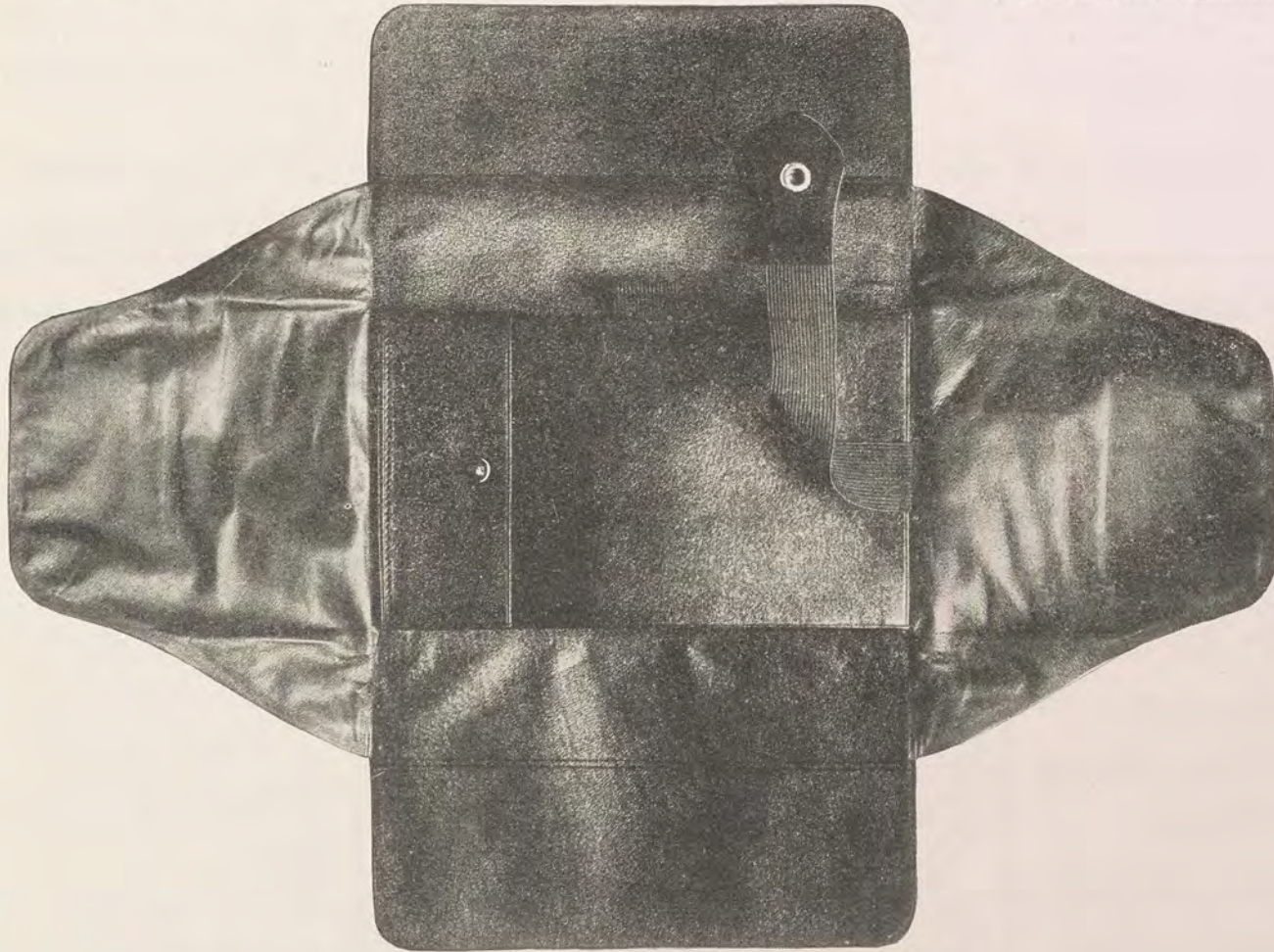
In ordering, state **voltage**, for **which current**, and if alternating current, how many alternations.



"Our Perfect" ALTERNATING-CURRENT Polishing Lathe Motor.

No. E 279. Price, \$32.00.

SIZE { Base of Motor, 7 $\frac{1}{4}$ x 5 $\frac{3}{4}$ inches.
Height of Motor, 6 $\frac{3}{8}$ inches.
From end to end of Mandrills, 19 inches.



Genuine Morocco WALLET.
FOR DIAMONDS AND OTHER PRECIOUS STONES.

Length, 7 inches; width, 4 $\frac{1}{4}$ inches. **Price, each, \$2.50.**

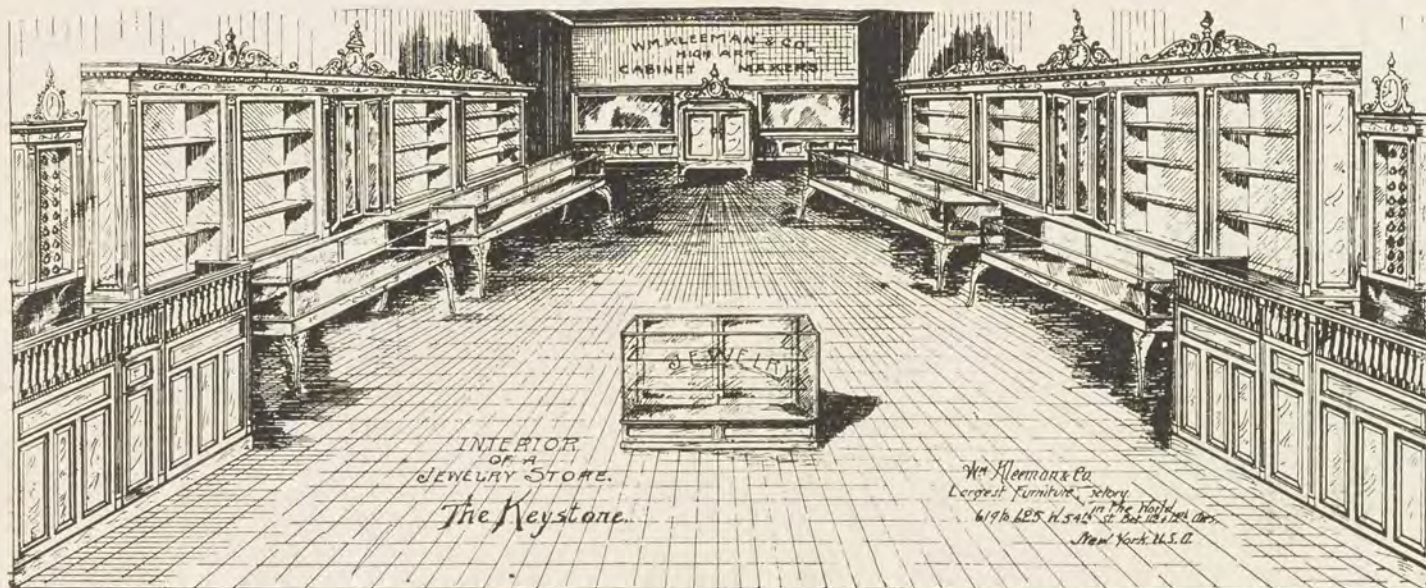
A complete line of Diamond Papers, Diamond Scales and Weights, Diamond Tweezers, etc., always carried in stock.

Swartchild & Company, Jewelers' Building,
134-136 Wabash Ave., **Chicago, Ill.**

THE ONLY EXCLUSIVE WATCHMAKERS' AND JEWELERS' SUPPLY HOUSE IN THE UNITED STATES.

RELIABILITY—THAT'S THE POINT

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



For 43 years **Wm. Kleeman & Co.** have held the record for **High Art Jewelers' Store Fixtures MADE TO ORDER**, from plans and specifications which they prepare through correspondence or personal interviews with their experienced traveling representatives.

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

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

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

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

WRITE US; WE'LL TELL YOU ALL ABOUT IT.

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

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

HEILAND, MEISKEY & COMPANY, IMPORTERS, MANUFACTURERS AND JOBBERS.

FINE TOOLS, MATERIALS AND SUPPLIES,

LANCASTER, PA., U.S.A.

YES, we do
Jewelry Repairing,
Engraving,
Gold and Silver Electro-
Plating,
Watch Case Repairing.

(Special Order Work.)

Send for Repair Price-List.

Old Gold and Silver
Bought.



We carry a full line of Genuine Main-springs and Materials for

WALTHAM, HAMILTON, ELGIN,
HAMPDEN, U. S. WALTHAM,
NEW ENGLAND, N. Y. STANDARD,
ROCKFORD, ILLINOIS, COLUMBUS,
TRENTON, SETH THOMAS
and KEYSTONE.

Our **MATERIAL DEPARTMENT** we now claim is second to none, and also claim to stand in the front for service, accuracy and promptness.

The same party who for years had full charge of the Bowman & Musser (and more recent Ezra F. Bowman & Co.) Material Department, is at the head of ours.

We also mount **Jewels** of any odd sizes, having a fully equipped Jewel factory. We also carry a full line of **Imitation Balance Staffs**, for all American movements, in the following grades, viz.: Gray, at **\$1.00 per dozen**; Polished Pivots, **\$1.25 dozen**; Polished entire, with Conical Pivots, **\$1.50 dozen.**

All orders will be filled in **Genuine Material** unless otherwise ordered.



"The proof of the pudding is the eating of it."



STORES USING

Our Window Reflector

Wm. Barthman, New York.
E. P. Sundberg, Fargo, N. Dak.
Lambert Bros., New York.
Shaw & Berry Co., Washington, D. C.
Lindo Bros., New York.
F. A. Robbins, Springfield, Mass.
Hight & Fairfield Co., Butte, Mont.
Bancroft Bros., Columbus, Ohio.
Schwartz Bros., New York.

And Scores of Others.

This proverb of Cervantes

finds repeated illustration in the store-lighting branch of our business. The development of modern mercantile business has resulted in the establishing of lines of stores under one management. In many instances we have had opportunity to install our special show window reflector in one of several stores owned by one concern; contracts for lighting the other stores have followed. A few examples are Browning, King & Co., Hackett, Carhart & Co., Rogers, Peet & Co., The May Co., The Besse Syndicate and F. W. Woolworth (34 stores). A few prominent stores using Frink Reflectors are: R. H. Macy & Co., Simpson-Crawford Co., Jno. Wanamaker, Saks & Co., Lord & Taylor, New York City; Gimbel Bros., Philadelphia and Milwaukee; Paxton & White, Duluth. Hundreds of references to prove the absolute superiority of our system of window lighting.

This is merely to interest you in investigating, specification will surely follow.

I. P. Frink, 551 Pearl St., New York

STORES USING

Our Window Reflector

Marcus & Co., New York.
J. S. Lewis & Co., Ogden, Utah.
Chapman & Jakeman, Norfolk.
Goodman Bros., Columbus, Ohio.
Muehert & Cook, Sherman, Texas.
Simons & Co., New Haven, Conn.
Hamman & Koch, New York.
Castleberg, Washington, D. C.
Littles, New York.

And Scores of Others.

Ezra F. Bowman's Sons,

LANCASTER, PA.

Headquarters for Watchmakers' and Engravers' Tools and Supplies.

Largest stock of all makes of Lathes and Attachments.

Special manufacturer's agents RIVETT LATHES and TOOLS.

(Catalogue free)

Send for our large Repairing and Engraving Price-List.

IT COSTS ONLY

from ONE to TWO CENTS per HOUR to operate this MOTOR.

RUNS ON DRY BATTERIES.

Invaluable for Jewelers' lathes on account of its cheapness and reliability.

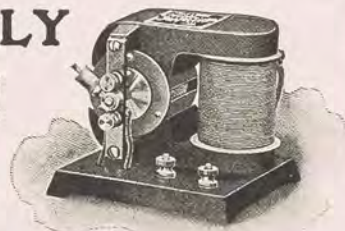
Powerful & Strong & Durable.

REMEMBER it runs on dry batteries, which makes its operation cost the least, avoids acid fumes and danger of spilling.

Price, \$9.00. Liberal Discount to Jewelry Trade.
With full set batteries in case, \$19.00.

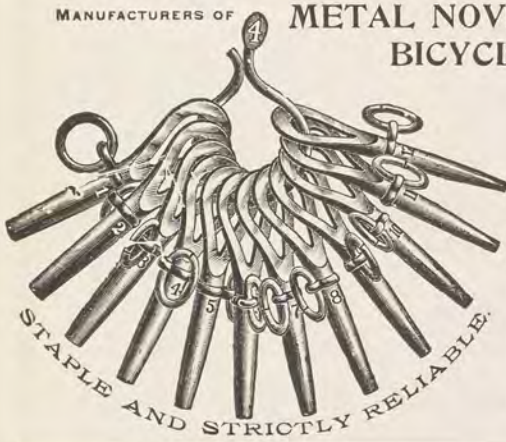
Send for circular.

J. JONES & SON, 64 Cortlandt St., New York.



A. N. CLARK & SON, Plainville, Conn.

MANUFACTURERS OF METAL NOVELTIES, BICYCLE SUNDRIES and CLARK'S CELEBRATED LOOP WATCH KEYS.



Order Keys through your jobber, who will furnish them at our price.

J. H. Walbridge & Co., 337 Broadway, New York City, agents for Tweezers, Manicures, Key Rings, etc.

Stevens & Co., 99 Chambers St., New York, agents for Bicycle Sundries.



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



ELKS' BUTTON. (Side.) Pat'd.



TIGER CLAW RING. Solid Gold. Pat'd.



TIGER CLAW RING. Side View.



MONKEY RING. Solid Silver, Oxidized.

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

Ikko Matsumoto,
Rooms 1, 2 and 3, 17 1/2 S. Meridian St.

Manufacturing Jeweler, Indianapolis, Ind.

WE MAKE A SPECIALTY OF

CLOCK MATERIAL

and of WHEEL CUTTING and MAKING PARTS TO ORDER.

MAIL ORDERS Filled Promptly.

We keep in stock

English
German
Seth Thomas

Hall Clock
Movements

G. S. LOVELL CLOCK CO.

MANUFACTURERS' AGENTS,

18 South Tenth Street, Philadelphia.

WE BUY AND SELL and you can save money "coming and going."

WE BUY

every form of Old Gold and Silver—filings, polishings, sweeps, hand-washings, etc., as well as old metal taken by the jeweler in exchanges—watch cases, silverware, jewelry, etc. We make *accurate* valuations of same and hold the shipment subject to your acceptance of our offer. If accepted, we send you check, or draft, or cash (as you may choose) *at once* for Old Gold or Silver Scrap; the day after, for Filings and Bench Brushings;

in from three to six days for Sweeps and Handwashings, depending upon the quantity. And you get the *exact* value of your shipment.

WE SELL

the various qualities of Gold, Silver and Platinum, either rolled flat or drawn to wire of any gage. Our prices of Fine Gold are as follows:

10 K.,	48c.	per dwt.
12 K.,	56c.	" "
14 K.,	64c.	" "
16 K.,	72c.	" "
18 K.,	80c.	" "

We make Gold and Silver Solder, either from formulas furnished or from our own formulas, as desired. "T. B. H." Alloy is 25c. per oz. Guinea Gold, 75c. per lb. Shot Copper, 40c. per lb., etc.

We furnish tables for Alloying without charge. They will save you figuring.

We have unsurpassed facilities for smelting ores or residues of any kind that contain Gold, Silver or Lead by the most modern and economical metallurgical methods.

Works:
Riverside,
New Jersey.

T. B. Hagstoz Co., Ltd.,
Smelters, Assayers and Refiners.

Office:
709 Sansom St.,
Philadelphia.



Perfection,
No. 202.



No. 203.
Perfection Milling Tools.
Vermilionwood Boxes.



No. 310.
IMPROVED SENSIBLE HAND REMOVER.



No. 94. NEW CASE OPENER.

REFUSE IMITATIONS.

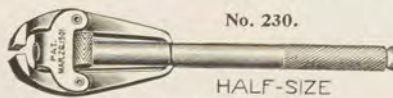
All of our tools are stamped **K. & D.**
There are no others "just as good."

K. & D.



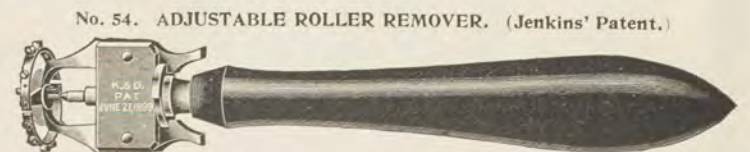
No. 100. Ring Cutter.

The Standard of Excellence for Twenty Years.



No. 230.
HALF-SIZE
Kreider's One-Hand Pin Vise.
Quickest Operating.
Strongest Grip.

K. & D.



No. 54. ADJUSTABLE ROLLER REMOVER. (Jenkins' Patent.)
This Tool will remove all sizes of rollers, either single or double, without injury to either Pivot or Roller Jewel.



No. 139.
New Nine-Prong Sleeve Wrench.



No. 36 B
Jewel Size
Roller Stump.



No. 36 C
New Pinion Stump.

FOR SALE BY THE TRADE.

Kendrick & Davis, Lebanon, N.H.

If your dealer will not supply K. & D. Tools, order direct.



Ask Your Jobber For

Wightman & Hough Co.

LOCKETS

Acknowledged Everywhere to be the

Standard Article

Look for Trade-Mark:



Illustrated Booklet will be mailed upon request.

DO NOT READ THIS
IF YOU ARE IN LOVE
WITH MISS HIGH PRICE
OR ENGAGED
TO MISS OLD STYLE.

These two ladies are not very favorably disposed toward us, as we refused to employ them; and they were forced to seek employment with some of our competitors. We carry a line of 1000 different styles of 10 K. solid gold, stone-set rings, and advance two weighty reasons why it will pay you to write for a memorandum package; we pay express charges both ways and give you January 1st, 1904, terms on all goods selected.

1. We size and replace all sets, except diamonds, up to two years after you have sold them.
2. We exchange any unsalable rings for any kind of gents' or ladies' stone-set rings at any time.

Write us to-day and be convinced.

The Queen City Ring Mfg. Co.
 31 Builders' Exchange, Buffalo, N. Y.

ESTABLISHED 1839.



Crouch & Fitzgerald,
Jewelry Sample Trunks and Cases.

Extra Deep Trunks and Cases Always in Stock.
 161 Broadway, 688 Broadway, 723 Sixth Avenue,
 Below Cortlandt Below Fourth Between 41st and
 Street. Street. Streets.
NEW YORK.



EDWARD E. GNICHTEL
BRUSHES
 NEWARK, N. J.
 12 GREEN STREET
 POLISHING SET COMPLETE, \$2.00. PREPAID
 COTTON, BRISTLE AND FELT WATCH CASE BUFFS
 FELT AND COTTON RING BUFFS
 BRISTLE WASH AND END BRUSHES
 FELT AND COTTON BUFFS
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 SATISFACTION GUARANTEED OR MONEY REFUNDED

When writing to advertisers, kindly mention The Keystone.

USE

Liquid Amber

THE BEST CEMENT ON THE MARKET.

SOLD BY EVERY MATERIAL DEALER IN AMERICA.

Price, 25 Cents.

We do **RELIABLE**
Silver-Plating
 and
Silverware
Repairing



Can this be Repaired?

Yes!

We Repair any article in the Silverware line, making new parts to match the old ones, broken or melted off, the same as new.
 We Replate any article you want in Gold, Silver, Nickel, Bronze, Brass, Oxidized Silver, Old Bronze, Statuary Bronze, and all the Antique or Old Finishes, etc.

Silverware Repaired and Replated. **Sercomb Company** 1429 Wabash Ave., CHICAGO.
 A. N. SPERRY, Manager.

AMERICAN HALL MARK

★ H & H

REGISTERED TRADE MARK



FOR CHAINS

★ H & H

REGISTERED TRADE MARK



The History of Gold Filled Chains

records that WE WERE THE FIRST who offered these goods under the name **GOLD FILLED**.

Ours is the credit not only of first using the name, but also of establishing the **HIGH QUALITY** which made the name respected and the trade-mark **★ H & H**, which has safeguarded the trade against those who would take advantage of the reputation which our product first built up for gold filled chains.

This record explains the loyalty of the jewelers, who recognize that in being loyal to us they are loyal to their own best interests. They honor the **★ H & H** trade-mark as their bulwark against imposition—the life and strength of the filled chain market.

A magnificent line of new designs for Fall trade is now ready. To buy chain stock without seeing these new patterns would be an irreparable blunder. Insist on being shown samples.



Hamilton & Hamilton, Jr.

Works, 7 Eddy Street, Providence, R. I.

NEW YORK OFFICE, 11 John Street.
CHICAGO OFFICE, Stewart Building.
SAN FRANCISCO OFFICE, Claus Spreckels Building.

★ H & H

REGISTERED TRADE MARK





AT HOLIDAY TIME

only the dealer who doesn't care a fig for popular demand will neglect to have a good assortment of Cuckoo Clocks. People who know what's what look upon them as particularly fine gift clocks and naturally expect to see them at first-rate stores.

And to us the greater proportion of jobbers and dealers in this country look for their supply because we have made the handling of Cuckoo Clocks much more satisfactory than it ever has been, as concerns certainty of quality and reliability, and because the sort of service we give can be had of no other concern in the world.

During the
Press of
Holiday
Selling

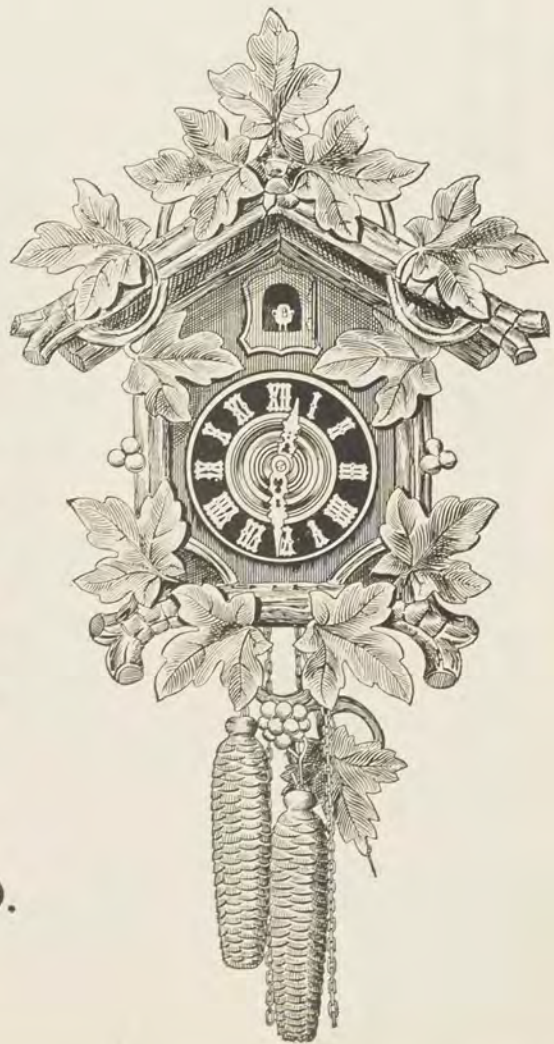
you can't afford to have any bother about getting your orders filled—you must have a sure source of supply.

Look at the designs we show on this page—new this season. These clocks look expensive but they aren't—just a clever arrangement of the designs to show what work and skill has been put into the carving. They illustrate what can be produced at a moderate price when you know how.

Send for catalog.

AMERICAN CUCKOO CLOCK CO.

PHILADELPHIA.



ONEIDA COMMUNITY ADVERTISEMENT ¹⁴³²

NOW APPEARING IN THE LEADING
OCTOBER MAGAZINES.

"Oneida Community Quality,"

Somewhere in your town, in a store you pass every day, someone is hoping

for a chance to show you Oneida Community Silver Plate table ware in solid silver effects. Wherever you live, whether your town is large or small, you will probably find Oneida Community Silverware easily, by asking for it.

The dealer put it in his stock because we showed him that Oneida Community Quality was higher, the Designs were more beautiful, and the Value better, than in other plated ware. We proved it.

And that dealer will be glad to prove to you all that we proved to him.

"ONEIDA COMMUNITY QUALITY" Silverware marks a distinct advance in the manufacture of plated ware. It possesses the art and finish of solid silver. It represents the truest economy.

The style and effect of the best "Sterling" is due largely to care in selecting the designs and outlines of the various pieces; also to the heavy ornaments and to the finish. Our Avalon pattern is the result of several years' careful study to reproduce these effects.

Each piece has been given as much individuality as possible, while conforming to the general character of the design. The ornamentation is rich and deep, and in both our French Gray and "bright" finishes the pieces have all the effect of solid silver.

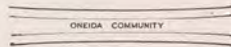
At the present price of silver, the heaviest plate is most economical. Triple plate will wear three times as long as single. The cost is by no means three times

as great, for the additional cost of triple plated ware over single is largely in the extra silver used, and the price of silver is so low that this is now only a small part of the manufacturing cost.

"Oneida Community Quality" Silverware is the first practical recognition of the drop in the price of silver. It has a plate heavier than triple (we call it "Triple-plus" and guarantee the wear for twenty-five years), and it is sold at the price of single plate, plus the present bullion value of the extra silver. Triple plate usually costs the consumer about double the price charged for ordinary plated ware—commonly called "Extra Plate," "A1 Plate," "Standard Plate." This price is now entirely out of proportion to the actual cost. "Oneida Community Quality" Silverware is made in "Triple-plus" plate only and gives the consumer the full benefit of this reduction in the price of silver.

In other words, "Oneida Community Quality," "Triple-Plus" silverware is guaranteed for twenty-five years—possesses the art and finish of the best sterling silver and is sold for almost the price of ordinary plate.

Every piece of genuine Oneida Community silver bears a tiny stamp, which reads



Look for it and protect yourself.

Your name on a postcard will bring a beautiful, illustrated brochure "About Oneida Community." To ensure attention, address Booklet Editor.

If you cannot find Oneida Community Silverware easily in stores, write to us, and without putting you under any obligation to buy, we will make it easy for you to see our silverware.

Even if you need only one spoon—one fork—or one knife, to fill in a gap in your table service—let that one piece be Oneida Community ware. It will be your best way to learn Oneida Com- munity Quality—and the beauty of Oneida Community designs.

Oneida Community, Limited
Oneida, N. Y., October 1903.

Our advertising campaign is drawing people into the retail stores with enquiries for "Oneida Community Quality" Silverware. Be sure you have some in stock.

THE CHIEF RING



should be in every
jewelers' stock.

By handling the "Chief" it is only necessary to carry six sizes of bands, and an assortment of initials and emblems, you can fit any customer.

The "Chief" is without doubt the best-selling ring ever offered the trade. It is patented by us and no other manufacturer can supply it.

You can exchange any band any time for any other size, or any initial or emblem for any design, all without charge (except postage), absolutely **NO CHANCE FOR DEAD STOCK HERE.**

We want every jeweler in the country to place them in stock.

We'll send them on for your inspection, at our expense, at once.

Examine them thoroughly, compare the designs with others in your stock.

Then if you don't believe you need "Chief" Rings in your business, send them back, we will stand the expense.

Price-List of the "Chief" Rings.

	Each.
Price for Ring with Plain Initial	\$4.25
" " Ring with Fancy Striped Red and Green Gold Initial	4.55
" " Ring with Rose Diamond Initial	7.50
" " Ring with Plain Emblem (any order)	4.25
" " Ring with Enamel Emblem (any order)	4.80
Chased Bands, extra	.35

Price on Ladies' Rings, 50 cts. less than Gentleman's size.

Prices given are for 10 K.
14 K., \$1.00 extra.

Prices less 6 per cent. for cash.

Weiss Jewelry Mfg. Co.

Globe-Democrat Building,

St. Louis, Mo.

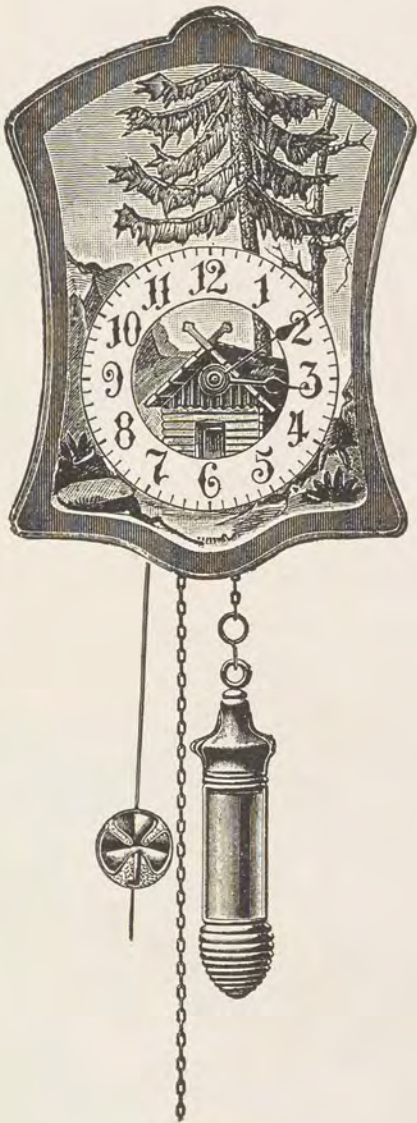


Francis J. Schuler

BE THE FIRST IN YOUR TOWN

To Introduce this Unique Special Feature for the Holiday Season

A CLEVER INVENTION.

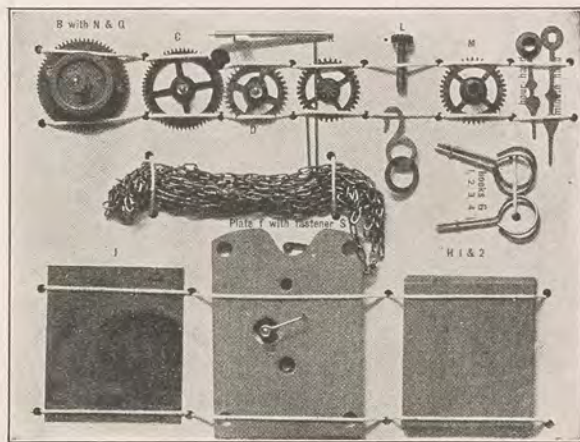


INTERESTING AND INSTRUCTIVE.



THE "TICK-TACK" NURSERY CLOCK

sells because of its simplicity—because of its novelty—because of its fascination—because of its utility—because of its attractive price. It is more than a toy; it is a real clock—but a child of ten can put it together. To do so unites the pleasure of a game with the instructiveness of mechanical construction. Pronounced "the best of all mechanical devices for children."



THE PARTS, all suitably designated by letters or numbers, are arranged on a card as shown above, and accompanied by full and simple directions. The whole comes carefully packed in a neat box of convenient size. The clock keeps absolutely accurate time. Well adapted to window display. Retail for \$1.50. Order from your **JOBBER** or direct from the importers.

SUSSFELD, LORSCH & Co.

37 and 39 Maiden Lane, New York.

Paris—21 Rue de l'Echiquier.

Bargains in Fine Porcelain Clocks

rich decorations, genuine Bonn Cases, decorated in rich colors floral designs, 8-day, 1/2-hour Gong Strike. Factory List Price, \$16.00. \$6.32, less 6 per cent. cash.

Our Price, \$5.95 Each, cash with order.



No. 101. LA RITA. Each, \$12.65.
Eight-Day Gong Strike, 5 in. Dial, Visible Escapement.
Height 11 1/2 in. Width 14 in.



No. 102. LA PALMA. Each, \$12.65.
Eight-Day Gong Strike, 5 in. Dial, Visible Escapement.
Height 11 1/2 in. Width 14 1/4 in.

VISIBLE ESCAPEMENT.



No. 103. LA VERGNE. Each, \$12.65.
Eight-Day Gong Strike, 5 in. Dial, Visible Escapement.
Height 12 1/8 in. Width 14 1/4 in.



No. 104. LA VINDA. Each, \$12.65.
Eight-Day Gong Strike, 5 in. Dial, Visible Escapement.
Height 12 1/8 in. Width 14 1/4 in.

Our new **1904 CATALOGUE**, JUST OUT, contains the latest and best in such lines of goods as are in demand and most salable. **OUR PRICES** on Gold Filled and Rolled-Plate Chains, Gold and Plated Jewelry, Gold Set Rings, Emblem Goods in all styles, are from 5 to 15 per cent. less than other lines shown.

NORRIS, ALISTER & CO.

Sent exclusively to Jewelers and firms having a watchmaker in their employ.

134-36 Wabash Ave., CHICAGO, ILL.

WHY

should any retail jeweler spend a moment's time and the cost of a postal card, to ask for Oskamp, Nolting & Company's New Fall Catalogue?

BECAUSE

it is a Catalogue crowded from cover to cover, not with cheap goods, but with dependable merchandise truthfully and fully described—each line starting with the smallest-cost article that will give satisfaction.

BECAUSE

it is a Catalogue that shows all the new things in Jewelry, Novelties, Sterling Silver, Cut Glass, Silver Hollowware, Silver Flatware, Clocks, Umbrellas and Canes—the latest and best in all these lines.

BECAUSE

it is a Catalogue that will show the complete lines of movements made by the Elgin, Waltham, New England, New York Standard and United States Watch Companies, and a full line of the standard makes of Solid Gold and Gold Filled Cases.

BECAUSE

it is a Catalogue that will prove a time and money saver to you. It will likewise prove a ready, handy reference book of what all goods are—what they should be and what they should cost. It lists, illustrates and prices the widest range of goods handled by the retail jeweler.

In fact, it is a Catalogue that will save you money in more ways than one. You are welcome to a copy if you will ask us for it. Remember also that we have a complete optical plant and that we have recently issued a new optical catalogue, which is yours for the asking.

Oskamp, Nolting & Company,

413, 415 and 417 Elm Street,

Cincinnati, Ohio.



DIAMONDS

Any way you want them, **LOOSE** or **MOUNTED**.

When you wish to show your customer the best Diamond that can be produced for the price he wants to pay, send to us for a selection of **Loose** or **Mounted** goods on memorandum and never miss a sale. Every order receives our personal attention.

A. C. BARD & CO.,

IMPORTERS AND CUTTERS,

103 State Street, Chicago, Ill.

LEARN ENGRAVING AT HOME

You can teach yourself with our home **COMPLETE COURSE OF INSTRUCTION** that of script, roman, block, old English and mented monograms on jewelry, silverware, and fifty "tricks of the trade" that save four sharpened engraving tools, leather pad, metal plates, rings and thimbles, for prac-



instructor. We will send you **A COM-** explains, with illustrations, the engraving fancy lettering; script, ribbon and orna- etc.; seals, coffin plates, souvenir novelties time and money—together with a set of oil-stone, dividers, marking compound, tice, for only

FIVE

DOLLARS

You can learn to engrave script letters per day according to our instructions. We from jewelers and watchmakers who have course is the work of an expert engraver at

in two weeks if you will practice two hours will be pleased to send you copies of letters learned engraving from our course. This the head of a large New York engraving shop.

AMERICAN SCHOOL OF ENGRAVING,

Jewelers visiting New York are cordially invited to call and examine outfit.

30 EAST 14TH STREET,
NEW YORK, N. Y.,
U.S.A.



Miniature Portraits

on **WATCHES, DIALS, BROOCHES** and **LOCKETS**.

Our work will not fade or peel off.

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Engraving and Etching

Portraits, Views of Buildings and Landscapes, Inscriptions in Ornamental Raised Letters, Emblems, Club and Heraldic Devices, and Autographs

On Souvenir Spoons, Prize Cups for Regattas, Tennis and Bowling Tournaments, and other sporting events.



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C. F. RUMPP & SONS,

ESTABLISHED 1850.

Manufacturers of

FINE LEATHER GOODS,

POCKET BOOKS, CARD CASES, CIGAR CASES,
PHOTO. FRAMES, JEWEL BOXES, WRITING CASES, &c., &c.

Special Lines adapted to the **Jewelry Trade**

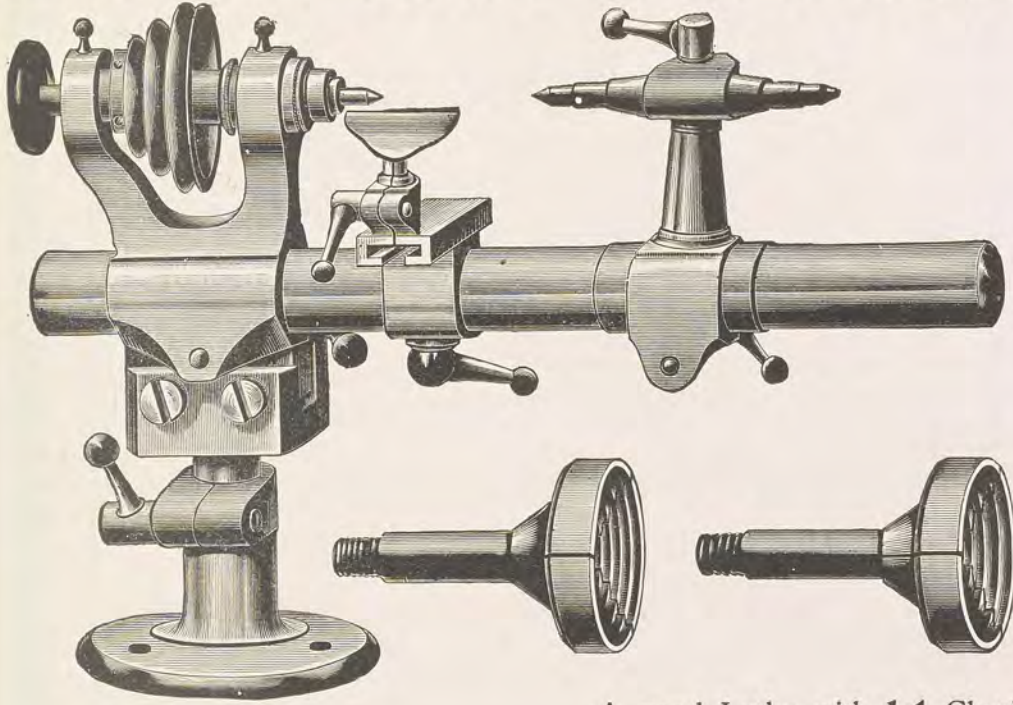
Fifth and Cherry Streets, **Philadelphia.**



DRESSING CASES.

New York Salesroom,
683 and 685 Broadway.

A NEW AND IMPORTANT FEATURE.



Jos. B. Bechtel & Co.

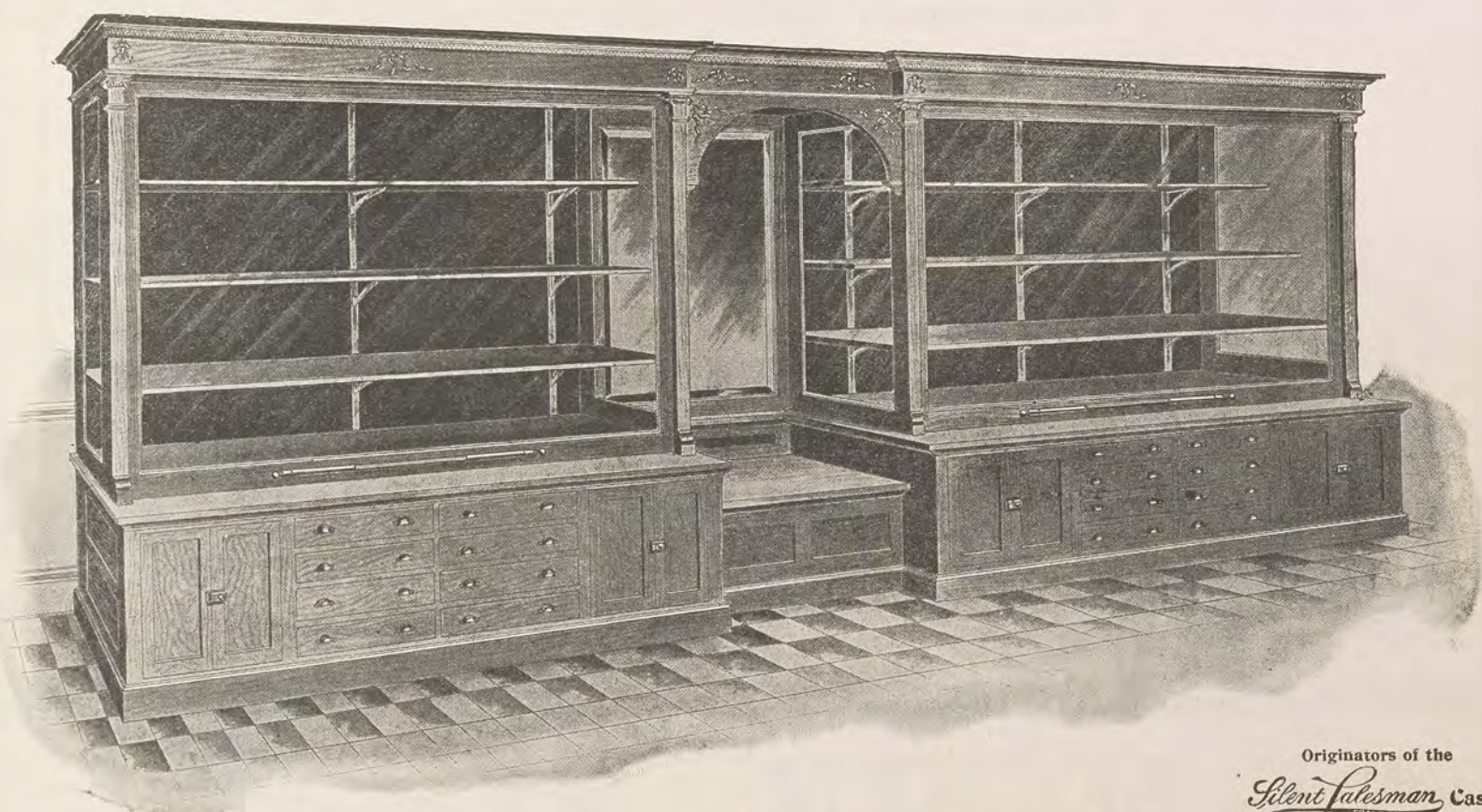
725 Sansom St.,
Philadelphia, Pa.

A good Lathe with 14 Chucks,

Interchangeable with Webster-Whitcomb,

and also taking Genuine Chucks.

The great advantage of this is obvious either to a beginner or an old hand.



Originators of the
Silent Salesman Cases.
TRADE MARK

The stamp *Silent Salesman*
TRADE MARK

on a show-case like the stamp "Sterling" on silver has the same intrinsic value the world over.

John Phillips & Co., Ltd.,

DETROIT, MICH. Mfrs. of Jewelers' Fixtures, Cases, Etc. WINDSOR, ONT.
Established 1864. WRITE FOR CATALOGUE.

Do you want this book?

Our New Fall Catalogue—700 pages—is worth writing for if you have not one already. You can't afford to be without it, for the reason that it depends on its prices, high-grade, reliable merchandise, prompt shipments and honest dealings to hold your business.

You can't afford to be without it, because it is a reliable hand-book, that will keep you thoroughly posted on up-to-date goods at correct prices.

You can't afford to be without it, because it is strictly a busy man's catalogue, short, to the point and conclusive.

You can't afford to be without it, because it will keep you in touch with the wonderful progress we are making, which is ample evidence that our methods are thoroughly in harmony with legitimate commercial tactics.

Our New Catalogue is sent free of charge to all regular jewelers just for the asking. Write for one to-day.

A. C. BECKEN,
The Chicago Wholesale Jeweler.

156 Wabash Avenue,
Chicago.

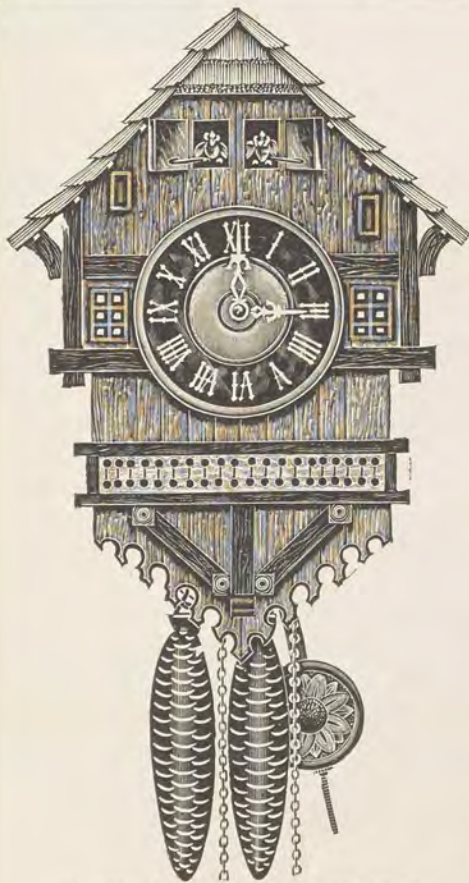
OUR FALL STOCK

is now ready for inspection. In anticipating the wants of the retail trade for this fall, our purchases have been larger than ever before, and we are prepared to prove our claims that we have made extraordinary preparations to take care of the retail jewelers' wants this season. We are particularly strong in Elgin, Waltham, Hamilton and New England Watches, and the standard makes of Gold and Filled Cases. We are headquarters for the popular selling *Four Hundred Day Clocks*, and are showing several new styles at proper prices. Our lines of Pairpoint Silverware, Mt. Washington Cut Glass and a general line of Jewelry, are also most attractive. When you come to the Chicago market we invite you to call—we will make you welcome whether you buy or not.

STEIN & ELLBOGEN COMPANY,

Wholesale Jewelers and Diamond Cutters,

Columbus Memorial Building, CHICAGO.



No. 150. CUCKOO AND QUAIL CLOCK.

This is a new style movement, both birds—the Cuckoo and Quail—appear at the same time and call the time combined at the half-hour.

The case represents an old-style Black Forest Cottage, with an imitation straw roof, made out of wood.

Hand-Carved Genuine

BLACK FOREST

Cuckoo, Quail and Cuckoo, Trumpeter, Musical, Miniature, Traveling and Novelty

CLOCKS



400-Day Clocks, Barometers.

BUY OF YOUR JOBBER.

GEO. KUEHL & CO.

178 East Randolph Street,

Manufacturers and Importers of
CUCKOO CLOCKS. Chicago, Ill.

*These Clocks are Supplied Through
Jobbers Only.*



No. 67.
CUCKOO
CLOCK.

A new design,
in solid walnut
or oak case.
Height, 23 in.
Width, 14 in.



Price, \$ 1.00 Dozen.
" 10.50 Gross.



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

High-Quality, Low-Price Material

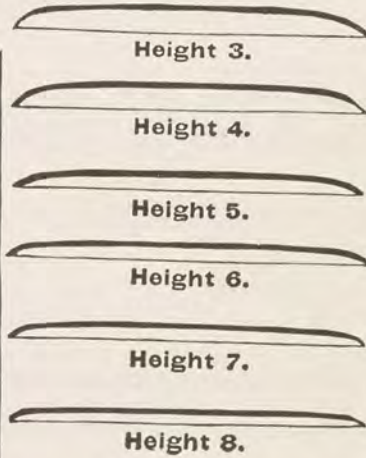


Price, \$.15 Dozen.
" 1.50 Gross.

WATCH MATERIAL and WATCH GLASSES



Price, \$.75 Dozen.
" 7.50 Gross.



Fac-Simile of Our Label.



PRICE-LIST	Genevas,	\$2.00 per gross.	Patent Genevas,	\$4.50 per gross.
	Thick Mi-Concaves,	2.75 " "	Extra Thick Mi-Concaves,	5.50 " "
	Parallels,	4.50 " "	Lentilles,	7.50 " "
	Flat Lunettes,	1.50 " "	High Lunettes,	1.50 " "

Orders for less than 1/2 gross will be charged at dozen price. BLANK ORDER SHEETS SENT UPON APPLICATION.

CASH DISCOUNT, 6 PER CENT.



Price, \$.75 Dozen.
" 7.50 Gross.

Cross & Beguelin,

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

17 Maiden Lane, New York.

LON BARNHART, Springfield, Ohio.
Manufacturer of Fine
Watch, Spectacle
and Ring **SIGNS**
Durable, Elegant and Attractive.
BEST SIGNS ON EARTH.
Send for Catalogue

G. F. Wadsworth
Watch Case
Manufacturer
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Repairer
Everything in
the line of
Watch Case
Repairing,
Gold and
Silver Plating,
Satin Finish,
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Engine-
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Changing Old
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Cases to take
American S. W.
Movements my
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OLD CASES
MADE NEW.
Silversmiths'
Building,
131-137
Wabash Ave.,
CHICAGO.

"SIMMONS"
"STURDY"



AND
The Seamless Wire Mfg. Co.'s
CHAINS

Are as HANDSOME as all-gold, WEAR for years of hard service, and are ABSOLUTELY GUARANTEED. Liberal selection package, at the lowest prices consistent with quality and honest business methods.

L. Witsenhausen
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N.Y.
Chicago, 405 Masonic Temple, L. Katlinsky.

HAIR CHAINS AND RING BRAIDS
MATCHED AND MADE TO ORDER
GEO. SIEGFRIED,
78 STATE STREET, CHICAGO
NO FOR ILLUSTRATED PRICE LIST



The Only Collar Button
that makes a man happy. Easily adjusted, never cuts the button hole.

The Only Button
for the use of celluloid and rubber collars. Made in two qualities,
R. P. Gold and Silver.

All Jobbers handle them. If your Jobber does not, send to us and we will give you the names of those who do. It is the interest of every Jeweler to send for our proposition.

O. W. YOUNG & CO.,
126 State Street, Chicago,
MANUFACTURERS.

The Crohn Patent Safety Guard.

For Scarf Pins, Studs and Lace Pins. The most practical and only adjustable one invented. Price, \$1.50 per doz. For sale by all wholesale jewelers and material houses. Sample by mail, 25c; in 10 K. gold, 75c; 4 K., \$1.00. **M. CROHN, Mkr. & Invtr., 48*50 Maiden Lane, N.Y.**

R. J. HILLINGER & CO.,
Silversmiths' Building,
CHICAGO, ILL.

Manufacturers of
Silk Guards,
Vest Chains,
Silk
Eyeglass Cords
and
EXCELLO
Fountain Pens.

194 Broadway, New York.
Ask your jobber for the R. J. HILLINGER & CO. SILK GUARDS.
Ask your jobber for the ALMA SILK GUARD.

In This Age of Artistic Development

wherein chaste and beautiful jewelry are so easily obtained from our enormous stocks, why will any jeweler buy his supplies anywhere else? Hundreds, thousands have joined our ranks. We have ideas for hundreds more **if you will order early.** We cannot possibly supply all demands toward the last end of the season. Do you wish to see our salesmen? Can you call at our office?

BROOCHES <i>FOURTEEN KARAT AND SOLID GOLD LATEST DESIGNS EXTRA FINE FINISH SET WITH DIAMONDS, OPALS, PEARLS AND COLORED STONES. ILLUSTRATIONS FULL SIZE.</i>									
B360 <small>REAL PEARLS.</small> 24 ⁰⁰ ea.	B507 <small>REAL PEARLS. 14 K. 17.10 G.</small> 15 ⁰⁰ ea.	B483 <small>REAL PEARLS.</small> 9 ⁵⁰ ea.	B434 <small>ROSE FINISH FINE OPAL.</small> 5 ⁰⁰ ea.	B432 <small>31 REAL PEARLS.</small> 12 ⁰⁰ ea.	B306 <small>7 FINE OPALS. 30 PEARLS.</small> 13 ⁰⁰ ea.	B511 <small>ROSE FINISH. CHAT. HOOK.</small> 5 ⁵⁰ ea.	B502 <small>REAL PEARLS.</small> 9 ⁰⁰ ea.	B223 <small>PEARLS. 1 RUBY DOUBLET.</small> 5 ⁰⁰ ea.	B449 <small>REAL PEARLS. 1 ALMADINE.</small> 9 ⁰⁰ ea.
B497 <small>REAL PEARLS.</small> 19 ⁰⁰ ea.	B508 <small>REAL PEARLS. ROSE FINISH.</small> 12 ⁰⁰ ea.	B198 <small>REAL PEARLS.</small> 12 ⁰⁰ ea.	B421 <small>PEARLS. 1 RUBY DOUBLET.</small> 12 ⁰⁰ ea.	B431 <small>REAL PEARLS. 1 ALMADINE.</small> 12 ⁰⁰ ea.	B381 <small>24 PEARLS. 9 RUBY DOUBLETS.</small> 5 ⁵⁰ ea.	B327 <small>1 DIA. FINE OPALS. PEARLS.</small> 12 ⁰⁰ ea.	B509 <small>REAL PEARLS.</small> 12 ⁰⁰ ea.	B454 <small>REAL PEARLS.</small> 4 ⁵⁰ ea.	B418 <small>FINE OPAL. REAL PEARLS.</small> 6 ⁰⁰ ea.
B517 <small>REAL PEARLS.</small> 12 ⁰⁰ ea.	B192 <small>REAL PEARLS. ROSE FINISH.</small> 13 ⁰⁰ ea.	B454 <small>REAL PEARLS. POLISHED CRESCENT.</small> 4 ⁵⁰ ea.	B418 <small>REAL PEARLS. POLISHED CRESCENT.</small> 6 ⁰⁰ ea.	B303 <small>10 REAL PEARLS.</small> 16 ⁰⁰ ea.	B385 <small>DIAMOND. PEARLS.</small> 10 ⁰⁰ ea.	B385 <small>DIAMOND. ROMAN.</small> 10 ⁰⁰ ea.			

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M. J. AVERBECK, MANUFACTURER, **Nineteen Maiden Lane, New York.** 1439

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Gifts**

At our store you will find a large assortment of
Jewelry in the latest designs.

Cut Glass **Our Goods**

Water Bottles,
Glasses,
Bowls,
Dishes,
Bon Bons, etc.

have a certain refinement
and taste of their own,
and are especially suit-
able for a gift.

**"1847 ROGERS
BROS."**
"Silver Plate
that Wears"



J. T. CHANNISTO
Scienc

1847
ROGERS
BROS.
Spoons,
Knives,
Forks, etc.
and
**THEY SELL
THE
GOODS**

**JEWELRY
DIAMONDS**

WATCHES
and a
complete line
of the
GENUINE

**"1847
Rogers Bros."**
Knives, Forks,
Spoons, etc.

Eyes carefully examined and
properly fitted to the best grade
of glasses
Fine
Repairing.

**J. M. HOFFER,
KANE, PA.**



**DIAMONDS
WATCHES
JEWELRY**

Including
the
newest
in
each
line.



Our prices
are the
lowest
possible
considering
quality.

Rich Cut Glass,
Sterling and Silver Plate.

Our
Silverware Department
is well supplied with
"Silver Plate that Wears."

THE ORIGINAL AND GENUINE
"1847"



"1847
Rogers
Bros." Spoons,
Forks,
Etc.

D. A. HODGE,
Jeweler,
AUBURN, IND.

Diamonds
in the Most Dazzling
Combinations

WATCHES, CLOCKS, JEWELRY
and a Complete Line of

The Genuine
"1847 Rogers Bros."
Spoons, Forks, Etc.
Eyes carefully examined and properly
fitted to the best grade of glasses.

Fine
Repairing

D. E. HOLLAND, JEWELER,
LAPEER, MICHIGAN,



**Doubt
Gifts
Jeweler.**

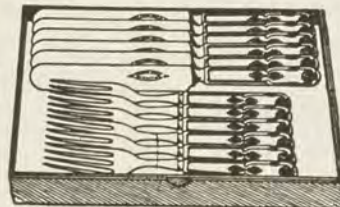
ers—attractive in design—
can supply you with Orna-
Cathedral Clocks, Alarm



If you
want
to
**INCREASE
YOUR
SALES**
better
write the
makers,
at
Meriden,
Conn.

Clocks, etc.

**"1847
ROGERS
BROS."**
"Silver Plate
That Wears."



**Knives,
Forks,
Spoons.**
Individual
pieces,
in sets
or chests.

If Thinking of buying a watch and are particular
about it being reliable and guaran-
teed—come to us. If your watch is inaccurate in keeping time
—bring it to us—we will make all needed repairs and return
it to you in the best possible condition.



If your eyes trouble you, it will
pay to have glasses properly fitted.

F. C. EWART,
WOODLAND, CALIFORNIA.



THE KEYSTONE

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THE KEYSTONE

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

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

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Warning to the Trade

SEVERAL jewelers in widely separated sections have informed us that they paid their subscriptions to a person who called upon them, purporting to represent this journal. As this person (or persons) was a swindler, having no authority from us and not sending us the money received, we hasten to warn our readers against paying their subscriptions to anyone who is not personally known to them, or who cannot produce written credentials signed by the publisher of THE KEYSTONE. Should any person who cannot produce such credentials solicit you for a subscription, we would deem it a favor if you would send us a description of him or any information that would lead to his identification or capture. No subscription agency has any authority to collect subscriptions for this journal.

Holiday Number of THE KEYSTONE

IN accordance with our established custom the November issue of this journal will be our annual Holiday Number, with the usual extra attractiveness of cover and contents. Our special cover designs in past years were greatly admired, and we feel confident that the new design which will grace the forthcoming Holiday Number will appeal more strongly to the sympathy and artistic taste of our readers than any previous one. It is a beautiful pictorial symbolization of modern horology, artistically conceived, skillfully executed and printed in colors. The contents, as is customary, will be unusually abundant and varied. As typical of the practical character of the extra features, we will mention an exhaustive, illustrated article on store-designing, furnishing, arrangement, window construction, decoration, lighting, etc.—the first complete elucidation of this important subject ever compiled. The other features will be equally practical and permanently valuable, the whole being enriched by a great wealth of high-grade illustration. Our past achievements in the matter of holiday issues, is sufficient earnest that the forthcoming one will mark another step forward in jewelry trade journalism. It

will be issued early in November, and all whose subscriptions expire in the interval should be prompt to renew, so as not to miss this very beautiful and very valuable number.

Striking Jewelry Workers Return to Work

AT the present writing there are encouraging indications that the labor troubles which of late have menaced the harmony and progress of the trade in some quarters have subsided. The details of the disagreement in New York and of the simultaneous unrest in Providence and the Attleboros have been duly reported in THE KEYSTONE, and it is our pleasant duty to chronicle elsewhere in this issue the termination of the trouble in the Empire City and the restoration of harmony between employers and employed, so essential to the successful prosecution of business. The friction originally arose out of the eminently reasonable refusal by a well-known New York firm of an extremely rash labor demand. A strike and a lock-out ensued, and after several weeks of partial business dislocation the workers practically abandoned their rather dictatorial policy and returned to the factories. In the face of foolhardy efforts by the union officials to prolong hostilities, the eagerness for reinstatement and resumption manifested by the men, and their unanimous return to their benches under unaltered working conditions, afford a gratifying example of a self-assertive wisdom not too frequently seen in labor crises. Contrary to general expectation there have been no recent developments of any importance in the labor situation in the great jewelry producing centers of New England, but in view of the solid front shown by the manufacturers there, it is probable that the union will pause before trying conclusions with them. Moreover, it is said that the Providence union men had been rendering financial aid to their striking brethren in New York while the dispute lasted there, and it is thought that labor's surrender in the latter city cannot fail to have a chastening influence upon workers elsewhere. The Providence union workers issued

a sort of ultimatum some months ago, setting forth their demands and giving employers until September 1st to consider and reply. Before the expiration of the period named, a reply was forthcoming through the medium of the press. It took the form of a manifesto and was printed in last month's issue of THE KEYSTONE, together with some of the demands by which it was evoked. The workers, however, refused to accept this as a reply; probably, it is said, because neither its character nor manner of issuance involved a recognition of the union. The question has since remained in abeyance, but there is every likelihood that the discontent will soon disappear and a better spirit prevail.

On the eve of a winter season, that at this distance seems so rich in promise, a clash of arms between capital and labor would be fraught with grave evil to all interests concerned. In labor disputes, at least, extreme caution and conservatism should be the dominating elements on all sides, for no one can foretell how great or how permanent will be the injury wrought by stubborn and continuous conflict. Apropos of the strike question, it may be added that in the Bay State practical steps have been taken towards a solution of the labor problem generally. Under authority of an act of the State Legislature, a commission, of which Carroll D. Wright is chairman, and Professor Davis R. Dewey, of the Institute of Technology, is one of the four members, has been investigating the relations of employers and employed. These inquiries are now almost concluded, and the findings of the commission when made public will no doubt be interesting. The last hearings included the topics of arbitration and industrial courts, compulsory investigation, profit-sharing and industrial partnerships, and the employment of the unemployed.

The Scientists and the Diamond

WHEN, some years ago, M. Moissan, of Paris, succeeded in making microscopic diamond particles it was predicted by the over-sanguine that the manufactured diamond was a possibility of the near future. But the "possibility" has, so far, not materialized; nor is there even a remote prospect of such a consummation. In the meantime the natural product continues to advance in price. Now from Chicago comes the startling news that by means of the X-ray process, a method is said to have been successfully put into use for the changing of the color of the diamond at will. A stone of inferior yellow shade may be made perfectly white, or may be given a blue or other shade if desired. Not only this, but if the owner

of a diamond finds objection to or tires of the particular shade given the stone, the artificial color may be removed and the gem restored to its original color. Credit for this discovery is given to a Dr. W. C. Fuchs, whose method consists in directing the X-rays through the substances from which the color is to be obtained before the rays touch and penetrate the diamond. The doctor is said to have actually succeeded in coloring and bleaching a few stones, and he also claims that topazes, pearls and other gems submit to the treatment, a "yellow topaz having been changed to a deep green by the process."

IN the absence of more definite information, we feel disposed to regard the above discovery as a "newspaper story," made up of little fact and much imagination. George F. Kunz, the well-known gem expert, when asked if the alleged discovery would have any effect on the diamond trade, said: "No; I do not think Mr. Fuchs' discovery will have any effect on the diamond trade. I think I may assure the owners of fine blue, white, brown, yellow, green or black diamonds that the integral value of their gems will remain unchanged—that they are just as safe in that respect as they have been at any time in the history of the world, notwithstanding Mr. Fuchs' coloring devices."

Our readers will find interesting the following information elicited from Mr. Kunz by a New York *Sun* reporter:

Attempts at bleaching diamonds have been made from the time of Benvenuto Cellini down to the present day. Cellini has related how in 1564 he changed the coloring of a diamond by applying a wash, or solution, to the back, and he also relates how he actually increased the market value of a certain diamond by this process and duly pocketed the proceeds of the transaction.

In 1891 Cellini's process, somewhat improved upon, was applied by certain unscrupulous dealers in this country and in Europe, and a good many of these doctored diamonds were put upon the market. The process in this instance consisted in staining not only the back but the entire surface of the diamond with an aniline solution.

This led to the manufacture of a device for the cleaning of the diamonds thus stained, the device simply consisting of a convenient appliance for boiling the stones in acid or alcohol. In this way the false covering was quickly removed.

Some twelve or thirteen years ago the coloring of diamonds was accomplished by putting them in a vacuum and by the use of the Crookes tube. The diamonds turned first brown and then black, but they lost their luster, and, furthermore, this changed color was not maintained.

It could be removed by chemical process and by mere abrasions as well. Some of Lady Crookes' diamonds were subjected to the process and had to be repolished.

Now might it not be that the diamonds which Mr. Fuchs has subjected to the bombardment of Roentgen rays were merely stained as to their surface by particles of the coloring matter of the substances through which the rays passed? Probably there would be deposited on the surface of the diamonds a graphitic form of carbon—that or cliftonite, which is twice as hard as graphite and is found in meteoric stones.

It is the present theory, and I know of nothing and have heard of nothing tending to upset it, that the diamond is absolutely impenetrable by coloring matter or solutions of any kind. If that is true,

then the coloring matter projected by the Roentgen rays, as applied by Mr. Fuchs, did not penetrate the diamond and amounted to a mere surface stain.

Such a stain would not be permanent, I should judge. I think it would be susceptible of chemical obliteration and it also probably would give way under abrasion.

As to his ability by reversing the Roentgen process to extract the coloring matter from diamonds, leaving them pure white—why, that is a feat which I should want to see with my own eyes before I studied it with the view to making comments on it.

Nature herself is guilty of some queer freaks in the coloring of diamonds. In one instance of which I know she seems to have duplicated the processes of artificial coloring that have been in use, and at the same time to have demonstrated the futility of attempting to penetrate the diamond itself by any of these external processes.

This was in the case of a black diamond which we sold to a Siamese prince about twenty years ago. When the diamond was cut, it was done in such a manner as to make the form of a cross on the surface, and the cross came out a very clear pure white.

The cross therefore stood out sharply defined in the dark background of the diamond's original colors. This was simply because in cutting the diamond the surface coloring was removed, as I believe it always will be if diamonds colored by external process are subjected to polishing or to chemical treatment.

Even for the wizard scientist of the twentieth century the diamond is a stubborn proposition. Nature still holds her mastery and the diamond market gains strength. The price of diamonds generally has gone up about 40 or 50 per cent. within the past four or five years. From 50 to 60 per cent. in the weight of the diamond is now lost in the cutting, as compared with about 40 per cent. in the middle of the last century. This is because there is more demand for beauty in cutting than there was. All of which is very reassuring to the jeweler.

A Special Court for Patent Appeals

THE American Bar Association recently suggested that a special court should be created for patent and copyright appeals. The suggestion is that this court, to consist of seven judges, should have jurisdiction in all appeals and writs of error in patent and copyright cases, and that its decisions should be final, subject only to such power of review by the Supreme Court as may be necessary to preserve the general jurisdiction vested in that court by the Constitution. The suggestion will appeal favorably to all who do business with the Patent Office. The growth of the patent system in the last half century has been very marked, and the application of the law relating to patents demands the possession of a great amount of special and technical information. Besides, the Patent Office at Washington is a paying institution, with income and surplus enough to its credit to cover the expense of this and other much-needed improvements. Our patent system, as it stands, is the finest in the world; but is still capable of improvement, especially in the matter of expediting the business.

Chicago's Centennial

THE great Western metropolis, famed for its comparative youth, its size, its fire, its fair and innumerable other things, has just celebrated with becoming splendor and eclat its centennial jubilee. That a diminutive fort on the prairie by the lakeside in 1804 should grow into a city of two and a half million inhabitants in 1904 is wonderful enough, but the statement does not do justice to Chicago's achievement. Sixty years ago Chicago was a country town of less than five thousand souls, and it is well within the memory of most of our readers that as late as October, 1871, a terrible conflagration destroyed almost the entire city. This leaves only thirty years for the phoenix-like rise of the present great city, the second in the United States and the third in the world. Chicago to-day is probably the greatest existing testimonial to the limitless possibilities of human effort, the seeming omnipotence of human genius.

During its great jubilee this mushroom civic giant recalled the chief events in its history. Old Fort Dearborn was reproduced, and again the red man in paint and feathers wandered in the vicinity. Even the great fire of '71 was remembered in a harmless reproduction. Crowds of distinguished visitors, parades, floats, illuminations, fireworks, music, oratory, etc., added to the eclat of the occasion. In a word, the jubilee was the apotheosis of modern display and pageantry. It was John G. Whittier, if we remember rightly, who thus apostrophized Chicago after the great conflagration:

"Then lift once more thy towers on high,
And fret with spires the Western sky,
To tell that God is yet with us,
And love is still miraculous."

The myriad visitors to the centennial know how wonderfully this mandate of the poet has been obeyed, for Chicago, with characteristic enterprise, was the first of the cities to make use of the steel frame and elevator to push its big buildings skyward. The jubilee "fire" brought out in impressive relief its modern altitudinous architecture.

THE KEYSTONE joins in the universal congratulations to Chicago and in the universal recognition of the sturdy pioneers who made the city what it is. It is said that the young man of accidental notoriety to whom Horace Greeley gave the laconic advice to "go West," never rose above mediocre independence, and died after an eventless life of toil, without any particular cause for gratitude toward his distinguished adviser. To the analyst of human nature this will not seem wonderful. The young man who builds a castle in the air and then

seeks advice as to the nearest road to the phantom structure, is not the one who, in the great life-struggle, is likely to kick his way to the goal of success. Grit, self-reliance, intelligence to guide and a will to control are the great essentials, and their possessors may remain East or face the setting sun with equal confidence. Such were the qualities possessed by the men who made Chicago; the men who, even after the big fire left them with little but their working clothes, again set undauntedly to work to build up the ill-fated city. The Chicago of 1903 is their monument. Many of these pioneers, we are proud to say, were jewelers, struggling jewelers then, now rich in honors and possessions, sharing in the acclaim rightly accorded them and their work. "The history of the world," said somebody, "consists of the biographies of its great men." More truly might it be said the history of Chicago consists of the lives of its leading merchants, for of no other city in the world can it be said that its story is practically contemporaneous with the lives of its merchants still living. Many of them who shared in its affliction of thirty years ago are sharing in its triumphs of to-day. All honor to them and their great city!

The Protection Movement in England

JOSEPH CHAMBERLAIN, England's well-known statesman and ex-Colonial Secretary, has long been known as an aggressive federationist, whose avowed purpose is to bind closer commercially and politically the widely-scattered countries that compose the British Empire. A worthy and patriotic purpose this, but when Mr. Chamberlain announced that the first steps towards its accomplishment would be reciprocity and a protective tariff, including a tax on foodstuffs imported from other countries, popular clamor became so universally and bitterly antagonistic as to force his resignation from the Cabinet. Freed of administration trammels, he boldly declared that he was prepared to enter every cottage in England and prove that a corn tax does not increase the cost of living. English labor has promptly accepted the challenge, and at the Trades-Union Congress, held recently at Leicester, a resolution was passed with but two dissenting votes against Mr. Chamberlain's fiscal scheme—indeed, the resolution severely criticised his proposal of imperial reciprocity, pronouncing it mischievous and dangerous.

To the superficial observer at a distance it would seem as if Mr. Chamberlain stood practically alone as an apostate from the hallowed principles of Cobden and Bright, but this is far from being so. He is in sub-

stantial agreement with no less a personage than the Prime Minister, Mr. Balfour, who has manfully avowed his individual views, and is giving practical aid to the new movement by postponing as long as possible the inevitable appeal to the country. He promptly filled the vacancies in the Cabinet, and by men who apparently have not only no horror for the Chamberlain "heresies," but, on the contrary, are disposed to regard them as inopportune rather than ill-advised. Nor has the revived protection germ limited its operations to a few thinkers in high places, for the protection sentiment has already taken root among a goodly number of the industrial classes. Our esteemed contemporary, the *London Watchmaker, Jeweler and Silversmith*, treats the new movement very flirtatiously, with the likely sequence of endorsement and advocacy, and there are, no doubt, many other industrial organs which are awaiting an opportune time to "follow the leader."

THE situation in England at this time as a result of the new movement is accurately stated by Mr. Chamberlain himself, in his letter tendering his resignation. He declares that in his view, for the present at any rate, a preferential agreement with the colonies of the United Kingdom involving any new duties, however small, on articles of food which have hitherto not been taxed is, even if accompanied by a reduction of taxation on other articles of food of equally universal consumption, unacceptable to the majority in the constituencies. This sentiment, he says, cannot be ignored, and he feels that as an immediate and practical policy the question of preference to the colonies cannot be pressed with any hope of success at the present time, though he thinks there is a strong feeling in favor of the other branch of fiscal reform which would give full discretion to the government in negotiating with foreign countries for a free exchange of commodities, and would enable the United Kingdom to retaliate if no concession should be made to its claim for greater reciprocity. Mr. Chamberlain suggests that Mr. Balfour should limit the present policy of the government to asserting the freedom of the country in the case of all commercial relations with foreign countries, while he himself will assume an expository rôle devoted to popularizing the principle of imperial union freed from the trammels which might attach to party leadership.

Whatever the actual merit or demerit of the new protection and reciprocity movement, it certainly has an ideal leader—one who is able, cunning and courageous, and who has cultivated the habit of succeeding.

The Large Business of the Mead Watch House

has been built up by the persuasion of good treatment, right prices, unquestionable quality and unequaled facilities. We aim high enough to do the largest exclusive wholesale watch business in all America.

We believe permanent trade depends on fair treatment and good values.

This is as good an argument for you as it is for us.

M.A. Mead & Company,
Watch Jobbers, Columbus
Memorial Building, Chicago.

JEWELERS' ADVERTISING IN THEORY AND PRACTICE

X.

There are a-plenty of despairing jewelers who lament, with the sad man in the verses, that

"There's nothing original in me,
Excepting 'original sin.'"

To such, our repeated insistence on the great merit of *originality* in advertising seems to be putting up bars across their path. As a matter of fact, each man *is* an original—no two think exactly alike; no two will express the same idea in exactly the same words (except by accident), if uninfluenced. A man's mind has as much individuality as his face; no two are cast in precisely the same mould. But when it comes to expressing thought in words, many men grow timid; their mentality shrinks upon its own core and the words come limp and halting, if they come at all. When such sit to write an advertisement they do not write *themselves* into the advertisement but only some weak and distorted *reflection* of their real selves; in their writing they do not give their natures a free rein. It seems impossible for them to do so.

And Nature will be led, but not driven. The originality in a man cannot always be *made* to materialize in written words; there must be found a *substitute* for originality with many advertisers.

Adapting Others' Advertisements

The one obvious thing to do, in such case, is to make use of the originality of others—to adapt the good things found in others' ads. to one's own particular needs.

Of course, this opens up the question as to whether the Eighth Commandment is not violated; there is a challenge of the rights of property. Certainly an author has as much right to the fruit of his brains as an inventor; but the day seems far off when the same legal protection will be given to one who produces a fetching paragraph, or a phrase, or a type arrangement, as to one who produces a machine. But we can at least preserve a semblance of decency, if we must steal: we'll not claim that the stolen advertisement is our own creation. So we'll call it "appropriating"—stealing is too harsh a word to ears polite; and we'll not take over the other's ad. bodily, but we'll "adapt" it.

What would seem to be legitimate, from the standpoint of ethics, would be to send

the eye over the whole field of advertising and gather in all the good things one sees—a phrase here, a turn of expression there, a border yonder, an arrangement of type from afar off; then to group these fragments into one advertising mosaic, and put your name to it. A bee rifles a thousand flowers in order to organize the stolen material into a higher form of good. But if instead of extracting the honey and making a new compound from the "appropriated" sweets, the advertiser transplants the flowers bodily, stalk and root, into his advertising space, he is a thief. "I do not understand how you can undersell me," said one broom-seller to another, "for I steal my materials." "The explanation is simple," said the other; "I steal my brooms ready made." And there's the reason why *some* "original" advertising is not successful—the "adapting" does not go far enough!

Seriously, there is a very considerable talent involved in "adapting" some one else's ideas and making them fit their new place *perfectly*. The seams must not show; the colors must blend. Professor Flint said that Aristotle and Adam Smith were "endowed with *the most valuable sort of originality*, in being able to draw with independence upon all preceding writers." And Emerson says that "thought is the property of him who can entertain it, and of him who can adequately place it."

In spite of our best intentions to be original we are all really only resurrectionists. Our brains are full of old material that has lost its labels. We are the final product, mentally, of all the thinkers who have lived in forty centuries; there is no initiation of what is essentially new; Goethe said that all that is wise has already been spoken—our business is only to improve the form of the saying. No one but the Creator is continually creative; the human mind, in this late day, can only be receptive. Shakespeare merely vitalized what had already existed; when Lander was shown that the great bard had stolen right and left from the Italian poets, he said, "Yes, but he was more original than the originals; for he breathed upon dead bodies and brought them into life." And the French Shakespeare, Moliere, defended his own pilferings by saying, "I take my property where I find it."

So that there seems to be abundant justification for the advertiser who is doubtful of his original skill to "appropriate" such material as he finds at his hand. Read and study the good advertising, on all subjects, in magazines and newspapers; make note when you find a snappy heading, a good phrase, or a convincing argument; sketch borders that impress you with their strength; show your printer type arrangements that

please you; and try to get the "style" of the writer whose advertisements appeal to you. Then put as much of your own personality as possible into the mosaic which you will construct out of your gatherings; and, if not heaven, at least your customers will reward you!

But do not commit the monumental blunder of "adapting" the advertisements of your competitor. Better that a millstone be hung upon your neck and you be cast into the sea! Go far afield for your material, where the local eye cannot spot the source of your inspirations. And though the Eighth Commandment be badly fractured, you will thus at least preserve inviolate the Eleventh: "Thou Shalt Not Be Found Out!"

Notes

One of the greatest secrets of success in advertising is *strenuous personal faith in your goods*, which, though it cannot be pictured or printed, yet rings true and clear and impressive. It isn't words; it isn't pictures; it isn't type; it isn't "preferred position." It is something far more real than any of these. They are simply the mediums; you, yourself, are the spirit. If the customer believes in you he will believe in your goods; and if you are worthy of belief, let the people know that your *goods* are worthy of *your own* faith. Let the advertisement carry conviction of your own confidence in your wares; make readers believe that *you* believe they are "the best ever." The world loves an enthusiast.

An advertisement should be big enough to make an impression, but not bigger than the thing advertised. One doesn't go hunting humming-birds with rifled cannon.

"Count that day lost whose low descending sun
Sees not some ads. displayed and more begun."

It is much easier to catch the eye than to impress the mind. The picture in the ad. is all right, if there is convincing statement behind it; some pretty advertisements are nearly worthless because they are *only* "eye-catchers."

Good advertising begets sales; sales beget more advertising; more advertising begets increased sales; increased sales beget better advertising; better advertising begets continual growth in sales; and so goes the lengthening chain. There is no such insurance of profits as paying premiums in the form of bills for good advertising. Yet there are those who do not see it, who cannot see it. To-day is not for them: they are yesterday's.

(TO BE CONTINUED)

Diamonds and Diamond Jewelry



Send us your orders for Mounted Diamonds. We will fill them promptly and with satisfaction to you. Our stock is large and complete, of wide range in price, and the patterns it includes are the choicest.

Write us if you fail to receive our new catalogue which is just being mailed.



Hayden W. Wheeler & Co.

2 Maiden Lane, New York.

Telephone, 8 Cortlandt.

1903 MODEL. PENDANT SET.

16 Size, 17, 19 and 21 Jewels.
Hunting and Open-Face,
fitting regular 16 size case.



Fine ruby jewels in raised gold settings; double roller escapement; steel escape wheel; exposed pallets; compensating balance; accurately adjusted to temperature, isochronism and five positions, and carefully timed. Patent Breguet hairspring; micrometric regulator; exposed winding wheels and gold train; fine glass enamel hand-painted dial.

Howard watches have for sixty years been foremost among all high-grade movements. This new model surpasses all previous standards.

A booklet showing the movements in a variety of fine gold cases and illustrations of the best types of monogram engraving, will be sent on request.

E. Howard & Co. Watches

The Chief Cause of Commercial Fatality

THE well-known banker G. G. Williams put much wisdom into few words, when recently asked as to the main considerations for the young man who has just started in business. "In the first place," said Mr. Williams, "nothing can be so necessary as transparent uprightness of character: no matter what self-denial may be required, let this be uppermost and continuous. To be trusted, to secure the confidence of his fellow-men this will assure promotion, will result in usefulness and honor. Nothing can take its place, for it is a possession for time and for eternity. It is a rock upon which rests his happiness and his interests for this world and the next.

"Another requisite for solid success is the faithful performance of every duty. A young man in business quickly reveals himself by his carefulness and thoroughness, no less than by his neglect and slipshod ways. Let him acquire and retain a deserved reputation for faithfulness, and it will stand when circumstances arise that may call his integrity in question. Cheerfulness and frankness should never be forgotten, and good manners reveal the kindness of the soul. I know that these sayings are common truths, but repetition does not diminish their value."

And John Wanamaker, in an interview in Chicago last month, said that many an honest man who possessed all these qualities failed because he did not know how to advertise. The Wanamaker truism is an excellent subject for a healthy business meditation. The great merchant put his finger on the chief cause of modern commercial fatality.

The Necessity of Keeping Books

SUCCESSFUL storekeeping under modern conditions presupposes system first of all, and system implies the accurate and methodic keeping of books. The storekeeper of the time should know how he stands, not once in six months or twelve months, but every day and week of the year, and this necessary knowledge comes of the methodic keeping of accounts. In an article in a recent issue of the *Saturday Evening Post* a prominent merchant delivered a forceful lecture to small storekeepers on this all-important matter of bookkeeping. The emphasis, he said, of the average retailer's attention is placed upon the producing end of his business, while the accounting end is neglected to a degree that invariably cripples and often results in complete disaster. In the average retail house there is little effort made toward an accounting system that is even fairly adequate in the modern sense of

the term. Especially is this true in the shops of the smaller class.

Ask the retailer why he does not keep as complete a set of accounts for his business as the wholesale house does for its trade and he replies: "The size of my store will not warrant a regular accounting department and I am too busy myself to give that part of the business my attention." This is a fair statement of the general attitude of the retailer. He utterly fails to recognize the fact that there is the part of his business which *must* be properly conducted, or he will have losses instead of profits.

Very often the only books kept by the country storekeeper are a memorandum book—which he probably dignifies by the title of "day-book"—and a ledger. Upon these two records he depends for all the data necessary to the operation of his business.

And what is the result? Once a year, after the annual stock invoice, he is able to make a rough guess at his total profits or losses. But for three hundred and sixty-four days of the year he is "running wild," so far as a real knowledge of his condition is concerned.

If the city jobber or wholesaler were to make a tour of his country customers he would be astonished at the number of them having no definite knowledge of their specific profit on any particular stock of goods. Such an investigation would cause him to wonder that the percentage of retailers compelled to file deeds of assignment is not greatly increased. And this observation applies to retail establishments of very considerable size, as well as to smaller shops.

Not long since I examined a retail concern that claimed a profit of \$5000 upon a certain commodity. This was evidently a matter of some little pride on the part of the proprietor, who said that he was obliged to buy a large amount of these goods in order to obtain the maximum discount that swelled his profits to so satisfactory a figure. He had charged against this stock a reasonable percentage for operating expenses. But investigation developed the fact that he had failed to charge against this stock any interest upon the investment necessary to carry it. When this was done, his profit of \$5000 was turned into an *actual loss*.

In order that the small retailer may know at any time just where he stands, and what stocks and lines of goods are bringing him a profit, it does not necessarily follow that he shall employ a corps of accountants or install as elaborate an accounting system as that used by the wholesale house from which he buys his goods. One bookkeeper, working on an intelligently devised and

economical system, can easily secure this result in the average small retail store.

No great amount of shrewdness is required to see that the storekeeper who knows just where his profits and his losses are being made, and who is therefore able to eliminate unprofitable stocks, has a great advantage over his competitors who employ less intelligent methods.

Every retailer is ready to enter heartily into any plan that promises to promote the selling end of his business, but his indifference to the care of his business after he has secured it is almost beyond the understanding of the thorough business man. The latter understands that a merchant without reference to trustworthy accounts can no more navigate the sea of trade with an assurance of safety than a pilot can cruise the sea without a compass.

Look From the Outside

AN excellent recipe for the detection of errors, irregularities or incongruities in the conduct of one's business, is to take a periodical look at the ways of the establishment from the outside. A window-dresser cannot form a correct estimate of his completed display from the vicinity of the background; he must needs look at it from the sidewalk, the vantage point of those whom in the orthodox order of things it is primarily designed to attract and to please—the public. In like manner, the merchant who remains behind the scenes, figuratively speaking, cannot obtain an accurate perspective of his store, its arrangement and the system under which it is conducted.

It is a well-established business axiom that in order to succeed the merchant must be aware of what the public thinks of him; he must see with the eye of every possible patron. However, it is no easy matter to gauge public feeling in this respect. To know what pleases and what displeases is a valuable asset and that the merchant will recognize its value if he does obtain it is far from being a fixed fact. If he succeeds in getting definite opinions from his customers they will probably be conflicting, and he will, naturally, think his own methods best. If he seeks the assistance of experts he is likely to find a diversity of opinions. And yet it is very essential to the success of his business that his methods shall be such as will appeal to the public and induce them to favor him with their patronage. The only practicable plan for the accomplishment of the desired ends is for the merchant to look at his business from the outside. He must, to the best of his ability, survey it from the view-point of the general public.

Mistaken Calculations

What a Business Man Should Be

"THE modern business man" is a familiar subject of discussion, yet it is so seldom that we find this subject the theme of an eminent cleric that a discussion of it from the moral viewpoint cannot fail to be interesting. In the course of an interesting address by Bishop John H. Vincent, to the Columbus Credit Men's Association, he said:

Self-Respect in Business

And the first thought which occurs to me is the value of what I may call *Self-Respect in Business*. I once heard a clergyman ask Mr. Moody how to get people to believe the Gospel; and his answer was, "First believe it yourself."

So if a business man wants other people's respect, he must first respect himself. In other words, it is not enough that he should be honest simply because "it's the best policy," and because he wants to keep out of the sheriff's hands, but because he is too honorable a man, because he has too much respect for himself—for his own manhood—to stoop to what is even dishonorable and mean, to say nothing of what is dishonest.

Perhaps a man doesn't realize at first how important a factor such self-respect is in mere business success. But the fact is, that a man's credit in the business community does not depend entirely on the size of his bank account. As some one has well said: "Most men think they can figure up all their assets in dollars and cents, but a merchant may owe a hundred thousand dollars and be solvent.

"A man's got to lose more than money to be broke. When a fellow's got a straight backbone and a clear eye his creditors don't have to lay awake nights worrying over his liabilities."

But, then, there's another side to the matter. If a man wants other people's respect, he's got not only to respect himself, but he's got to respect other men, too.

When I hear a man say that he no longer has any faith in men's business virtue and see him act as if every other man was a scoundrel until he is proved innocent—I say don't you ever trust that man again in business matters.

He stands instantly self-condemned. For if a man can't believe in other men it's because he can't believe in himself. But when he knows that he not only can be, but is, an honorable and honest man himself, and demands that others shall believe that of him, then he will be just as ready to believe as much about other men, too, until he is compelled to believe the contrary.

Respect Your Neighbor

Undoubtedly, there are scoundrels and dead beats in the business world, just as there are in the ministry and in every other relation in life; and because "credit" is so indispensable in the modern business world, such an association as yours for self-protection is a clear necessity. But what I want to beg of you is not to make exceptions the rule, and not to let any number of scallawags destroy your faith in the honor and trustworthiness of men as a whole. Out of sheer self-respect you are bound to believe and insist on this.

Justice in Business

The next thought I would suggest is the value of what may be called *Natural Justice in Business*. You know that old American saying, the Ten Commandments are no good west of the Mississippi River; and if a man wants to be in God's country he's got to go back East.

I fear some men feel very much the same about religion and morals in business; and that, while the Ten Commandments are all well enough in private and social life, you ought not to judge a man too rigorously by them in the little daily transactions behind the business counter and the office desk. But now, what I want you to see and feel is that it is just here, in a man's business dealings, that those same commandments are meant to hold good as much as, or even more than, anywhere else.

For, remember, that that whole moral law rests, not only on what God actually is in Himself, but also on what we are ourselves—we men, and so on what we owe to each other. In other words, underlying at least all the second half of those commandments, there is a spirit or principle of natural justice as old as human experience and as strong as any other deep instinct of human nature.

So that, even if a man be not a distinctly religious man or a church member, still there ought to be in every man's breast at least this strong instinct of natural justice, which should keep him from working any ill to his neighbor.

Patriotism in Business

Next, consider the claims of *Patriotism in Business*. What do I mean? Why I mean this. You know that other old saw: "Like people, like priest." In other words, such as the people are, such the priest is likely to be; and *vice versa*. And in the same way, such as the citizens are in any community such their representatives are most likely to be.

I know how you will resent this idea at first.

You see how corrupt politics have come to be, and how venal our politicians and statesmen often are. But you console your-

selves with the idea that this is no concern of yours; you are too busy making money.

But, gentlemen, you and I cannot so easily rid ourselves of responsibility for this state of things—not so long as there is not moral indignation enough among us to rise up in our might and see that only trustworthy men go into office—not so long as business men are guilty of the same dishonorable spirit in business that they accuse other men of in the affairs of State. In other words, the stream can never rise higher than its source.

Brains in Business

More and more to-day the brains of the country are to be found in great business organizations, and our legislators and congressmen, instead of being professional men, are recruited from the business ranks.

And, therefore, so long as there are men in business who are willing to sell their honor for a dollar, just so long there will be men in political offices who will sell their country's best interests for a hundred or a thousand dollars. And that is only one step short of the world's greatest crime, when a man once sold his own soul and then his God for thirty pieces of silver.

Let us keep our ideals pure, then, as President Roosevelt reminds us, those high and noble ideals of our forefathers, if we want our country to prosper; and remember that as patriots we have no more right to ignore or despise such ideals in business practice than we have in "practical politics."

Good Manners in Business

The last thought is the value of *Good Manners in Business*. I believe in making money—righteously; and I believe in spending it—conscientiously and nobly. But only think what the dangers are in making it.

Think how many a man, who is the kindest father and the best neighbor, finds himself in business shriveled up into a narrow and hard man and degenerated also into a mean and unmannerly man. But why, just because a man is a busy and anxious man, should he think himself justified in being a ruffian and brute towards his employees or towards other business men?

I have known men, and so have you—men otherwise highly respected for their ability and character—who have utterly ruined themselves in business by their roughness and profanity. You wouldn't stand such things for a minute from your own employees or from other business men. Why should you expect them to stand it from you? To say nothing again of your self-respect, never forget what a good investment there is, even in business, in "that grand old name of gentleman."



In every line of manufacture there are some of the many makes that are known as "standard." In the cut glass world this distinction is held by

Straus American Cut Glass

because of the originality in its designs, perfect workmanship of its execution, most brilliant polish and exquisite crystal.

Its popularity is unequaled because of the moderate prices at which it is sold, and it is favored by wide-awake dealers because it is easily sold, brings most profit, and appeals to the best patronage.

Magnificent new Fall line of popular pieces now ready.

Complete Catalogue mailed to prospective purchasers.

L. STRAUS & SONS

MANUFACTURERS,

42, 44 and 46 Warren St., NEW YORK.

FACTORY—
59th Street and North River, New York.



No. 684-186. FIGARO.
Presentation Cup, 12 in. high.



No. 666-159. LEANDER.
Made in 3 and 2 Pint Sizes.



No. 678-181. FATIMA.
Footed Center Piece. Made in 3 Sizes.



597 SUNBURST



No. 2 TRUSSELLA



PITKIN & BROOKS

MAKERS OF

RICH
CUT
GLASS

WRITE FOR
NEW HALF-TONE
CATALOGUE

FACTORY
CHICAGO HEIGHTS
ILLINOIS
SALES DEPT.-CHICAGO

Donnelley-Chi.



525 SUNBURST



No. 1 GLORIA



595 SUNBURST



PITKIN & BROOKS

MAKERS OF

RICH CUT GLASS

WRITE FOR
NEW HALF-TONE
CATALOGUE

FACTORY
CHICAGO HEIGHTS
ILLINOIS

SALES DEPT.-CHICAGO



Donnelley-Chi.

OHIO CUT GLASS COMPANY

MANUFACTURERS OF

RICH AMERICAN CUT GLASS

Factory, BOWLING GREEN, OHIO.

New York Salesroom, 33 Murray Street.

Chicago Salesroom, Silversmiths' Building.

New catalogue and price-list furnished on application.



T. B. Clark & Co., Inc.

"Look through the world,
'Tis ne'er met with elsewhere."

RICH CUT GLASS.

Are you looking ahead to the busy days when your holiday patrons will be doing their Christmas shopping? 1903 equals 1902 in the volume of early business, which indicates short stocks during the closing months of the season, and we are studying your interests when we counsel early orders for the goods you will need for holiday trade.



243 Decanter, Puritan.



266 Ftd. Bowl, Genoa.

There are others, but none sell so well as "Clark's."

T. B. Clark & Co., Inc., Honesdale, Pa.

C. G. ALFORD & CO.

Established
1868.

Incorporated
1891.



C. G. ALFORD,
President.

J. W. ALFORD,
Treasurer.

Alfordism

No. 17.—ALFORDS' OFFERINGS CARRY MERIT EVERY TIME.

We are
**Glass Cutters,
Watch Jobbers,
Diamond Importers,
Wholesale Jewelers.**

*In each department we know
just what we are about.*



TRADE MARK ON EVERY PIECE



We offer you these
12 Pieces of Glass,
Assortment K, for **\$32.27, net,**

60 days, F. O. B. at Factory, Honesdale, Pa.

You can get \$50.00 for them.

Here are the prices at which you can readily sell them:

- I Monmouth Spoon Holder, sell at \$5.00
- I Montrose Nappy, 6 in., " 3.50
- I Dahlia Vase, 8 in., " 6.00
- I Olivia Oil Bottle, " 1.75
- I Aztec Decanter, 1 qt., " 5.50
- I Narcissus Carafé, " 6.00
- I Aztec Sugar, " 2.00
- I Aztec Cream, " 2.00
- I Dorchester Bowl, 8 in., " 5.50
- I Saranac Jug, 1 qt., " 5.50
- I Dorchester Celery Tray, " 4.75
- I Arbutus Violet Globe, " 2.50

\$50.00

Costs you **\$32.27.** Profit, **\$17.73**

When you receive goods, if not satisfactory you can return the entire shipment to us at our expense.

NOT SENT ON SELECTION.

NO RISK TO YOU. OUR RISK, IF ANY.

Ask for Glass Catalogue, if you have not already received it.

Address all Orders

Alford

**192 Broadway,
New York City.**

THE PAIRPOINT CORPORATION,

Controlling
THE MT. WASHINGTON
GLASS CO.

Superior
Silver
Plate

Rich
Cut
Glass



131 Coffee Set.

Catalogues
of our
Complete
Lines
Loaned to
the
Trade
for
Inspection.

38 Murray Street, New York.
576 Temple Building, Montreal, P. Q.
220 Sutter Street, San Francisco, Cal.

FACTORY, NEW BEDFORD, MASS.

Cut Glass,
Rock Crystal,
Wave Crest Ware,
Metal Novelties.

More forcible than words
is the established and
enviable reputation we
have on the several lines
manufactured by us.

THE C. F. MONROE CO.,

New York Salesroom, 28 Barclay St.

Meriden, Conn.

Address all communications, etc., to Meriden, Conn.

Our catalogues, handsomely illustrated, with supplement, mailed on application.

Kindly mention *The Keystone*.



332 av.
Cupid.



12-inch Rd. Bowl.
Sylph.



Loving Cup.
375 HI.



BERGEN POPULAR-PRICED CUT GLASS

ONE of its strongest points is its all-around goodness.

Some lines excel in one feature, others in another. "BERGEN" glass is offered as the best all-around line in the market—

Nor is the item of profits for the DEALER made a secondary consideration.



"CYPRESS"

Decanter; in 1/2-pint, pint and quart sizes, handled or unhandled.

Our New Catalogue,

80 pages, beautifully illustrates the line in its entirety. Should you not have one, a postal card will bring it to you by return mail.

The J. D. Bergen Co.

MAIN OFFICE AND SALESROOM:

38 Murray Street,

NEW YORK.

Chicago Office: Silversmiths' Building.



"ASHTON"

1-Quart Wine Decanter.

Manning, Bowman & Company, Meriden, Connecticut.

Nickel and Silver Plate.

New York.
Chicago.
San Francisco.

THE
BEST
KNOWN
METHOD
FOR

MAKING
COFFEE
OR
TEA.



No. 1993.

“METEOR”
FRENCH CIRCULATING
COFFEE PERCOLATOR.

By this French process of percolation, or distilling, coffee of the most delicious flavor and of any strength desired, can be made on the table in a few minutes. (Also used for tea.)

Made in over fifty assorted styles and sizes.

Send for circular No. 80, illustrating complete line.



No. 241. CHAFING DISH SET
With “Ivory” Enameled Food Pan.



No. 835. BAKING DISH.
Ivory Enameled Lining.

“M. & B.” CHAFING DISH ALCOHOL.

This “Alcohol” is especially prepared for use in Alcohol Lamps. Unequaled for use under Chafing Dishes, Coffee Percolators, etc. It should be in the stock of all first-class dealers.

Chafing Dishes (Electric and Alcohol),

French Coffee Percolators,

Table Kettles, Tea Ware, Baking Dishes, Etc.

Prize Trophies, **SOLID COPPER** with English Pewter Mountings.



Takes his Degrees.



Entertains his Brethren.



Proudly Displays the Emblem.

Senator Albert J. Beveridge says :

“Your American is an organizer. This tendency to organize among American people is not a temporary passion. It is a trait of our character.”

How true this is has been amply evidenced in recent years by the great increase in membership in the fraternal organizations; particularly so in the Benevolent Protective Order of Elks and Fraternal Order of Eagles. To keep abreast of the times, you must have a good stock of their emblems always on hand. Not to carry them is to let your competitor make sales and customers which you should have.

Write us and we will send you an assortment of the emblems of both orders; they are yours to keep or return; the former will pay you best, but we wish you to see them anyway. We carry a complete assortment, many exclusive designs, in Buttons, Charms, Rings, Pins, Etc.

Henry Freund & Bro.

THE JEWELRY HOUSE,

9 Maiden Lane, New York.

Diamonds, Watches and Jewelry.

Elk and F. O. E. Goods a Specialty.



MARBLE QUARRIES OF CARRARA

QUARRYING THE FAMOUS MARBLE

The reduction of the duty and consequent reduction in price of imported marble statuary have greatly increased the interest of the trade in these beautiful goods, now handled with profit by not a few readers of THE KEYSTONE. When we speak of marble statuary, the mind involuntarily reverts to the famous Italian quarries of Carrara. So close, indeed, is the connection between Carrara and marble, and for so many centuries has it endured, that now the words are almost interchangeable. Though the town is some miles distant from the actual quarries, practically all the inhabitants are concerned in some way or other with the marble industry. Marble is all around you, huge quantities awaiting shipment on the Marina; trucks loaded with it at every siding of the railway; clumsy, cumbrous wagons groan and creak through the town and along the roads, sawing mills buzz, and workmen chip and chisel and carve on every side. From the town a narrow picturesque valley extends inland, rising all the way to the heights on which are situated the actual quarries. Of these, there are between 300 and 400, and they give employment to about 7000 men. The method employed for detaching the blocks is that of face blasting. When the holes have been drilled and charged, one man blows the warning horn, and the note is repeated by one horn after another; and, as the echoes and reverberations die away among the hills, the quarrymen all scramble into the shelters, and then comes the boom of the explosion, followed by the rattle and clatter of the falling blocks, echoed and re-echoed again and again. So great are the distances, and so large is the scale of the whole scene, that these blocks look like mere rubble, though in fact they may, and probably do, weigh anything from thirty to fifty tons apiece.

TRANSPORTATION OF THE BLOCKS

After the blocks have been detached there arises the difficult task of transporting them from the places where they fell and rested after blasting down the steep, roadless sides of the mountain to the wagon road at its foot, or to the railroad of the Marmifera Railway, and thence to Carrara or to the Marina for shipment. It is usual to contract for this difficult and somewhat dangerous work with the body of men known as the Lizzatura, who devote themselves entirely to this special business. The feats they perform in handling huge blocks of fifty tons' weight practically without the aid of modern scientific appliances are really astonishing, for while it is a mere commonplace in any modern dockyard or engineering works to see weights of this nature handled and shifted with apparent ease by powerful cranes, it is quite another thing to face the task on a steep mountain side, with only hand levers, a rope or two, and a soaped skid. When a block detached by the blast has finally come to rest, it is roughly squared as it lies before the Lizza commence operations. Then two or sometimes three strong cables are secured round the block to hold it back and check the speed of its descent. Formerly only one restraining cable was employed, but accidents were frequent and many deaths occurred, and the Government interposed and ordered that at least three should be used. Like all men whose work brings them constantly face to face with danger, the Lizza grow careless of the risk, and frequently content themselves with two instead of three cables ordered by the law. Of course, even to-day the methods of working at the quarries are quite primitive. If Carrara were located in the United States, the beautiful product would, no doubt, be dug out and handled by machinery that would eliminate much of the labor and danger.

DANGEROUS METHODS OF WORKING

The men working in gangs of about a dozen raise the lower end of the block by means of crowbars and screwjacks, and insert underneath a well-soaped wooden skid. Then, having given the cables some turns round a strong wooden post, driven deep and firm into the loose marble rubble, enough rope is paid out to allow the block to slide slowly forward on the skid by the force of gravitation, without allowing it to acquire a dangerous momentum. As the block glides downward, one man goes immediately in front of it to prepare its path by laying a succession of freshly-soaped skids. Another follows closely behind to pick up each skid as soon as it is cleared by the block. These he hands to two men seated on the block itself, whose business it is to soap them afresh and hand them to the man in front. Of course, this man has by far the most dangerous post. Through the parting of a cable, or a mistake in paying out, many a one has been instantly crushed to death.

The average annual output of the Carrara quarries is, roughly, about 200,000 tons, three-quarters of which is exported, and though the quarries have been worked for centuries there need be no fear of the supply running short for many centuries yet to come.

Time Clocks for Street Cars

The Brooklyn Rapid Transit Company is making some experiments with the use of time clocks for the purpose of keeping a record of the daily movements of the cars of its various lines. There are often times, when it is of great value for the management of street car lines to know just exactly where a certain car was at a certain time, and with the use of the time-clock system it is hoped to have a complete record of the movements of every car during each of its trips. It is always a matter of considerable importance to have the cars kept to their schedule in the maintenance of a street railway system, and in order to do this it is now the custom to maintain a corps of what is known as "street men," whose duties are mainly to watch the movement of the cars and see that all breaks in the schedule are remedied with the greatest possible speed. This is a rather extensive addition to the pay roll, and it is hoped, in a measure, to do away with these men by the employment of the clocks.

At present there are two of these at different points along the line, and if the scheme is a successful one, several more will be put into operation. These clocks are supplied with a paper disk ruled off into sections, indicating the hours and minutes and the number of the different lines. The instruments are in charge of an employee, who presides over a keyboard with buttons corresponding to the numbers which have been assigned to each of the different lines. As each car goes by the man at the keyboard, he touches the corresponding button and a record is made of it on the paper dial.

Artificial Marble

A new process for making imitations of statuary marble, onyx and other multi-colored stones has been devised in Europe. About 1000 parts of alum to from 10 to 100 parts of heavy spar (barium sulphate) and 100 parts of water are mixed with the requisite pigments, and the liquid mass is boiled down and cast in a mold. The amount of heavy spar used varies with the degree of translucence desired. After molding it can be polished.



Basic Principles of Watch *and* Diamond Buying.

Stock buying is attended with risk both to your reputation and your bank account when the Jobber's values are unreliable. Loss does not always originate in the actual buying of the goods, but rather in deciding from whom to buy them. The factor which should determine the jeweler's decision is expressed in three significant words:

BEST VALUE OBTAINABLE.

Our customers have the assurance of standard and unvarying quality made doubly sure at every stage. We are quick to accept every opportunity for advantageous buying, and quick to give you the benefit. During the present season our Watch and Diamond sales are more extensive than in any former year. We always go one better, but the continued prosperity is making this a singularly active year. Our lines are always ample and we are better prepared than ever to aid you to further profitable selection of the most salable goods.

Headquarters for { Waltham,
Elgin and
New England
Watches.
Diamonds, Mounted and Unmounted.

N. S. White & Co.
21 Maiden Lane
New York.



New York Letter

Vacancy for Jewelry Examiner at New York Port

An examination under the United States Civil Service Commission will be held in this city on October 7th for the post of examiner in the Customs Service at the port of New York. Applications should be filed prior to October 3d. The functions of the appointee will be to examine watches, clocks and parts thereof; gold and silverware, metal statuary and metal works of art. Necessarily candidates must be thoroughly conversant with the values of these goods and, if possible, with their intrinsic character. The post carries with it a salary of \$1800 per annum.

Traveling Men Endorse Roosevelt

A committee of the Commercial Travelers' Sound Money League, with Col. John L. Shepherd at its head, called on President Roosevelt at Oyster Bay recently, and presented him with an engrossed set of resolutions adopted by the league at its convention in Saratoga several weeks ago. The special committee which waited on the Chief Executive was comprised of twenty members, and Col. Shepherd, who is president of the board of officers of the league, made an appropriate introductory speech, to which the President responded in a cordial manner. The resolutions strongly endorse the Roosevelt administration and assured the President of the intention of the Commercial Travelers' Sound Money League to loyally support his candidacy in the national campaign next year. Incidentally, as a result of the committee's visit, Mrs. Roosevelt was made the recipient of a handsome present from the league in the form of a jeweled purse specially designed for the occasion. The gift was given simply as a souvenir of the committeemen's visit, and no formalities attended the presentation of it. The presentation of the commendatory resolutions did not come as a surprise to the President, as he was notified soon after their adoption by the league, and informed that a committee would wait upon him formally to convey the engrossed document if he would set a day. The President immediately responded, expressing his gratification at the action of the league, and named September 8th as the time when he would be pleased to receive the committee.

Death of Justus Heilbronn

Justus Heilbronn, senior member of J. Heilbronn & S. Marchand, diamond importers, 26 John Street, died rather suddenly a few weeks ago from the effects of a cold which developed into pneumonia. Deceased was one of the best known members of the local diamond trade, his career in this business extending for thirty years. Socially he was also prominent, having been one of the founders of the Harmonic Club. He was a native of Bavaria, Germany, where he was born in 1852. He was only sixteen years old when he came to New York and entered the employment of his uncles, Henley Bros., with whom he remained until he was admitted a part-

ner. In 1884 he withdrew from the concern to engage in business with David Blank, under the firm-name of Heilbronn & Blank. Seven years ago, when S. Marchand was admitted to the concern, the name was changed to J. Heilbronn & S. Marchand. Mr. Heilbronn was unmarried.

Jewelers' Security Alliance

The regular monthly meeting of the executive committee of the Jewelers' Security Alliance was held on Friday, September 11th, the following members being present: President Sloan, Vice-President Champenois, Treasurer Karsch, Secretary Noyes and Messrs. Abbott, Alford, Bowden, Brown and Stern, of the committee. The following new members were admitted:

- | | |
|--|---|
| American Watch & Jewelry Co., Seattle, Wash. | White & McNaught, Minneapolis, Minn. |
| Joseph Cowan, Boston, Mass. | Johnson & Son, Pennville, Ind. |
| W. C. Lauck, Newport News, Va. | Chas. P. Buskirk, Burlington, Vt. |
| Richter & Phillips, Cincinnati, Ohio. | J. Herbert Hall, Pasadena, Cal. |
| John V. Deeny, Marinette, Wis. | Wm. Pieters, Madison, Minn. |
| Thomas H. McNary, Washington, Pa. | T. K. Smith Jewelry House, Albia, Iowa. |
| Wingate-Nusbaum Co., Cleveland, Ohio. | Lee Bros., Los Angeles, Cal. |
| E. M. Bracher, Philadelphia, Pa. | J. A. Westerborg, Walterboro, S. C. |
| Simon Cohen, Erie, Pa. | Mrs. L. H. Bauer, Elgin, Ill. |
| Gilmore & Ullom, Vinton, Iowa. | D. Clinton Devier, Harrisonburg, Va. |
| H. E. Hemenway, Brandon, Vt. | A. C. Graul, Sharpsburg, Pa. |
| B. T. Hoffman, Chicago, Ill. | A. P. Hirzy, Grand Rapids, Wis. |
| W. R. Johnston, Butler, Ohio. | Huber & Bunker, West Superior, Wis. |
| Ledos Mfg. Co., Newark, N. J. | Johuston & Taylor, Pipestone, Minn. |
| J. H. Miskimen, Glendive, Mont. | Edward Lehman, Denver, Colo. |
| Harry J. Pippitt, Port Jervis, N. Y. | Wm. R. Phelps & Co., New York, N. Y. |
| Geo. Rieger, Louisville, Ky. | Lazarus Rubenstein, Schenectady, N. Y. |
| Dennis Schram, Jacksonville, Ill. | Howard O. Spencer, Caribou, Maine. |
| Alfred Watson, Monongahela, Pa. | W. A. Wright, Shawnee, Okla. Ter. |
| Blakely Bros., Grafton, N. Dak. | Charles V. Pope, Holdrege, Nebr. |
| Estate of W. A. Chamberlin, Towanda, Pa. | Lyons Gem Co., New York, N. Y. |
| Wm. H. King, Wilton, Me. | E. R. Smith & Bro., McGregor, Texas. |
| Dreyer, Lochau & Ohm, Chicago, Ill. | L. P. Brigham, Hudson, Mass. |
| Barto & Dennison, Salida, Colo. | Plumb & Plumb, Ogdensburg, N. Y. |
| E. M. Gillette, Cattaraugus, N. Y. | |
| E. L. Burns, Memphis, Tenn. | |

Regulation of Diamond Imports at Minor Ports

A peculiar phase of the diamond importation question developed with the issuance some time ago by the Treasury Department of the following circular letter:

APPRAISEMENT AT PORTS OF DELIVERY OF MERCHANDISE FORWARDED UNDER THE IMMEDIATE-TRANSPORTATION ACT.
(Circular No. 95.)

TREASURY DEPARTMENT, Aug. 15, 1903.
To Collectors, Surveyors and other Officers of the Customs:

In pursuance of the provisions of Sec. 2949, Revised Statutes, and Sec. 10, Act of June 10, 1890, collectors and surveyors of customs are hereby instructed to inform the Secretary of the Treasury of the entry (and before appraisement) of merchandise received at their respective ports of delivery under the immediate-transportation act, whenever, in the judgment of the appraiser or the person acting as such, the expert assistance necessary to secure a just and impartial appraisal of said merchandise is not available. Upon receipt of such information, in the discretion of the Secretary

of the Treasury, a competent appraiser will be ordered to the port of delivery to assist in the appraisement, or instructions will be given that good and sufficient samples be forwarded by mail or otherwise, or (in cases where an appraisal by sample is impossible) that the whole of the merchandise be conveyed by the collector, or the surveyor, or his duly authorized representative, to such other port or ports as may be considered proper, for submission to experts, the merchandise to remain in the care and custody of said officer of the customs until its return to the port of delivery.

ROBERT B. ARMSTRONG, Ass't. Sec'y.

Apart from the minor difficulties which obviously must be encountered in the enforcement of this ruling, such as responsibility for goods in transit between domestic ports, an anomalous condition arises through the fact that the local importer is at liberty to apply for an injunction to restrain the local customs authorities from removing the goods out of the port at which they entered. The injunction obtained by Bruhl Bros. & Co., Providence, R. I., restraining the local authorities from sending an importation of diamonds to New York for reappraisal seems to constitute a precedent for the contingency referred to. It was Judge Brown, adjudicating in the United States Court at Providence, that granted the injunction to Bruhl Bros. & Co., but the case was not appealed by the government, and so far has not been decided by the Appellate Court. Pending the adjudication of the last-named tribunal in this pertinent case, the issuance by the Treasury Department of the order printed above, has created considerable surprise among the members of the diamond importing trade, and in view of the contradictory aspect of the question its outcome is being watched for with interest.

First Specimen of Radium Draws Big Crowd

The first specimen of radium, the newly-discovered and powerful-rayed element, exhibited in this city, was shown on September 9th, at the American Museum of Natural History. All day long crowds swarmed to the museum to get a look at this curious little bit of powder. The radium was presented to the museum a few days previously by Edward D. Adams. George F. Kunz, the gem expert, and Dr. Charles Baskerville, of the University of North Carolina, have been experimenting with it, and the museum authorities will continue the experiments. The specimen weighs just about two grains. It is in a little air-tight glass tube about an inch long, which lies in a bed of cotton in a little pasteboard box. The radium and a specimen of pitchblende, the mineral from which it is extracted, were guarded from careless hands by a big glass globe.

J. Rosenblatt, diamond cutter and polisher, formerly at 49 Maiden Lane, is now located at 41 Maiden Lane.

Max J. Lissauer, of Lissauer & Co., returned recently from Europe on the steamship *Deutschland*, after an absence of about four months. During his stay abroad he frequently visited London, Amsterdam and Paris, and made very large and advantageous purchases of diamonds and pearls in these markets.



CHART FOR THE GRADING OF DIAMONDS

A. Blue white and perfect.
 B. Blue white and imperfect.
 C. Extra white and perfect.
 D. Extra white and slightly imperfect.
 E. Extra white and imperfect.

1. White and perfect.
 2. White and slightly imperfect.
 3. White and imperfect.
 4. Commercial white and perfect.
 5. Commercial white and slightly imperfect.
 6. Commercial white and imperfect.

7. Good color and perfect.
 8. Good color and slightly imperfect.
 9. Good color and imperfect.

Copyrighted, March, 1902, by S. C. Scott.

The "Scott System" of Grading Diamonds IS NO EXPERIMENT.

Thousands of diamonds have been sold by us under this system, and not one case has been reported of a jeweler having been compelled to take back a stone because it was not as represented.

The absolute certainty that you are being fairly dealt with goes with every diamond graded and guaranteed under the Scott System.

This is the easiest, safest and most satisfactory way for you to buy and sell diamonds. It enables you to guarantee every transaction positively and unequivocally. It makes satisfaction doubly sure, and it firmly establishes the confidence which your customers should feel in you when purchasing diamonds.

Let us send you a few stones on memorandum and compare prices.

S. C. SCOTT MFG. COMPANY,
9 Maiden Lane, New York.

C. Dorflinger & Sons *FINE GLASSWARE*



No. 555 STEMWARE OPTIC.
CUT STEM, STAR FOOT.

36 Murray Street, New York.

The Highest Achievement in Watch Construction

is represented in the

VACHERON & CONSTANTIN

GENEVA, SWITZERLAND



THE LEADER in { Quality Adjustment Durability Style

It Fits All Sizes of American Cases
New Grades—New Sizes—New Improvements
Special Grades for Railroad Men

EDMOND E. ROBERT, SOLE AGENT
3 Maiden Lane, New York

New York Letter

(Continued from page 1459)

Crowds of Buyers in New York There is an unprecedented number of buyers in town just now, said the *New York Sun* of September 20th. The wholesale merchants and the room clerks at the hotels most patronized by buyers alike testify to the fact. A manager of the Merchants' Association gave the following statistics on the subject:

"In little more than a month, and leaving out part of last week, more than 4500 buyers representing nearly every State in the Union, registered at this office, about twenty per cent. more than came during the same length of time last season.

"Of course, this association doesn't come in contact with half the buyers who visit New York. A lot of them won't go through the red tape, as they call it, necessary to entitle them to excursion dates and rates. They prefer coming at their own time and as they please.

"One thing is certain, there have never been so many buyers in New York during any six weeks before as in the last six weeks. Most of the far West and far South buyers have been here and gone, but just now we are flooded with buyers from the Middle West, Middle South, Northern and Eastern States."

At a hotel in lower Broadway much patronized by buyers the clerk said in answer to a question:

"We have had nearly 2000 buyers arrive in one week this season, and as many as 500 have registered in one day. It goes without saying that this unusual influx of buyers makes glad the heart of the wholesale dealer. It means money, and plenty of it, in his pocket."

Most merchants say also that it means a business boom to the wholesale district of New York. Sitting in his private office, the senior member of one of the largest, oldest and best known wholesale Broadway dry goods houses stopped sorting his mail long enough to say, with a satisfied smile:

"We have done the best July and August business this year in the history of the house, and our September record will overtop the mark for that month still more, I think.

"Not only do the buyers place larger orders than ever before, but they pay well and money is easy."

Another big dry goods and notions house not far from Broadway, which has been known for generations all over the country, has had dealings during the last six weeks with almost twice the usual number of buyers, and a representative said that as a result a third more business than usual had been done.

"The Southern buyers," he added, "have dropped more money with us than they have ever done before.

"The reason? Well, I suppose the profitable cotton crop has a good deal to do with it.

"Instead of bringing six and eight cents a pound, which has been the normal price of cotton for years, it now sells for twelve and fourteen cents a pound. Both in quantity and quality the output of cotton this year was splendid, and, besides that, other industries—lumber and iron, for instance—have yielded returns far beyond the ordinary.

"In fact, if the buyers from Dixie are to be believed, the Southern people never had more money to spend. Evidently the shop-keepers have tumbled to the fact and mean to give them a chance to spend it."

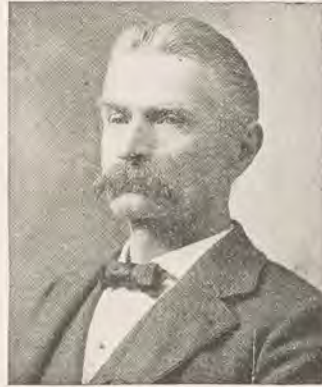
"Western buyers, too, are spending freely and asking for the costlier qualities of goods, as well as cheaper grades. Buyers from East, West, North and South, in fact, have alike, in a greater or less degree, increased their orders this year.

"Of course, I mean the larger buyers, whose operations generally indicate pretty clearly the financial condition of the States they come from."

Members of other large wholesale concerns dealing in many other lines of goods unanimously echo the optimistic reports of the dry goods men. None could be found who was dissatisfied with the autumn business.

Death of Charles Lembke

After suffering from intestinal trouble for several years, Charles Lembke, senior member of the well-known optical firm of Gall & Lembke, 21 Union Square, succumbed last month at the home of his daughter, 754 Putnam Avenue, Brooklyn. Deceased was sixty-eight years old and had not been actively identified with the concern for the past two years, owing to his impaired physical condition, his interests being attended to by his sons—Charles, Jr. and Emil—who have been associated in business with him for eight years. About two months ago the sufferings of deceased became so serious that it was necessary for him to take to his bed, and he never rallied afterwards. Together with being one of the oldest opticians in this city, the late Mr. Lembke was an enthusiastic votary of scientific research, being a close student of the phenomena of the firmament and a recognized authority on astronomical affairs. He was the first manufacturer of



Charles Lembke

sun dials in New York City, having spent years of painstaking effort in evolving a novel method of producing these contrivances. His experiments in this field brought him into contact with a number of astronomical and mathematical professors in the local colleges. Deceased was a native of Karlsruhe, Germany, and came to America when eighteen years old. His initial engagement in the New World was in a drug establishment, but finding this uncongenial to the full development of his talents, he began the study of optics under Charles Alt, a prominent optician in this city fifty years ago. He opened a business of his own in 1857 in a Park Row building, which was afterwards destroyed by fire. When he began business for the second time, Julius Gall was admitted a partner; the new concern being located in a down-town section of the city and conducted under the name of Gall & Lembke, which title remained unaltered since the death of Mr. Gall ten years ago. After continuing the business alone for two years deceased admitted his two sons. The late Mr. Lembke was a member of the New York Academy of Science and the Astronomical Society of Brooklyn. In addition to the sons mentioned above, a daughter also survives him. The president of the American Association of Opticians has issued a notice to the other officers and members of that body, stating that ex-President A. Jay Cross, of New York City; ex-Chairman Board of Regents Geo. H. Brown, of Man-

chester, N. H., and Vice-President Geo. R. Bausch, of Rochester, N. Y., have been appointed to draft suitable resolutions to be spread upon the minutes of the association, and a copy thereof transmitted to the family of the late Mr. Lembke.

Death of John Gilbert Brown

The death of John Gilbert Brown, which occurred September 1st, removes a personality well known for the past fifty years in the wholesale and retail jewelry trade of this city. There is peculiar synchronism in the death of Jeweler Brown and that of his long-time friend, Charles Lembke, noted above, both of whom died on September 1st. The late Jeweler Brown was born in the town of Leicester, Mass., in the year 1817, being accordingly only four years' short of the nonagenarian mark. In early life he was apprenticed to a manufacturing jeweler named John R. Andrews, of this city, in whose factory he remained ten years. In 1848 he took charge of the repair department in the wholesale and retail establishment of Daniel I. Tenney, located at Murray Street and Broadway. Here he remained until the dissolution of the firm in 1856, after which he opened a business of his own at Sixth Avenue and Fourteenth Street, where he continued twenty-one years and then retired, having taken W. H. Brown into partnership a short time before. The latter is at present in charge of the repair department of Tiffany & Co.

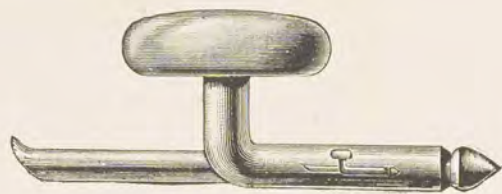
Stephen M. Griswold, the jeweler of 65 Nassau Street, and one of the oldest members of the trade in the city, attended the tenth annual convention of the New York State Bankers' Association, recently held at Saratoga, in his capacity as president of the Union Bank of Brooklyn. He delivered an address at the opening session on the financial condition of the State and country.

The stock of the estate of the Spencer Optical Mfg. Co., 15 Maiden Lane, which concern became bankrupt some time ago, was bought at public auction, September 14th, for \$9300, by the wives of John S. and James E. Spencer, the principal stockholders in the firm. The concern will be reorganized under the name of the Spencer Optical Co., and the business will be continued at the same location. John S. Spencer is president and treasurer and James E. Spencer vice-president and secretary of the reorganized company.

The New York Standard Watch Co., Jersey City, N. J., is about to occupy the four-story brick building which the company recently erected as an addition to its factory at a cost of \$20,000. The new building extends for a space of seventy feet along Woodward Street.

The J. D. Bergen Co., manufacturers of cut glass, 38 Murray Street, have issued a handsomely-compiled and profusely illustrated catalogue and price-list of their products. It contains 80 pages and measures 13½ x 10 inches approximately. It is almost wholly pictorial in character, being practically devoid of reading matter with the exception of the first page, which is devoted to a few introductory remarks. Prices are quoted below each article and the compilation as a whole is a striking evidence of the remarkable facility with which cut glass lends itself to pictorial representation. The catalogue is carefully indexed and will prove a useful reference book to all those who deal in this beautiful ware.

The following firms were elected members of the Jewelers' Association and Board of Trade at the regular monthly meeting of that body held some weeks ago: Oneida Community, Ltd., Niagara Falls, N. Y.; the Gustave Fox Co., Cincinnati, Ohio, and the D. F. Briggs Co., Attleboro, Mass.



Sailing Under False Colors.

When buying Shirt Studs don't be deceived by a Salesman when he says they are "Just as good as the Larter Studs," for there is no such stud made.

Some manufacturers try to sell studs on the reputation of the Larter. But for your protection, as well as ours, on every Larter Stud is stamped our trade-mark, thus

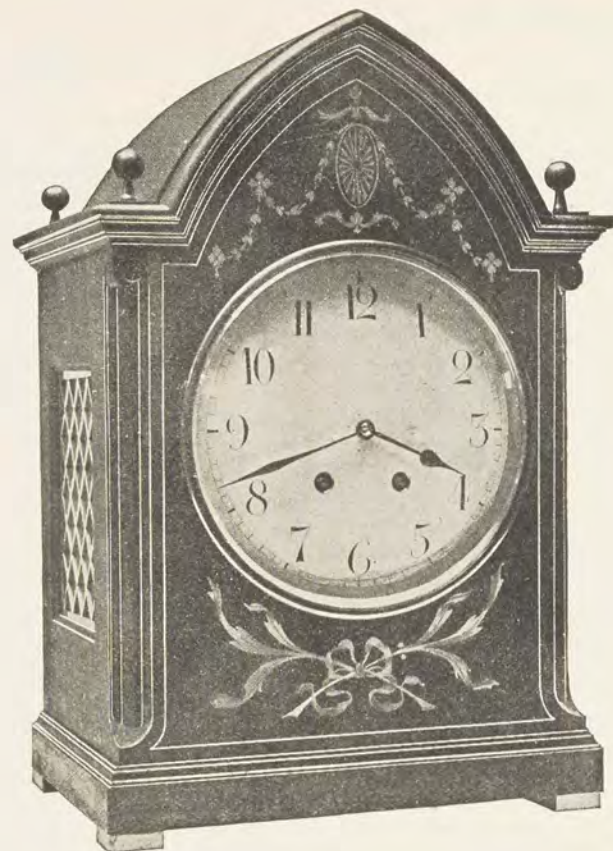
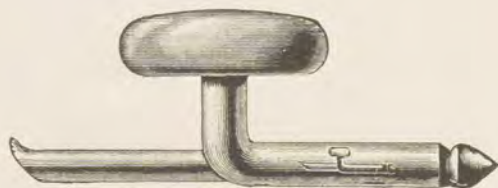


and unless so stamped is not a Larter.

Don't be deceived—but get the only satisfactory shirt stud made. Progressive Jobbers have them in 10 K. Gold and 14 K. Plate.

Larter, Elcox & Co.,

21 Maiden Lane,
New York City.



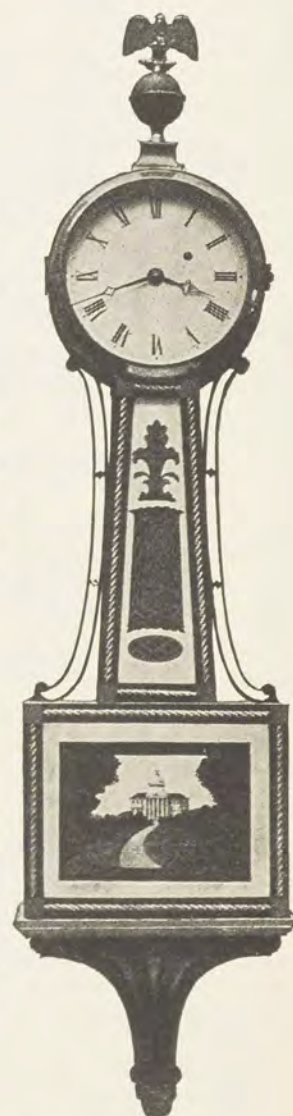
CLOCKS.

We have prepared with great care and now have ready to offer the trade two new and especially fine lines—Willard Clocks and Bracket Clocks.

Our Willard Clocks are correct reproductions. Mahogany Cases, brass mountings and illumined glass all carefully executed. Although handsomely cased and fitted with the highest-grade movements, these clocks are yet moderate in price. Made in four styles.

Bracket Clocks of exclusive designs, quality of cabinet work, brass mountings and movements unsurpassed. Rightly priced.

Any Hall Clock requirements can be supplied from our line, which comprises thirty distinct patterns with wide range of prices. Fitted with half-hour strike, gong and tubular chimes. Catalogue upon request.



GEO. W. SMITH & CO., Inc.,

Sales Department and Showrooms:

Factories:

West Philadelphia, Pa.

1025 Race Street,

Philadelphia, Pa.

New York Letter

(Continued from page 1461)

Inconvenience of the Ditch System of Subway Cutting

The amount of suffering that New Yorkers have endured on account of the ditch system of construction employed in building the underground railway was brought vividly to the attention of the Merchants' Association by the recent report of its committee on engineering and sanitation, dealing with the passenger transportation service in New York. Among the causes that prevent the cars of the surface railways from making good time the committee found that the subway obstructions were not inconsiderable. The opposition of the jewelers and opticians concerned, to the ditch system, was noted in last month's issue of THE KEYSTONE. We are pleased to chronicle, in view of this, that the ditch project has been abandoned. This was officially announced, September 18th, by the engineering and sanitation commission. The commission has further decided that there shall be no open shafts on Broadway that can in any way interfere with traffic.

Ludwig Nissen Honored and American Supremacy Portrayed

A meeting of the Manufacturers' Association of New York was held at the headquarters of that body in Montague Street, Brooklyn, on Monday evening, September 21st, at which two paintings, one of Ludwig Nissen, the well-known diamond dealer, 18 John Street, and one of Richard W. Bainbridge, both former presidents of the association, were unveiled by President McCarroll amid cheers. Another interesting feature of the meeting was the paper read by the Hon. O. P. Austin, chief of the bureau of statistics, on "Our Supremacy in Manufacturing."

Appraiser's Clerk Accused of \$2850 Jewel Robbery

In connection with the disappearance of a package of opals and pearls from the appraisers' stores here between July 11th and 13th, an account of which has already been published in THE KEYSTONE, Alfred Hausbach, William Bray and Geo. H. Plant were recently placed under arrest. Hausbach is a stone clerk in appraisers' jewelry department, Bray is the proprietor of a small jewelry store at 558 Hudson Street, and Plant is a brother-in-law to Bray. The two latter were detained as witnesses, and Hausbach held in \$3000 bail after being arraigned before Magistrate Mayo in the Tombs Police Court and subsequently before Commissioner Alexander, to whom Magistrate Mayo remanded them, the case being one for the Federal authorities. The goods in question were consigned by a German firm to R. Ginsberg, jeweler, of 51 Maiden Lane. The receipt of the package was recorded at the appraiser's stores, but when it was wanted for appraisal on July 13th Hausbach reported that it was gone. He pointed out the place where he had put it and was sure that he had seen it there shortly before. A search of the department and an examination of every employee were futile. It was finally proposed in all seriousness that every watchman in the place, seventeen in all, should be discharged, as it seemed likely that one of them must be the thief. Nobody thought of suspecting Hausbach, who had been employed in the building for seventeen years. The police were notified of the disappearance at the time, and dealers in jewelry were notified to look out for it. On September 18th two men entered the jewelry store of Albert Lorsch, at 31 Maiden Lane, and offered a quantity

of opals and small pearls for sale. The man in charge became suspicious and while detaining the visitors sent for Ginsberg, who was soon forthcoming and was sure that the goods were portion of those bought by him in Germany. When the detectives were called in the strangers gave their names as William Bray and George H. Plant, asserting that the jewels had been left with them a few days before by an elderly man who wanted them sold for him. They knew nothing at all about the stranger, they said, except that he gave the name of Alfred Hausbach, of 12 Van Ness Place. The detectives then took the men before Appraiser Whitehead, from whom it was learned that Hausbach was a clerk in the stores. Hausbach was confronted with the two men, who identified him at once. He admitted having brought the jewelry to them, but denied that it had come from the missing package. When pressed by Mr. Whitehead, the clerk told a long tale, substantiated by many details, about meeting a sailor on West Street, who handed him the jewelry to sell on commission. He did not know the sailor's full name or address, however. While Hausbach was being cross-examined by his chief, the detectives searched his room at 12 Van Ness Place. There they found three more packages of pearls and opals, all that were still missing from the Ginsberg package. Hausbach was then formally arrested.

Bankruptcy Due to Brother's Indiscretion

Isidor Michelson, jewelry manufacturer, 41 John Street, recently filed a petition in bankruptcy, but owing to the peculiar nature of the case it was at first thought probable that he would continue in business, the creditors having lent their aid to a satisfactory adjustment. The petition shows the liabilities to be \$52,684, and his available assets \$10,534. His embarrassment is alleged to be due to his brother Heyman, who has disappeared and against whom embezzlements amounting to \$17,000 have already been charged. Isidor Michelson was taken to his home, 419 East One Hundred and Eighteenth Street, quite ill, after signing the petition, and the family physician was called to attend him. Heyman Michelson, the bankrupt's brother, was taken into the firm about ten years ago, and became traveling salesman for the house. About a month ago, it is said, two notes were received from Heyman Michelson for goods purporting to have been sold to a customer in Tennessee. The notes aggregated \$13,000. They were discounted, and two weeks ago they came back with the endorsement that they were forgeries and that the customer asserted he had paid cash for the goods he bought. Isidor Michelson hastened to Roanoke, Va., where he confronted the brother. The latter said that he had the \$14,000 worth of goods, and would explain matters when he returned. He went to his room to fetch the jewelry, but has not since been found. He left a note saying: "I know I have done wrong and you will never see me again." Nothing further has been heard from him up to this writing. Stern Bros. & Co., and other creditors, however, applied for a receiver upon the alleged discovery that \$5000 worth of jewelry shipped to Mr. Michelson since August 11th is not in his possession and that he cannot account for it.

Hiram A. Bliss, president of the Jewelers' Association and Board of Trade, of this city, and manager of the Gorham Mfg. Co.'s down-town store, situated at 21 Maiden Lane, spent a two-weeks' vacation in Vermont recently, accompanied by his wife.



14 and 10 K.
Gold and
Sterling Silver
Jewelry.

POPULAR-PRICED
Hand-Carved
Seal Rings.

Odd and Fanciful
Conceits
in New Fall Designs
for the Smart
Gentleman and
Gentlewoman.

Our salesroom at No. 15 is the largest and most commodious on Maiden Lane and so arranged to give you every facility to inspect our lines at your leisure.

We are direct importers of **exclusive** novelties in **Gun-Metal** articles and **Ebony Toilet Goods** and manufacturers of **Walrus Traveling Rolls, Combination Sets, etc.**

We cordially invite you to inspect our lines when in New York.

Selection Packages of Gold and Silver Jewelry sent upon request.

Chas. L. Trout & Co.

15 Maiden Lane,
NEW YORK CITY.

FROM now on and until after the holiday season is over, the retail jewelers throughout the country should push their business to the very limit. Unmistakable signs of prosperity are abundant, and except in some few localities the actual business conditions at present and the future outlook are all that could be reasonably asked for.

The thing to do for the wise jeweler just at this time is to find the right watch jobber—and hang on to him—that's the only right way to run your watch department, because you can't get the right watches or the right service if you scatter your orders.

As the holiday season comes on, the great trade in watches increases rapidly and we urge the early placing of your watch orders that they may be shipped in ample time and filled satisfactorily.

If for any reason you can't visit either of our stores you can confidently expect the best service and the very best assortment obtainable if you will send us your open order for watches. Order from our nearest office, please.

**J. W. FORSINGER,
WHOLESALE WATCHES,**

Columbus Memorial Building,
Chicago.

Room 711, No. 2 Maiden Lane,
New York.



WESTERN BUREAU OF THE KEYSTONE
ROOM 501 COLUMBUS MEMORIAL BUILDING
CHICAGO, SEPTEMBER 25, 1903.

The State of Trade and Prospects

The outlook for fall and holiday business in Chicago and the West was never better than it is at present. This statement, speaking in a general way, applies to nearly all lines of business, but more especially to the jewelry and optical trades. Country dealers are coming to the city freely and in constantly increasing numbers. House trade among our wholesale people never was better at this season. Out-of-town dealers say that the farmers are well supplied with money in most localities throughout the West, Southwest and Northwest and are buying freely and of a better class of goods, many luxuries being now indulged in by urban residents who formerly confined themselves to the necessities of life. They also say that they are enabled to make closer collections, and this enables them to keep close paid up with the wholesaler. This state of affairs gives rise to the good feeling and confidence that now pervades commercial circles in the jewelry, optical and allied trades. The promise of late crops is now better than a fortnight ago. Corn will be far beyond the expectations of the grain speculator and the calamity howler, mortgages are being paid and released, and many Western farmers are taking on new lots of land. The West has been highly favored after all, and the jewelers will undoubtedly enjoy a record-breaking fall and winter trade from present indications.

The West is Prosperous and Substantial

"The report that the damage to corn from the frost is smaller than was feared," said President Hulburd, of the Elgin National Watch Company, "is something that will give pleasure to the country. Corn is America's imperial crop. It counts for more than cotton, wheat or any other of the country's big products. A reduction of the yield, of course, might not mean a reduction in the amount which the farmer would receive for it. It would mean an advance in price which would bring the cost up to a higher point for the consumer. The present outlook is that the crop will go to the 2,000,000,000 bushel mark at least, and that line has not been passed many times. The West has been greatly favored during the last few years, and this is true of 1903 as well. Some sections have, of course, suffered a serious loss this season by reason of high water and early frosts, but this is largely local and has been compensated for to a great extent by the large crops secured, the high prices obtained for

them, and the general feeling of confidence such times beget in a community. Taken all in all, the West is to be congratulated on its prosperous and substantial condition, the honest reward of hard work well applied."

The Price of Silver Advancing

We are glad to note that the price of silver has advanced a little of late, the quotations ranging around 57 cents per ounce, the highest notch since November, 1901. For one important reason, this advance in silver will be welcomed. Silver mining is a very important interest in the West, though it does not rank as high, absolutely or relatively, as it did a few years ago. The market value of the United States' annual silver product has averaged about \$33,000,000 in recent years, which is something of an item in the country's resources. An advance, however, of a few cents an ounce above the present price would open hundreds of mines now closed, and add many millions to the country's annual output of the metal. This is something the business men of the Western country would like to see happen.

Kansas is All Right

The latest from the Sunflower State is that the Kansas corn crop will amount to 200,000,000 bushels. All indications point to this figure. Late corn will be matured by October 1st. If no killing frosts occur by that time the crop may reach 225,000,000 bushels. This settles it—Kansas will undoubtedly have the most prosperous fall and holiday trade of her history. What is better, our good friends the jewelers will get their full share of this good business.

America's Golden Days

Estimates based on the government's crop report place the country's products of farm and plantation this year at about \$5,000,000,000. Very nearly half of this big amount will be contributed by four staples. Corn will account for \$1,144,950,000, wheat \$535,872,000, oats \$267,901,050 and cotton \$528,750,000. Hay will furnish an addition to this total of \$561,000,000, potatoes \$132,000,000, rye \$18,000,000, buckwheat \$10,000,000, barley \$57,000,000 and the minor agricultural products many millions more. Making all reasonable allowances for possible damage to the corn and some of the other late crops, the amount of money which will come into the hands of the farmers and planters of the country in 1903 is in the neighborhood of \$5,000,000,000. Notwithstanding the pessimistic reports earlier in the season, the agricultural yield of 1903 will be very nearly the highest yet

touched in money value. As a large part of the country's prosperity must always be based on the yield of its farms and plantations, this exhibit is decidedly encouraging. The tillers of the soil are now sure of a large reward for their labors in 1903, and when this takes place the condition of the country in general is usually favorable. The story which is told by the record of the farms and plantations, too, stands a chance to be supplemented by that which will be related by the country's mines and factories. The gold and silver production, except as it may be affected by the strikes in the Cripple Creek district, is sure to be near the highest mark ever reached. Production of coal, iron and the other minerals is also active. All of this, we believe, means a continuance of the prosperity which the country has been enjoying for several years. These are truly America's golden days.

Texas is Proud

Texas feels proud, and well she may. This State now ranks seventh in the list of corn-producing States, coming after Indiana. Not so very long ago Texas had to depend on outside States for her corn, but now she will have corn to sell. Of the total estimated yield for this year of 2,160,000,000 bushels, Texas is credited with the production of more than one-twentieth, while the three States of Illinois, Iowa and Nebraska combined produce about one-third of the total crop.

The Farmer is King

Governor Van Sant, of Minnesota, diagnosed the late flurry in his usual sound-sense and business way. He said: "Wall street is termed the country's business barometer. This is a mistake. The American farmer is the true business barometer. When he prospers the country prospers. When his crops are large and prices good, railroads have plenty to do, their stocks advance and they declare dividends, mills and factories run, the merchant sells his goods and labor is well employed." Words were never more truly spoken.

Personal Mention.

Max R. Green, of Max R. Green & Co., has just returned from a buying trip of six weeks' duration up among the pearl-fishing regions of the Northwest on the lookout for fine pearls.

A number of well-known Chicago trade people, including Robert M. Johnson, C. C. Offerman, George Weidig, W. C. Sommer, Dr. J. B. McFatrach and H. E. Cobb, made up a jolly party in attendance at the annual State Conclave of the Illinois Knights Templar which convened at Peoria, September 1st. They report a fine time and a most cordial reception from the Peoria jewelers when calling at their places of business.

Nic. Bedessen, the Division Street jeweler, has recently returned from a four months' trip to Europe. He was accompanied by his family, and they together visited Germany, Switzerland and France. Mr. Bedessen reports a most enjoyable trip, but says he is mighty glad to get back to Chicago.

Raymond A. Mead, son of M. A. Mead, head of the house of M. A. Mead & Co., left for Ann Arbor, Mich., the first of the week, where he will enter as a student at the University of Michigan.

Fred. G. Thearle, of C. H. Knights & Co., left Monday for a week's trip in the East. Mr. Thearle was accompanied by his daughter, whom he will place in La Salle Seminary at

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A Jewelry Catalogue

Our new 1904 catalogue will be ready to send out to you in due time, write us for the new book and we will cheerfully oblige you. It will contain over 800 pages devoted to everything needed by the jeweler, well illustrated, best printed and most thorough in its descriptions of the goods in our establishment, which is the largest wholesale jewelers in the country.

Our new catalogue shows the largest assortment of jewelry in the country, at the lowest prices.

As a catalogue to buy from it is not only unequaled, but in it are sample values that demonstrate our leadership in the jewelry business.

A copy of this catalogue should be in the hands of every jeweler to show correct market values.

Buying your stock from our catalogue is second only to seeing a perfect illustration of them and have our reputation represented. Not only that, but they will be the best possible values.

An application for a copy of our new 1904 catalogue will be promptly answered. You keep it in a place secure from the intrusion of those who would take it away.

Our new book is worth asking for—it never misrepresents the goods it offers—our reputation is back of it.

Handling mail orders is a science with us. We handle them with care. Every order receives immediate attention the moment it is received. We systematically kept that a minimum of time only is required to fill an order.

BENJ. ALLEN & CO.,

That Is Without a Rival ¹⁴⁶⁷

*the trade about the middle of October. If you do not receive
fully send it free of charge if you are a regular jeweler.
by the retail jeweler. This catalogue is the most elaborately
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but unapproached by any other. The articles illustrated
in the wholesale jewelry business.

every live jeweler, as its prices are a reliable criterion of

to a personal purchase. If you do not see the goods, you
tion as evidence that you will find them exactly as rep-
sible goods your money will buy.

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who have no right to the information it contains.

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have studied the problem over a quarter of a century.
it enters the house, and is filled from a stock so sys-
consumed.

WHOLESALE JEWELERS,
131-137 Wabash Avenue, **Chicago.**

NOW IS THE TIME TO BUY

DIAMONDS

¶ Our immense stock, LOOSE and MOUNTED, at your service and at prices that warrant attention.
¶ When in the market send us your orders, or if you have a customer, send for selection package.

NOW READY,

Our 1904 Catalogue,

The Most Comprehensive Wholesale Jewelry Catalogue in print.

¶ ARE YOU ON OUR MAILING LIST?

If not, advise us. We do not send our catalogue broadcast, but to LEGITIMATE JEWELERS ONLY; and as we keep a list of every book sent out, no one can get a copy unless we are certain he is a dealer and entitled to it.

¶ It is one of the most complete and up-to-date catalogues ever issued, and contains many new goods which will prove good sellers.

¶ While it is not the "biggest" catalogue in print, yet it gives net BED-ROCK PRICES on the widest range of goods handled by any single wholesale jewelry house in America.

¶ We guarantee everything as represented, and assure prompt attention, lowest prices and fair dealing.

Otto Young & Co.

WHOLESALE JEWELERS,

149-151-153 State St.,

Chicago, Ill.

Chicago News

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Auburndale, Mass. He will visit New York and Philadelphia on his return trip.

A. C. Becken has bought a handsome residence at Park Ridge, Ill., into which he and his family moved the second week in September.

E. K. Boyd, Western manager for Julius Racine & Co., returned this week from a visit to the New York office of his firm.

A. T. Westlake, Dean of the Horological Department of the Bradley Institute, Peoria, Ill., paid Chicago a hurried visit the first of the month. He reports this school in a most flourishing condition.

Herman A. Fues, of the office force of the Juergens & Andersen Company, has recently returned from a pleasant outing spent at Pine Lake, Ind., in company with his family.

Fred. H. Smith, of the Geneva Optical Company, has just returned from a business trip to the East.

R. C. Demerast, who has been representing factory "A" of the International Silver Company in their Chicago office, has resigned to take the managership of the Chicago office of the American Silver Company, which is just being opened up on the second floor of the Silversmiths' Building.

Sidney L. Smith, son of A. C. Smith, general watch inspector and superintendent of the time service of the Mexican Central Railway, City of Mexico, Mexico, stopped off in Chicago for a few days the early part of the month en route home from a trip through the East. Mr. Smith thinks Mexico has a future and will some day be a great country, but he prefers the United States to live in permanently.

C. K. Landon has just returned from a business trip to South Dakota, coming home through Northern Iowa. He informs us that the frost hit the corn pretty hard in some localities in South Dakota, also that the corn in Northwestern Iowa has suffered from the same cause. However, he reports that he found trade fair wherever he went.

L. W. Williams, of the traveling force of Norris, Alister & Co., left last week for an extended trip through Kansas, Oklahoma and Texas.

Chas. W. Carman, of the Carman Art Company, miniature photographer, was married recently to Miss Fay Jessop, of this city.

J. C. Perry, manager of the Hamilton Watch Company, Lancaster, Pa., was in town for a day or two last week calling on his friends in the trade. Mr. Perry is looking well and tells us he never felt better. When asked about conditions in the watch trade said that with them they were about the same as this time last year—that means that they were finding it impossible to keep up with their orders.

Geo. E. Feagans, the well-known jeweler of Joliet, Ill., is now at Los Angeles, Cal., looking after the opening up of his new store in that city. Geo. A. Brock, who will have charge of the business, accompanied him. The new firm will read Brock & Feagans, and will have a capital of \$50,000 fully paid in from the start. Their stock will be entirely new and their fixtures, as has been mentioned before in THE KEYSTONE, will be unique and elegant—the finest that money can buy. Their store will be a thoroughly modern one, and we predict a successful career for the new establishment.

Howard Rowbotham, the well-known manufacturers' agent, returned this morning from a successful trip over the "Eastern circuit."

Otto Hirt, of the office force of the Juergens & Andersen Company, is at his desk again after an enjoyable two weeks' vacation spent at Eagle River, Wis.

Chas. J. Jacobs, Chicago and Western manager for the Knickerbocker Silver Company, returned yesterday from a trip over the "Western circuit." He reports a fine trade.

Chas. A. Whiting, head of the well-known Eastern manufacturing firm of Whiting & Davis, is in Chicago this week on one of his regular trips.

W. C. Sommer, the well-known optician who has had his office with the retail jewelry house of Hyman, Berg & Co. for the past ten years, has removed to his fitting room on the sixth floor of the Columbus Memorial Building, where he will spend his entire time hereafter. The jewelry firm have just finished some extensive improvements in the arrangement of their store and needed the room occupied by Mr. Sommer, hence the change.

S. E. Woodstock, head of the well-known Western wholesale house of Woodstock, Hoefler & Co., Kansas City, spent a day in the Western metropolis the early part of the month en route home from an extended Eastern trip. He was accompanied by Mrs. Woodstock.

M. F. Barger, of M. F. Barger & Co., has just returned from a trip to Dallas, Texas. Mr. Barger tells us that the Southwest shows great growth and improvement since his last visit to that country, something over ten years ago. Take Oklahoma for example. In the last five years its population has increased in greater ratio than that of any other portion of the country. Farmers and business men from all over the country have moved there and have laid the foundations for an enduring prosperity. The same thing is occurring in Texas, Arkansas and Southern Missouri. Mr. Barger thinks this improvement is only in its infancy, and that the Southwest, as far as material things are concerned, will be on a basis of equality with the oldest and most prosperous sections of the West in a few years.

H. C. Van Pelt, manager for F. H. Noble & Co., has recently returned from a two weeks' outing spent with his family at Camp Lake, Wis.

Harry M. Aller, well known in the trade here from his former connection with several wholesale houses in this market, but who has held the position as buyer for the L. Bauman Jewelry Company, St. Louis, for two years past, spent most of his vacation in Chicago this year, accompanied by Mrs. Aller. Mr. Aller was seen among the trade frequently early in the month, and reports the World's Fair City as exceedingly prosperous this year. He tells us that their Exposition is making wonderful progress and that there can be no doubt but that the big show will open on time.

Charles H. Spencer, Mr. Schnering's right hand man at Otto Young & Co.'s, is at his post again after a pleasant two weeks' outing spent with his family at Lake Cora, Mich.

R. Sims is a new man on the traveling force of C. H. Knights & Co., succeeding M. N. Coe, who has resigned. Mr. Sims is already out on his first trip.

Chris. Ternandt, retail, at 401 Larrabee Street, has been in one of our hospitals for three weeks past suffering from a case of dropsy. The

last report from his sick bed was that he was on the mend.

Gossip Among the Trade

Benj. Allen & Co. have augmented their already commodious space in the Silversmiths' Building by the acquisition of half the fourth floor of that structure. Heretofore their apartment covered the entire fifth floor, but the rapid and continuous expansion of the firm's trade demanded proportionate additions to its floor space. The recently acquired quarters will be utilized as a clock and art department. The space will be apportioned with mathematical precision so as to insure the utmost convenience to visitors and sales force, and thus facilitate business operations. It covers an area of 6,000 square feet, which, with the main quarters, give the company an aggregate floor area of 16,000 square feet, the largest space occupied by any establishment of a similar character in the West. An inside stairway connects the firm's quarters on both floors. The wall cases and other fixtures installed in the new premises are fine examples of modern store furnishings. At this writing the additional quarters are almost ready for occupancy, October 1st being the date contemplated for the initial opening.

At a meeting of the Board of Directors of the Chicago Jewelers' Association, held early in the month, a request was formulated and presented to the president of that body, asking that he appoint a committee of three to visit the local jewelry trade and solicit subscriptions for the Chicago Centennial Celebration. The president appointed B. C. Allen, of Benj. Allen & Co.; W. J. Miller, Western representative for the Seth Thomas Clock Co., and H. S. Hyman, of Hyman, Berg & Co., as such a committee. We are glad to say that these gentlemen have been successful in raising quite a handsome sum for the purpose named above.

The Lutz-Hornikel Engraving Company is a new engraving firm just launched in Room 705 Masonic Temple. Mr. Hornikel is widely known as a man of marked ability as an engraver. For several years past he has been in charge of the engraving room at Hyman, Berg & Co.'s, and is the author of Hornikel's Modern Text-Book on Engraving. Mr. Lutz, who is well known in the trade as a hustler, will have charge of the outside work. The new firm have started off with a good business.

Out-of-Town Visitors

J. W. Neasham, one of the Hawkeye State's leading retail dealers, for years located at Ottumwa, was among the throng of buyers who have visited this market recently.

The well-known and pioneer firm of Ingersoll & Sheppard, Carbondale, Ill., was represented in this market for several days in the early part of the month by both members of the firm. Mr. Ingersoll was here doing some buying, and Mr. Sheppard was in Chicago visiting at the home of a married daughter. It was an unusual sight to see both partners calling on the trade together, as they generally visit Chicago singly. They are a most interesting pair to meet, and when THE KEYSTONE representative encountered them in one of our jobbing houses they were full of reminiscences. Mr. Sheppard began at the watch bench in December, 1849, in Lebanon, Ohio. He removed to Illinois early in the fifties, locating at Carbondale soon thereafter, where he has been ever since. His career at the

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bench has been continuous save the three years he was a soldier in the War of the Rebellion, so that Mr. Sheppard has spent over half a century at the watch bench. Mr. Ingersoll began his career as a watchmaker and jeweler about ten years later than Mr. Sheppard. They have been partners for over thirty-five years and have been located at Carbondale all of that period. Both gentlemen are hale and hearty old men and were an interesting sight as they moved among the trade together.

W. S. Enos, of Oregon, Ill., was among the throng of out-of-town dealers who have bought goods in this market recently.

Frank Mayr, Jr., son of Jeweler Mayr, South Bend, Ind., was a recent trade caller in this market.

C. H. Cole, of Sandwich, Ill., was seen in one of our wholesale houses selecting goods for his fall trade.

Miss M. L. Bowman, well and favorably known among the trade from her long connection with the business of the late L. C. Garwood at Champaign, Ill., as manager, but who embarked in the retail jewelry business in Champaign for herself a year ago, was in the Chicago market for a few days last week selecting her fall bills. Miss Bowman is a bright business woman and stands high among the trade. We are glad to hear that she is making a success of her business venture, as she is most worthy and deserving.

W. W. Pearce, one of the pioneer jewelers of Kansas, having been located at Wichita for over twenty years, spent a few days in Chicago the early part of the month, visiting his son, who travels from the local office of the R. Wallace & Sons Manufacturing Company. Mr. Pearce was accompanied by Mrs. Pearce.

H. E. Taylor, of Bloomington, Wis., was seen among our wholesale houses recently selecting his fall bills.

F. R. Pancoast, of Hastings, Mich., was among the throng of out-of-town jewelers doing their fall buying in Chicago last week.

A. J. Kirkpatrick, head of the Model Drug and Jewelry Store, Oklahoma City, Okla., was in Chicago for a few days early in the month combining business with pleasure. He was a pleasant caller at KEYSTONE headquarters while in town. "Oklahoma is truly a magical land," said Mr. Kirkpatrick when asked about the state of business in his section. "The articles printed showing the growth and development of Oklahoma are all true. Our farmers are prosperous, farm lands are rising in value, and our country is growing rapidly in population. We who live in Oklahoma are so used to prosperity that we sometimes do not appreciate the extent of our good fortune. Oklahoma City, the chief city of the territory, now has a population of 30,000, and is growing fast. It is not a 'boom town' and its growth has not been so rapid as to make it unsubstantial, and it promises, I believe, to be the greatest commercial city in the country southwest of St. Louis and Kansas City."

E. E. Taylor, of Taylor Brothers, Houston, Texas, spent several days in the Chicago market last week doing some buying and enjoying life in the Western metropolis. When met in one of our wholesale stores he said that times were prosperous in his section of the Lone Star State

and that the outlook for the fall and holiday trade never was better. "The marvelous rapidity of the growth of Texas can be appreciated when we remember that it was admitted as a State of this Union but little more than a half a century ago," continued Mr. Taylor. "Plenty of living men recall the fight that was made over the matter of making it a State. But those who favored Statehood for the great southwestern territory builded better than they knew. To-day it is the fifth State in the Union in population, and before many more takings of the census will go to first place. Its cotton lands can almost meet the entire world's demands, and its rice fields and herds of cattle can feed millions. I am glad that all our crops, save cotton, are assured, and that they are extremely abundant, and there is a strong probability that our harvests will break all past records. Houston is now the metropolis of Texas and is enjoying a wonderful growth. We are looking for the holiday trade of our lives this season, and we are preparing for it."

Marsh Hainer, of McComb City, Miss., was among the many out-of-town dealers who have recently visited the Chicago market to select their fall bills. When met in one of our wholesale offices Mr. Hainer said that Mississippi was harvesting most abundant crops, and undoubtedly the fall and winter trade would be good with them—more than likely a record breaker. Dealers in all lines in his section of the country he thought were being favored with a most gratifying and prosperous business. This condition made him feel that the fine holiday trade they were expecting would put in its appearance on schedule time.

J. G. Donovan, of J. G. Donovan & Co., Los Angeles, Cal., was among the large number of Western buyers who have recently visited this market. Mr. Donovan spent several days in town combining business with pleasure.

A. Graves & Co., the well-known watch and jewelry house of Memphis, Tenn., was represented in this market for several days early in the month by Mr. N. Nelson, manager of the firm, who was met in one of our wholesale offices and said that trade was excellent in the South, and that Memphis was enjoying her full share of the prevailing prosperity.

Jeweler L. W. Suter, of Nome, Alaska, stopped off in Chicago for a day or two recently en route to his far-away Northern home after a few weeks' visit to his old home in Vermont.

Otto F. Rowedder, of Sherburne, Minn., is in the city to-day selecting his fall bills.

C. D. McElvain, of Red Oak, Iowa, is a visiting buyer in this market to-day.

A. P. Hoffman, of the Arcade Jewelry Store, Springfield, Ohio, is in the Chicago market to-day selecting his fall bills.

J. W. Veatch, of Rossville, Ill., was among the visiting buyers in this market who were stocking up for the home establishment.

D. A. Richards, of Canton, Miss., arrived in this market yesterday. He is selecting his fall bills.

S. W. Lindsay, of Omaha, is in Chicago this week on a buying trip. When met in one of our wholesale stores he said that Nebraska was still all right, though her corn had suffered some from the early frosts. It was hard to estimate the damage done, but it was safe to say that the corn harvest would average fair. Mr. Lindsay brought the news that he had recently enlarged his store and made other improvements, all of

which was made necessary by his increasing and expanding business.

Harry M. Berry, watchmaker with W. W. Pearce, Wichita, Kans., was a trade caller in Chicago last week. THE KEYSTONE representative was glad to meet his old friend Harry, whom he knew twelve and fifteen years ago as a retail jeweler at Alma, Kans. Mr. Berry was en route to Ohio on a visit to his old home in Urbana.

W. A. Quimby, of Leeds and Deadwood, S. Dak., spent the past week in Chicago on the lookout for new things for his fall trade. Mr. Quimby was buying liberally, as he anticipates a lively trade this fall and winter. When met in one of our wholesale offices he remarked that as his was a mining country they did not depend much on crops. The mining business, he said, was unusually prosperous this year, and times were good with dealers in all lines.

Capt. Klein, of Klein & Fink, the well-known and successful jewelers of Fort Smith, Ark., was a welcome trade caller in the Chicago market for several days last week. While in town he found time to drop in at KEYSTONE headquarters. The Captain is one of the pioneer jewelers of the Southwestern country, and is a mighty pleasant gentleman to meet. Speaking of the general conditions in that portion of the country he said "they were all that could be desired and that their prospects for the future are very bright. The harvests are proving record breakers, the farmers have plenty of money and no section of the United States is growing so rapidly as the territory tributary to Fort Smith. Towns are springing up everywhere. New railroads are being built and new buildings erected. Everywhere is hope and the conviction that the future is promising. Fort Smith is a substantial and prosperous city of 20,000 people. It is enjoying a steady growth. We are already a great railroad center—in fact our town is often called the Chicago of the Southwest on this account. We now have seven roads and ten more in prospect. The mining interests of our section are attracting wide attention, and our city is just beginning to be something of a manufacturing point. We are enjoying a great deal of prosperity these times, and in consequence we are expecting a fine fall and holiday business."

Among the callers at KEYSTONE headquarters this week was S. E. Hall, of Hampton, Iowa. Mr. Hall is a former well-known jeweler for years located at Hampton. Five years ago he sold out his business and has been engaged in other lines since, but he could not stay out of his old business and has recently bought back his old stand and will again engage in the retail jewelry business in Hampton. Mr. Hall was in the market looking over the new fall lines, selecting his filling-in bills. Mr. Hall said he could not do business without his old, tried and helpful friend, THE KEYSTONE, so left his subscription.

Among the Western jewelers who have called at KEYSTONE headquarters during the past week was U. S. Bond, of Osceola, Iowa. Mr. Bond brings the news that the corn crop in his section will be only fair this fall on account of a most unfavorable season. He was of the opinion that the short crop of corn would hardly affect trade, as the good prices prevailing would make up for the shortage. Mr. Bond reports that he has recently added cut glass, hand-painted china

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and pianos to his jewelry stock, and that he is doing a nice trade in all of his lines.

Henry Linnig, of Peru, Ill., has been a buyer in this market the past week, selecting his fall bills.

Earnst Starkey, of Waterford, Wis., was in the city last week on a purchasing trip.

G. Blyberg, of Salem, S. Dak., visited the Chicago market last week on a buying trip.

Claude Howard, of Frankfort, Ind., was a liberal buyer in this market last week. Mr. Howard reports favorable trade conditions in his section, and was buying accordingly.

H. M. Barber, of Fullerton, Nebr., was a trade caller in Chicago last week. Mr. Barber was here to do his fall buying.

R. J. Taupert, of Las Vegas, N. Mex., was among the many Western jewelers who spent a few days in this market recently doing their fall buying.

N. H. Knowles, of Humbolt, Iowa, visited the Chicago market last week and was selecting his fall bills.

A. W. Ford, of Freeport, Ill., a familiar and welcome figure in this market, was here for a day last week doing some fall buying.

A. G. Haines, of Merrimac, Wis., was a trade visitor in the Chicago market last week, and was making his fall purchases for the home store.

E. H. Clopper, of Polo, Ill., was among the recent trade visitors in this market. He was on the lookout for the latest fall novelties.

J. W. Prouty, of Roseville, Ill., was a visiting buyer in this market last week, selecting his fall bills.

Jennings & Vannoy, of Canadian, Texas, were represented in this market recently by Mr. Vannoy, who was selecting the firm's fall bills from the stocks of our wholesale and manufacturing firm.

C. W. Bristol, of Napierville, Ill., was in Chicago for a day last week on a business trip.

E. E. Chandler, of Boone, Iowa, who is always a welcome visitor to this market, was here the early part of the week, combining some buying with pleasure.

J. E. Welte, of Welte & Weiding, Peoria, Ill., paid Chicago a visit early in this week. He was selecting their fall bills as well as enjoying a few whiffs of metropolitan life.

B. L. Terry, of Alexandria, Nebr., was among the throng of Western buyers in this market last week selecting his fall bills.

Henry Burkenbusch, of Pekin, Ill., one of the best-known and most popular jewelers of the Sucker State, was in town the early part of the week greeting his many friends in the trade. Mr. Burkenbusch was selecting his fall bills with the expectation of a good fall and holiday trade.

J. Harvell & Son, of Litchfield, Ill., were represented in this market this week by S. Harvell, the junior member of the firm, who was here on a buying trip. Mr. Harvell brought the news that their firm were now nicely located in their new store, which they are quite pardonably proud of. We are informed by travelers who have recently visited Litchfield that the new Harvell establishment is one of the really swell stores of the State, alike a credit to its owners and the enterprising little city where it is located.

D. W. Crume, of Bardstown, Ill., was among the buyers in this market the early part of the month.

Will Gamm, of Madison, Wis., a well-known and familiar figure in this market, was here on a purchasing trip the early part of September.

August Krauthheim, of Muskegon, Mich., was in town for a few days the early part of the month, looking over the fall lines and making purchases for the home market.

J. C. Pears, of Rockford, Ill., always a welcome visitor in this market, was in town recently on a buying trip.

F. A. Follett, of Fremont, Ind., spent a few days in the Chicago market recently on the lookout for fall novelties.

Robert D. Woller, the well-known and successful jeweler of Mexico, Mo., was in Chicago for several days the early part of the month selecting his fall bills.

C. W. Kiser, of Newton, Iowa, was in this market for a few days this month buying his fall bills.

The firm of Keith & McChesney, Iowa City, Iowa, were represented in this market the middle of the month by Mr. McChesney, who was here for a few days, combining business with pleasure.

Jeweler Werner, of Grand Rapids, Mich., was a welcome visitor here recently. Mr. Werner was doing some buying and enjoying a day or two of the busy life of the Western metropolis.

Barnum & Earl, of Traverse City, Mich., were represented in this market last week by Mr. Earl, who was making liberal purchases in the new fall lines.

Jeweler R. Kuehne, of Sheboygan, Wis., accompanied by Mrs. Kuehne, spent a few days in Chicago last week, combining their fall buying with sight-seeing.

W. T. Hixon, of W. T. Hixon & Co., El Paso, Texas, spent several days in the Chicago market recently selecting his fall lines.

John Luckenbach, of Los Angeles, Cal., was among the large number of Western jewelers who spent a few days in the Chicago market recently selecting their fall bills.

Ben Harles, of Houston, Texas, spent several days in the Chicago market recently on the lookout for the late fall novelties.

F. E. Shortiss, of Traer, Iowa, was in Chicago for a few days last week selecting his fall goods.

H. J. Dale, of Linton, Ind., was a trade visitor in this market last week.

The Goodrich Drug and Jewelry Company, of Ord, Nebr., were represented in the Chicago market recently by Mr. Goodrich, who was here on a purchasing trip.

Jeweler H. A. Green, Mound City, Mo., visited the Chicago trade for a few days last week on a purchasing trip.

Joseph Herman, the veteran jeweler of Calumet, Mich., was a welcome caller in this market recently. Mr. Herman was doing some buying in fall lines as well as enjoying a few days of life in a great city.

Oscar Hoberg, of Thorpe & Hoberg, Sioux City, Iowa, spent a few days in Chicago recently on a purchasing trip.

Jeweler Frank Smith, of Pontiac, Ill., was a recent buyer in this market.

M. A. Hurlbut, of Fort Dodge, Iowa, was here for a day or two last week selecting his fall bills.

Chas. Veuve, of Petone, Ill., visited the Chicago market recently on a buying trip.

F. C. Cook, the genial head of the firm of F. C. Cook & Co., of Janesville, Wis., was here for a day or two last week on the lookout for the latest fall novelties.

Frank Heller, of Alexandria, Ind., spent a few days in this market recently selecting his fall bills.

F. Sandwall, of South Omaha, Nebr., was

in Chicago for a few days the middle of last month on his fall purchasing trip. He was accompanied by Mrs. Sandwall.

H. Levine, of Greenland, Mich., visited this market recently on a buying trip.

News from the Trade

News has reached the trade here that C. M. Bailey, the well-known Texas jeweler who has been located at Taylor for the past ten years, had removed to Oklahoma City, the metropolis of Oklahoma territory, where he has opened up a handsome store and is already doing well. Mr. Bailey is an enterprising dealer, and has for several years cherished the wish that he might try his chances in a larger and more promising field than Taylor. His trade friends feel that he has made a wise choice in his new location, as Oklahoma City is generally looked upon as one of the most promising and rapidly expanding trade centers in the great Southwest. The KEYSTONE joins with Mr. and Mrs. Bailey's many friends in the trade in wishing them success and prosperity in their new home.

At a recent meeting of the American Horological Society it was decided that a course of lectures on horological or kindred subjects would be given monthly during the winter months, beginning with January. The matter of examinations in competency in watchmaking will again be taken up by the Society, and members who pass will be given a diploma with the society's seal. The new members elected at the last meeting were Harry N. Blank, Portland, Maine, and Miles Cowger, Springfield, Nebr. The present officers of the society are: President, B. Redepinning; First Vice-President, E. J. Koch; Second Vice-President, A. W. Strickler; Third Vice-President, Loren L. Boyle; Treasurer, A. C. Becken; Recording and Financial Secretary, C. L. Hoefler, 103 State Street.

Herman G. Briggs, the well-known auctioneer and member of the firm of Briggs & Dodd, has been kept at his home in Howell, Mich., since early in January of this year by the serious illness of some member of his family. First his father was taken seriously ill, then a married sister and later his mother. His father died in May and since that time his mother and sister have been so low that he has been unable to leave home to attend to business engagements. At last accounts both the mother and sister were still seriously ill, and Mr. Briggs was still nursing them. The trade will sympathize with Mr. Briggs in his affliction, and hope that his dear ones will soon be restored to health and strength.

Kleiner & Hein, the East North Avenue jewelers, have recently made extensive improvements in their store which have added much to its attractiveness.

Arthur R. McDougall, for a number of years past a practicing optician with L. Manasse, has established himself as a retail optician at 48 East Madison Street, under the firm name of A. R. McDougall & Company. Mr. McDougall is a bright and clever man in his profession, and we predict him success in his venture.

E. Gilbertson, formerly with W. J. Yamm, of Madison, Wis., and Charles Anderson, who has hitherto been with O. M. Nelson, also of Madison, for a number of years, have formed a partnership under the firm name of Gilbertson & Anderson, and have opened a jewelry store in the above-mentioned town. Both members of the concern visited this city recently purchasing goods for their opening.

H. O. Barden, who for fourteen years has looked after the credits and acted as correspondent for A. C. Becken, has severed his connection with that house. H. E. Cosper, who has been in Mr. Becken's employ as manager for a number of years, has assumed charge of the credits and correspondence.

One of Chicago's leading exclusive watch houses will have an opening for two or three watch salesmen January 1st, for different Western territories. Salesmanship will be backed by good stocks. Must have established trade and be well posted in the watch line. State territory covered, experience and annual sales. Do not call, but address Messick & Company, Room 601, Columbus Memorial Building, Chicago.

—Adv.

“La France Rose” Toilet Ware

Is our latest design in STERLING SILVER, and is a beautiful specimen of modern silversmith's handiwork. It is made in a complete line of forty pieces, and now ready for delivery.



No. C-520.
HAIR BRUSH.
Actual Size

In addition to showing the largest and most complete assortment of sterling silver and fine silver plate, the trade should not overlook the fact that our line of rich American Cut Glass, produced in our own factories, is unsurpassed in character of design, workmanship and brilliancy of finish.

INTERNATIONAL SILVER COMPANY,

Warerooms: 9-11-13-15 Maiden Lane, New York.

FACTORIES:

THE BARBOUR SILVER CO.
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1847 ROGERS BROS.
ROGERS & BROTHER.
ROGERS, SMITH & CO.

WILCOX SILVER PLATE CO.
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THE MERIDEN SILVER PLATE CO.
THE WM. ROGERS MFG. CO.
THE ROGERS & HAMILTON CO.
SIMPSON, HALL, MILLER & CO.
THE WATROUS MFG. CO.

General Office, Meriden, Conn.

Greeting:

We will have ready by October 15th, a handsome 75-page catalogue illustrating the best sellers and newest goods in our large line of **Silver Toilet Ware, Manicure Goods, Novelties** and **Silver Deposit Ware**. The prices in catalogue are subject to 50 per cent. and 6 per cent. 30 days. The catalogue will be one of the finest of its kind published and will not only help you in your sales but will be a great convenience in ordering. Send in your name and address if you want one. Address same to the Advertising Department.

Do you know that Philadelphia is one of, if not the largest manufacturing city in the world. If you are coming East to purchase your Fall goods, come to see us, we will show you a few things to surprise you and make your visit a pleasant one; besides, we can make it **pay you**, which after all is the principal thing.

Come and make yourself at home—our office, stationery, telephone, etc., are all at your service.

McSickles & Sons

MANUFACTURERS,

Salesrooms—

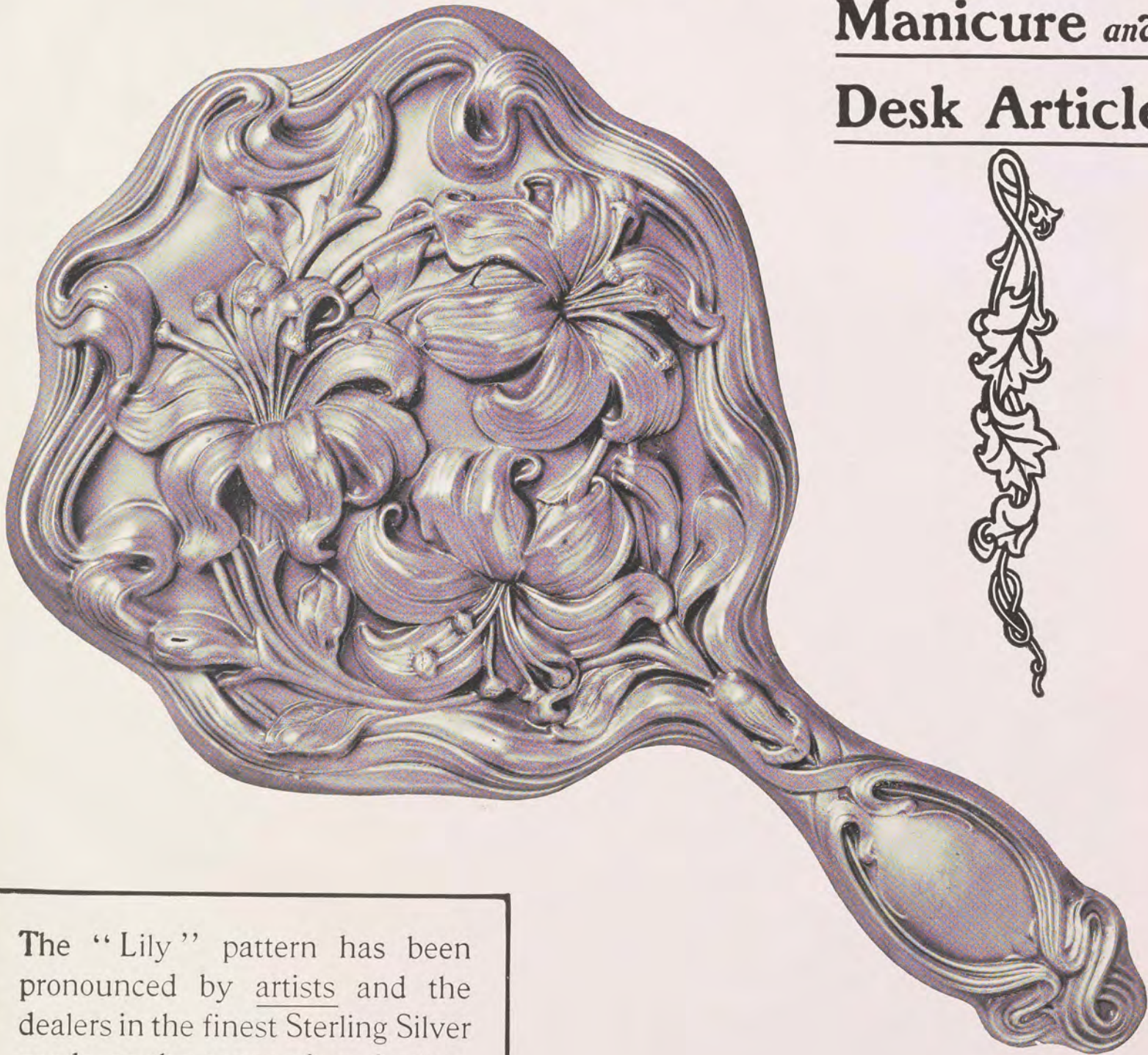
726 Chestnut Street,

Philadelphia, Pa.

Factory, Newark, N. J.

The "LILY" Sterling Silver, ⁱⁿ ¹⁴⁷⁵ Toilet Ware,

Manicure and
Desk Articles



The "Lily" pattern has been pronounced by artists and the dealers in the finest Sterling Silver goods as the acme of perfection, in originality of design and finish. The complete line is now ready for delivery. Write to us for prices, which are lower than other goods of equal value. We sell you the articles separate or put them up in handsome silk boxes, satin-lined.

McSickles & Sons

MANUFACTURERS,

—Salesrooms—

726 Chestnut St., PHILADELPHIA.

Factory, Newark, N. J.

1476

TRADE **1835** MARK
R. WALLACE



THE
NEW
FLORAL
PATTERN

This design will appear in the important October magazines, and it will be distinctly stated that the Floral Pattern is to be had of the leading jewelers everywhere.

You cannot find a silver-plated service that will approach the "Floral" in beauty and daintiness.

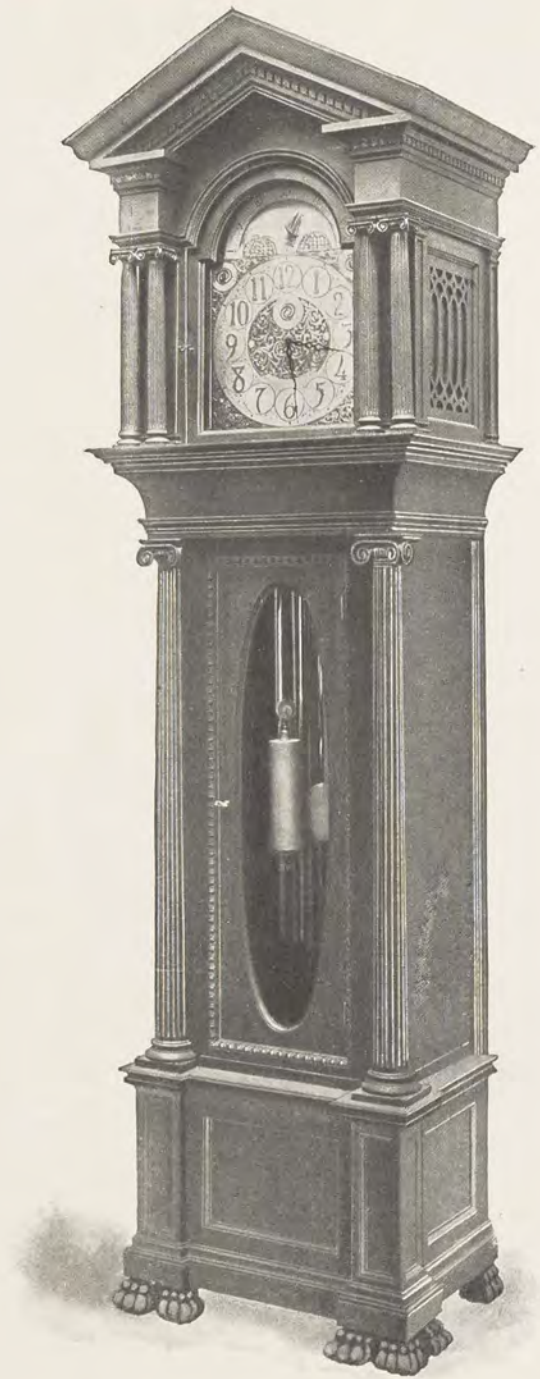
Nor does there exist a stamp on plated flatware that carries with it the solidity and guarantee of true worth that is behind the trade-mark

"1835-
R. WALLACE."

Is not a combination of this beauty with the quality most attractive?

R. Wallace & Sons
Mfg. Co.,
Wallingford, Conn.

BRANCHES:
New York,
Chicago,
San Francisco,
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A full line of Hall Clocks, solid Mahogany Cases. New and Artistic Designs. Fitted up with Westminster or Whittington chimes, five or nine gongs, or five or nine tubes.

Finest Imported Movements, solid brass plates, Graham dead-beat escapement and maintaining power.

Quarter Hour Clocks, Mantel and Willard Clocks in Mahogany Cases.

A Comparison of Our Prices is Invited.
Expert Repairing Done for the Trade.

W. H. HAYS & CO.

IMPORTERS OF CLOCKS,

12 Cortlandt St.

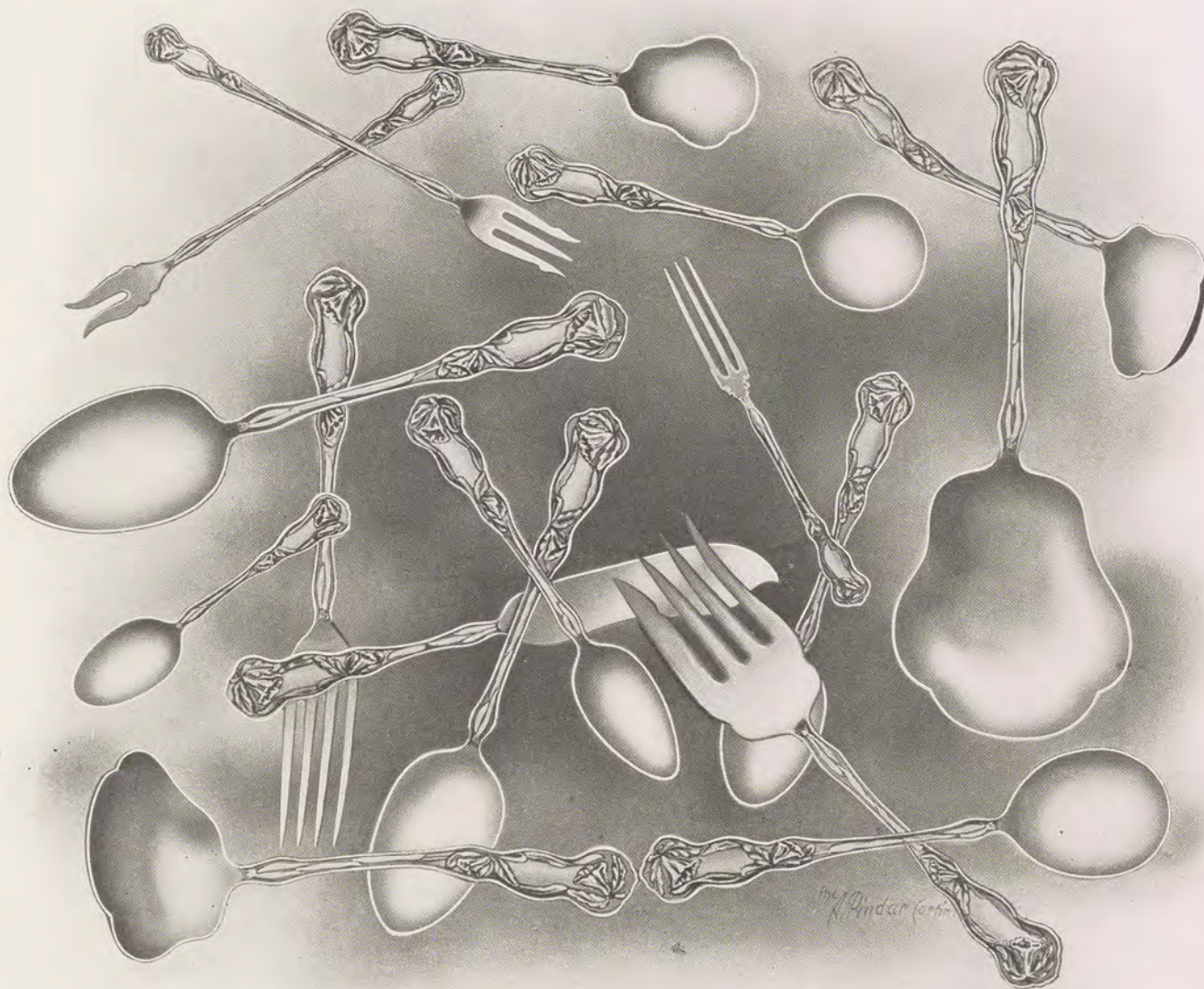
New York, N. Y.

THE ORCHID

1477

Beautiful and
Artistic.

French Gray
Finish.



A BOUQUET OF ORCHIDS

Thirty pieces now ready for delivery.

We Are Not in the Trust.

Simeon L. and George H. Rogers Company,

66 to 72 Market St.

Hartford, Conn.

P. O. Box 1205.

Factories: Hartford and Wallingford, Conn.



No. 1841 Berry Set. 3 Pieces, French Gray Finish, Gold Lined, \$17.00 List.

H O M A N P L A T E

Is pre-eminent in design, quality, and finish, and affords the amplest range of patterns.

It has been before the people of the United States and foreign countries ever since 1847, so that its merits are world-tested.

Our 1903 catalogue, illustrating a superb collection of new styles in all of the latest finishes, has just been issued, and is obtainable through the usual channels.

The Homan Silver Plate Co.

New York Salesroom : 32 Park Place.
 Chicago Salesroom : The Silversmiths' Building.
 Boston Salesroom : The Jewelers' Building.

OFFICE, FACTORY AND SALESROOM,

Cincinnati, Ohio.

OUR
FLATWARE
PATTERN
THE
FLANDERS
WILL SURELY
PLEASE YOU



1802



1804

**THE
DAISY**



1803



1800

**Simons,
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Co.**

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NEW YORK
170 BROADWAY
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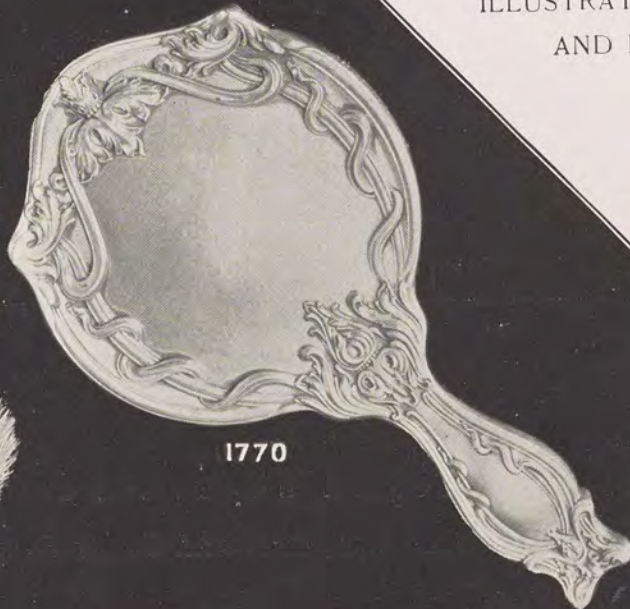
CHICAGO
703 COLUMBUS
BUILDING



1772



1773



1770

SEND FOR FULL SIZE
ILLUSTRATED SHEETS
AND PRICE-LISTS

**THE
ATHENIAN**



1774

CATALOGUE
OF OUR
GOLD AND SILVER
THIMBLES
SENT UPON REQUEST

Quarter Century Silverware

MSB **MSB**

TRADE MARK

Guaranteed for 25 Years **Wears a Life Time**

The true test of all silverware is the life of the silver. You cannot go by appearance alone—thinly plated ware can be made to look as well as the best. But when you buy M. S. B. QUARTER CENTURY PLATE you are safe. We positively guarantee it for twenty-five years.

Write to-day for our free booklet on the care of silverware.

M. S. BENEDICT MANUFACTURING CO.
 109-111 Wabash Ave., Chicago, Ill. ESTABLISHED 1898. Factories: East Syracuse, N. Y.

A READY SELLER!

The "Velvet" Adjustable Bracelet.

Easy of adjustment and as smooth as velvet on the arm or sleeve.

Signet Top.

The "Velvet" Adjustable Bracelet, made with Signet Top and Locket Top. This is a great seller.

Patented May 19, 1903.

Locket Top.

Made in Rolled-Plate and Sterling Silver.

ASK YOUR JOBBER FOR THEM.

MASON, HOWARD & Co.

Manufacturers of Bracelets, Brooches, Cuff and Collar Buttons, Scarf Pins and Studs,

NEW YORK OFFICE—180 Broadway.

ATTLEBORO, MASS.

Philadelphia Letter

Merchants Organizing to Boom Trade

The formation of a permanent association of the merchants and commercial travelers of Philadelphia to correct evils that interfere with the trade of the city and to induce buyers to come here seems assured. Meetings have been held at different times throughout the month and working committees formed to promote the development of the new organization. It is understood that the association that is being formed will co-operate with existing kindred bodies in promoting the welfare of the city's trade. One of the men identified with the present movement is reported as saying to a representative of a local paper: "We recognize the good work done by the existing organizations in the past and now, feeling the need of certain work which they are not prepared to undertake, propose to carry the idea of attracting trade to more definite shape by bringing the outside buyers into personal touch with us and using all possible means to get them to our city. Continuing, he said a gratifying interest is being shown in the proposed association by merchants and commercial travelers throughout the city. The idea of associating traveling salesmen in this movement is novel, he added, but we believe it will lead to the greatest results, as these men are always where they can feel the pulse of the trade. Being distributed from time to time throughout the country, they keep in close touch with the business conditions and understand what is most needed to attract buyers to this market." A guarantee fund of \$10,000 is being secured.

Penna. Railroad Restores Stop-Over Privileges

After four months of persistent work on the part of the Trades' League, the Pennsylvania Railroad Company, through General Passenger Agent George W. Boyd, on September 10th, announced its intention to restore the stop-over privilege on excursion tickets sold between Washington and New York City. This is a distinct victory for the Trades' League, which persisted in its demand even after the railroad company at one time served notice that it would not consider any further communication on the subject. When the stop-over privilege was withdrawn over two and a half years ago, the Trades' League began to receive complaints from members who were affected by the change. The matter was immediately laid before the railroad company and a desultory correspondence was kept up for two years. On June 21st, of this year, the fight for the restoration of what the merchants considered their rights was begun in earnest, with the result that the company has yielded to a petition for the restoration of the privilege signed by 350 of the leading jobbers and manufacturers of the city. The railroad company has all along contended that little benefit would accrue from the concession of the stop-over privilege, and reiterates this belief in its letter to the Trades' League acceding to the request. The League, however, regards the outcome as a signal victory, and its members are highly gratified by the result of their agitation.

Jewelers' Club to Continue Trade Talks

The series of "trade talks" begun last year under the auspices of the Philadelphia Jewelers' Club will be continued during the present fall and coming winter. This was the decision arrived at by the board of governors of the club at a recent meeting. The coming course of lectures will embrace questions

of practical interest to the trade, each subject will be dealt with by a well-known authority and some of the talks will be suitably illustrated. The privilege of participating in these reunions is extended by the club to jewelers, opticians, salesmen, watchmakers and others connected with the kindred trades in this city and the surrounding towns, whether members of the club or not. The initial lecture of the season will be delivered on October 27th at the club's quarters, 1225 Chestnut Street, by D. V. Brown, manufacturing optician, who will discuss the optical business as a whole in a thoroughly practical spirit. Particulars of future lectures will be duly announced.

Louis A. Breitingger, general manager of the American Cuckoo Clock Co., Philadelphia, whose photograph we have the pleasure of printing here, has just returned from another successful trip abroad. His first stopping point was England, and after crossing over to Holland, journeyed from there into the heart of the Black Forest, Germany, where the European factories of his company are situated. Here he spent some four weeks re-organizing the plants, putting them on a greater

plane of efficiency, so that in point of quality and quantity of the movements and parts they make there the European factories would keep pace with the recently enlarged Philadelphia factory. Mr Breitingger says that by allotting to the European factories only that part of the work which they can do best, and adding American ingenuity and workmanship through the cases, etc., made here, the American Cuckoo Clock Company obtains a unique advantage in the production of their cuckoo clocks, an advantage strengthened by periodical trips abroad and the closest personal relations with the factories there. There are some quaint little workshops in the Black Forest where men with an inborn talent for wood carving conceive some of the beautiful designs that adorn cuckoo clocks. Mr. Breitingger visited many of these, and not content alone with the ideas imbibed there and in Switzerland, he visited the principal art centers of continental Europe, returning by way of Italy and the Mediterranean. He avers that he has brought along lots of new ideas that their artists are now working on, and that will presently make the product of his company even better than it is now.

M. Sickles & Sons, 726 Chestnut Street, announce that by October 15th they will have ready for distribution a handsome catalogue containing seventy-five pages. This compilation will include handsome illustrations of the newest goods in silver toilet ware, manicure articles, silver deposit ware and novelties. Prices will be conveniently set forth and the catalogue, as a whole, will be a fine example of typographical excellence and a valuable source of reference for the retailer, especially on the threshold of the holiday trade.

The beautiful casket covered with sculptured leather, which has been designed to contain the architectural drawings of the new State capital of Pennsylvania has recently been on exhibition in the show window of the Bailey, Banks & Biddle Co., who designed and executed the artistic receptacle.

Wm. Hurlburt, of H. O. Hurlburt & Sons, returned a few weeks ago from an enjoyable tour in Europe.

Harry W. Smith, lapidist, 711 Sansom Street, has leased the handsome quarters at 717 Sansom Street and is having them remodeled to suit the requirements of his business prior to removing to them. The new premises are being equipped with elaborate fixtures. Mr. Smith's removal has been necessitated through the growth of his business with its consequent demand for more room.

The old-established firm of Westcott Bailey & Co., is to be succeeded by a new firm dealing under the name of Coombes & Van Roden. The firm of Westcott Bailey & Co. was established fourteen years ago by Eli Westcott Bailey and his son, Westcott Bailey, both of whom previously belonged to the firm of Bailey & Co., now the Bailey, Banks & Biddle Co. The diamond and jewelry business founded at that time subsequently developed into a large concern. Eli Westcott Bailey died in 1899 and the surviving son, who has since conducted the business, recently decided to retire. The entire stock has been purchased by Horace M. Coombes and George C. Van Roden, who have been in the employ of J. E. Caldwell & Co., of this city, for over twenty-four years. The business will be continued at 1020 Chestnut Street and the premises will be altered and improved.

Smooth Swindler Secures Valuable Jewelry

Breitingger & Kunz, 37 and 39 North Ninth Street, were victimized, September 16th, by a neatly-dressed young man who claimed to be a student. He secured two diamond brooches, a diamond stud, a pair of earrings and three finger rings, aggregately valued at \$1000. The young man requested to be shown some studs, stating that a number of fellow-students had decided to present a classmate with a diamond stud. He was shown a trayful and selected one. The clerk went to the opposite side of the store to weigh the stud, and it was probably at this juncture that the stranger slipped noiselessly over to the large trays near the window filled with diamonds and jewelry and committed the theft. He was not detected in the act, and when the jeweler returned to the counter the young man calmly requested that the stud be polished and, handing the clerk a five-dollar bill said, "keep that on account until I return." He then left and when he did not reappear within a reasonable period the jeweler conceived suspicions of a swindle. An investigation revealed the theft and the matter was placed in the hands of the detectives. The stranger wore a blue suit, with a flat straw hat, and outwardly resembled a student as he represented himself to be.

Henry M. McCutchen, at one time a well-known watchmaker in this city but who retired from business about ten years ago, died last month at the advanced age of eighty-five years. Deceased was a native of Philadelphia and during his active days was familiar to most of the down-town trade. He was descended from Baron Henry Myers, who came here before the Revolution and subsequently served in Washington's army.

Sight Through the Sea

The new hydroscope invented by Signor Pinos, an Italian, it is said, enables human eyesight to penetrate the sea to an incredible depth and for an enormous radius. A naval official who witnessed an experiment with the hydroscope says it can be operated from the deck of a ship, making visible cables and torpedoes.



Louis A. Breitingger.

DIAMONDS—PEARLS

AND FINE DIAMOND JEWELRY.

JUERGENS & ANDERSEN COMPANY,

IMPORTERS AND MANUFACTURERS,

92-98 STATE STREET, CHICAGO.

ESTABLISHED 1854.

INCORPORATED 1893.

STAND BY THOSE WHO STAND BY YOU

We are making and **SELLING** carloads of
Finest Silverware.

Why? Because quality and prices are right and we don't
 sell department stores or price-cutters.

ROCKFORD SILVER PLATE CO.
 Rockford, Ill.

**WE SELL
 ROCKFORD SILVERWARE
 GUARANTEED FOR 20 YEARS**

Omaha Letter

Crop Reports in Nebraska

Of interest not only to Nebraska, but to the entire nation, have been the estimates of loss by frost in this region. Now that the frost has done its worst and an opportunity is afforded of making estimates more nearly founded on fact, the people of the State are pleased to know that the damage was much less than the first reports indicated. To the business men of Omaha the destruction of the corn crop meant pronounced business depression for the year 1904. A moderate amount of damage, while, of course, calculated to limit the volume of trade, can have no serious effect on business. Some statistics in this regard will prove enlightening and will show how far removed from the minds of Nebraska people are any thoughts of business depression. The wheat crop, while not phenomenal, averaged fourteen bushels to the acre, which is considered thoroughly satisfactory, especially as higher prices will be obtained for the output.

In 1902 the entire yield of corn, according to the Government crop report, was 252,000,000 bushels. This estimate is held by experts here to be too high. It will be recalled that the corn was nipped by a severe frost on September 12th, 1902. This did vast damage to the corn, rendering most of it quite soft, and the result of this disaster is clearly indicated in the Government report, which shows that the average price per bushel was 31 cents, which brought into the State for this crop alone about \$75,000,000. A discrepancy occurs here, inasmuch as 252,000,000 bushels at 31 cents would bring \$78,000,000, but it is to be presumed that there was waste of some kind.

The estimates on the crop for this year, prior to the frost, placed the yield at about 220,000,000 bushels. It is difficult to say just what the extent of the loss by frost really was. Much of the corn which was touched by frost will be just as good as most of last year's corn. Perhaps not more than six or eight per cent. of the crop was wiped out. At least fifty per cent. will be much better corn than last year's, and it is not too much to expect that the average price will be at least 35 cents. This estimate does not reduce the yield below 200,000,000, which is really more than an average Nebraska crop.

The conditions which made the crop what it is this season were peculiar. The spring floods rendered much of the first-bottom lands useless for corn planting, and the farmers were forced to plant on the bench lands and uplands. When the frost came, it nipped the corn on the first-bottom lands, but did small damage to the corn on the bench lands and uplands. The explanation of this is that in the valleys, along the margins of rivers and streams, the temperature was lower than on the higher prairie. As the temperature was barely sufficient to produce heavy frosts in the valleys, it produced only light frosts higher up, and this is the reason Nebraska escaped the great loss that was anticipated when the frost came.

While O. H. Weedman, a prominent jeweler of Butte, Nebr., was enjoying a fishing trip, his store was robbed of jewelry valued at \$1,000. He had left the store in charge of a clerk.

G. R. Green, of Geneva, Nebr., has sold his jewelry business to W. P. McCall, of Auburn, Nebr. Mr. Green has been the jeweler at Geneva for the last twenty years.

W. J. Harrison has sold out his jewelry business at Ashland, Nebr.

Lute Wood, a jeweler of Randall, Nebr., was in Omaha recently, looking up a new location.

Conditions in the Jewelry Trade

Jewelry jobbers enjoyed very satisfactory business during August, but there was a slight hesitancy about buying during the first fifteen days of September, owing to the uncertainty with regard to the corn crop. The August business was said by most of the jobbers to be as large as last year's business for the same month. Collections picked up considerably during the summer months, but are again showing dropsical symptoms. One house reports that the money collected during one week in September was scarcely more than the sum usually collected in one day. Retailers have been doing a rather good summer business and few complaints are heard. There is no tendency to anticipate any depression during the winter months. Indeed, the retail jewelers look forward to an excellent holiday business, and are making their purchases accordingly.

Dr. Charles Weigle has again taken the position of optician and watchmaker for Jeweler S. W. Lindsay, after an absence of three months, during which he was working in Sioux City. Mr. Lindsay was in Chicago during the latter part of September, making purchases.

C. O. Sawyer, who has been working at Hastings, Nebr., has taken a position with Mawhinney & Ryan, of this city.

A. D. Knight intends to go into the jewelry business at Eagle, Nebr.

S. F. Andrews, traveling representative of E. A. Dayton & Co., was called to his home in York a few days ago by the serious illness of his son, who is still very low.

C. O. Grimes has gone to Valley City, N. Dak., to accept a position with Jeweler Knudson.

Charles Webber, a student who has been graduated at the Omaha Horological and Optical Institute, has gone to Topeka, Kans., to take a position.

Lee & Robinson is the name of a new jewelry firm at Corning, Iowa. The young men who have formed the firm were formerly students in Omaha, and have been employed for some time by Ackney & Harris, of Corning. Percy Parker, who has been in business at Council Bluffs, has gone to Clarinda to work for Ackney & Harris.

Ray McClintock, a watchmaker, has gone to Norfolk, Nebr., to take a position with William Vail, the jeweler.

The following students have entered the Omaha Horological and Optical Institute: J. Heckman, Livingston, Mont.; L. A. Loper, Hastings, Nebr.; George Hausmann, Manning, Iowa; C. Modsen, Kimballton, Iowa; Julius Toman, Plattsmouth, Nebr.

W. E. Bunnell, formerly a student at the watchmaking school here, has taken a situation at Norfolk, Nebr., with Jeweler C. F. Marquadt.

Mrs. Fred. Anderson, wife of the jeweler, who has been sick with typhoid fever in one of the hospitals here, has recovered.

Harry A. Greenblatt, for six years with Sol. Bergman, has resigned and will try to regain his impaired health.

Cincinnati Letter

A Busy Fall Season

The predictions of a busy fall season are now certain to be fulfilled. Cincinnati members of the trade have been stocked with orders of so generous a character and quality that the winter's business cannot be other than a profitable one. With the harvesting time upon the country, money will shortly become so plentiful that the present tightness in the financial market will no longer exist, and this one hindrance to an otherwise prosperous season will have vanished. High-class jewelry and diamonds are in big demand, and the holiday trade is already beginning to be felt. This year's winter trade indications are that only the best of goods will be in active demand.

A double grief bowed down the relatives who saw the coffin of Thomas Russell, the retired jeweler, buried at Wesleyan Cemetery last month. Mr. Russell died at his home at 954 Martin Street at the age of seventy. A few days prior to his death his favorite daughter, Mrs. Blanche Benedict, wife of a prominent Kansas City paper maker, died at her home in Missouri. Her death was not broken to the father, the family fearing that the news would have a bad effect upon him. During his last moments he continually called for the favorite, and died with her name on his lips. Two sons, Lee and Tilden, who were at the bedside of the father, were also unaware of their double affliction until the father had been cold in death some time.

Reappraisal of Diamonds

Another importation of diamonds which the surveyor of customs of this district has been wrestling with for several weeks has been released by him. The stones were consigned to the Keck Diamond Company, and were appraised by the original bill of lading at about \$25,000. On reaching New York City they were ordered held up, on the theory that they had been undervalued. Special officers went to New York and made a thorough examination, with the result that the reappraisal was found to be but a fraction below their real wholesale value. The consignment was then released without penalty being attached, and was turned over to the Keck Company.

The fall festival has come and gone, and the men who furnished the energy and labor to make it the success which it has proven are satisfied with their own efforts. Over a hundred thousand persons were visitors in the city during the two weeks which the festival lasted, and the total attendance at the grounds will far exceed that number. The railroads handled the throngs of excursionists with satisfaction, and give it as their opinion that Cincinnati is becoming the leading excursion city in the country.

War on the Scalpers

The war which the railroads are about to inaugurate on railroad ticket scalpers has been opened in this city. One road recently reported having taken up five tickets on a single train in which instances the passengers had been requested to sign their ticket and had used a wrong name. The fight is being begun at this early date to prevent any possibility of ticket brokers being able to work with any satisfaction during next year's World's Fair. As the railroads expect to offer rates at something less than half price, they desire to prevent the

(Continued on page 1487)

Consolidation and Expansion

The growing popularity of our product and continuous increase in the demand have necessitated a very material expansion in our resources, plant, product and general facilities. To this end the co-partnership heretofore existing between Messrs. Rodenberg & Dunn has been dissolved and Mr. Dunn's interest has been purchased, thus severing his connection. The remaining members of the firm of Rodenberg & Dunn, together with Mr. Edwin A. Smith, have formed the Rodenberg-Smith Company, in corporation under the laws of Rhode Island. The said corporation has acquired all the assets, good will, etc., of the former firm of Rodenberg & Dunn and also of the establishment known as Albro & Co.

This consolidation means a large increase in working capital. Such a union of talents and forces and such an economizing of methods as will enable us to give better service than ever to the extensive patronage of the former firms of Rodenberg & Dunn and Albro & Co. and to the entire trade. Hoping for a continuation of the present prosperous times and for still closer relations with the trade at large we greet you under our new name.

RODENBERG-SMITH Co.

NEW YORK OFFICE,
9-11-13 Maiden Lane.

CHAIN MANUFACTURERS,
183 Eddy St., PROVIDENCE, R. I.

Providence and Attleboro

Addition to Gorham Mfg. Co.'s Plant

The additional building that is being erected at Providence by the Gorham Manufacturing Co., the ground for which was broken late in the spring, is

rapidly nearing completion and will be occupied by the firm very soon. The new structure is of brick like the rest of the Gorham plant. Its dimensions are 256 x 54 feet and it rises three stories high, exclusive of an ample basement. The first floor will be devoted to the heavy bronze work of the company, and when the bronze department has been removed thither, the original factory will be turned over to the silver department. The west end of the second floor will probably be utilized for German silver work and brass polishing. On the third floor there will be a fully equipped paper-box factory.

Irons & Russell, of Providence, have their plans for the erection of a new brick factory practically perfected.

One of the chief events of recent happening in the jewelry trade of Providence, was the dissolution of the partnership hitherto existing in the firm of Rodenberg & Dunn. Mr. Dunn's interest has been purchased, thus severing his connection. The remaining members of the firm of Rodenberg & Dunn, together with Edwin A. Smith, formed the Rodenberg-Smith Company, a corporation formed under the laws of the State of Rhode Island. The said corporation has acquired all the assets, good will, etc., of the former firm of Rodenberg & Dunn and also of the establishment known as Albro & Co., which latter has been owned by Mr. Smith. The consolidation has been effected with a view to increasing the facilities of both plants, in order to better fulfill the requirements of the customers of both the former firms of Rodenberg & Dunn and Albro & Co. The capital stock of the new firm is \$160,000.

The notable reunion of the Ancient and Honorable Artillery Company of Boston, to be held at the headquarters of that institution, Faneuil Hall, Boston, beginning October 1st, at which a reception will be tendered to the visiting members of the kindred body in London, will be participated in by Louis A. Blackinton, of the W. & S. Blackinton Co., North Attleboro, and by the following well-known members of the Attleboro trade: A. McRae and C. P. Keeler, who jointly compose the firm of McRae & Keeler, D. E. Makepeace, of the D. E. Makepeace Co., and C. M. Robbins, of the C. M. Robbins Co.

The Dunbar, Leach, Garner Co. is installing a new seamless wire-making equipment, which practically doubles the value of the company's plant and will materially enhance the volume of its output.

Major Everett S. Horton, of the Horton & Angell Co., Attleboro, has been deputed by leading politicians of Southeastern Massachusetts to attend the Republican National Convention as delegate from the thirteenth district of the Bay State.

John M. Fisher, of John M. Fisher & Co., Attleboro, was deputed to attend the Prohibition State Convention as a delegate from Attleboro.

The contest in Attleboro for delegate to the Republican National Convention has attracted considerable trade interest owing to the fact that two prominent members of the jewelry fraternity have entered the field as candidates; these are Major Everett S. Horton and Sidney O. Bigney.

The contest is characterized by the best of feeling as evidenced by the statement of Mr. Bigney to the Attleboro *Sun*. He is reported as saying that he considered it a fair contest with no favors until the caucuses decide which shall go, and then the defeated one can withdraw without harsh feelings.

Are Metals Alive and Subject to Disease?

A rather interesting set of experiments which belong to romance of science have recently been undertaken in Germany. These experiments are meant to show certain characteristics of metals which heretofore have not been known or understood. The principal investigators have been Professor Heyn, Dr. Bechhold and Professor Bredig. According to these gentlemen, metals may be infected with disease, may be poisoned, and may suffer structural changes which lead to the question: Is a metal an inorganic body? Dr. Bechhold's conclusions are as follows:

There are many organic and inorganic substances in which sharp changes of temperature produce changes of structure, or, as scientists put it, which assume new phases under such changed conditions. This alteration of form or structure can be produced suddenly if the temperature point necessary for alteration is very decidedly overstepped. But if the temperature does not go far above or below the alteration point, it is necessary generally to introduce an artificial impulse to consummate the change.

It is possible, for instance, under certain circumstance to cool water to a temperature well below freezing point, and still it will not solidify into ice until a crystal of ice is introduced. Then it begins to form crystals at once and soon is solid.

Pure glycerine cannot be frozen by ordinary means, even if they produce temperature as low as twenty degrees below zero, until a bit of glycerine that has already been frozen is introduced. But as soon as this crystal of frozen glycerine is in, the rest of the glycerine, which has been so stubborn until then, becomes docile and begins to freeze. For some time past the process has been technically called vaccination, because the term was so apt and convenient; but until the present day no one suspected how much truth lay in the accidental name for the process. Yet this process is nothing more or less than inoculating an inorganic substance with crystals in order to breed in it the condition of crystallization, which is the necessary first step to lead to freezing. And the conversion of iron to steel is only a series of processes of crystallization.

Tin Crumbled to Dust

Now recently a strange thing in metallurgy happened. A ship was loaded with Banca tin in the Straits and sailed for a northern port in Europe. When it arrived there, and the work of unloading the valuable cargo began, the merchants to whom it was consigned were amazed and dismayed to discover that the entire shipment had actually crumbled into dust. Here was a mystery. For a long time no one could solve it. Years ago it would have been dismissed finally with the statement that there must have been a flaw or a fault in the tin. But the flaw theory had become unsatisfactory.

Then Professor Bredig came out with photographs that he had made in a church in Silesia. The pictures showed the remnants of organ pipes, most of them full of queer, crumbling holes.

Whole pipes had vanished absolutely. There was no rust, and all investigation failed to show any other of the causes that are known as destroyers of metal. All investigators at last confessed themselves nonplussed until Professor Bredig, who had made a study of the new theory of the diseases of metals, found a wound—a genuine open wound—in a pipe; and his careful, accurate and rigid experiments furnished the convincing proof that this wound had infected the entire series of pipes with a creeping disease.

Scarcely had he finished his investigations in the Silesian church before a coincidence enabled him to extend his experiments and at the same time obtain additional proof of the correctness of his previous finding. He was asked to inspect the great tin roof of the Council House of Rothenburg. Arrived there, he was informed that several years ago the roof, although it had been attended to carefully, painted regularly, and kept perfectly free from rust, had begun to crumble away. No one could imagine what caused it. Professor Bredig soon discovered a center of infection. And he was able not only to trace the gradual progress of the infection over the Council House roof, but to show where the disease had actually spread to a tin roof nearby.

Metals Capable of Inoculation


Now, if metals can be thus infected with disease, it follows that they can be inoculated as organic substances can be. And as science has gradually built a bridge between animal life and plant life, so it appears possible now to find a bridge between the lower phases of plant life and the so-called inorganic or dead world.

To the layman the fact that metals can be treated indefinitely by heat without destruction, seems naturally to prove that they can possess the attribute which is called life. But the whole course of plant life depends on temperature and its changes, and temperature affects all animals, including man, even producing illness and death when the changes are sudden. In other words, as gradual and normal changes of temperature affect animal and plant life normally, so they do metals; and abrupt and abnormal changes of temperature change the structural form of each.

Professor Heyn has been studying the changes in iron under all grades of temperature, and he holds that the metal passes through various stages of disease that produce structural changes just as cells change in form, size and position in the forms commonly called organic. He heated copper in order to find why that metal suffers from overheating, and his conclusion is that it becomes poisoned with copper protoxide, which so sickens it that its structure changes and partially breaks down.

New Kinds of Nickel-Steel

Prof. R. H. Thurston, of Cornell University, calls attention to a curious variety of nickel-steel alloys, recently invented in France, which he thinks may have more importance for the world than the form of nickel-steel that has given us the modern armored battle ship. The new alloys are practically non-dilatable, that is, their dimensions do not alter with ordinary changes of temperature. Thus a pendulum of constant length can be made, and the new material will be employed in making clocks and watches to run true in both winter and summer. The inventor, Monsieur Guillaume, is also experimenting with nickel-steel as a substitute for the carbon filament of the ordinary incandescent lamp.



GOLD FILLED
C.A. Marsh & Co.
TRADE-MARK


THE MARSH TRADE-MARK IN A GOLD FILLED CHAIN MEANS:

**Standard quality and proved wear.
Beauty of design and richness of finish.
Attractive Variety, Novelty and Style.**

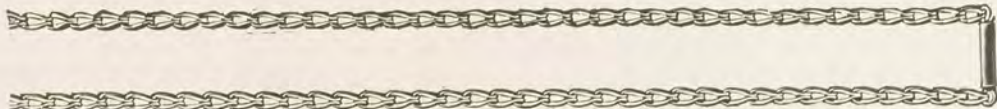
The Marsh Seamless Gold Filled Chains are goods that sell and satisfy—that please customers and add to your patronage and profits—safe, healthy stock to tie to.

A wealth of New Patterns for Fall trade now ready.


C. A. Marsh & Co., Attleboro, Mass.



825 / S885 9004 / S890



1096, 22 in. 1070, 18 in.



2111 / 0823

DIAMONDS

WE ARE LARGE IMPORTERS OF **DIAMONDS**

AND MAKERS OF **DIAMOND JEWELRY**

We are also the Largest Manufacturing Jewelry House in Kansas City. OUR SPECIALTIES are Watchmaking for the Trade, Engraving for the Trade, General Manufacturing for the Trade, and Diamond Setting.

We also carry a line of JEWELERS' SUPPLIES. A large and complete line of DIAMOND MOUNTINGS always on hand.

MEYER JEWELRY COMPANY,

1016 AND 1018 Main St., KANSAS CITY, MO.

Our Constant Aim
has been, is, and always will be, to turn out the best work at a reasonable price. GIVE US A TRIAL.



Special Offer to Dealers.

If there is no wholesale dealer in your vicinity, on receipt of \$1.00 in cash or money order, we will send to any express office in the United States, all charges prepaid, 1 dozen boxes, regular size

SILVER

ELECTRO-SILICON

POLISH

and 100 samples for free distribution. It's exceptional merit has made it famous around the world. Used by owners and makers of Valuable Plate for more than a quarter century.

Electro-Silicon Silver Soap, \$1.25 per dozen.

THE ELECTRO SILICON Co., 30 Cliff Street, New York.

Pittsburg Letter

Promising Fall Activity

The vacation season is over and jewelers are behind their counters and work-benches in regular fashion. Trade during the summer months, while fairly satisfactory, wore its usual hot-weather garb of quiet, so to speak, and while September opened up warm, there was, nevertheless, a distinctive air of activity in business circles that showed a getting down to the grindstone with vigorous pressure. The theatre season is one of the factors in the jewelry trade of a big city like Pittsburg. Two and possibly three handsome new playhouses will be ready before the end of the year.

Grand opera season this year is also being looked forward to by social circles. The opening of the season has witnessed the revival of a demand for opera-glasses, with a strong call for the higher grades and importations. Most of the stocks of these goods are large, showing an anticipation of the situation on the part of the trade and a wise preparation for it. There is, also, a steady call and excellent sale for novelties, which include silverware of all kinds, and with the return of the summer outing parties from abroad and from distant points there has been a replenishment of decorative ware which has started a demand for nearly everything that has been secured during the summer buying period.

Handsome Window Displays

Window dressings for the fall are showing finely in the main business streets, and the popularity of personal adornments and fads are perhaps attested by what is shown. The craze for fancy strings of beading is maintaining a healthful growth, and some unusually fine specimens are being displayed. This, of course, is only one of the numerous fads of the season, for there are plenty of them to attract attention to one with eyes wide open.

Expansion of a New Firm

An interesting announcement of the trade this month is the formal incorporation of the new business of A. M. Andrews, who was formerly with Heeren Brothers. A charter was applied for recently under the corporate name of the A. M. Andrews Company. It is to be capitalized at \$50,000, and the officers of the company include A. M. Andrews, president; J. E. Weller, treasurer, and Charles Holyland, secretary. The company will retain its present quarters in the new Farmers' Bank building, where it began business not many months ago, but it is seeking to get additional room, so as to enlarge its stock and business materially. A change will be made, too, in the business by adding a wholesale department, and C. D. Stuart, formerly with Heeren Brothers, will be on the road for the new company.

The election of Charles H. Holyland as secretary of the company removes him from his former business as engraver under the name of the Holyland Engraving Company, in Fifth Avenue. This business will be taken up by John Schumacker, who was formerly engraver for Heeren Brothers, and who will sever his connection with that firm. President Andrews, of the new corporation, speaks encouragingly of the outlook for his new corporation and for the business generally. Calling attention to the location of the company on the second floor of a great office building, he says that Boston and Pittsburg were the pioneers in this move of

the jewelry trade. It was in recognition of the fact that a jeweler stands somewhat in the relation of a physician or lawyer to his client. It is the art of getting the confidence of the customer; if this is secured he will come anywhere for his stock, and in this way it makes little difference if one is on the first or second floor, if one handles the fine grades of goods.

Palatial Little Store

Another feature of the fall trade has been the formal opening of the handsome and somewhat unique store of J. M. Smit, at Fifth Avenue and Masters Way. This store building was built by Mr. Smit, and is more like a top house than a real place of business, so far as outward appearances are concerned. It is a steel frame building, twenty feet front and only thirty feet deep. Red tile and brick facings, artistically arranged, add to the appearance of the exterior, while the interior is finished in cherry, and the chandeliers were designed expressly for the building and are of ancient brass. The entire five floors of the building, one of which is a mezzanine or balcony, are used for the business. There is no stairway from one floor to another, but, in place, a minute electric elevator with a capacity of three passengers. The first and second floors are for diamonds and watches, the third and fourth floors for cut glass and for jobbing, and the top floor will be a manufacturing department.

The building has the benefit of unusual window light, having two sides given up mostly to plate glass. In addition, the electric light features will make the interior brilliant at night. A novelty of the store in the saving of space is the fact that some of the stock cases are so embedded in the side walls as to form practically show windows on the street side and show cases for the store. Mr. Smit has practically been out of business during the construction of his new building, and with the opening of the new store intends to enter into the trade on a larger scale than ever before. He has added handsome lavatories for the customers on the third floor of the building, and a retiring room for the employees will be in the basement.

L. Vilsack and E. A. Ward, who have been busy in getting the fine store of that firm in shape for the holiday trade, have been in New York and the East during the past few weeks preparing for additional stock. The firm reports business this season better than for the same time last year. This is perhaps the best way to estimate the trade conditions.

Anthony Larney, who for some years has been with Vilsack, has resigned his position and will enter the brokerage business in the same line, and has secured offices in the Park building. Mr. Larney is a bright young man and has many friends to support him in his new undertaking.

Among the more recent arrivals from European trips by Pittsburg jewelers is M. Bonn, of Bonn & Company, in Penn Avenue. Mr. Bonn has been away for the past two months, and has returned much refreshed from his rest and, at the same time, secured much of value in a business way while in the trade centers of the Old World.

Herman Cerf, of Bonn & Company, has been spending some weeks in Eastern cities making the usual stock purchases for the holiday trade, which is confidently expected to be unusually large. This firm reports general trade conditions very satisfactory.

Cincinnati Letter

(Continued from page 1483)

possibility of these cheap tickets being utilized by scalpers.

A New Organization

The manufacturing jewelers of Cincinnati are organizing an association for the protection of their interests as employers and business men. A preliminary meeting was held in the offices of the National Metal Trades Association the middle of the past month, at which the first steps were taken to accomplish a successful organization. A committee of three was named to draft a constitution and by-laws and to transact such other advance details as are usually necessary in organizing an industrial association. The lines which the association will follow will be similar to those of other bodies which have emulated the auxiliaries of the Metal Trades Council itself. Their aim will be to deal with questions affecting their interests through organized effort. The first meeting was presided over by J. C. Miller as chairman. Another meeting will be held during early October, at which the organization will be made permanent and officers will be elected.

James G. Reeves, traveling for the house of Gebhardt Bros., is now in Ohio on a trip among the tradespeople. On his return he will make an extended Southern trip.

The following were among the visitors to the city during the festival: C. G. Schlenker, Hickman, Ky.; Theodore W. Witt, Versailles, Ky.; M. D. Kelly, Hopkinsville, Ky.; William Kyle, Xenia, Ohio; Ira B. Wiley, Springfield, Ohio.

Suit has been filed in the courts here by Mrs. Anna Fox Taylor, one of the partners of the firm of Duhme Bros. & Co., asking for the appointment of a receiver for the firm. Defendants in the suit are copartners Mary C. Duhme, Lucille C. Duhme and Emily J. Galbraith. The plaintiff alleges that the company was organized four years ago with a capital stock of \$25,000, with the understanding that the business terminate on May 1, 1903. Owing to the fact that the copartners could not agree to the terms under which the assets were to be distributed, the suit for receiver was filed. The assets are given as \$80,000 and the liabilities as \$60,000.

The marriage of Edward J. Herschede, son of Jeweler Frank Herschede, of West Fourth Street, to Miss Lillian Noble, daughter of an artist professor at the Art Museum, was solemnized several weeks ago at the home of the bride on Kemper Lane, Walnut Hills. Herschede is prominent in athletic circles, and his wife is well known in art circles. The newly married couple are spending their honeymoon in Eastern cities.

Charles Blume, the Marietta, Ohio, jeweler, was among the wholesalers during the month, and placed a number of fall orders.

E. B. Cayce, Jr., of Franklin, Tenn., was in the city several days taking in the sights and combining business with the visit.

B. W. Akers, of Sidney, and F. J. H. Schell, of Xenia, Ohio, were among the visitors during the latter part of the month.

The call for Eagle pins and emblems continues so steady that Gebhardt Bros. have sent out a salesman carrying a heavy line of samples of this grade of emblem goods.



Umbrellas for the Jewelers' Trade.

OUR STYLES are Exclusive. The VARIETY very Extensive.

Our REPRESENTATIVES cover all the Main Points, and our BRANCH HOUSES carry FULL LINES as well.

HIRSH & BROTHER,

Manufacturers,

Branch Houses:
NEW YORK—373 Broadway.
CHICAGO—238-240 Fifth Avenue.

Philadelphia.

DESCRIPTION OF KEYSTONE JEWELER'S OUTFIT.

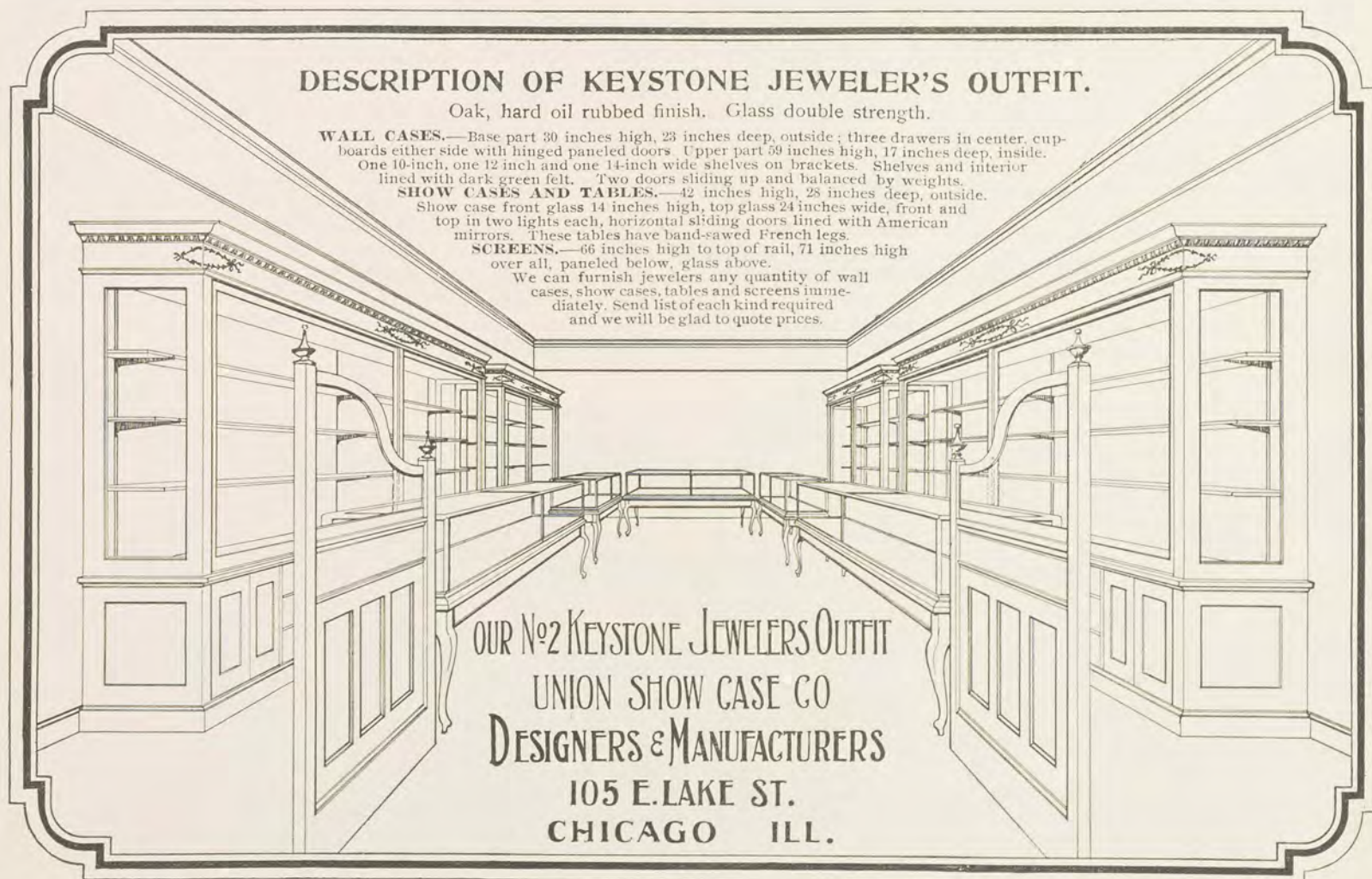
Oak, hard oil rubbed finish. Glass double strength.

WALL CASES.—Base part 30 inches high, 23 inches deep, outside; three drawers in center, cupboards either side with hinged paneled doors. Upper part 59 inches high, 17 inches deep, inside. One 10-inch, one 12 inch and one 14-inch wide shelves on brackets. Shelves and interior lined with dark green felt. Two doors sliding up and balanced by weights.

SHOW CASES AND TABLES.—42 inches high, 28 inches deep, outside. Show case front glass 14 inches high, top glass 24 inches wide, front and top in two lights each, horizontal sliding doors lined with American mirrors. These tables have hand-sawed French legs.

SCREENS.—66 inches high to top of rail, 71 inches high over all, paneled below, glass above.

We can furnish jewelers any quantity of wall cases, show cases, tables and screens immediately. Send list of each kind required and we will be glad to quote prices.



OUR No 2 KEYSTONE JEWELERS OUTFIT
UNION SHOW CASE CO
DESIGNERS & MANUFACTURERS
105 E. LAKE ST.
CHICAGO ILL.

\$16.00 LIST.



ENAMELED IN COLORS.



\$16.00 LIST.

HAND-MADE EMBLEM RINGS.

A. P. CRAFT & CO.

SPECIAL MANUFACTURERS AND REPAIRERS TO THE
RETAIL JEWELRY TRADE,

INDIANAPOLIS,

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Send for Stickers.

WE MAKE THIS PATTERN WITH EMBLEMS OF ANY ORDER.

\$16.00 LIST.



RAISED CENTER EMBLEMS.



\$16.00 LIST.

Kansas City Letter

Good Business and Prospects

With the opening of the fall season the situation is most encouraging for business men in all branches of trade. The

wholesale and retail jewelry business and the optical houses are all very busy, and everyone expresses confidence in the outlook for an unprecedented business this fall. Many country buyers were in during the last two weeks, and the character of their purchases would indicate very favorable conditions in the territory tributary to Kansas City. All of the big wholesale houses report greater sales than ever of goods of a superior quality. Cheap stuff is not wanted, and the very best examples of workmanship are the most in demand. The diamond market in Kansas City has been more lively than ever during the past few weeks, in spite of the fact that diamonds are higher and constantly going up.

"We bought more diamonds this summer than ever before," said one of the biggest wholesale dealers in Kansas City. "We had to pay more for them, but we rather plunged, and bought an unusual quantity. The purchase price was higher than ever, so, of course, we had to raise the retail price. This has made not the slightest difference in the sale of diamonds, for sales have been greater than ever, and no one has thought of demurring at a price which was higher than before."

This healthy condition of business extends to the optical establishments, all of which are fairly swamped with orders. The entire force of one of our wholesale and manufacturing houses has been working nights for some time, and will continue to do so until the rush shows some signs of abating. This will probably not be soon, for the Carnival, which is an annual fall affair, comes the first week in October, and with it will come many buyers from all around. There are many merchants who make this trip annually and buy their fall goods and see the festivities at the same time. The amusement committees have prepared a very attractive programme for the coming Carnival. There will be an electrical parade of the Priests of Pallas, the Priests of Pallas ball, the Carnival bal masque and many other features which will make the week pass pleasantly.

One of the very prettiest and most practical catalogues ever issued by a Kansas City jewelry house has just been completed by the Edwards & Sloane Jewelry Company.

A Handsome Catalogue

At the first glance the catalogue would seem unusually small, for it comprises only a hundred pages; but upon examination it is easily seen that the illustrations are displayed in such a way as to economize on space as much as possible, and at the same time to give the articles ample showing. All of the illustrations are reproduced in half-tones of fine screen. The paper is of the very finest book quality. Anyone looking at the new catalogue cannot help but be impressed by the artistic arrangement of the pages. Credit for the handsome appearance of the book is due to N. R. Fuller, of the Edwards & Sloane Company, whose ideas were carried out in the publication. Mr. Fuller worked out the idea of arranging each set of articles to be displayed upon cardboard in artistic designs. These were photographed and half-tones made from them just the size of each page. The result is an ex-

ceptionally handsome catalogue, with each page filled with a fine half-tone cut.

Mr. Edwards and H. Ludwig, of the Edwards & Sloane Jewelry Company, have returned from a vacation trip about the Northern lakes.

Irving S. Colt, for several years with the C. A. Kiger Jewelry Company, died September 2d, at his home, 2327 Tracy Avenue, of cerebro-spinal meningitis. Mr. Colt was very well known to the jewelry trade of Kansas City and surrounding territory, and was one of Mr. Kiger's very best men. He was thirty-six years old, and the only son of C. C. and Dr. Emily S. Colt.

Charles Jahn, of the Meyer Jewelry Company's force, was married September 23d to Miss Letta Sturgill. Mr. and Mrs. Jahn are occupying a new home which has just been completed for them on South Jefferson Street. THE KEYSTONE offers congratulations.

H. F. Sloane, of the Edwards & Sloane Jewelry Company, has returned from a business trip to New York.

C. M. Crossno, of Salisaw, I. T., was a visitor to the Kansas City wholesale and optical houses last month.

C. A. Kiger, the wholesale jeweler, has recently purchased a fine lot on Armor Boulevard, 152 by 160 feet, for \$12,000. Mr. Kiger will build a handsome residence on the lot in the spring.

H. A. Gross, of Syracuse, Nebr., was in Kansas City last month buying his fall stock.

C. E. Vandell, of the Edward & Sloane Jewelry Company, is spending his vacation in Davis City, Iowa.

C. A. Clement, of Springfield, was in Kansas City purchasing his fall stock last week.

Dallas and the Lone Star State

State Fair and Good Crops Boom Business

The State Fair is now in full swing at Dallas, and in consequence trade is unusually brisk. The exhibits this year excel both in quantity and quality those of last year. The jewelers of the State are anxiously hoping for good times this fall and winter, as the crops are good, which means much for Texas. The recent cold wave did not affect the corn, which was already secured, but cotton suffered some, although it is thought the average yield will be good. The enemies to cotton, the boll-worm and boll-weevil, though later this year than usual, are here now in abundance, and their work of depredation is none the less effective. The rice crop this year in Texas is very heavy, Matagorda County making a crop estimated at nearly \$2,000,000. The sugar cane crop is also assuming large proportions. East Texas is already known as "the fruit country." Its peaches are shipped by train loads to many Northern markets. The outlook is good for the development of a large tobacco industry, as the East Texas lands are fine tobacco lands. Uncle Sam has located tobacco inspection warehouses at Nacogdoches, in this State. In consequence of the general outlook, the jewelers are, as a rule, unusually optimistic.

R. L. Russell, of Farmersville, was in the city recently.

J. M. Grogan, of Arlington, after several weeks of recreation and pleasure, has returned to his place of business and settled down to work, looking forward to a good fall business.

C. M. Clarke, of Ennis, was a recent visitor and purchaser in the Dallas markets.

Tilman Butler, of Granbury, was in the city recently, buying a nice line of goods for his fall trade, which he says will be very brisk.

A. P. Bailey, who has been conducting a manufacturing business in this city, has secured the services of a competent man to take charge of the business, and he has accepted a position with Shuttles, Mitchell & Co. as traveling salesman.

E. G. Berger, who has been working as a watchmaker in Dallas for a number of years, and who was recently with C. L. Norsworthy, of this city, has discontinued his services with the latter and accepted a position with Morgan & Hawley.

Ras Redwine, located at Henderson, was a recent purchaser in local markets.

W. R. Woods, who has been working for W. S. Shuttles & Son for a number of years, has accepted a position with Ras Redwine, of Henderson, as watchmaker.

Bass & Bro., of Terrell, who have been conducting a drug business for years, have added a jewelry line to their stock, and have secured the services of Jeweler Erwin. They have bought a full set of fixtures, and now have quite a nice store.

H. H. Hawley, of Morgan & Hawley, spent several weeks in Marlin recently, and the rest did him much good.

E. Burroughs, of Italy, was a welcome visitor in our city last month.

J. E. Mitchell, of the J. E. Mitchell Company, of Fort Worth, was in the city recently. Mr. Mitchell purchased a large safe to add to his handsome store.

J. H. Seay, of Italy, was a recent visitor to Dallas.

A. S. Fonville, who recently established himself in Wichita Falls, has put in a large and well-selected stock of goods, and is expecting a good fall trade.

W. J. Wilson, formerly with H. Iverson & Co., of Corsicana, has resigned his position and accepted a position with W. A. Peck, of Denison, as watchmaker.

W. R. Thomas, of Celeste, who has been located on the west side of the Square, has removed to the north side, where he has fixed up a neat store.

W. C. Lansford & Co., who have been located at Cleburne, but who recently sold to Thomas Dee & Co., have reopened in a good location in Clarksville, where they expect to do a nice business.

Walter Bugbee, who has been working for Zimmerli & Newlon, has accepted a position with T. J. Hines as watchmaker.

B. F. Collins, who has been working for F. Meisch & Co., of Clarksville, has resigned his position and accepted one with Charles Gilde-meister, of San Antonio.

B. B. Poore, of Bridgeport, has bought R. D. Ward's stock of jewelry, and has again embarked in the jewelry business at that place.

C. L. Joyce, of the Joyce Jewelry Company, of Garland, was a welcome visitor to this city last month.

A. A. Nilson, of the firm of Nilson & Crawford, who was confined to his bed for several days recently, is now able to be about again.

J. C. Durrett, who has been in New York for the past two years, has returned to Dallas and is now working at the bench again.



LOOSE ♦ **DIAMONDS** ♦ MOUNTED

It is a Fact that we are the **LARGEST DIAMOND IMPORTERS**
west of the Mississippi.

While we are not exclusive Jobbers of Diamonds nor Diamond Cutters, **Our Prices Talk.**
We mean what we say and back our assertions.

SEND US YOUR ORDERS FOR ANYTHING IN

Diamonds, Watches, Jewelry, Optical Goods, Material.

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ST. LOUIS, U.S.A.



St. Louis Letter

Conditions and Prospects

Now that the corn is safe and all other crops harvested, a better opinion of the prospects for the fall and holiday trade among the jewelers and opticians of the great Southwestern country can be formed. The outlook is bright and a satisfactory trade is in prospect. It must be admitted, however, that in comparison with last year's heavy yield the outturn this season looks rather small. The fact, however, that food prices are being realized for the grain will go a great way toward making up for the shorter yield. Good prices for the products of the farm invariably make trade good for the dealers. This season will certainly prove no exception to this rule. Returning travelers report good business, and our jobbers say that their sales are running ten to thirty per cent. ahead of the same months last year. City retailers are enjoying a fine trade, and they are looking forward to a most prosperous fall and holiday trade. Collections are reported better than usual.

Bank Clearings for August

August, 1903, made a handsome gain in the bank clearings of St. Louis over the same month in 1902, the increase being \$22,545,506, or 12 1-5 per cent. In the earlier months of the year there was a falling off as compared with 1902, but as for the eight months we are less than one per cent. behind last year. It is evident that the advances which we are scoring for the past few weeks, and which give promise to continue, will put us, before 1903 ends, above the 1902 total. The lookout for the fall and winter trade in St. Louis is especially bright.

St. Louis is Prosperous

Large shipments of currency and silver have been made by St. Louis banks to the West and Southwest the past month for the purpose of moving the crops to market. In spite of the recent stock market flurries in New York, local bankers found no difficulty in meeting the demand for money for the movement of the crops and other legitimate needs. St. Louis is prosperous.

The New South

The eyes of the business world are now turned toward the New South. Every line of industry seems to be prosperous in that section, and the outlook for a most prosperous fall and holiday trade for the jewelers is promising. According to the "Baltimore Manufacturers' Record," in 1880 the South had forty cottonseed oil mills, with a capital of \$3,500,000. During the last six months alone the South has organized ninety-four cottonseed oil mills, with a capital of \$3,700,000. There are now seven hundred oil mills, with an annual output of \$125,000,000, in place of the forty mills of 1880. In 1880 the South made 397,000 tons of iron; this year its production will be largely over 3,000,000 tons. Its coal output will be about 65,000,000 tons, against 6,000,000 tons then. Its cotton spindles now number nearly 8,000,000, against 600,000 in 1880. These are but typical illustrations of the progress of every line of industry in the South. The advance in these industries has been matched by the growth of lumber, in furniture making, in rice productions, in railroad development, in fruit and early truck raising and in nearly all other lines of human

activity. But the next ten years will show far greater progress than the last twenty.

Outing of Missouri Retail Jewelers' Association

The outing of the Missouri Retail Jewelers' Association, which was held on Sunday, August 30th, took on a wider scope than the title of that organization would suggest, for the participants in the pleasant function included not only the bulk of the retail trade but a large number of the wholesale dealers and manufacturers as well. The place selected for the reunion was Fern Glen, whither the jewelers journeyed by train. Two hundred pounds of fried fish formed the feature-in-chief of the gastronomical exercises, and the manner in which the excursionists paid their addresses to the feast left no room for doubt as to its palatableness. The athletic games were the means of bringing about some very humorous incidents. The retailers and wholesalers tried conclusions at a baseball game, the first named winning by the decisive score of 11 to 3. The strenuous proclivities of modern womanhood were amply shown in the ladies' crock-knocking contest and egg race, both of which events evoked considerable interest, which was especially manifest among the younger element of the male set. Louis Gutfreund, of the Eisenstadt Manufacturing Company, who creditably acquitted himself in the baseball game, gave a poor exhibition in the sack race for fat men, figuring in the casualty list of that novel contest, while a similar fate was in store for Messrs. Paul and Herman Kessler, who jointly constituted a team in the three-legged race. Suitable prizes were awarded the winners in the several contests, a bottle of blackberry brandy, a bottle of Hunter rye and a bottle of mineral water being the rewards for the first, second and third, respectively, in the fat men's race, while other trophies consisted of gold and silver medals, bric-a-brac, punch bowls, vases and loving cups. It was 8.30 when the members arrived back in the city, and while some were naturally tired after the outing, there were unmistakable signs that its every feature was thoroughly enjoyed by all.

Fred. R. Saul, formerly with Nathan Roitman, 509 Olive Street, this city, is now interested with Nat. Kaiser & Co., of Atlanta, Ga.

A. R. Brooks has announced that he has retired from the presidency of the Brooks Optical Company and is no longer interested in that concern. He has opened a temporary store-room in the Globe-Democrat Building, and is prepared to fill wholesale orders for watches, jewelry and optical goods.

Henry Barmer, well known in the St. Louis trade from his long connection with the L. Bauman Jewelry Company, as bookkeeper and cashier up to about two years ago, was accidentally killed at the World's Fair grounds September 5th. The deceased had been employed for some little time at the grounds, and while at work slipped and fell, breaking his neck, which resulted in instant death.

Mrs. Samuel H. Bauman, wife of President Bauman, of the Bauman-Massa Company, and children returned from their sojourn in Europe the early part of the month.

Samuel Eisenstadt, president of the Eisenstadt Manufacturing Company, has just returned from a three-weeks' outing spent at Eureka Springs in quest of rest and health. He is looking well and says his trip did him much good. Mr. Eisenstadt was accompanied on his trip by his mother.

Alvin Bauman, of the L. Bauman Company, returned the middle of last month from a Western trip in the interests of his firm. He went as far as Colorado, and reports trade as prosperous in the West, and the jewelers buying liberally for their fall wants.

W. B. Elliott, of Camden, Ark., was a welcome visiting buyer in this market last month.

Roy Bertholf, of Cherokee, Kans., was in St. Louis for a day or two last month, combining business with pleasure.

J. E. Mitchell, one of the best-known jewelers of the Lone Star State, for a number of years located at Fort Worth, was a welcome visiting buyer in this market last month.

The Weiss Jewelry Manufacturing Company are enjoying a large expansion in their business this fall. Especially are they finding this true in the demand for their "Chief" initial rings.

H. W. Foerste, of Okawville, Ill., was a visiting buyer in this market last month selecting his fall bills.

Jeweler A. E. Jukschwerdt, of Tipton, Mo., spent a day in town last month doing his fall buying.

The St. Louis Clock and Silverware Company will send out their handsome new fall catalogue to the trade early in the present month. It is the largest, most complete and helpful book for the retail jeweler that this house has ever issued. A copy will cost you nothing but a postal if you are a regular jeweler.

Jeweler Gus Wiemer, of Carrollton, Ill., was among the throngs of buyers in this market last month looking over the fall lines.

E. P. Burnham, of Piedmont, Mo., was in the St. Louis market on a purchasing trip last month.

C. H. Blackstock, of Van Buren, Ark., was here for a few days last month selecting his fall bills and enjoying life in the World's Fair City.

A. L. Jones, of Llamo, Tex., was a visiting buyer in this market last month making purchases for the home store.

S. B. Frank, of Helena, Ark., spent a few days in the St. Louis market the early part of the month selecting his fall bills.

Sidney Bauman, of the Sidney L. & Morris Bauman Company, made a flying trip to Chicago recently, wherein he was combining business with pleasure.

W. B. Elliott, of Camden, Ark., was a welcome buyer in the St. Louis market the early part of September, stocking up liberally in fall lines.

B. M. Wiard, of Concordia, Kans., was here for a day or two last month, combining business with pleasure.

I. B. Morris, of Perry, Mo., was a trade caller in this market recently.

E. C. McDill, of Sparta, Ill., was here on a purchasing trip the early part of September.

The firm of Cook Bros., Helena, Ark., was represented in this market last month by one of the members of the firm, who was here on a buying trip.

Jesse Rogers, of De Soto, Mo., was among the visiting buyers in this market the early part of last month.

C. L. Glines, of Harrison, Ark., spent a few days in the St. Louis market last month selecting his fall bills.

O. H. Ross, of Waxahachie, Tex., was a welcome visitor in this market for several days last month, and a liberal buyer in fall lines.

M. Benham, of Enfield, Ill., was among the many visiting jewelers here last month purchasing fall bills.

W. T. Woolford, of Potosi, Mo., was a trade caller in this market the early part of last month.

E. J. Baumann, of St. Genevieve, Mo., was here the early part of the month on a fall purchasing trip.

J. R. Mercer, the widely-known and successful jeweler of Kansas City, was here for a day last month, combining some buying with a look over the World's Fair in its present state of advancement. He thinks it a wonder and that it will be the greatest show that has ever happened.

C. E. Turner, of Mineral Wells, Tex., spent several days in town last month, making liberal purchases in fall lines.

Capt. Klein, of Klein & Fink, Fort Smith, Ark., was a most welcome visitor in this market last month, remaining several days, which he devoted to selecting his fall bills and enjoying life in the metropolis of the great Southwest.

H. R. Stevens, of Nevada, Mo., was represented in this market recently by Mr. H. Haygood, who was in town combining business with pleasure.

EVERYTHING IN JEWELRY.

WITH OUR EXCEPTIONAL FACILITIES AND COMPLETE STOCK WE ARE ABLE TO FURNISH GOLD AND HIGH-GRADE PLATED JEWELRY, GOLD AND FILLED WATCHES AND DIAMONDS IN ALL SIZES AND QUALITIES AT PRICES LOWER THAN THE LOWEST. MAIL ORDERS SOLICITED.

L. GUTMANN & SONS

TRACTION BUILDING—CINCINNATI, O.



ANYTHING IN WATCHES AND DIAMONDS.

News from the Northwest

Crops and Trade

The continuous rain the past month has undoubtedly done heavy damage to crops in this section, as it caught a large amount of grain not fully housed, and had its effect on the feelings of the public in general, but now that the spell is broken it is found not to have been as bad as threatened, and with no dangerous frost for a short time, the Northwest will still be in good shape. While the crop may not be a bumper one, it will still be a good average, and with present high prices on almost everything the farmer will have no cause for complaint. Jobbers report business far ahead of any previous year and collections coming in nicely. With the best months still ahead of them, the year will certainly break previous records. Travelers' reports show the trade in good shape and prospects excellent.

Complaints are being continually heard of shortage of goods, Eastern factories being away behind in filling their orders. A great many retailers took advantage of the special low rates to visit the markets, renew acquaintances with the jobbers and pick up pointers for the fall trade. In this respect all jobbers agree that never before have they had as many visitors as during the past month. That the meeting was mutually beneficial there is no doubt.

Farm & Hanson, graduates of Stone's School, St. Paul, have begun business at Sanborn, Minn.

H. B. Nelson, Livingston, Mont., has sold out to G. B. Ryckman.

H. A. Borreson, watchmaker for Geo. N. Conklin, Ashland, Wis., was married August 31st to Miss Mae Louise Dundas.

R. E. Junge, formerly with Ulrich Bros., Baraboo, Wis., is now with Bullard Bros., St. Paul.

J. M. Thompson, Lakefield, Minn., has bought out Van Winkle & Hodge, Wells, Minn., and will continue the business.

Chas. G. Hite, Wassington Springs, S. Dak., has moved to Mitchell, S. Dak.

L. B. Wheeler, Hancock, Minn., has moved to Dassel, Minn., where he has bought the stock of Wm. A. Lindquist.

W. L. Reine has started in business at Belgrade, Minn.

A. J. Hammerstein, Cokato, Minn., died last month.

H. M. Strand is the new jeweler at Lowry, Minn.

Wm. Plackner, Benson, Minn., enjoyed a few days hunting the festive prairie chicken the early part of September.

B. Greeley has bought the jewelry stock of Wiseman & Co., Pine City, Minn. A. Swanson continues as watchmaker.

C. S. Sutter, St. Paul, will move October 1st from 150 to 138 East Seventh Street.

Nystuen Bros., Hancock, Minn., have put in a new front and generally overhauled their store building.

Frank Lueck, Minneapolis, has opened a new store at Devil's Lake, N. Dak.

Harry A. Lunda, Minneapolis, has taken in a partner. The new firm is Hargrave & Lunda.

Hart N. Swalstad, Caledonia, N. Dak., has gone to Chicago to take a course in optics.

Ove Hoegh has begun business at Spring Grove, Minn.

F. C. Robins, Benson, Minn., spent several

days in the Twin Cities, selecting his holiday stock of fancy goods.

J. J. Birkebak, Worthington, Minn., has returned from a successful trip through Northwestern Minnesota.

J. C. Adams, Estherville, Iowa, passed through the Twin Cities on his way to North Dakota, where he expects to open a branch store.

A. L. Mealy, Delano, has returned from a short business trip East.

J. B. Hudson & Son, Minneapolis, have improved their store front, preparatory to a general overhauling before the holiday season.

Fred. Straub, formerly at Waterville, Minn., but for the past two years an officer at the Minnesota State Soldiers' Home, has opened a store at Hopkins, Minn.

Ernest C. Kuhlo, for the past two years foreman in the optical shop of Sischo & Beard, St. Paul, has left there and will engage in business at Butte, Mont.

Judson A. Beard, of Sischo & Beard, St. Paul, reports the most successful trip through Southeastern Minnesota in his experience.

C. A. Snell, Minneapolis, the popular secretary of the Minnesota State Optical Association, attended the meeting of the Wisconsin Optical Association, at LaCrosse, August 27th, and gave the sister association a little of his experience.

T. Catherwood, Park River, N. Dak., has returned from Litchfield, Minn., where he took a course in optics with S. B. Millard.

Leo H. Deeny, of M. L. Finkelstein, St. Paul, Minn., is taking an optical course with L. L. DeMars, Minneapolis.

J. R. Bunker, of Huber & Bunker, Superior, Wis., spent Fair week in the Twin Cities renewing old acquaintances. "Bunk" was always a welcome visitor, even when he was "on the road." His many acquaintances will be pleased to hear he is successful.

We should have mentioned last month that the remains of Chas. H. Winter, who died suddenly in his office at Seattle, Wash., were brought to Minneapolis, Minn., for burial. Charlie was formerly with S. H. Clausin & Co., and had an extensive acquaintance in the jewelry line, who mourn his early demise.

F. E. Gleason, Austin, Minn., has opened a branch store at Hayfield, Minn.

J. Oestrich, Fairmount, N. Dak., is taking a course of instruction at the Minneapolis School of Engraving, Minneapolis, Minn.

Edward H. Gross, Kenmare, N. Dak., was married September 2d at Spencer, Wis., to Miss Irene Heath. THE KEYSTONE congratulates its young friends heartily. Mr. and Mrs. Gross passed through the Twin Cities on their way home, but found your representative "out." We won't let it happen again, Eddie, if you will only let us know.

Frank Selner, of Staples & Selner, Fosston, Minn., and Harry Finkleman, Winnipeg, Manitoba, are the latest graduates in optics with S. B. Millard, Litchfield, Minn.

A. L. Haman, St. Paul, has spent most of the past month on an inspection tour over the roads he has charge of.

W. W. Thurston, of F. A. Klass, Hibbing, Minn., is spending a month's vacation in the Dakotas.

A. Lindahl, St. Paul, was elected treasurer of the First Ward Improvement Association, organized last month to look after the needs of the ward. You always find him in the front rank when any improvements are going on.

The following visitors took advantage of the special low rates to visit Twin City jobbers: W. W. Thurston, Hibbing, Minn.; I. M. Radabaugh, Hastings, Minn.; J. A. Anderson, Lamberton, Minn.; Geo. L. RoCHAT, Ada, Minn.; Hans J. Heram, Elbow Lake, Minn.; Theo. Schaal, Hastings, Minn.; Frank L. Willson, Mantorville, Minn.; Geo. C. Nerbovig, LeSueur Center, Minn.; Chas. G. Conyne, Mandan, N. Dak.; W. W. McGuire, Northfield, Minn.; I. R. Bunker, West Superior, Wis.; Geo. H. Searle, Sibley, Iowa; C. H. Nerbovig, Mankato, Minn.; Martin Johnson, Perley, Minn.; John Martinson, Stillwater, Minn.; S. B. Millard, Litchfield, Minn.; Geo. W. Dillon, Manley, Iowa; J. W. Grainger, Rochester, Minn.; Emil F. Huhner, Stillwater, Minn.; L. P. Roerig, Adrian, Minn.; Ben Lasky, West Superior, Wis.; Geo. W. Staacke, St. Peter, Minn.; F. W. Zimmerman, Hammond, Minn.; Mrs. Agnes Sawyer, Stillwater, Minn.; H. T. Holverson, Alexandria, Minn.; John F. Ahearn, Melrose, Minn.; Miss Mollie Sweet, Marshall, Minn.; C. A. Sherdahl, Montivedeo, Minn.; C. Arveson, Sleepy Eye, Minn.; G. H. Scallin, Mitchell, S. Dak.; J. M. Nelson, Ellsworth, Wis.; Nels S. Nelson, Hutchinson, Minn.; Dr. E. C. Roberts, Redwing, Minn.; L. J. Korstad, Zumbrota, Minn.; J. M. Chalmers, Lake City, Minn.; F. M. Harper, Renville, Minn.; L. O. Hulberg, Northfield, Minn.; C. N. Murphy, Neche, N. Dak.; L. M. Follet, Crystal, N. Dak.; J. H. Eggers, Jr., Plainview, Minn.; A. Rohrer, Eveleth, Minn.; H. M. Hitchcock, Redwood Falls, Minn.; B. W. Brokaw, Glenwood, Minn.; Geo. R. Clark, St. Cloud, Minn.; Andrew R. Wilton, Alexandria, Minn.; S. C. Hone, Osceola, Wis.; John Berres, Lakeville, Minn.; L. E. Bryant, Belle Plaine, Minn.; Peter J. Schaefer, St. Peter, Minn.; Frank C. Wittenberg, LuVerne, Minn.; Prof. Stringer, Ashland, Wis.; F. Meyer, Albany, Minn.; John Hammer, Alma, Wis.; Stephen Christopher, Duluth, Minn.; Wm. Lenz, Osakis, Minn.; A. F. Johnson, Austin, Minn.; S. H. Caulkins, Elmore, Minn.; Jay C. Herdlika, Princeton, Minn.; Wm. Plackner, Benson, Minn.; Alexander Sweningsen, Moorhead, Minn.; Geo. E. Spofford, Long Prairie, Minn.; Miss M. A. Groff, Duluth, Minn.; J. L. Moody, Ellsworth, Wis.; W. Edelman, Stillwater, Minn.; F. M. Smith, Jamestown, N. Dak.; R. G. Ingraham, Menomonie, Wis.; Fred. B. Stark, Jamestown, N. Dak.; A. W. Carlson, Lindstrom, Minn.; F. C. Robins, Benson, Minn.; I. C. Adams, Estherville, Iowa; Paul Parel, Sioux City, Iowa; J. J. Birkebak, Worthington, Minn.; E. M. Schwenke, New Richland, Minn.; Frank Lueck, Devil's Lake, N. Dak.; Ed. Castor, Waseca, Minn.; F. Willman, Stillwater, Minn.; E. H. Gross, Kenmare, N. Dak.; Ernest Schmidt, Howard Lake, Minn.

Photographing Jewelry

Photographing jewelry as a means of its protection is likely to become popular now that the picture of a valuable diamond brooch led to its recognition and recovery. But it is doubtful if there is one woman among ten who owns costly jewelry that ever thought of taking this precaution. One photographer who takes many pictures of women of wealth in New York said the other day that few of them ever had themselves photographed wearing their jewelry, since it had become the style to wear less jewelry than formerly. In England the custom of wearing jewelry in photographs is much more prevalent than it is in New York. Pictures of English women of wealth and position usually display the entire contents of their jewelry boxes and their tiaras, stomachers and necklaces are frequently conspicuous enough to be serviceable as a means of identification were they stolen.

1494

The Giant

of

Collar Buttons

in Quality
in Sales



The Standard Collar Button.

Millions of Kremenz
One-Piece Collar Buttons
made, and are sold
all over the world.

WHY? Because of their HIGHEST QUALITY, BEST CONSTRUCTION, GIVING THE MOST WEAR, AND GREATEST COMFORT and their IRON-CLAD GUARANTEE.

To verify this we invite the trade to read "The Story of a Collar Button, with Illustrations," which may be had FREE for the asking, and to try the experiment suggested on page 5 of that booklet, by which all may easily determine the exact amount of 14 K. gold in Kremenz plate.

Extract from "Printers' Ink,"
Nov. 23, 1898.

The Little Schoolmaster now suggests, to every pupil in his class, to send a two-cent stamp to Kremenz & Co., 49 Chestnut Street, Newark, N. J., and ask to be favored with a copy of their leaflet, "The Story of a Collar Button." Afterward, if any pupil will send to *Printers' Ink* another leaflet, new or old, that is half as good as this one, or that approaches it in excellence, the deserving student will be rewarded with one of *Printers' Ink's* souvenir spoons as an acknowledgment of his discovery and contribution. "The Story of a Collar Button" is the best piece of advertisement construction that has come to *Printers' Ink's* attention in the year of our Lord 1898.

Should you wish to utilize this booklet to increase your collar button business, we will, on receipt of your order, print your card upon and send you a quantity of them.

The several qualities of
Kremenz One-Piece Collar Buttons are stamped
as follows, ON BACK:



Patent Sustained by United States Supreme Court.

Quality and Construction have made Its Reputation.

All Kremenz Collar Buttons—of every quality—
are Manufactured by

KREMENTZ & CO.,

in their Factory

49 Chestnut Street,
NEWARK, N. J.

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



BRAND

The world's greatest Gold and Silver Solders. Known everywhere to be absolutely the best. Made in low karat, 6 K., 8 K., 10 K., 12 K., 14 K., 16 K., 18 K. and 20 K. Flows easy, will not ball and has a fine color. Used by the largest jewelry manufacturers as well as the repairer.

Every piece fully guaranteed to give satisfactory results. Sold by all Wholesale Jewelers and Material Houses.

F. H. Noble & Co.,

New York Office:
51-53 Maiden Lane.

103 State Street, Chicago.

Catalogue of Jewelers' Supplies furnished to the Wholesale and Manufacturing trade upon application.

Any Jobber Can
Supply You Promptly.

A trial with

FAVORENE

and you will never go back to the old way of soldering with borax, anti-oxidizer, pickle, etc.

Order from your jobber a sample bottle, 2-oz. size, and if not perfectly satisfied we refund your money. 2-oz. bottle will solder over 200 jobs of the ordinary size.

Price, 35 Cents.



Cut reduced 1/2 size.

"Nothing Like It!"

The greatest invention
of the age

is the universal verdict of
every dealer that uses

FAVORENE

Does your work in less time, requires less heat, requires no pickle, no anti-oxidizer, no borax, etc. With Favorene you can make 14 K. gold solder flow on 8 K. goods without danger of melting the goods. Favorene is a hard soldering solution that is guaranteed and does give absolute satisfaction.

Patented October 28, 1902.

KLENZENE

the greatest tarnish remover of the age.
Removes tarnish instantly and without the slightest injury either to the article or to the hands.

Requires No Rubbing or Brushing. Price, 2-oz. Bottle, 25 cents.

Jobbing trade supplied through

WAYNE JEWELRY CO., Fort Wayne, Ind.,

—or by—

HAMMEL, RIGLANDER & CO., 35 Maiden Lane, New York.

Cleveland and Northern Ohio

Local Trade Conditions

The past month has been very satisfactory, though the retailers report an absence of the usual large number of early fall weddings, which are such a stimulus to trade. General business has been very good, and diamond sales in this city have been unusually large for the past few weeks.

A new labor trouble has arisen here which may be far-reaching in its effects. A dispute which has occurred among the officers manning the Steel Trust's fleet of boats has caused this corporation to tie up all of its boats at this season of the year. This will affect thousands of workmen in this part of the State, and cause a big loss in wages. Many of the small merchants will also be indirectly affected.

A. T. Hubbard, of the Cowell & Hubbard Company, is in the East for a couple of weeks, looking over the latest products of the manufacturers as well as the latest importations.

Captain R. E. Burdick and Edward Quinlan, the jewelry buyer of the Bowler & Burdick Company, spent the past ten days in New York, buying for the fall and Christmas business.

Grant Whittlesey, of the Whittlesey Optical Company, recently returned from a trip to Toronto and New York, subsequently leaving again for the East to attend the meeting of the American Association of Wholesale Opticians.

T. M. Heard, the veteran optician of this city, is offering his optical business for sale, and contemplates removing to a more salubrious climate, probably to California.

Charles Ettinger, the well-known jeweler of Ontario Street, has recently closed a lease on the south storeroom of the new Tamblin Building, on the corner of Ontario Street and Public Square. Mr. Ettinger hopes to be in his new store in time for the Christmas business.

Arthur Weed, manager of the wholesale department of the Bowler & Burdick Company, is passing cigars around over the arrival at his home of a son and heir—weight, ten pounds.

The Cowell & Hubbard Company had on exhibition the past month the silver loving cups which were given by the managers of the recent automobile races. About twenty cups were on exhibition and attracted much attention.

C. K. Merrill and Carl Einig left last week on their long trips for the year.

Frank Martin, manager of the porcelain department, and Z. W. Barnard, manager of the stationery department of the Cowell & Hubbard Company, were in the East recently, buying for their respective departments.

George Eroe, of the Scribner & Loehr Company, has been on the sick list the past month. He is now up the lakes for a short recuperating trip.

Harry S. Adams, for many years connected with our local jewelry concerns, paid the trade a short visit last month. Mr. Adams makes headquarters now mostly on the coast.

S. Heyman has opened an optical and jewelry store in the old Arcade. Mr. Heyman was formerly located in Chicago.

L. Schaefer, of Canton, Ohio, has recently opened a new store in his own town. Mr. Schaefer was formerly an employee in one of the big watch factories.

Frank A. Nye, of Toronto, Canada, was a visitor to our city the past month. Mr. Nye is associated with the Ryrie Bros. establishment.

Walter King, of the Julius King Optical Company, was a trade visitor here last month. Mr. King has many warm friends in this city, and says it seems like home to him.

Mr. Roberts, of E. P. Roberts & Co., of Pittsburg, was in town for one day last month, and visited the trade.

Charles E. Hart and Fred. W. Koehler, of Sharon, Pa., were in town last month, buying for their respective stores.

The following out-of-town jewelers were found in the jobbing houses this month: E. N. Davis, Kent, Ohio; C. C. Mowen, Collinwood, Ohio; W. J. Eroe, New Castle, Pa.; H. D. Pierce, Garrettsville, Ohio; W. P. Crowthers, Oberlin, Ohio; Walter Deuble, Canton, Ohio; J. Heinman, Barberton, Ohio.

San Francisco Letter

Business Prospects

Just now the conditions are very favorable to a good fall business, and everybody appears to be satisfied. All of the traveling representatives for the several jobbing houses are keeping the order clerks busy filling orders. This is as it should be. The lull last month was a breathing spell before starting under high pressure. Now that we have struck our stride, there will be no let-up until after Christmas. All of the principal Eastern travelers have been with us and departed well pleased with their sales, and it leaves a full line of all grades of goods in the jobbers' stocks, enabling them to fill all orders that are forwarded by their representatives. The retail trade in town is in a very healthy condition, and we feel safe in predicting a banner year for both the large and small dealers.

H. H. Weindieck, the retail jeweler of Red Bluff, Cal., was in town recently, buying new stock for his holiday trade. Mr. Weindieck reports the outlook for good business as very bright.

Nordman Bros., wholesale jewelry jobbers of Sutter Street, San Francisco, have installed a fine new plate-glass wall case, which will enable them to display their fine line of cut glass and silverware to a better advantage.

Simon Burnett, of Burnett Bros., retailers in Aberdeen and Chehalis, Wash., paid this city a visit, combining business with pleasure. This was Mr. Burnett's first visit in two years, and he was particularly struck with the progress made here in that time.

W. A. Hurst, whose wedding announcement appeared in last month's KEYSTONE, has accepted a position as head watchmaker with Mrs. L. Eaves, of Santa Barbara, Cal.

W. B. Clifton, formerly in business in Pocatello, Idaho, has accepted a position with Emil Pfund, and will look after the watch interests in the latter's store in Aberdeen, Wash.

W. R. Stammers, Jr., formerly situated in Sonoma, Cal., has closed up his store and will transfer his stock to his father's store in Selma, Cal., and help take care of the growing trade at the old stand.

J. R. Anderson & Co. is the firm name of the new retail establishment in Santa Barbara, Cal. Mr. Anderson was formerly in the employ of Mrs. H. A. Chambers, of the above town.

George Hilgerloh, who is now representing the old jobbing house of Rothschild & Hadenfeldt upon the Pacific coast, is an old employé

of that firm, having filled the position of credit man for very many years. We are pleased to learn that his first experimental trip was a very flattering one, and we feel safe in predicting a very bright and prosperous future for him in his new line of work.

Johnny Hammersmith, of Hammersmith & Fields, the retailers of this city, returned from his Eastern trip looking the picture of health, having been tendered a very cordial reception by his many friends in New York, where he enjoyed the pleasure of seeing a few of the international yacht races with a party of friends aboard the steamer Monmouth.

Rothschild & Hadenfeldt's new quarters on Sutter Street have been recently refitted with an entire new electric light plant, which will brighten up their offices and factory, enabling them to do night work and catch up in their back orders, as the factory is rushed with work.

Roland Jacobs, one of the road force of Alphonse Judis Co., paid his firm a flying visit recently to replenish his stock, and left town shortly to continue his route. Mr. Jacobs reports business in a very good condition, if the opinions of his customers are a criterion.

Richard Jacoby, representing J. S. Lehrberger & Co., of the Thurlow Block, this city, is making his initial out-of-town trip, and is doing very nicely. Mr. Jacoby previously looked after the above firm's customers in San Francisco. This house is making rapid strides in the market, and have a bright future before them.

Mr. and Mrs. Emil Pfund, of Aberdeen, Wash., spent a short time calling upon their many friends in San Francisco recently and stocking up for their holiday trade. Mr. Pfund reports the outlook as very good for the holidays.

There is some talk of the jewelers of San Francisco forming a riding club, members of which must belong to the trade or kindred trades. The promoters are Mr. Leon Nordman, of Nordman Bros.; Mr. Fields, of Hammersmith & Fields, and Mr. R. Radke, of Radke & Co. Nearly everybody in the trade rides, and this is a good method of promoting sociability.

Mrs. Stoddard, sister of L. Klödt, the retailer of Seattle, Wash., spent a month with us recently, taking a special course in optics with the Standard Optical Company, of Kearney Street.

W. H. Wiard, formerly in San Diego, Cal., has purchased the good-will and stock of the old-established jewelry house of J. G. Fox, of Carson City, Nev., and will carry on the business at its old location.

W. A. Green, of Carrau & Green, San Francisco diamond merchants, has just returned from his third diamond purchasing trip to Europe this year, and reaches here in time to take care of their customers' wants for the holidays.

The California Optical Company's quarters are again in fine condition. After their recent fire it was necessary to retint and refinish the walls and ceilings, which now present a very neat, rich appearance.

L. W. Kachlein, one of the leading opticians of Tacoma, was in town for the last month, calling upon his many friends in the optical trade.

F. E. Callisch is one of the newest knights of the grip for the Standard Optical Company, and is making his initial out-of-town trip, after spending a year in the office and factory, learning the practical end of the business.

Birmingham, Ala., Letter

Trade Conditions

Though there has been little betterment in the pig iron market during the past four weeks, business as a whole has shown decided improvement. Prospects of a fine crop all over this section of the South, coupled with the return to work of 15,000 coal miners, have caused an optimistic feeling that has spread to all departments of trade and commerce. Merchants are buying much larger stocks than last year, and in many cases larger supplies of high-class products, which have been laid in gingerly during the last few seasons. The outlook continues good for a heavy crop, and it seems that the farmers will be able to recoup losses for several short-yield seasons. All the industries of the State are running, with the exception of the Birmingham Rolling Mills, which are being fully overhauled.

The Iron Market

The demand for pig iron is not at all brisk, though there is some buying of small lots. Consumers are holding off, hoping the price will go even lower than \$11.50 for No. 2 foundry, which is a basis grade. The price has been placed at this figure by the associated Southern furnaces, but there is some cutting, no doubt. It is pretty certain that if any very large lots were wanted, a price 25 to 50 cents lower could be secured. The market for finished iron and steel is very dull, as a result of which the Birmingham Rolling Mills is out of service; but steel billets and steel rails are in big demand. Local railroads are taking large lots of Birmingham steel rails, and the demand has so far been beyond the ability of the mill to meet. Converters are being put in at the mill, which will almost double the output.

Several New Enterprises

During the past month the big new furnace of the Alabama Consolidated Coal and Iron Company at Gadsden was put in blast, and is now being worked up to 250 tons a day, and three other old furnaces, out of blast for repairs, were fitted up. One of these was No. 2 of the Tennessee Coal, Iron and Railroad Company at Ensley, which has been enlarged and thoroughly modernized. The newly overhauled stack of the Lacy-Bueck Company at Trussville, is about ready for the torch, and the Vanderbilt will be in again by the middle of October. Three of the largest plants of the Southern Car and Foundry Company—one at Gadsden, Ala., one at Memphis, Tenn., and one at Lenoir City, Tenn.—are to resume within the week. The output of iron is up to the maximum. Coal is very high, and coke commands a good price.

Trade with the Jewelers

Birmingham jewelers are looking for immense fall and winter business. They are all buying twice as heavily as last season. H. C. Abbott, of Abbott Bros., has been in New York a month, buying and shipping goods. He has bought largely of cut glass and china, both of which are very popular this fall. He has also filled some fine orders for diamonds.

A. W. Bromberg has just come back from New York, where he spent a couple of days placing some filling-in orders. While away he looked over some clock stocks to select a handsome timepiece, which he will present to the First Methodist Church.

William Rosenstihl, in the employ of the Jobe-Rose Company, is back from a pleasure

trip East, where he spent the time in a pleasant way.

The Calhoun Company has laid in so big a stock that Manager Gains is forced to provide more room, which he is now planning to do.

A handsome diamond heart shipped by Goodman Bros., of New York, to Abbott Bros., was lost in the Birmingham express office and cannot be located. The pin was very peculiar, and Mr. H. C. Abbott, who is in New York, has not been able to duplicate it, losing the sale as a result. The loss has caused a great stir with the express people.

P. H. Linnehan, who recently put in a jewelry manufacturing plant, says the work has so increased that he will have to put in more men and machinery to take care of it.

M. D. Brandis is conducting another \$3.50 bargain sale, which is attracting much attention. He guarantees the goods pure gold, and posts a \$100 bill in his window as a forfeit to anyone who can disprove his statements.

John T. Adams, at Talladega, says his business has doubled in a year. He will enlarge his capacity for the fall rush.

The De Soto Gold Mining Company is taking out \$16 ore at their mines in Talladega County.

S. O. Cox has resigned his position with the Calhoun Jewelry Company, and accepted a position in Atlanta, Ga.

J. H. Dey has a new jewelry store at Evergreen.

Modern Telegraphy

The telegraph service of the country has become a large part of its daily life, in a social and commercial way and in the collection and distribution of news, but the mechanical part of the service is almost as much of a mystery to people in general as it was when the telegraph was first introduced. There is scarcely another manual art of any kind of which the public knows so little, and it is not altogether a manual art, either, for modern telegraphy, especially of the kind used by the Associated Press, requires bright intellects and keen intelligence. The same is largely true of railroad telegraphy, on the accuracy of which the movement of thousands of trains and the safety of hundreds of thousands of passengers depend every day. The Associated Press operators are mostly "old-timers" who handled the press reports years before the typewriter or what is called the Phillips code came into use. Twenty years ago all that was required of the operator was rapidity in transmitting and receiving news matter and transcribing it with pencil or stylus. Now he has to be an expert typewriter as well as telegrapher, receiving news matter by ear and type-writing it at the same time. Moreover, he must know and have literally at his fingers' ends about 2,000 combinations and signs of what is called the Phillips code. The mastery and practice of this code are said to be very wearing on operators. It consists of words and signs which constitute a language by themselves, and which are absolutely unintelligible to any but experts. An example will give an idea of what it is like. This is the way a message is sent on the wire:

T potus, ixs wi km to Kevy his itn to ao sign t agm q Pip qsn.

Written out in full, as the receiver translates it on the typewriter, this jargon of letters conveys the following information:

The President of the United States, it is said, will communicate to King Edward VII his intention to at once sign the agreement on the Philippine question.

When it is remembered that there are about 2,000 of these arbitrary signs to be memorized and that they must be translated and written out on the instant, it will be seen that it requires a high degree of mental alertness. In the Phillips code nearly every letter in the alphabet is employed single to denote some combination of words, and words are used to represent phrases. Thus "hog" means "in consequence of," "kaw" means "adjourned sine die," and "ck" means "committed suicide." Here are the first sentences of a press dispatch as it was received over the wire. It was sent from Chicago. Leaving out the date line, it runs:

"A dsx fi at 2 oc tsm nry rekd t sto oqd bi Cx Smith Bros on Sta str. T origin f fi is unkn. Iw is dgd bi Cx ofc Obien dily bak f ofs q er floor. T flas wr shootg k entrance q alley es t awng hr ws in flas. T fi dpm tru an er, was cld to thr sto on Madison str es wn t engs arvd t flas wr mkg gd hedwa d rear prt f bldg es smoke was isng fm all prts f bldg."

The operator takes this off by ear and type-writes it off as follows:

"A disastrous fire at 2 o'clock this morning nearly wrecked the store occupied by Smith Bros., on State Street. The origin of the fire is unknown. It was first discovered by Officer O'Brien directly back of the office on the lower floor. The flames were shooting out of the entrance on the alley and the awning there was in flames. The fire department, through an error, was called to their store on Madison Street, and when the engines arrived the flames were making good headway in the rear part of the building, and smoke was issuing from all parts of the building."

Not all press operators are familiar with the Phillips code, but a majority of them are, and familiarity with it adds much to an operator's standing in the profession. A large part of their work is done in the night when other people are sleeping, and is done in a language which is worse than Greek to the most accomplished Greek scholar.

The Value of a Mistake

A mistake may be made by the keystone of system—the foundation of success. The secret is simple: Don't make the same mistake twice.

No difference what the mistake—whether it be the misspelling of a customer's name; an error in your bookkeeping method; an unfulfilled promise—it is a valuable asset in your business if you follow the rule: Don't make the same mistake twice.

Let your mistakes shape your system, and your system will prevent further mistakes of the same kinds. When you discover a mistake, sit down then and there and arrange the system to prevent its repetition. You can't afford to make the same mistake twice.

Not only your own mistakes; system will prevent the mistakes of those over you and of those under you. That trebles the value of the mistake that helps to make the system better. But don't make the same mistake twice.

Paint it on your wall; emblazon it on your door; frame it over your desk; say it to your stenographer; think it to yourself; burn it in your brain; this one secret of system, this one essential to success: Don't make the same mistake twice.—*System.*

COME



To CHICAGO

TO DO YOUR FALL BUYING.

REDUCED FARES

during the months of August, September and October, to the Great Western Metropolis and return, in connection with the

FALL MEETINGS, 1903, of the

National Association of Merchants and Travelers

Divisions
A, B, C and D,
at Chicago.

ONE AND ONE-FIFTH FARE.

Special Excursion Rates in the territory of the Western and Southwestern Passenger Association, including the following states: Iowa, Wisconsin, Missouri, Texas, Oklahoma, Indian Territory, Kansas, Nebraska, Colorado; New Mexico on the Atchison, Topeka & Santa Fe proper; New Mexico and Arizona on the Santa Fe-Pacific; Wyoming (from Cheyenne only); also in Minnesota and North and South Dakota, except on the lines of the Great Northern, Northern Pacific and Soo System; and members on those lines can secure the reduced rates from the nearest points on other lines; Northern Peninsula of Michigan on the C. M. & St. P. and C. & N. W. Ry.; Illinois in Western Passenger Association territory.

FOURTH MEETING.

Dates for Buying Tickets—October 24, 25, 26, 27, 28, 29, 30, 31.

Dates for Returning Home—October 28, 29, 30, 31, November 1, 2, 3, 4, 5, 6, 7, 8, 9.

Make a note of the dates for buying tickets and returning home. The railroads will positively permit no deviation from the dates given above. Members must in all cases **take certificates** [not a receipt] from the ticket seller at the point of starting.

WARNING! The dates given above only are correct, and the Association cannot be responsible for any statements of railroad employees to the contrary.

Write us for additional particulars. Make our stores your headquarters. We are at your service.

OTTO YOUNG & CO., 149-153 State Street.
Wholesale Diamonds, Watches and Jewelry.

PITKIN & BROOKS, State and Lake Streets.
Cut Glass, Fine China and Lamps.

BENJ. ALLEN & CO., Silversmiths' Building.
Diamonds, Watches and Jewelry at Wholesale.

H. F. HAHN & CO., Powers Building.
Diamonds, Watches and Jewelry.

C. H. KNIGHTS & CO., Columbus Memorial Building.
Diamond Merchants and Wholesale Jewelers.

STEIN & ELLBOGEN CO., 103 State Street.
Diamond Cutters and Wholesale Jewelers.

A. C. BECKEN, Powers Building.
Wholesale Diamonds, Watches and Jewelry.

SWARTCHILD & COMPANY,
Jewelers' Building, 134-136 Wabash Avenue.
Wholesale Tools, Materials and Jewelers' Supplies.

MADE IN BOSTON



Fine Silver Plated Ware By
JAMES W. TUFTS

Highest Quality Workmanship, Metal
and Plating... Distinctive Designs
Fall Season 1903



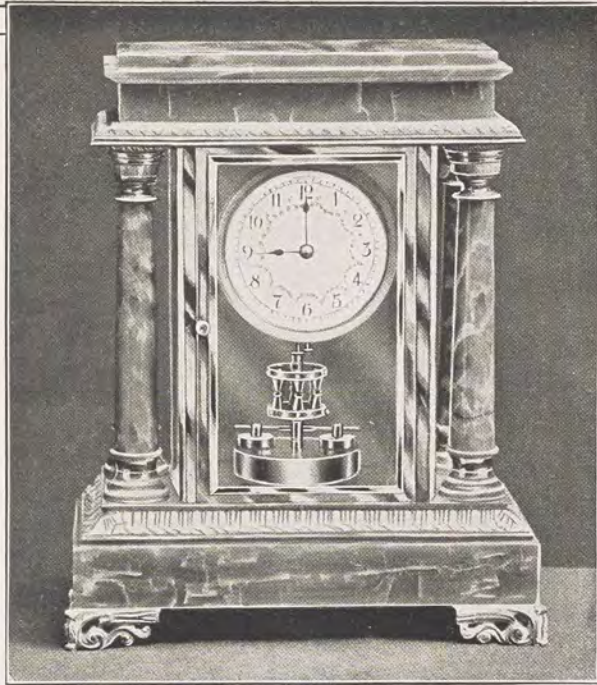
FACTORY & OFFICES
278-288 Congress St. Boston Mass.

"COLONIAL,"

of Mexican Onyx and Gilded Bronze,
with **Anniversary** Movement.

Height, 13½ in. Width, 10¾ in. Dial, 4 in.

This style is also made in White Marble and Mahogany in place of Onyx.



We have Eighteen Styles of the Best and Newest Mantel Clock Cases, made expressly for us in Paris, in which we fit the **Anniversary** Clock.

Send for illustrations and prices.

The Anniversary Clock is now so well known to both the Trade and the public that further introduction seems unnecessary. A timepiece of merit. Noiseless. Sells at sight for wedding and birthday gifts.

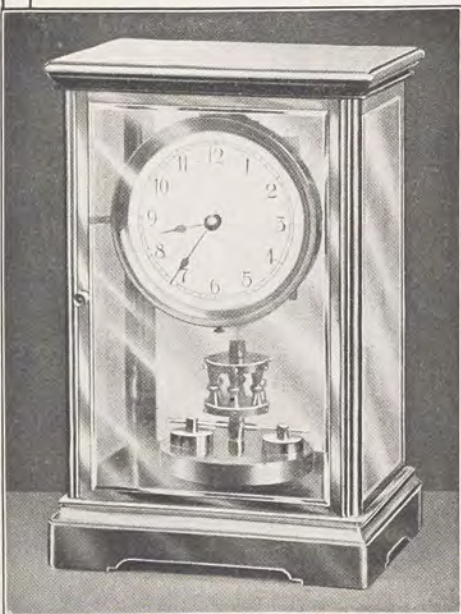
Wind it only on each Anniversary day. No up-to-date jewelry store can afford to be without them in stock.

Buy only the genuine, and beware of imitations.

All real Anniversary Clocks are plainly stamped "Anniversary Trade Mark registered."

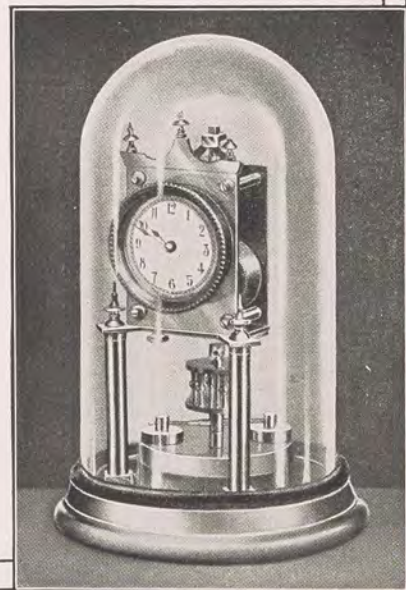
CRYSTAL CASE.

Height, 10¾ in. Width, 7 in. Dial, 4 in.



GLOBE CASE.

Height, 11 in. Width, 7 in. Dial, 3 in.



THE BOWLER & BURDICK CO.

CLEVELAND, OHIO,

Sole American Agents of the
Anniversary Clock.

The "Best" Trade: What It



ARE you selling to the best class of trade in your community? Remember: The "best" class of trade is not only the rich people who have "money to burn"; tho it includes these fortunate ones.

The "best" class of trade is that largest part of the whole number of people in any village, or town, or city, or countryside, who are thrifty; who look ahead; who plan to get the best values in the things they buy.

The "best" trade comes from that class of people who expect to remain in their present place of living. They are settled; have an interest in the general progress of the place; and look ahead for ten, twenty, fifty years, in behalf of their children and their children's children. They are those whom you will butt up against through your whole life.

The "best" trade is not all rich, or even well-to-do, now; but it is far-sighted; cautious; has a good memory; and in time it will buy more and more, and better and finer things, of the jeweler from whom it now buys the best it can afford.

The "best" trade stays with the jeweler who does the best for his customers. This staying quality grows out of its instincts for "cleaving to that which is good."

You can secure your good share of this "best" trade if you will invariably sell what is best for your customer to buy. He does not know what is best; you do.

The Keystone Watch Case Co.,

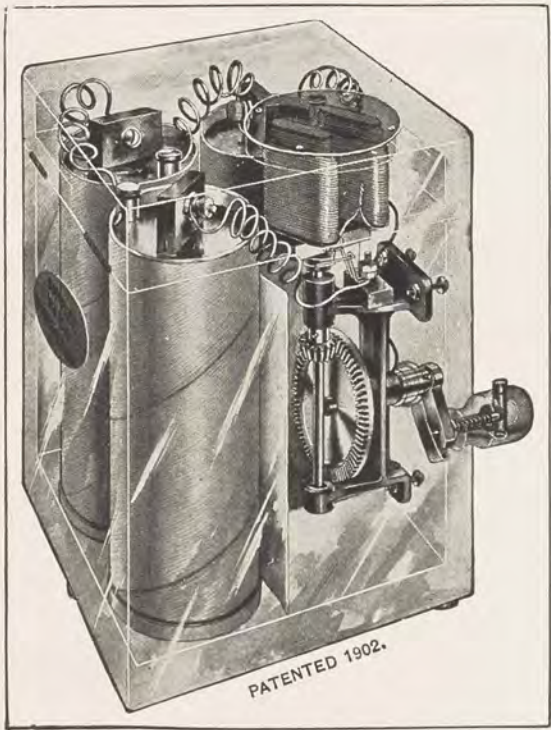
Is, and How To Get It.

This means, first, that you must put on sale only really worthy goods; only the kinds that have proved up. You may have to argue it out with a customer who has been shown “something just as good, for less money”; but stand firm, tho you lose this first sale. The “best” class of trade—the rich, or the fairly-comfortable, or the thrifty poor—will not go back to your competitor who sells disappointing goods. You will win out in the end.

It means, second, that you must always sell the highest grade that the customer can afford to buy: for his sake, and for your own sake; for the customer will forget the price long before he forgives for the quality of his purchase. It is all a question of looking out for the real interests of your customer—and yourself—and good salesmanship. A good salesman, for instance, will sell a Keystone Solid Gold case to the man who came to buy a Filled case; or a Boss 14 K. to him who had a “cheap” 20-year case in mind; or a Boss 10 K., when the customer asks for “a bargain, like down at Smith’s for \$5.49”; and so on.

You may have to argue and educate as you go along, but you will eventually secure the “best” trade if you deserve to have it. So: Sell only goods of proved worth; sell the best grade that the customer can afford to buy; sell what is best for the buyer.

The Simplex Watch Demagnetizer



requires no outside current. This obviates the difficulty experienced by many watchmakers who have found that their demagnetizer requires the opposite current to that which they are able to secure and that they are obliged to use a transformer. With the Simplex all you have to do is to press the spring, turn the crank and gradually move the watch away and the work is done.

THE SIMPLEX DEMAGNETIZER has an **automatic switch** which cannot remain closed through neglect, making it absolutely impossible for it to "burn out" your machine, an advantage over all other demagnetizers. It is portable, also. You can carry it with you to any part of your shop, or town, or county. It is always ready for use at a moment's notice, anywhere. It weighs only 9 pounds, and is enclosed in a substantial piano-finished quartered oak case with nickel-plated trimmings. It measures 6 by 6 by 8 inches.

THE SIMPLEX DEMAGNETIZER is actuated by a three cell dry battery which will last for a year or more and can be renewed at any time for 45 cents. The gears are of brass, cut from the solid, and all pinions are of steel, accurately fitted.

And the price cannot fail to fit your pocketbook. In fact the additional profit that you can make on demagnetizing twenty watches will more than pay the ten dollars which we charge you for **THE SIMPLEX DEMAGNETIZER**.

THE SIMPLEX DEMAGNETIZER is guaranteed. If it is not satisfactory at any point, in efficiency, in construction, in simplicity, we will refund you your money.

Price, \$10.00, express prepaid.



New Automatic Eyeglass Holder, made in silver, roll-plate and gold.



114



163



129 a

ESTABLISHED 1832
KETCHAM & McDOUGALL
 MANUFACTURERS
 GOLD & STERLING SILVER THIMBLES
 AUTOMATIC EYEGLASS HOLDERS
 37 AND 39 MAIDEN LANE, N. Y.
 SEND FOR CATALOGUE "E"



144

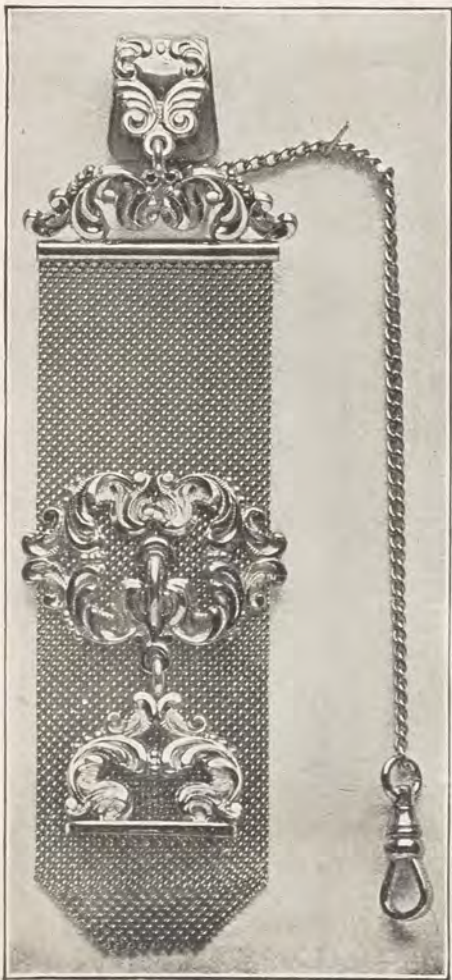


143



154

The Best.



Ask your jobber for
"The Best" Fobs with
Safety Attachment

(Patent Allowed.)

We make them, also a fine line of Locketts, Guards, Bracelets and Gents' Vest Chains. Order now and get **"The Best."**

They will please your patrons.

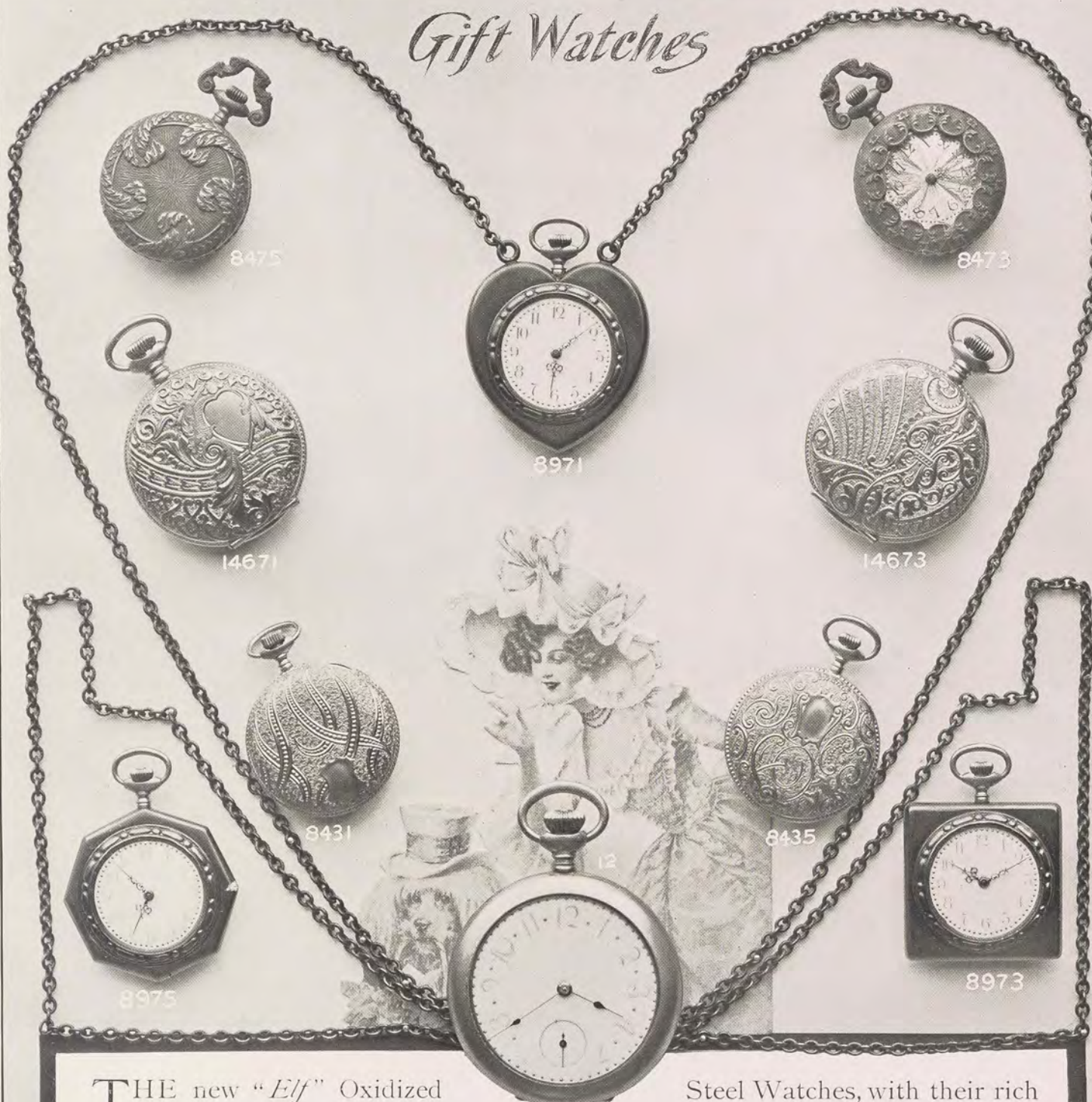
Bates & Bacon,
 MANUFACTURING JEWELERS,
 Attleboro, Mass.

9 Maiden Lane,
 NEW YORK.

103 State Street
 CHICAGO.



Gift Watches



THE new "Elf" Oxidized black coloring, in *Heart*, are stunning styles for neck wear. We furnish these with long oxidized steel chains as illustrated, if so ordered. The *Grecian Bows* and *Arabesque Bezels* on the "Elf" Rose Gold Watches are new effects equal to the best work of very high-grade watches. Several new designs in "Carvour" and "Elf" gold filled watches and our very latest, the 12-Size "Pilgrim," are also illustrated. These all sell at sight and *should be ordered promptly to make sure of delivery in time for holiday trade.*

Steel Watches, with their rich *Octagon* and *Square* shapes,

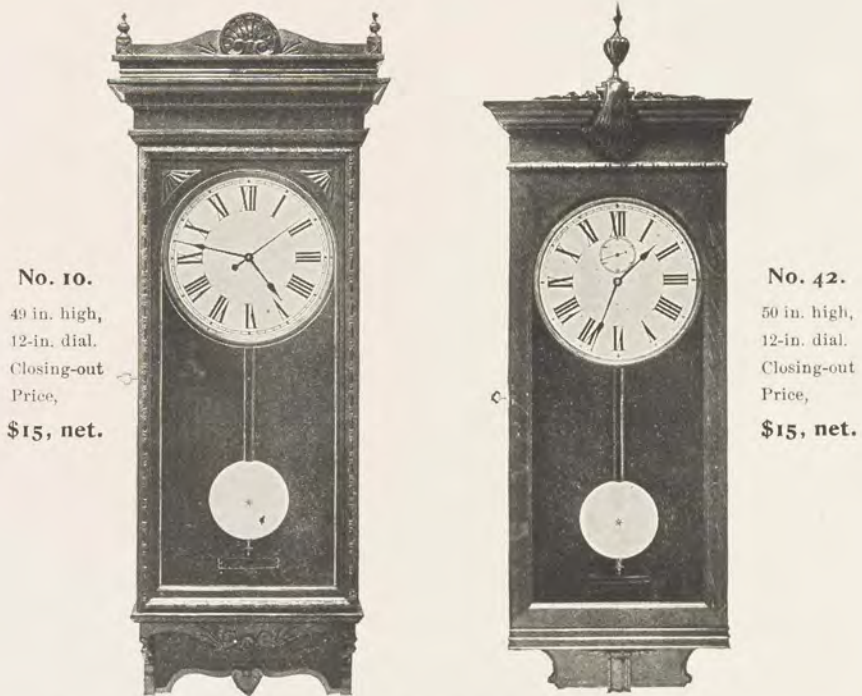
New England Watch Co., Waterbury, Conn.

NEW YORK, 57 Maiden Lane.

CHICAGO, 131-137 Wabash Ave.

SAN FRANCISCO, Claus Spreckels Bldg.

VWARINGNY



(For illustrations of **No. 40** and **No. 46**, see September **KEYSTONE**, or circular which you received three weeks ago.)

All four styles are furnished either with or without Seconds hand, or with either Independent or Sweep Seconds hand.

The closing out of the stock-on-hand of
“Standard” Electric Clocks

goes merrily on. Jewelers who gingerly ordered one, as an experiment, are sending in a second, third or fourth order, now that they appreciate the unusual excellence of these goods and the big profits which their reduced price affords. Every mail brings us expressions of satisfaction or words of praise.

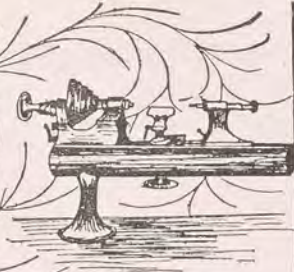
The making of them has been discontinued only because we need the room they occupy (clocks are bulky) for the making of New York Standard Watches, in the effort to supply the continually-increasing demand for these Watches.

The Clocks are a *real* bargain; and shrewd jewelers are “on to it.” Some of the styles are nearly sold out. The two shown above are very attractive—the pictures do not do them justice. They are cased in selected solid woods (oak, cherry and mahogany) with durable piano finish.

We sell these Clocks *direct* from the factory to the retail jeweler.
 Address

New York Standard Watch Co.,
 Jersey City, New Jersey.

Technical Department



Special Tools for Special Jobs

Article No. 31 of the serial entitled "Cleaning and Restoring," begun in the April, 1901, issue of THE KEYSTONE.

THE idea to be carried out in making a tap, as suggested in our last preceding article, is to employ the fine wire *b* wound on the steel wire *A* as a guide, to have the knife edge file cut a groove or thread in the steel wire *A*. The lathe is the place for winding such a tap, so as to have the coils of wire *b* advance in a regular "pitch" and produce what machinists denominate a "drunk" thread. We will now give the details of winding the small wire *b* on the large steel wire *A* for a tap.

Making a Special Screw Tap

After drilling the hole at *c* to receive and hold one end of the fine wire *b*, place *A* in a wire chuck, up to the line *f*, Fig. 1, and insert the fine wire *b* in the hole *c* and turning the lathe spindle slowly, by grasping the pulley on the spindle with the left hand, and proceed to wind on *A* a series of coils of *b*, as shown. When the steel wire *A* has about all the coils on it which it will hold, the end *b'*, of the small wire, is drawn through the slot *g*, cut in the end of the steel wire *A*, to prevent the wire *b* from uncoiling.

The wire *A* is now removed from the lathe, and the coils of wire pressed closely together, and soft solder the coils *b* to *A*. The end *b'* of the fine wire is now removed, the slot *g* and a coil or two unwound. The knife-edged file we made at our last interview, is now placed so one side rests against one of the coils as a guide until a small groove is made in *A*, to establish a regular thread on *A*. The line *a a* indicates the direction of the motion of the knife-edged file *B*. At

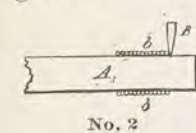


Fig. 2 is shown a vertical longitudinal section of Fig. 1, on the line *C*, and as if seen in the direction of the arrow *d*.

In the cut just named is shown at *B* the knife-edge file resting against one of the coils of fine wire *b*. The best place to hold *A* for filing the thread on it, is in the wire chuck employed for coiling. The wire *b* is uncoiled from *A* on the lower side, as fast as

the slight groove is cut with *B*. It is not necessary that a full thread should be cut in *A*, with the file *B*, only enough groove to guide the file and trust to subsequent filing to produce a deep full thread. A thread filed on the wire *A* for a continuous space of $\frac{3}{8}$ of an inch is quite enough.

After this portion of the thread on *A* is complete, the blank or smooth portion of *A* to the line *a*, Fig. 1, is cut off so the top appears as shown in Fig. 3.

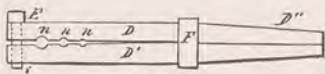
Of course, the process of making a plate to match the tap we have made, is too common a mechanical operation to require any description. It may not be amiss, however, to say, that in making such taps a sort of chasing process can be resorted to by using a V-shaped point to turn out and deepen the thread started by the knife-edged file *B*.

Of course, it is understood that in the ordinary process of screw chasing, a tool with several contiguous points like *h*, Fig. 4, is employed, said points being situated at pitch distances apart; but in the present instance, or in any other case, a screw thread can readily be deepened by a tool with a point shaped as shown in Fig. 4, provided a thread is started to guide the tool. The T-rest must be smooth on top and also the tool smooth on the lower side, so it glides easily along on the T-rest. Such a tap as shown in Fig. 3 can easily be made to cut screw plates for forming screws on the end of the wire to be used for bushes.

Adjustable Screw Dies

The simplest form of plate is one with holes, after the manner of the ordinary stubs or Swiss plates; but a more convenient pan of adjustable dies can be formed of pieces of steel $\frac{1}{4}$ of an inch square, as shown in Fig. 5, where *D D'* represents the steel pieces just mentioned. They

are held together with flat links show at *F*, and at the outer end a screw about $\frac{1}{8}$ of an inch in diameter clamps them together. While in the soft state three holes are drilled at *n n n*, which are tapped with the three sizes of taps, one of which we have just made, and then hardened and tempered. The ends of the pieces *D* are tapered as shown at *D''*, for going into a handle.



In using such a plate, the screw *F* clamps the jaws *D D'* together, so in effect they form a very simple and effective adjustable plate for screw cutting. It will be readily understood that screw taps and plates of almost any pitch can readily be made in this way; if, for instance, we desire any given pitch, say for illustration, 25 threads to the inch, we take a wire for making the coils, somewhat less than $\frac{1}{25}$ of an inch, and after winding on a suitable wire to produce a close coil spiral, we draw the coils apart until 25 of them just equal an inch. The wire for the tap is selected a little larger than the one on which the coils were wound, in order that they may rest steadily on the tap wire, while they are soft soldered in place.

[TO BE CONTINUED]

A School of Invention

A manufacturer at Newburg, N. Y., Thomas Coldwell, himself an inventor of some repute, advocates a new study in the public schools, the cultivation of genius and particularly of inventive genius. In a letter written to the *Newburg Journal*, from which we make the following extract, Mr. Coldwell outlines his interesting plan:

"Some children show a greater natural taste or inclination for arithmetic or grammar, or any other line of education, than do others, and yet we give them all the same general education, regardless of their natural taste and often through persistent study and encouragement some of the dullest scholars at the start graduate with the highest honors and become our brightest and most successful men. If this be true in regard to developing genius in these general and popular lines of education, why not in the line of inventive genius? Any way, should not every boy be given the privilege of developing himself in this line as well as in any other? I know that inventors generally are looked upon as dreamers and cranks, but the world would be in a sorry plight without them. Next to religion we are indebted to them for our advanced civilization more than any other one thing. To give this a practical test I would suggest that our Board of Education offer prizes in the manual training department for the best inventions or improvements in connection with their work, or tools, either in inventing something entirely new, or any improvement in old things, or any suggestions for improvements in connection with the same. If the Board of Education have not the power to offer these prizes, they might allow private individuals to do it. I have tried this plan in our factory, and have been surprised at the development of inventive genius among the men. During the first six months we had only eleven suggestions for improvements; during the fourth six months we had over seventy. And this rapid development was from men who had shown no marked genius in this line previously."

Does Deception Pay?

An honest man is a shrewd man. It is shrewd to be honest. Honesty is good diplomacy. The days of the schemer are gone by. Deception is nothing short of stupidity. When you have once gained the confidence of those with whom you deal, two-thirds of the battle of success is won.



Our 1-8 and 1-10 gold filled chains are up to the standard and are just what we represent them to be; and according to the United States assay they had more value than any other chains assayed.



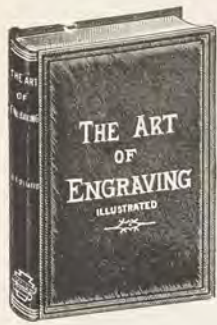
Ask for the original Bigney Jr. Safety Fob, patented May 12, 1903, with Washburn patent fastener, the only reliable fastener on the market. Other makes are infringements, and as we have previously stated, our interests will be taken care of in due time.

We have the most up-to-date line of Fob Chains, English Seals and Locketts on the market. Remember, every article of our make is guaranteed.

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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 VIII. Begun in March, 1903)

It is not unusual to start a student engraving on script letters, but a number of years of experience has convinced the author that an easier style of letter should be used for the beginner in a series of graded exercises, and while it is a fact that block letters or Gothic are in some classes of work considered more difficult than others, I think, however, that in bright cut engraving they are easier than the script. It is the script engraving that is mostly desired, and jewelers that are engaging engravers will usually ask for and insist on first-class script lettering; and in many cases we find artists in mechanical engraving who cannot do creditable script engraving. We will, therefore, begin our lettering with Gothic or block letters, and will now lay aside the graver that we have been practicing these preliminaries with and take up another graver.

The Flat-Faced Graver

As we lay aside this graver temporarily it must be borne in mind that we are not to leave it entirely, that it should be taken up and practiced with in conjunction with the work that we are about to take up, because the use of the square graver and the flat-face graver are radically different in detail of operation. We will take a flat-face graver, shown at Fig. 33, ground on an angle of 45°, ground off at the top so as to decrease the width of same perpendicularly and to enable the engraver to sharpen it with



Fig. 33

more rapidly on the front. This graver is also heeled up on the under side sufficient to raise the graver so as to allow the fingers to grasp the handle firmly. The graver should be heeled up on the under side so as to raise the handle when it is on the proper angle to cut not less than one inch from a horizontal plane. The method of sharpening and polishing this graver, and the theories for the same, are practically as outlined for the square graver. In polishing the graver on the emery paper, it should be moved on same in the direction of the cutting angle which, in this case, is the extreme front of the graver. The flat-face graver is an awkward and difficult graver for a beginner to use—one that most beginners dislike; but after they have used it and become familiar with its good qualities and the broad scope of its usefulness, they are very much in favor of it. In polishing a flat graver the tendency is to round off the corners or cutting points. Great care should be exercised to avoid this common difficulty. In sharpening the graver on the oilstone it is pushed backwards and forwards the same as the square graver, and for sharpening on the front it is held in the same position and moved to the right and left on the oilstone as described for the square graver. The question may be asked, why is it that it is not recommended to sharpen the graver or flatten it on the under side by moving it to the right and left side or backward and forward, thus avoiding the lines or grooves crossing the cutting edge and making the saw teeth that have been described. The reason is that the tendency would be, in moving to the right and left, to make the under side of the graver rounding, and it is for this reason that both the flat-bottom graver and the square graver are flattened by pushing backward and forward. The length of this graver is determined as described for determining the length of the square graver. All beginners, as they mount new graters, should make them the same length as the square graver they are using,

taking it for granted that the same is correct, as it will be if the length is determined as described.

Block Letters

The sides of flat-face graters are, when purchased, usually rough, which causes additional friction when being forced through the metal. It is, therefore, advisable for the engraver to whet the sides down flat and smooth, thereby reducing the friction to a minimum. Having our graver in perfect condition we will now proceed with some of the exercises necessary to properly begin cutting block letters.

At Fig. 34 are shown perpendicular, horizontal and angular bars from which block letters are made. In cutting these bars the graver should be pushed downward on an angle of about 45° and then lowered to the proper angle at which it will slide forward. This angle measured would be about 20°. The object of inserting the graver at about 45° and then dropping it down to 20° is that by so doing the end or the beginning of the bar or, more properly speaking, the incision, would be nearer straight down into the metal

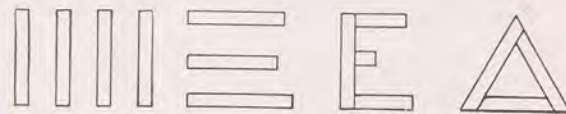


Fig. 34

(which is the angle of the sides) and the end of the bar where the graver is thrown out. To illustrate this point see Fig. 35, where *A* represents a cross section of the plate being engraved and *B* represents the incision properly commenced and properly ended. *C* is the beginning of a line made by inserting the graver on a less angle than 45°, which shows to the beginner that a line cut in this way would produce a very undesirable appearance if the work was to be



Fig. 35

enameled; or, in the case of die cutting, if the ink would rub out. Moreover, the bars of these lines should, for general appearance in bright cut work, begin and end as nearly as possible on the same incline. Of course, it is impossible to end a stroke on an incline. As the graver is thrown out it would naturally be raised upward to break the chip off, and this would leave it about perpendicular. Therefore, the beginning of the incision should be as nearly perpendicular as is practical. If an effort is made to make the incision begin on an angle greater than about 45°, it would then be necessary in lowering the angle of the graver in order to slide it forward to back up against the extreme edge of the surface of the plate and the incline of the incision. This would mar and deface that portion of the plate and produce a very ugly appearance. These little details in reference to the beginning strokes in engraving should be strictly followed in practicing, as they are the cardinal points of correct work, as will be shown later on in the higher classes of engraving.

Practice in Cutting

After sufficient practice in cutting these lines perpendicularly they should then be cut horizontally, changing the length of them gradually. Start at the top with a short line and gradually increase the length until it is more than double. The depth of these incisions is a hard matter for an instructor to tell a student. Of course, it would largely depend upon the article that is being engraved. Articles such as are engraved with these letters are usually engraved just deep enough to look well. The engraver can tell very easily when he is cutting too deep, as his work will be very rough. It might be well to advise the beginner to cut as shallow an incision as he can, and keep both points of his graver into the metal. This advice is given in view of the fact that most beginners cut too deep. Students who try to cut very shallow will find that they cut sufficiently deep.

At the right of the horizontal bars in Fig. 34 are shown the horizontal and perpendicular bars placed together, forming the letter E, and at the right of the letter E is a triangle formed of these same bars. In cutting this letter E there are some points which will be taken up under the head of cutting the alphabet and also in cutting the triangle.

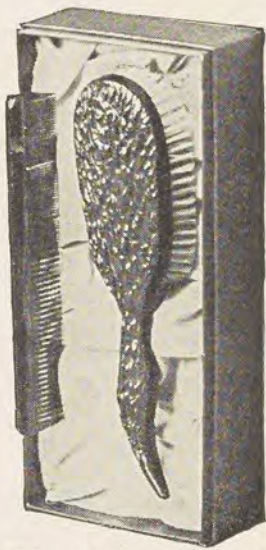
(TO BE CONTINUED)

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We want the business and want it early, and in order to get it we will make a grand and generous offer. The goods in this offer are guaranteed as represented, and are worth a trial. We will get your order on other goods after you have received this one lot. The regular jobbing price of these goods are as represented under each article.



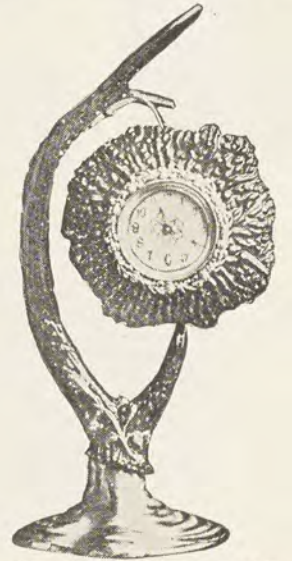
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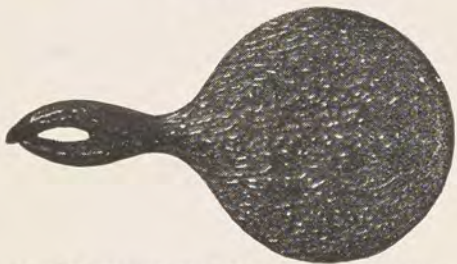
This set is genuine French Stag, Sterling Mounted. Jobs at \$2.00 set.



White-lined Case, genuine Ebony Brush, large Comb. Jobs at \$1.25.



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4 1/2-inch French Stag Hand Mirror, Sterling Mounted. Jobs at \$2.00 each.



Genuine Ebony Cloth Brush, Sterling Mounted, 7 1/2 inches long. Jobs at \$1.50.



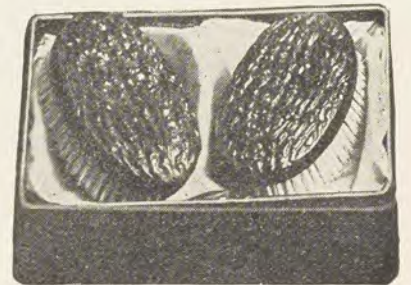
2-prong Handle, French Stag Hair Brush, 11-row Bristles, Sterling Mounted. Jobs at \$1.75.



One large Mirror, 11-row Brush, all genuine Ebony, good Comb, in Leatherette White-lined Case. Jobs at \$3.75 set.



4 1/2-inch genuine Ebony Mirror, heavy Sterling Mounted. Jobs at \$2.00.



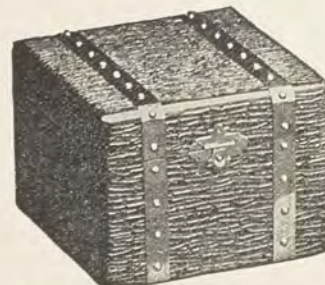
French Stag Military, Sterling Mounted, best quality Bristles. Jobs at \$2.75 set.



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French Stag Cigar Box, lined with zinc; a very elegant and fine selling article. Jobs at \$3.00 each.



French Stag Cork Screw, new patent cork puller, Sterling Mounted. Jobs at \$2.00.

The regular jobbing price of the above pieces is \$34.95. We will make the combination for the next 30 days at the low price of **\$25.00 net**. Cash with order. This is by far the best line of Holiday Novelties ever offered for the money.

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Send for our new 1904 Catalogue.
Out October 10th.

N. W. Cor. Fifth and Vine, Cincinnati, Ohio.

About Tempering Rotary Cutters and Other Steel Tools

Article No. 36 of the serial entitled "Gold Working," begun in the November, 1900, issue of THE KEYSTONE.

THE best method of preventing scaling in hardening steel is to put it in a charcoal box, or rather in an iron box, in which the steel pieces to be hardened are packed with fine charcoal prepared by grating a lump of this substance on a large grater similar to such as we find in kitchens for reducing nutmegs to powder, except the grater should be much larger.

We have repeatedly given the process, but inasmuch as each of the editions of THE KEYSTONE have thousands of new readers, will give in detail the latest improved process for annealing steel and also for hardening the same. The first requisite to provide is a piece of heavy iron gas pipe $2\frac{1}{2}$ " in diameter and about 8" long.

In one end of this tube is welded an iron plug, as shown in Fig. 1, where *A* represents the piece of iron gas pipe, and *B* the iron plug welded in the end. The ring *B'* is securely fastened to the plug *B* for convenience in handling. In the lower end of *A*, as shown in the cut, the plug *C* is loosely fitted to the mouth of *A*. Pieces of steel to be annealed are placed in the tube *A* and all the surrounding space packed with charcoal dust.



How to Anneal Steel

The tube *A*, with its contents, are now heated to a dull red through and through. Ample time should be allowed for such heating, because many workmen will get impatient and imagine the steel pieces inside the box must be red hot, when in fact they are not, and consequently when the box is opened they find the enclosed pieces of steel as hard as ever. Some workmen have made the plug *B* with a hole in it, and in this hole placed a piece of $\frac{3}{8}$ " iron pipe, as shown at the dotted lines *a a'*, Fig. 1, so the operator could look in in the direction of the arrow *b* and see the interior of the small tube *a* and thus determine when the interior of *A* was red hot.

As such a tube as *a* fills up much of the available space in *A*, and a little good judgment, backed up by experience, will tell one when a box of this kind is properly treated, it can well be discarded. Another precaution is to be observed, which is not to heat the box too hot.

In hardening the steel pieces are packed in the box as when annealing, and again heated, at which time the iron box *A* is held over a bucket of cold water by inserting an

iron poker in the ring *B* and holding the tube *A* vertical over the bucket by means of the forked affair, shaped as shown at *D*, Fig. 2, which is placed on the neck of *C*, and using *J* as a fulcrum, pry *C* out of *A*. By tapping *A* with a small hammer, or an iron rod, the pieces of steel in *A* will be rattled out and drop into the water; the charcoal dust falling in a shower burns all the oxygen out of the air and prevents oxidation.

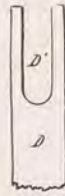


Fig. 2

Hardening Steel Pieces by the Cyanide Process

The chief objection to this method of hardening is the uncertain direction in which the pieces to be hardened strike the water. A cutter disk, for instance, striking the water on its flat side, would be dished, more especially if quite thin. Another and superior mode of hardening steel cutters is known as the "cyanide pot" process. To harden by this method a deep black lead crucible of a size proportionate to the pieces to be hardened is provided and placed in a furnace of some kind and partially filled with cyanide of potassium, as shown in Fig. 3,

where *E* represents the crucible, and *F F* the furnace, as if seen in vertical section. There are some important technical details to take into account when using cyanide of potassium for heating steel for hardening. Cyanide of potassium can be heated to a full red heat and maintained at this temperature for hours with but small loss if air is carefully excluded. For this reason we have shown the crucible *E* as resting in the iron plate *H*, Fig. 3, and an iron cover *I* placed over the top of it to exclude the air.

A hole should be made in this cover large enough to admit any piece of steel intended to be heated. The fire in the furnace *F* should be built well up around the crucible so as to heat it to red heat to the top. If the top of the crucible is maintained at a red heat and also the plate *I*, it will be well. A little charcoal made into a coarse powder and placed on *I* will also tend to prevent the air from getting to the melted cyanide.

The hole at *L* should have the flanges *d d* turned up around the hole *L* to prevent the fine charcoal from falling into the melted cyanide in the crucible. To harden a mill cutter suspend it by passing a small iron binding wire through the center hole, and then after twisting the wire to form a handle, dip it through the hole *L* into the melted

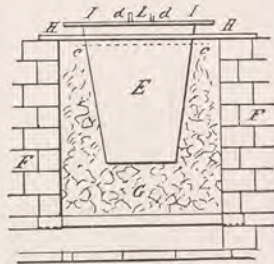


Fig. 3

cyanide, and in a few seconds the cutter will be red hot through and through, and while in this state dip it into cold water. The coating of melted cyanide protects the steel from the air so it does not oxidize, and it comes out of the water as hard as glass and nearly as white as silver. This process also answers admirably for small steel tools, but large steel pieces do not harden through, as the coating of chilled cyanide is not a very good conductor of heat.

[TO BE CONTINUED]

As to Sight Drafts

The average business man is possibly too apt to overlook the effect of little things. It may be that he permits the draft made by a creditor for a matured account to go back unpaid, for lack of funds, carelessly giving the bank as the reason, "amount not correct," or "not due." Again, he orders it returned because of a petty claim against his creditor, or perhaps more frequently gives that as the reason for non-payment when there is no other cause.

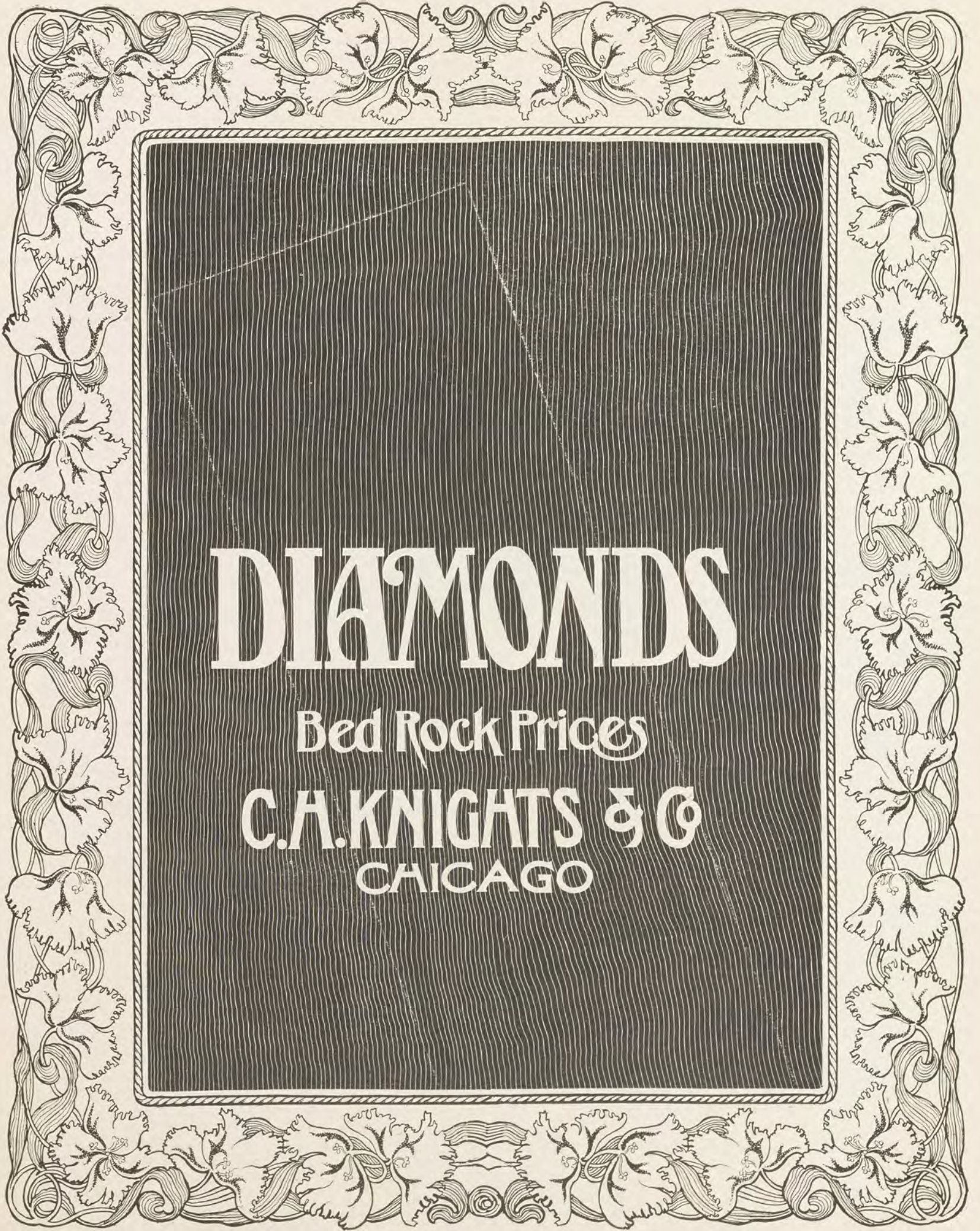
Most business houses send a notice of a draft to follow by first rendering a statement of account, showing details, the maturity of certain bills being emphasized, and asking that a remittance be made or the draft honored. Some houses notify their customers in other ways, and as a rule ample time is given for a reply to reach them, so that a payment or a claim can be duly considered before the draft goes forward. Under these conditions it certainly is wrong to permit a creditor's draft to be returned, for he has shown you the courtesy that is due from one business man to another, and naturally expects similar treatment at your hands.

However, if one has been careless and not prepared for the drafts, which would have been withheld upon proper and sufficient excuse being given, it is better to give frankly the true reason or to make some arrangement to protect the draft, whether correct or not, trusting your creditor to make good your claim. He, having trusted you with his goods, is justified in expecting you will rely upon him to correct some trivial difference.

It should be borne in mind that the handling of a matured account by a creditor is attended with expense, consequently you put him to unnecessary expense when you permit his draft to go into the bank's hands only to be refused. Nor is this all. His books show plainly whether you are in the habit of honoring a draft or not, and your credit is affected accordingly.

It rests with you, whatever you do, to be entirely frank with a creditor, and if you refuse payment for lack of funds in hand to-day, say so. Your creditor appreciates and trusts frankness. If for other cause, tell it, and follow promptly the draft's return with a letter of explanation, and if possible show your disposition to "tote fair" by remitting for such amount as you can spare.

The merchant who looks after these little details in a conscientious manner is sure to win friends and receive concessions and generous treatment to a degree which the man who is careless about them cannot hope for. The value of credit was never greater than to-day. It is at a premium, and your holdings of this commodity will fall below par if little things are ignored. —Business Topics.



DIAMONDS

Bed Rock Prices

C.A. KNIGHTS & CO
CHICAGO

The Origin of the Diamond

The diamond has recently attained a scientific importance which justifies any effort to solve the mystery of its origin.

In 1898, before the American Association for the Advancement of Science, at Boston, in advancing the theory of their meteoric formation, I offered the first explanation ever suggested. The facts were then sufficient to sustain it, and the recent discovery of the most perfect diamond ever found in a known meteorite has demonstrated what I then maintained, that diamonds are visitors and not natives of the earth.

It is now positive that in interplanetary space are bodies and conditions where diamonds are manufactured, of a more perfect formation than any found on the earth.

The only question possible to raise against my theory is, Are all diamonds of meteoric origin?

As the evidence now stands, it is all in favor of their celestial origin, and no fact is found to give testimony to the other side.

The volcanic theory is untenable for many reasons, and it is the only alternative to offer.

Diamonds cannot be formed in the presence of oxygen, and the necessary conditions of heat, pressure and electrical energy, while they are all possible in volcanic action, were never succeeded by sudden cold, which is equally requisite to the formation of the diamond crystal, as proved by Moissan in Paris and Kronchoff in Russia.

The reasons that they are not of terrestrial origin, and must have been formed under conditions never possible in the earth are these:

1. Oxygen is everywhere present.
2. Sudden cold never succeeded intense heat, as terrestrial temperature changes are slow in operation.
3. They cannot possibly be reconciled with any of the eras of geology, and have been denied a place by all geologists.
4. They are always isolated, and are never found in masses of carbon, so common in all parts of the earth.
5. They are consequently never found in a matrix where they could have been manufactured, as is the case with all other crystals.
6. They have different refractive powers in their interior and exterior layers, owing to tension during their formation, according to Sir David Brewster, and others later.
7. As conclusive, they have a different law of crystallization from carbon of known terrestrial character and formation. This fact as certainly proves them of meteoric origin, as the meteoric forms of iron and other minerals tell of their celestial birth.
8. The diamonds of Kimberley are liable to crack or fly to pieces on coming into the air, and the diamonds of the meteorite in Arizona have done the same. This establishes a most remarkable relationship and proves them all to have been subject to a pressure unknown to any terrestrial era which they have experienced.

9. A perfect diamond was never found except in a meteorite. They are all fragmentary, broken, fissured, corroded and coated with foreign material, differing in individual cases and localities.

Several writers have maintained against my theory, that the diamonds of Kimberley were certainly not of meteoric origin, even if it were true of all others.

In his book on "The Diamond" now before

me, Prof. Henry Carvil Lewis says, in reference to the kimberlite, as the diamond-bearing rock of South Africa is named:

"Olivine in round fragments constitutes the largest part of the formation, and this is also a common feature of meteorites. The rock differs from any other earthly formation. The structure can only be compared with meteorites. Dr. Wadsworth says these rocks possess the structure of meteorites."

The diamonds from Kimberley are found to have optical anomalies due to strain. Fizeau thought this to be due to unequal distribution of heat during rapid cooling. This seems to be proven by the fact stated above that diamonds frequently crack or explode on being taken from the mine, exactly as do those found in meteorites. The only conclusion from this is, that all of them have been formed under the same or similar conditions, and these are known to be true of meteorites, but impossible in the earth at any stage of its history.

It seems that all diamonds have exploded at some time in their existence, as that alone can account for their fragmentary character.

Many other scientists have noted the resemblance of kimberlite to meteorites, and go so far as to say that it is like to no rock of terrestrial origin.

From this point it is not far to my theory that they are all of celestial birth, yet it must be true of all diamonds if it be true of any.

One argument raised to answer me was, that the great mass of kimberlite was proof that it could not be meteoric. In reply to this, the meteorite mountain of Arizona is sufficient refutation.

Even when all this is accepted, the story of the diamond is only half told, and my explanation of its life-history is also half in reserve. This much is demonstrated, the diamond is of celestial origin. It is of late date on the earth, later than any geological era, and that the great deposits of the Southern hemisphere came from the same direction at the same time, as they are found on all the continents and islands of that region, in similar superficial positions in drift and river beds.

The possible diamond mines of the future may be found in the great continents of the South Pole, as they are near the center of the great circle of diamond-bearing countries.

The ancients believed the gem to be a celestial visitor, but upon what evidence does not appear to be a matter of record, so far as known. It is of interest that modern research has proved them to be correct.

The present expedition of scientists to Cañon Diablo mountain to ascertain its character is owing to the finding of the perfect diamond near there in a meteorite. The mass has long been known to be meteoric, and also to contain numberless minute black diamonds. News from them will be awaited with interest.—*Scientific American Supplement*.

Jade in All Colors.

Those of us who are accustomed to regard jade as among the semi-precious stones will be surprised to learn that in China, on the river Tyang, there are very extensive beds of this stone. Contrary to popular belief, it is found not only in green, but in a variety of other colors as well—white, red, brown and similar shades. In China jade is used for many ornamental purposes, and is highly valued for table tops, cups, bowls, rings, bracelets, pipes, cigarette holders and such things.

Kept His Eyes Open

A Young Man Makes a Valuable Discovery in the Diamond Mines at Kimberley

When the negro laborers descend into the diamond mines at Kimberley, they hew out the hard diamantiferous earth and put it in wooden tubs which are hauled on stout wires to the surface, where the earth is spread over the ground to undergo for several months the softening influences of heat and cold. When it is soft enough it is shovelled into the washing machines where the dirt is separated from the rough diamonds and other larger mineral substances. The mixture of minerals remaining is known as concentrates.

It was necessary, until recently, to go very carefully over the concentrates to pick out the garnets and many other foreign substances until nothing remained but the rough diamonds. This is a slow and laborious operation, but it has been an essential part of the mining industry until it was superseded by a discovery made a while ago.

Among the employés in the sorting room was Fred. Kersten, a bright young fellow, who quietly went to work to try to discover a way to separate the diamonds from other stones more quickly and easily than could be done by the slow process of hand picking. He told no one of the problem he was working at, but kept on with his experiments, not a whit discouraged by his many failures, to find an efficient process.

One day, by the merest accident, he made the discovery he was after. A rough diamond and a garnet happened to be lying on a small board on the bench where he was working. He happened to pick up one end of the board when the garnet slipped off, but the diamond remained.

This was a phenomenon worth investigating. Kersten found that there was a coating of grease on the board which had retained the diamond, while the garnet slipped off.

He procured a wider board, coated one side of it with grease and dumped a few handfuls of concentrates on it. Then he found that by holding the board in a slightly inclined position and vibrating it, all the concentrates except the diamonds moved to the lower end and fell off, while the diamonds remained in place.

Then he invented a machine by which his discovery might be utilized. One part of his machine was a slightly inclined table coated with grease and vibrating when the machine was in motion. Another part was a sort of hopper through which the concentrates, with a small current of water, passed to the surface of the vibrating table. Considerable study was required to perfect the apparatus, but at last the machine was completed and the big diamond men were invited to witness the new method of separating diamonds from the rest of the concentrates.

The invention was an entire success. All the garnets and other minerals that are not wanted pass over the surface of the table while every diamond, large or small, is retained. A more simple and complete device for saving time, labor and loss of diamonds could not be invented. The entire work is now done by machinery, hand picking has been wholly superseded, and both the young inventor and the owners of the diamond mines are profiting by the new labor-saving device.

In the diamond mines of South Africa, as in other mines, there is continual improvement of the machinery, but there is still room for much effort in this line. Were the diamond mines located in the United States it is safe to say the machinery would be much nearer perfection.



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Solid nickel top plate handsomely damaskeened in gold, micrometer regulator, cut expansion balance, safety pinion, screw bankings, straight line lever escapement, hardened and tempered breguet hairspring, quick train, exposed winding wheels, dust band, handsome white enamel dial with depressed second and center and with red marginal figures. Hunting lever set. Open-face pendant set. Price, \$9.50.

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No. 315. "FORTUNA." Special 12 Size, 7 Jewels
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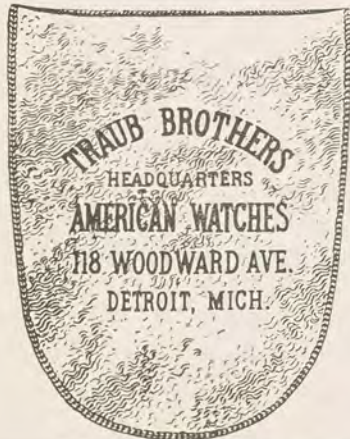
No. 300. "FORTUNA." 6 Size, 7 Jewels.
Nickel damaskeened, cut expansion balance, safety pinion, screw bankings, straight line lever escapement, hardened and tempered breguet hairspring, quick train, exposed winding wheels, handsome white enamel dial with depressed second and red marginal figures. Stem wind and lever set. Price, \$5.00.

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Workshop Notes

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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.

"Multum."—(1) State concisely method of procedure in making American cap and hole jewel settings and how screw head-rests are made.—To give a full description of the method of setting and making American hole and cap jewel settings would occupy too much space for this department. It has been explained and illustrated in THE KEYSTONE, of 1898. There are several kinds of drills for sale by tool and material houses to make the sink for screw-heads. One of the simplest and easiest to make is what we term a rose-drill. Such a drill or counter-sink is shown at Fig. 1: A' representing a side view, A'' an end view. Take a piece of steel wire, about the length of a screwdriver, that will fit a No. 34 Moseley or Whitcomb wire chuck, turn down the part A' the same size as the jewel screw-head, having the end flat. Now place the wire in a pin-vise, holding the vise in the left hand and by using a sharp graver, starting from the center, make V-shape cuts, as shown at Fig. 2, using the point of the graver, filling the whole surface. A drill of this kind will cut like a file. The end A', Fig. 1, should then be tempered and drawn to a good straw color. You can put a top on, such as a watch screwdriver contains. To use such a countersink, place the jewel setting in position and pin or screw in as far as possible, in order to hold the jewel setting firm while sinking the recess for the other screw-head. Insert the countersink as shown at Fig. 3, where B represents a portion of a watch plate or balance bridge and E the cap jewel setting. Turn the drill backward and forward with your



Fig. 2

fingers, pressing in gently the setting E and at the same time gradually bringing the drill upright, as shown by the dotted lines at Fig. 3. The recess in the setting should not be quite as deep as the recess in the plate or bridge, so that the screw will draw the setting down firm.

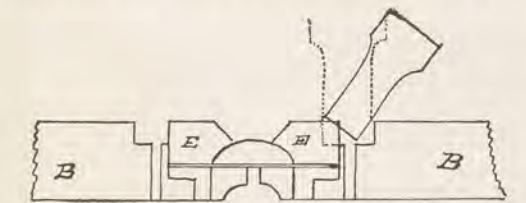


Fig. 3

(2) In a movement where the stem screws in, what is the principle of the setting?—The principle is just the same as in any pendant-set watch, except it does not contain any springs to do the setting; instead, it is worked by the stem being screwed to a nut that contains a groove, said groove connecting with a setting-lever that forces over the yoke. The next time you get one of these movements take it apart and examine the setting; that will give you a better idea of the principle than a page of reading matter.

(3) What is the best procedure in taking measurement of train pinions, viz., Swiss center wheel and of fitting same?—The fitting and taking measurements of a Swiss pinion is just the same as taking measurements and fitting a balance staff. The pinion is by far the easier, only two measurements being required for a center pinion, first, the

complete length from pivot shoulder to pivot shoulder, and then the height of the wheel. To get the complete length, screw the bridge on the plate and measure the distance from the outside of the bridge to the outside of the plate with a Grossman or Boley mm. gage. Say this measures 5.9 mm., then measure the thickness of the bridge where the pivot goes through .8 mm., then the bottom plate .9 mm., add the thickness of the bridge and plate together, .8 + .9 = 1.7 mm. Now, this is deducted from the outside measurement, 5.9 - 1.7 = 4.2 mm., which is the length of the pinion from pivot shoulder to pivot shoulder. The next measurement is to get the seat for the wheel. The wheel wants to just free the barrel; say the barrel is 2.7 mm. below the top of the center bridge. Now, the bridge is .8 mm. thick; this would leave the barrel 1.9 mm. below the upper pivot shoulder. Now, the center wheel must not be as low as this, for it would rub on the barrel, so we allow .3 mm. for freedom. This will give us 1.6 mm. as the distance from the pivot shoulder to the wheel shoulder and completes our measurements. The pivots of a center pinion want to extend a little above the bridge and plate so that the center square or cannon pinion does not rub but rides on the end of the pivot. To enlarge the hole in the pinion see answer to "Swiss Watch," in April, 1903, KEYSTONE, page 527.

(4) Can one distinguish between a one and an eight-day clock by number of train wheels?—A workman should be able to tell at a glance whether the clock was eight or one-day by the size of the mainspring. In a one-day clock the main wheel always gears into the center wheel; in an eight-day there is always an intermediate wheel between the main wheel and center wheel.

(5) Method of fitting fusee ratchets?—To fit a brass ratchet wheel to a fusee, take a screwdriver with a sharp edge and pry off the old wheel, which you will find is held in place by two brass pins; place the fusee in a wire chuck and turn down the pins flush with the fusee. After having picked out a new wheel of the proper diameter, etc., make the hole in the center large enough so that it will drive on the fusee friction tight; then drill two holes through the wheel and up a distance into the fusee, about the same distance apart the old holes were but in a different place. Plug these holes with brass pins friction tight. Turn the pins and wheel down to the desired thickness, also recess the center of the wheel the same as the old one was.

(6) Method of repairing English fusee chains?—The English fusee chain is made on the same principle as a bicycle chain. To repair one, the first thing to do is to remove the old rivet. You do this by giving the rivet to be removed a few rubs with an oilstone slip, then rest the chain on a bench block with the rivet over a small hole, and by using a needle in a pin vise, giving it a few light taps with a hammer, when the rivet will come out. Sometimes two rivets must be removed, so as to get one side with two parts of a link and the other side with one. To put in a new rivet use a needle drawn to a blue, file it to a very slight taper until it goes through the holes in the link, then use a flat-face punch with a hole just large enough for the needle to go in, and give it a few taps with a hammer, which will force the link tight on the needle. Cut the needle off as close to the chain as possible, then stone down the rivet very near to the link, now use a hammer to form a head on the rivet by giving it a few light taps. Cut the rivet off at the other end as close as you can, and by holding the chain in a pair of brass-lined flat-nose pliers as close up to the rivet as possible, then stone down the rivet even with the link, rest the chain on a bench block and give each end of the rivet a few light blows with a hammer, when the chain will be repaired.

(7) Is it advisable in poising by arm and quarter screws to have opposites an equal distance from rim, and if so, how much difference is allowed?—If a balance contains what is termed "timing screws," they can be used to poise the balance, and one screw can be given a turn or a little more than the opposite one. If it does not contain timing screws, use timing washers to poise the wheel or take off a little from the screw, but have the screws tight against the rim.

(8) How best to true barrels?—Bush the barrel and lid. You can do this by plugging both barrel and lid. Then place the barrel in a chuck with the lid on, center, drill and make the hole in the lid the proper size. Remove the lid from the

barrel without removing the barrel from the chuck. Then make hole in barrel to fit arbor. If chuck held the barrel true the barrel will run true on the arbor; but be sure to always replace lid on the barrel at the same place.

(9) In a pedestal swing clock I note it gains when pendulum is lowered and yet takes a longer swing. It has a small weight on pallet wire and the three flat suspension springs, with pendulum, keep it in motion. Why does it lose when pendulum performs in shorter period?—You are mistaken in the swing of the pendulum. If you will note very carefully you will find if you lower the pendulum ball it will take a shorter arc and if you raise the ball it will take a greater arc. You can prove this by raising the ball on the pendulum as far as possible and then note the length of the swing or arc you will find that it will swing at least one-fourth inch farther on each side of the line of center than when the ball is at its lowest point on the pendulum.

(10) What is meant by recoil clock-escapement?—A recoil escapement is one where the escape wheel recoils or goes back a trifle before another tooth escapes. Have you ever noticed a clock with a second hand registering seconds where the hand recoiled before it jumped a second? This is a recoil escapement. A dead-beat escapement is one where the escape wheel or hand rests dead or does not go back or recoil.

(11) In a 15-jewel, small size Swiss, where the bottom pallet-hole jewel bezel is broken, also shoulder for jewel, is it advisable to cut new bezel, etc., or to cut a hole to suit American style of jewels and make the jewel setting to fit friction tight?—If the hole in the plate will allow it, put the lower plate in the universal face-plate and cut a new seat for the jewel and burnish the jewel in; or you can make a shoulder in the plate and set a jewel in a setting with a shoulder and burnish the setting in. The first method is the quickest and as good as any.

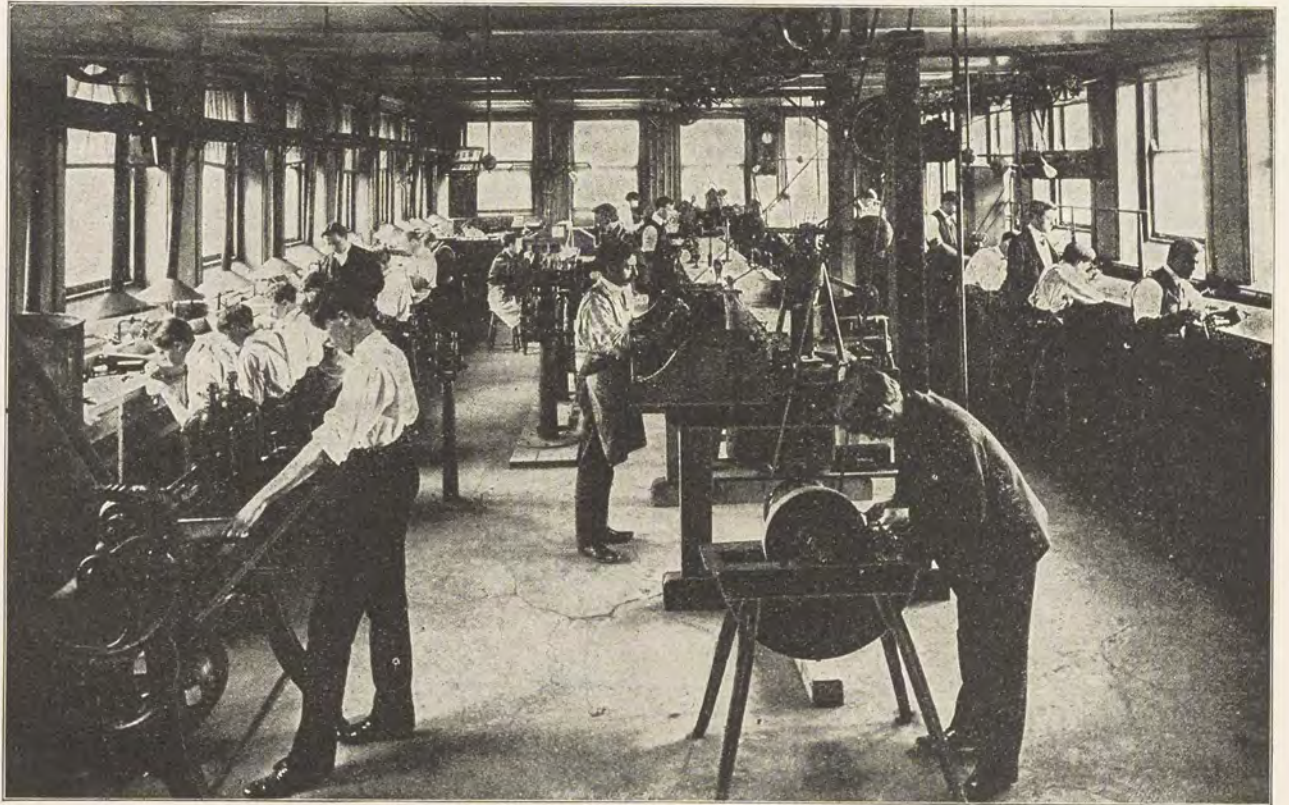
"Silver Pitcher."—Will you please tell me how to polish an old plated silver pitcher where soldering has been done, so it will correspond with the other part and not show the joint. We have no battery, but thought there might be a solution for such work.—Probably the best plan for you to adopt will be to employ one of the various argentiferous pastes adapted to such work. Among the best of these, we think that suggested by Langbein is about as good as any. In fact, three are suggested that are very good: (1) Silver in the form of freshly precipitated chloride of silver, 0.35 oz.; common salt, 0.35 oz.; potash, 0.7 oz.; whiting, 0.52 oz., and water a sufficient quantity to form the ingredients into a stiff paste. (2) Silver in the form of freshly precipitated chloride of silver, 0.35 oz.; potassium cyanide, 1.05 oz.; sufficient water to dissolve these two ingredients to a clear solution, and enough whiting to form the whole into a stiff paste. This paste is also excellent for polishing silver; it is, however, poisonous. (3) The following composition, which is not poisonous, does excellent service: Silver, in the form of chloride of silver, 0.35 oz.; cream of tartar, 0.7 oz.; common salt, 0.7 oz., and sufficient water to form the mixture of the ingredients into a stiff paste.

"Expansion."—In the making of expansion balance wheels at American factories, are the balance wheels perfectly true after being cut? If so, do they become untrue or sprung in riveting to staff? I am of the opinion that they do, more or less. That being the case, how much time is consumed at factories in truing a balance wheel after it has been riveted to staff?—When the balance wheel is finished and before it is cut it is absolutely true in the round and flat, but just as soon as the wheel is cut it becomes out of true in the round. The segments of some wheels spring in, while others spring out. It takes a factory man a very short time to true such a wheel, in most cases not over half a minute. A balance should not become out of true while putting it on the staff if it is handled properly. Even in the repair shop when replacing a new staff there is no occasion to throw the wheel out of true if the staff fits the wheel the way it should. The wheel should fit the staff friction tight; it then requires very little riveting.

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Decimal Watch, Called Horometer

[Translated for THE KEYSTONE from the Revue Internationale de l'Horlogerie.]

A Spanish watchmaker, M. Toribio Pobra Canellas, of Barcelona, sends us the design of a decimal watch which M. Enrique Cortado constructed and which he calls a horometer, because it serves at the same time to estimate approximatively the distance traveled by a man walking with average and regular speed.

On the dial are seen, first exteriorally, a circle of numbers of the twenty-four hours; then interiorly, a decimal division, or the day divided into ten hours, and the hour into 100 minutes. Concentric with the second there is a circle divided into 100 parts.

The observations are based on the fact that when a man walks at a regular gait, he



travels almost 1 m. per second, or a hectometer per minute. If, therefore, the observer starts at the moment when the second hand is on 0 or on 100, by the time it has made a revolution the man will have walked a hectometer, which will be marked on the large dial by the advance of one division by the minute hand.

When the minute hand has made one round, the traveler will have walked 100 hectometers, or 10 kilometers. And because in twenty-four hours, or in ten decimal hours, the minute hand goes ten times around the dial and the hour hand once, that represents for the observer a traveled distance of 100 kilometers.

Treiber's Troubles

I was sitting at my desk one morning, busy as only a jeweler in a second-class city can be, who must economize in help and who daily finds himself confronted with at least 'steen tasks, each of which needs be done first. My busy brothers, you all understand.

Enter portly Hibernian lady of the middle class, and, by the way, an excellent customer. She must see "Mr. Treeber." Many of my customers mispronounce my name, which is of

German origin. It is pronounced Triber, and means driver. On dull days I sometimes wish I knew how to drive more people into my store. However, this happened to be a very busy day.

"How-do-ye-do, Mr. Treeber! It's glad I am to see you looking so well." I thanked her and inquired about her health, which inquiry brought on a perfect avalanche of words relating to her and her family's troubles, and which consumed a goodly ten minutes.

At last, "Mr. Treeber, while you wuz away a few weeks gawn by, did yez have a good toime, and where wuz yez?" Another ten minutes' conversation out of line. "Oh, yis, as I wuz afther sayin' when yez interrupted me, just a few weeks gawn by I brought in two Rhine stones from me grandmother's brooch. She is dead, God bless her soul! Your man mounted thim in a ring that I wuz afther wearin', but whin I took it home I didn't loike it, begorra'. It looked too common. I only loike good things. It'd be different if I wuz younger, so it would. But a lady loike me wants to wear only good things. You see, I have a ginuine diamond," pointing to a diminutive one set between two small doublets in a gorgeous carved ring on her hand. Well, that rose, small as it was, certainly acted the part of spell-breaker to perfection. I did some quick thinking, regretting that I had not been able to wait on her in the first place to dissuade her from having those monsters set. However, the harm was done. How to get out of it without losing her good will, and if possible, without pecuniary loss, was now the question. It really hadn't been worn and she wanted to exchange it for something else. I explained that we had used one of our regular 14 K. diamond ring mountings and could not possibly make use of it again excepting to melt it over. Suggesting replacing her stones with opals was met with the prompt rejoinder that opals are unlucky. I showed her through the stock to get an idea of her taste, offering to replace the hoodoos with two doublets at just a nominal price. I inquired her birth month, and finding it was November, what I thought a bright idea, struck me.

"Now, Mrs. O'Toole, how would you like a nice topaz, mounted say with—with an emerald?" (In deference to her nationality.) Eureka! At last the fifty-minute battle was won.

But now comes the pathetic part. The ring was later duly called for and admired. Do you know that two well-cut, sparkling doublets, topaz and emerald, make no mean combination? But it was the lull before the storm which broke a few days after.

And Mrs. O'Toole came back. In dull, sepulchral tones she asked to see me. "Mr. Treeber, aren't yez ashamed of yerself, and me a good, owled customer," etc. I couldn't get in a word edgewise, and meekly left her have her say, anxious to discover wherein I had sinned. Finally I heard the whole story. This all happened last March, and it transpired that on St. Patrick's Day she had sallied forth in all her glory with the newly-begotten treasure for the first time on her hand. That unlucky orange-colored topaz alongside of the Erin green had attracted attention and many uncomplimentary remarks.

It took half an hour to pacify her and to convince her that I had no malicious intentions. The outcome was, to smooth her badly-ruffled feelings, I allowed her the full money equivalent of the first two transactions in trade for sundry articles of flatware and took the ill-omened ring back. It has wandered into the scrap-box, for I did not dare put it in stock for fear of future complications.

New Visible Movement Watch

[Translated for THE KEYSTONE from the Revue Internationale de l'Horlogerie.]

A watch manufacturer of St. Imier, M. Ad. Gutmann, on taking apart an English watch whose dial was cut out in the center, happened to drop it, leaving the plate open and surrounded by a circle bearing the hours. The effect was curious, and suggested to him the idea of attempting a watch in which the whole movement should be visible through the dial. This was certainly an interesting plan, for it is not to be denied that the public generally like to examine the interior of a watch and see the working of the mechanism.

On account of a change in the movement, it is easy to see in the "Eloyes"



watch, as our illustration shows, the working of the escapement and the dial work, without the necessity of opening the case. The watch is made in open-face and hunting styles, and in large and small sizes, showing the working of the cylinder or the lever completely. The glass is quite strong and closely set, so as to prevent dust from penetrating.

As there is no need of opening the case, and the cap is omitted, the form of a lens can be given to it with the rim and back of a single piece—a solid and elegant form. The plate touches the back; the intermediate wheel for setting the time is countersunk; so the watch can be made very flat, leaving all the organs of the usual height.

The repairer will have the advantage of being able to take out separate pieces of the movement, without taking the whole from the case. The dial is removed without touching the hands by means of a special system for fixing the feet.

The watch is patented in France and Switzerland.



154



102



124

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Workshop Notes

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"New Verge."—(1) *In regard to cleaning the common eight-day spring clocks, I have used gasoline to clean and have oiled springs with clock oil and also vaseline, but have found that springs seem to work as well dry. However, the fact remains that I have trouble with nearly every clock after a few months.*—You fail to state what kind of trouble you have with your clocks after a few months. We suppose you mean that they stop. In cleaning and repairing clocks most workmen think that just because it is only an eight-day clock it does not require the cleaning and care a 21-jewel watch does. Well, perhaps it don't, but nevertheless it should be just as clean as a watch when you are through with it, and it is better to take the time to do it right at first than to have them come back after a month or so. The next half dozen clocks you get to clean take them all apart, clean them thoroughly, use a fresh bottle of oil and don't neglect to oil the mainsprings, for they need it; then see if these clocks come back. If everything else is correct, such as holes not worn, etc., we don't think they will be returned; and if they do not come back, it will prove to you that you have not been cleaning them thoroughly or that you have been using bad or old oil. A clock should be given the same care and attention as a watch, to give satisfaction.

(2) *What are the principles used in fitting a new verge on a clock? Suppose the tooth of the wheel drops farther on escaping pallet than on the entering pallet, or vice versa, what kind of a verge should one then try?*—The method of picking out a new pair of pallets or verge for a clock will depend upon the kind of escapement the clock contains, the number of teeth in escape wheel and the number of teeth the verge should embrace. The most important point is to have as little drop as possible. For example, if you have a verge that allows a great deal of drop as the tooth leaves the exit pallet, it will have very little or bind when the tooth leaves the entrance pallet; this verge is not large enough—the lips are not far enough apart. By having a larger verge it will cause the teeth to have less drop when leaving the exit pallet or lip and more drop when leaving the entrance pallet. The drop should be equal. Just the reverse is at fault if the drop is too great when the tooth leaves the entrance pallet and not enough when it leaves the exit pallet. In some cases a workman will bend the pallet closer or farther away, as the case may be, to even up the drop. The temper should be drawn to do so. Where the drop is too great on both pallets, the escapement is too shallow and can be altered by bringing the verge closer to escape wheel, which can be done in most all American clocks.

"Swivel."—*How many teeth should be in cylinder escape wheel, and how many leaves in pinion and size of same to replace lost one, where the fourth wheel has 60 teeth and 8 leaves?*—In all cylinder watches made in the past ten years the escape wheel contains 15 teeth, and we have no doubt but what your watch requires that number. There are also what we term "quick trains" or, in other words, the balance makes 18,000 vibrations or beats in one hour (see "Duplex," page 609, June, 1901, KEYSTONE). To find the number of leaves the escape-wheel pinion should have, we must first know how long it takes the fourth wheel to go once around, and in order to find this out, we must know how many teeth and leaves the center, third and fourth wheels contain. For example we will make up a train, which we feel positive is the same as your watch contains: Center wheel, 64 teeth; third, 60 teeth and 8 leaves; fourth, 60 teeth and 8 leaves. Now, the center wheel in all watches makes one revolution in one hour; then, if the 64 teeth revolves once in one hour, the question is how many revolutions does the third wheel make in one hour? It will make as many as the number of leaves (8) the third wheel pinion contains into the center wheel teeth: $8 \div 64 = 8$ revolutions in one hour.

Now, how many times does the fourth wheel go around in one hour? We first find how many times it goes around to one revolution of third

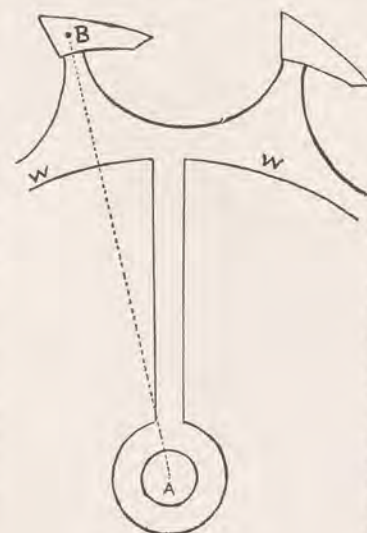


Fig. 1

the fourth wheel makes in one hour, or it makes one revolution in one minute. Now we must find how many revolutions the escape wheel makes in one minute. The watch having 18,000 beats in one hour, it would have 300 beats in one minute; the escape wheel containing 15 teeth, the balance would beat 30 times to one revolution of the escape wheel, and as there are 300 beats in one minute, the escape wheel will go round as many times in one minute as the number of beats (30) in one revolution of the escape wheel contains into the number of beats per minute: $30 \div 300 = 10$ revolutions the escape wheel makes in one minute. The fourth wheel must go around once to ten revolutions of the escape wheel; therefore, the escape-wheel pinion would contain as many leaves as the number of revolutions it makes in one minute contains into the number of teeth the fourth wheel has: $10 \div 60 = 6$ leaves the escape-wheel pinion should have. As to the size or diameter of the escape-wheel pinion, there are several ways to figure this, but one of the most simple is to use a depthing tool. Place one point of the tool in the fourth wheel pivot hole, then open the tool until the other point enters the escape pivot hole, being careful to hold the depthing tool upright. Place the fourth wheel in the tool and select a 6-leaf pinion that will

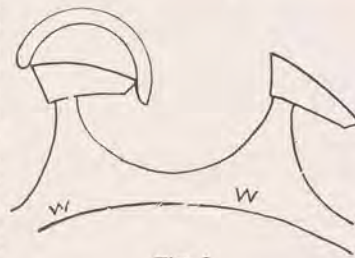


Fig. 2

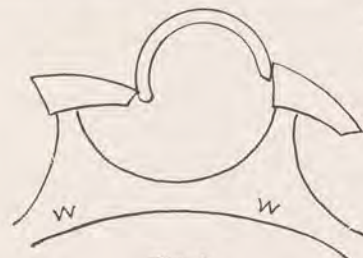


Fig. 3

work freely into the fourth. To pick out a new cylinder escape wheel, where the old one is lost, we will refer you to Fig. 1, where A represents the escape-wheel pivot hole, B balance pivot hole, W escape wheel. You will notice that the tooth E extends about half of its width over the balance pivot hole B. If you will pick out a wheel that will fit this way, it will in most cases fit the cylinder; but you want to also try the cylinder between the teeth, and see that the teeth of the wheel will fit into the shell of the cylinder. Fig. 2 shows how the cylinder should fit between the teeth, with just a little play. Fig. 3 shows how the tooth should fit inside the cylinder. It is always advisable to try the cylinder between half dozen of the teeth, as the teeth of cylinder escape wheels vary in length.

"Solder."—*What kind of gold, that is to say, how many karat, and what kind of alloy is necessary to prepare a solder very smooth, fusible for soldering low karat gold? Also what kind for 14 K. gold, and 18 K. gold? Should also like to know how to make silver solder very smooth and fusible.*—The question as to the various qualities of solder used for gold is one that we think can be best answered by giving in tabular form the ingredients for each kind of solder. In working on new work it would be well to take a portion of the gold that is being worked and reduce it about 2 K. by the addition of some easy flowing silver solder but of course this is not possible where we are working on repair jobs. Some workmen doing repair work, take gold of the karat of the article being repaired and add to it for each pennyweight about 5 grains of silver, which is generally sufficient for the purpose. We give below a table both for gold and silver solder which we think will prove of value to anyone interested in the subject.

GOLD SOLDER.		PARTS.			
		Gold.	Silver.	Copper.	Zinc.
Hard solder for fineness 18 K.	9	2	1	-	-
Soft " " " 18 K.	12	7	3	-	-
Solder for fineness 14 K.	3	2	1	-	-
" " " 14 K.	2	0.5	0.5	-	-
" " " less than 14 K.	1	2	1	-	-
" " " 14 K.	1	2	-	-	-
" " " 14 K.	1	-	2	-	-
Solder readily fusible,	11.94	54.74	28.17	5.01	-
" " " for yellow gold, 10	5	-	-	1	-

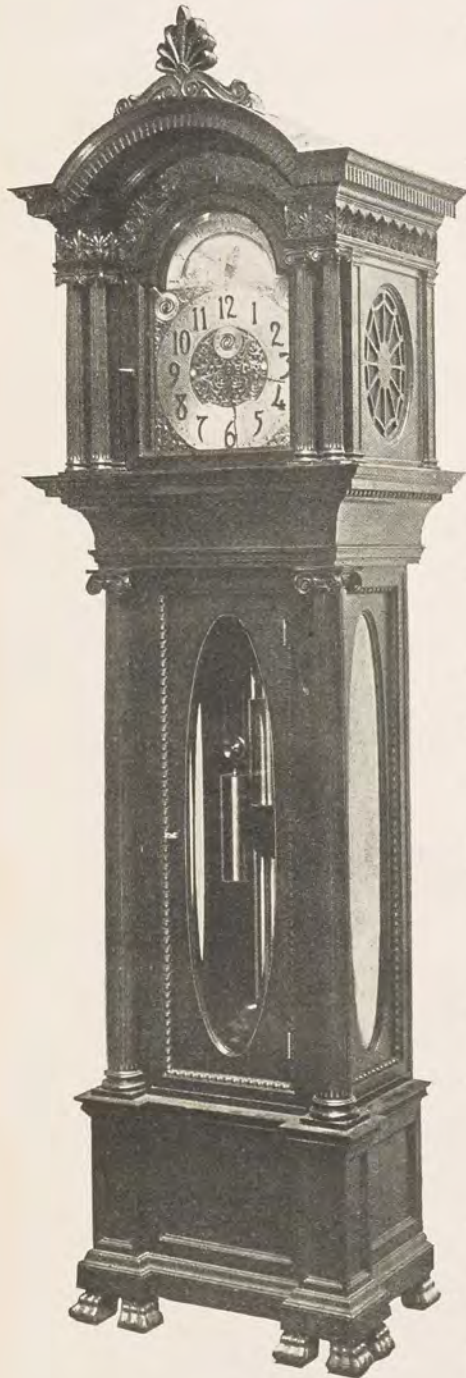
SILVER SOLDER.		PARTS.				
		Silver.	Copper.	Brass.	Tin.	Zinc.
Brass silver solder	1	-	-	-	-	-
Hard silver solder	4	1	-	-	-	-
Very hard solder	40	10	-	-	-	-
Middling hard solder	40	10	40	10	-	-
Soft silver solder	32	-	32	2	-	-
Silver solder for cast iron	20	30	-	-	-	10
Silver solder for steel	30	10	-	-	-	-

"Small Dynamo."—(1) *I have a small dynamo for plating repair jobs. The armature is wound full of No. 24 wire. This gives too much voltage and does not work well on small jobs. Would it not be better to wind it with No. 20 wire. Will this improve its efficiency, or is there danger of getting the voltage too low?*—Inasmuch as the machine with its present winding is efficient and works well, we think your better plan will be to cut down through the medium of the rheostat instead of re-winding. Such a rheostat you can either procure through any electrical supply house or you can make it yourself. Detailed instructions for making such a rheostat we gave in the serial "Electro Metallurgy," that was recently completed in our journal.

(2) *How is steel plate engraving done, such as is used for engraved stationery? Do the letters stand out on the plate the same as ordinary type, or are they cut in and reversed. If the latter is the case, how is the impression made? Please describe the process, at least briefly.*—Steel plate engraving is done by cutting the letters reversed into a flat plate of metal. It is an important matter to get the letters of a uniform depth. The plate is passed over to the printer, who puts ink on it with the aid of a roller, filling up the incised lines and then wipes off the plate, leaving no ink except that which is in the lines. A card or paper is then placed on the plate and subjected to pressure sufficient to cause it to print. If you will examine a specimen of plate work you will note that the letters appear to be embossed.

(3) *I molded a gold ring, alloying with pure copper and silver, to plump 18 K. The ring turns to a dark brown color and discolors the finger after being worn about a week. A 10 K. band ring of factory make, worn on the same finger, does not do this. We have noticed this peculiarity about molded rings in several instances and would like to know why it is so?*—We have explained this phenomenon several times through our Workshop Notes department, and you can readily find such replies by referring to the index which accompanies each December issue. A piece of fine gold drawn across a card or piece of linen, even with a slight pressure, will leave a black mark, and the higher the quality of the ring, as you will see from the above, the more likelihood is there of causing discoloration. If, however, you have noticed this, as you state, in several instances, we think it possible there might be something at fault in your process of molding.

Waltham Clock Company



The Leading
Manufacturers of

HALL CLOCKS

Our latest models in Tubular Chimes will convince the most skeptical buyer that "The Waltham" is leading the world.

Do not place your orders until you have seen them.

We also manufacture a large variety of other styles, including

*Regulators,
Marble Clocks,
Office, School and Marine Clocks.*

Send for illustrated catalogue.

Waltham, Mass., U.S.A.

ART WARE FOR JEWELERS



Owens' Mission Pottery.

Entirely original—new—pretty and artistic. Already ordered by the leading dealers of the country.

Owens' Corona Ware.

Most beautifully modeled pottery made in America.

Owens' Venetian Ware.

Ancient modeling, finished in iridescent coloring, rivaling genuine opals in brilliancy.

Owens' Utopian Art Ware.

Better than ever, but at a price within the reach of the masses. Send for catalogue and price-list to-day.

J. B. OWENS,

Salesrooms—
New York—68-70 W. Broadway.
Boston—64 Federal St.
Philadelphia—1111 Market St.

Zanesville, Ohio.



Partial View of the **St. Louis Watchmaking School**, 2308 Locust Street, St. Louis, Mo. Known as the most practical school in the United States. Good board and room can be obtained near our school for \$14.00 per month.

Avoid the Rush

Incident to the rush of orders that come later when the holiday buying is heavy, and **ORDER NOW** your needs in Cases, Trays and Chests for Jewelry and Silverware.



A sample of our handsome Chests, with one drawer. Made in a variety of hard woods, highly polished; metal trimmings, lined with satin or chamois.

Have you seen our new Lorgnette Rack? Made in hard polished wood, covered in velvet, 26 inches high, top arm 19 inches.

L. Weil & Sons,

Sole Makers,

Manufacturers of Cases, Trays and Chests for Jewelry and Silverware,
32 Maiden Lane, NEW YORK.

Send for Catalogue.

My First Customer in Asuncion

It has often been said that every one should feel a pride in his profession or occupation in life, whatever that occupation or profession may be. I have often tried, therefore, to assume this virtue in speaking of my own vocation, and sometimes have so far succeeded as to announce myself to strangers as "a merchant in optical goods," and have even so designated myself on my business cards.

But whenever any of my old friends and schoolmates—some of whom are now Judges and members of Congress—get together to talk over former times, and any one of them inquires about me, some one always replies, "Oh, Charley is just a glasses peddler, and never will be anything else, I guess."

What can a peddler of glasses have to write about, do you ask? Not much, perhaps, although I have now and then had some amusing experiences. Yet I should hardly venture to speak of them but for one trip which I made in the year 1886, a risky venture for me, although it resulted in my being able to invest in my wagon and horses.

In the fall of 1885 I found myself at El Paso, Tex., and having penetrated thus far to the southwest, I yielded to a desire to see old Mexico, and journeyed southward over the new railroad, stopping to sell goods at Chihuahua, Querétaro and Leon.

After a month in the City of Mexico, I went down to Puebla and Vera Cruz. Thence, instead of returning to New Orleans, as had been my first plan, I continued on to Aspinwall, Panama, and down the west coast of South America to Callao, Lima and Valparaiso.

I had picked up a working knowledge of the Spanish language as I journeyed, and by means of cards and circulars in Spanish, I contrived to do so good a business that at Valparaiso I replenished my stock by a fresh order of thirty-five gross of the 50-cent grades.

From Valparaiso I proceeded to Santiago de Chile, and thence, toward the end of 1886, crossed the Andes by way of the passes into Argentina. During the spring and summer of 1887 I visited Mendoza, Tucuman and Cordova, and by May—an autumn month here—reached the City of Buenos Ayres.

Buenos Ayres, however, proved too metropolitan to be a profitable market for me, and I was about to take passage for Rio and home, when I heard of a town to which it was said no "merchant in optical goods" had penetrated for fifteen years. This lost town was the City of Asuncion, the capital of Paraguay. I was assured that not a pair of spectacles could be bought there, and that the poor people had forgotten that such relief from the infirmities of age could be obtained or had ever existed!

I was naturally interested in such a state of affairs, and made further inquiries. The account was confirmed by people who had been there. Clearly, here was my opportunity, and after some hesitation I laid in a new stock in trade, and paid fifty pesos for a ticket by steamer to Asuncion, which was six days' journey up the Paraná and Paraguay rivers.

One may well ask how the capital of a South American State could be without spectacles. It had come about in this wise: In 1864 Paraguay was under the control of a savage despot named Francisco Solano Lopez, who declared himself dictator. It was Lopez' ambition to become the Napoleon of South America. To this end he fomented a war against Argentina, Uruguay and Brazil, as a preliminary to founding a grand new empire. The war raged with varying fortunes for five years, until Lopez finally fell in battle, but not before an appalling proportion of the entire population had perished. The Spanish-American race in the country was almost exterminated. Commerce with Europe and North America ceased. Grass grew in the streets of Asuncion; and for twelve or fifteen years Paraguay was "a dead nation," forgotten by the rest of the world.

At last, as time went on, the population increased to its normal size. Trade and manufactures began again—necessities first, luxuries more

tardily—and this was the condition of affairs when I went there.

It chanced that I arrived at Asuncion on the evening of the day before a national *fiesta*, or festival. There was to be a bull-fight, of course, in an arena outside the city. A South American *fiesta* without a bull-fight would be like a Fourth of July without fire-crackers.

After inquiries, I found my way to a ramshackle building called the Hotel Francia, and had to fight for possession of my room and bed with a lot of hideous, yellow-and-black spiders as large as saucers.

About an hour before sunrise the sewage odors of the place drove me out for a walk, and not a hundred yards from the "hotel" I was struck at in the street by a little snake called a *nanduric*. I killed the venomous little wretch and went on, feeling home-sick.

No one was yet astir. About half the houses, indeed, were uninhabited ruins, with tall weeds and grass growing about them. I came to a large, lofty building with broken windows, which I knew, from pictures I had seen, was the Lopez palace. Hearing a frightful snarling somewhere in the rear, I reconnoitered, and in the *patio* came upon a monstrous jaguar, chained up as a "pet," I suppose! When the beast saw me he leaped in the air to the end of his chain to reach me. I leaped in the air, too, and got away as fast as I could, for his chain looked slim and rusty.

Taking another street, I wandered disconsolately down to the river front. Four odd-looking, gray canoes lay bottom up out at the end of a rotten pier. I started to examine them, but had no sooner stepped on the old pier planks than the canoes raised their heads and clacked their jaws! They were crocodiles!

I went back to the hotel and sat about in the patio, fighting blue wasps for two hours or more, waiting for some one to rise and get breakfast. In all my wanderings I had never before been so home-sick, and I devoutly wished I had never come to Asuncion.

Two hours after sunrise the town began to wake and bestir itself to go to the *fiesta*, which was to be held two miles away.

After a breakfast that would have called forth criticism from any self-respecting pig in our country, I took three dozen pairs of eye-glasses in a small hand-bag, and joined the procession to the *fiesta*. I had no faith that I should sell half of them. The *fiesta* was a kind of fair where a little of everything was going on, riding, racing, small shows, and last, but not least, preparations in the large arena for the bull-fight. About five thousand people had collected, and the number was being constantly increased by coming throngs.

A curious disinclination to attempt making sales had fallen upon me. For an hour or two I walked round merely as a spectator.

Hearing a trumpet sounding at the arena, I drew near, and found that there was to be a combat between a jaguar and a crocodile before the regular bull-fight, which was scheduled for the afternoon. Every one appeared to be going in, so I procured a ticket and entered with the rest. The enclosed ring was a very large one, and three or four thousand persons were soon occupying the high banks of benches, which were like the "bleachers" of an American base ball field. It was a truly picturesque throng. Most of the men wore broad, silver-braided *sombreros* and striped ponchos, and the women wore *mantillas* and carried sunshades.

About half these people were Guarani Indians, pure and simple, and three-fourths of the other half were *mestizos*; that is, people of mixed Spanish and Indian parentage. I am quite sure that I was the only white American present.

There was a delay of half an hour or more in bringing in the jaguar; and after observing the great size of the arena, it occurred to me that I might possibly sell a few pairs of eye-glasses, after all. So as a preliminary, I opened my hand-bag where I sat on a bench, and taking out a pair, placed them on my nose, and then, as an advertisement, sat surveying the arena through them.

Being a stranger and in different garb from that of the country, I soon attracted attention. Whispers, low comments and suppressed laughter indicated that my little ruse had succeeded abundantly. Immediately, too, a loud guffaw exploded

on the bench behind me. Glancing round, I saw that a strapping *gaucho*—one of a group of twenty or more—was mimicking me. Then they all roared—swarthy fellows, evidently carters, or cattlemen, in dusty ponchos and broad hats, each with a knife in his belt and some with pistols; not a pleasant crowd with which to have trouble.

But I had no notion of having trouble. Business observation and eyes naturally good have taught me to pick out persons with defective vision almost at a glance. As I nodded pleasantly to these rough fellows and gave them "Buenos dias!" (Good morning!) I noted that one of them, a big chap with grizzled locks, was already in need of glasses, although he was probably not aware of his own failing eyesight.

Addressing him most politely as *señor* in South American Spanish, I asked him to allow me to adjust a pair of glasses for him, adding that it would enable him to see the combat much more plainly.

He shook his head with a laugh, and the others roared again, as at a great joke. By this time a hundred or two of people were looking on. I then assured my *gaucho*, with grave politeness, that I was not making a jest of him, and then—I knew how to touch these people—asked him as a courtesy to a friendly stranger from *Los Estados Unidos del Norte* (United States) to do me the favor to look through the spectacles.

He squirmed sheepishly, but a murmur from his fellows showed him that he could do no less; and so, with the bashfulness of an overgrown boy, he let me remove his hat and adjust the spectacles properly on his nose.

All agape, the others watched him look round, ready to roar with laughter; and for a moment I feared that in his embarrassment the fellow would not look with attention at anything. At first he rolled his head round this way and that, then suddenly paused and stared hard across the arena. Instantly his face took on a look of whimsical astonishment. He turned and looked at the people nearer, then at this and that one of his fellows.

I knew the symptoms well, and was not surprised to hear an exclamation of delight and admiration burst from his lips—for it is indeed a joy to see well.

"*San Pedro! San Jago!*" he cried. "*Mira las señoritas!*" (How pretty the ladies look!) "*Como es!*" (How's this!) "I can see the faces of the people on the other side of the arena just as well as here! How bright the flags are! I can count the scales on that crocodile! It's a miracle!"

This fellow's sight had no doubt been failing gradually for a long time, so gradually that he had not been aware of it. Now, in a moment, the glasses had restored the keen vision of his youth.

"It's a miracle!" he kept crying out. Then suddenly he drew out his purse. The desire to buy the glasses had taken possession of him.

I took a *peso* from him; but then, being too old a peddler in public places not to recognize the value of this man as an advertisement, I slipped the dollar back into his hand, and asked him to make the round of the benches with me and tell the people how well he could see. We started, and, to my pleasant astonishment, I sold those three dozen pairs of eye-glasses before we had gone one-quarter of the way round the first row of benches.

Arranging an appointment with my delighted "advertisement" at the bull-fight in the afternoon, I sped back to the Hotel Francia for three gross more of glasses, running most of the way.

I knew instinctively that I had struck a "field." Nor had I overestimated the market. *Un peso* proved a popular price. I sold three hundred and seventy-one pairs of glasses at the *fiesta* that day, at a profit of seventy-five cents each.

Afterward I secured the services of that first customer, whose name was Benito Maiz, to go about with me to *fiestas* and similar public gatherings at Asuncion, Villa Rica, Concepcion and other towns. Altogether I was in Paraguay for more than five months, and I flatter myself that I did much to enable the passing generation of Paraguayans to see more distinctly, for I sold them more than fifty gross of glasses. Indeed, in these later days of competition at home, I sometimes sigh for fresh Paraguayans to conquer. —Charles H. Farrington in *Youth's Companion*.

The Show Window

Object Lesson from the Department Store

An unflinching alertness for making profitable use of seasonable opportunities has always been a characteristic of the large department store. Indeed, it may without exaggeration be said that this has been one of the main features in making these great enterprises possible. Last year while the woods were radiant with the fall foliage, the window trimming staff of a large Western store was turned loose to gather branches with the most brilliantly colored leaves. It was not so easy a matter to gather autumn leaves in large quantities near the large city in which this store is located, but the displays that appeared for the few weeks following fully compensated for the trouble and the expense. In every window these branches were used and the leaves strewn about the floor of the window. The windows of this store were attractive for several weeks, while the branches retained their leaves.

That was not the end of the thing, however. Several weeks later during the holidays the windows of this concern utilized the branches in another way. The leaves were stripped from them, the branches were whitewashed and white tissue paper leaves tied on. The decorations were entirely in white, giving an appearance of winter, the branches playing an important part. The crowds which gathered about the windows were proof that the idea was a taking one.

There is a moral in the foregoing for those jewelers who are continually carping about the encroachments of the department store instead of, as far as possible, fighting the enemy with his own weapons. Here is a department store which under difficulties, comparatively speaking, goes out in search of such ideas as the jewelers in every country town have at first hand. The spirit of emulation seems to be lacking in many quarters, which, no doubt, is due to the fact that some retailers live so much to themselves and hardly know what is going on outside of their own establishments. Were they to take a broader view of business and learn from others they would greatly enlarge the range of their trade. The new life thus thrown into their store methods, as well as into their window designs, would manifest itself in many ways, to the direct and indirect interests of their business.

In every country town there are many who are lured away to large trade centers to do their purchasing owing to what they believe to be a superiority in the methods and goods of the big stores. This is to a very considerable extent an *ignis fatuus*, as in a great many instances they can do no better than at home, but they become possessed of an idea that home merchants, in the common parlance, are not up to date. Of course, patriotism, like charity, should begin at home, and the man who discards home enterprise for the Will-o-the-Wisp advantages of buying from concerns of wider scope unquestionably shows a want of public spirit. There can be no doubt, however, but that this business phenomenon—for in reality it is a phenomenon—often pro-

ceeds from a natural cause, which is not very far to seek. Home stocks may afford the necessary variety of styles and may be the very latest to receive the stamp of approval from the goddess of fashion, but this avails little if the merchants' displays are monotonous or inapt and his methods antiquated. This is so plainly obvious that it seems superfluous to dwell upon it, but the spirit of personal initiative so rampant among the concerns which the jeweler regards as his bane is lacking in himself to an almost incredible degree. The dealers who have never given the matter of window dressing deliberate consideration with a view to making it a systematic feature of their policy are legion. We know of course that all, or nearly all, prepare displays at irregular times and seasons—perhaps when there is little else to do—but how few have thought the matter out in detail, for it is entirely one of detail in which each element should adequately contribute to a harmonious whole. It should be the aim of the dealer to make his windows so attractive that they will hold a perennial interest for the people of his locality and be, if possible, one of the unique features in the local retail realm.

The display shown in the accompanying illustration is one designed by Boasen Bros., of Oklahoma City, O. T. The firm states that it proved a fine advertisement, and this is not to be wondered at, as the display is a very attractive one. The feature most likely to arrest the attention of the passer-by is the peculiarly constructed clock in which there are no visible works. This horological curiosity is in itself an interesting object to the lay mind. It keeps correct time and its working was a mystery to the onlookers. The goods were displayed with excellent taste and the artistic effect was considerably heightened by the statuary at each side. The placing of these figures in their respective positions was a very judicious idea, as the spaces which they occupy beneath the clock could scarcely be more admirably utilized. The goods were varied in character and included silverware, rings, cut glass, watches, clocks and leather goods. Only a few articles of each variety are shown, and with the skillful arrangement appeared to much advantage.

Clever mechanical displays in a window are commendable for many reasons. In the first place they act as a magnet, so to speak, upon the attention of the public, thereby bringing to the goods a notice which, perhaps, they would otherwise lose. They also constitute an excellent advertisement for the mechanical skill of the establishment, and as fine mechanism enters so largely into his business the jeweler should be able to construct profitable mechanical displays economically and with facility. In designing all such displays, however, the artificer should be constantly on his guard lest the mechanical device should monopolize the attention of spectators to the relative detriment of the goods. Many trimmers overstep the mark in this respect in their anxiety for excellence. Of course, the apparatus on view should, as we have already stated, be made to constitute an object lesson in mechanical efficiency which will redound to the benefit of the repair department, and in order to attain this end it is advisable to place in a suitable position a card bearing some such legend as: "An example of our skill. We do repairing that repairs." But when it is desired that the stock should engross all possible notice some direct connection should be established between it and the mechanical attraction so that the latter, when not designed for any other purpose, will introduce the goods.



The Almah Bracelet



The ALMAH BRACELET

is our very latest creation—and one of our biggest successes.

It is selling right from the start—and is easily sustaining our reputation as leaders in originating high-class jewelry chain novelties.

The beauty and careful workmanship of THE ALMAH BRACELET will appeal to you on sight—so will its sales-making possibilities.

See your Jobber about THE ALMAH at once. Don't wake up after your competitor has had a big run on it. A good novelty like this doesn't go begging. It is quickly snapped up, and the jeweler who makes the most out of it is the one who gets it first.

THE ALMAH BRACELET is THE bracelet to wear with the prevailing Metropolitan fashion of short sleeves—as shown in our illustration.

We sell exclusively to the Wholesale Jewelry trade.

Every ALMAH BRACELET bears this trade mark—
Look for it.



H. F. BARROWS & CO.,

FACTORY:
NORTH ATTLEBORO, MASS.

37-39 Maiden Lane, New York.

In Sterling Silver and Gold Filled.

SETTINGS: Amethyst—Turquoise—Sard. (except Nos. 329 & 392, which are set in Turquoise only).

FINISHES: Rose Gold—Sterling—French Gray.

Sterling
Silver

No. 392



Gold
Filled

No. 329

No. 500



No. 499

E. Bartlett N.Y.

Your jobber will show you additional styles of the ALMAH BRACELET.

1522
THE

MYSTIC



THE NEW "★ ROGERS & BRO." PATTERN

is the most popular design in electro silver plate produced this year. It is furnished either Burnished or French Gray Finish in a complete line of staple and fancy pieces, as well as Hollow Handle Cutlery. The MYSTIC in the old reliable "STAR (★) BRAND" will be supplied by us direct or by all leading jobbers.

INTERNATIONAL SILVER CO.,
SUCCESSOR TO

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Established 1870.

KING & EISELE,

RING MAKERS,

IMPORTERS OF DIAMONDS,
JOBBER IN AMERICAN WATCHES,

**BUFFALO,
N. Y.**

Solicit a share of
your patronage.

No order too small.

No order too large.

Our stock is com-
plete. Prices are right.

Special Distributing Agents for
NEW ENGLAND WATCH CO.



THE OLD LIBERTY BELL
RINGS IN PHILADELPHIA



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HEINTZ RINGS

"EVERYWHERE"

HEINTZ

RING MAKERS



BROS.

BUFFALO, N.Y.

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A
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OF
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OSTBY & BARTON CO.

NEW YORK PROVIDENCE CHICAGO



RUBENSTEIN

EMBLEMS FOR ALL ORDERS



No. 200. Fraternal Order of Eagles, Extra Heavy, Enamel Background, \$6.00.



No. 206. Combined Fraternal Order of Eagles and Seal Ring, Extra Heavy, \$6.25.



No. 204. Fraternal Order of Eagles, 14 K., with Diamond in Centre. Price of this Ring according to size of Diamond desired.



No. 559, cost \$4.25 each.



No. 587, cost \$4.00 each.



No. 588, cost \$4.00 each.



No. 216, cost \$4.00 each.



No. 217, cost \$4.50 each.



No. 218, cost \$4.50 each.



No. 219, cost \$4.50 each.

ILLUSTRATIONS
TWO-THIRDS SIZE.



No. 214, cost \$4.00 each.



No. 212, cost \$4.00 each.



No. 211, cost \$4.00 each.



No. 213, cost \$4.00 each.



No. 215, cost \$4.00 each.



No. 591, cost \$4.50 each.



No. 590, cost \$4.25 each.

THE NEW DESIGNS IN RINGS.

We present two-thirds-size illustrations of several new designs in **EMBLEM RINGS**. They have just been executed and are not shown in our regular catalogue. Any of these designs may be had, bearing the emblem of any of the prominent orders and societies. All are solid 10 K. gold guaranteed; finely made, handsomely engraved and richly enameled in appropriate colors; some with center emblem raised, others executed in seal-ring effect, while Nos. 206, 217, 218, 219 and 591 are combination seal and emblem rings. Other designs, although not illustrated, are ready for delivery. This is an entire departure in emblem rings and owing to the popularity of the "seal" ring, is bound to be a winner. You will feel more comfortable if you place your order early. Why not do it to-day?

Prices are not Keystone list. Subject to 6% cash only.

L. W. RUBENSTEIN,

54 Maiden Lane,

NEW YORK.

Largest Emblem Ring Manufacturers in the U. S.

Our Emblem Ring Catalogue
for the asking.

Retailers' Ring-Booklets Free

To help you in building up your ring trade we will send you FREE ON REQUEST a quantity of advertising booklets for distribution in your locality. We will print YOUR name on these booklets and no other name will appear on them.

The handsome lines of Rings samples of which are here shown, retail for 25 and 50 cents.



We sell only to jobbers.

When writing for booklets, address

F. H. SADLER & CO., Dept. K,

Manufacturing Jewelers,

Attleboro, Mass.

Decidedly Unique New Designs
In Great Variety
Now Ready.

Our Six Travelers cover entire
country. If you don't receive
a visit, write us.



“The SIGN
of A GOOD RING”

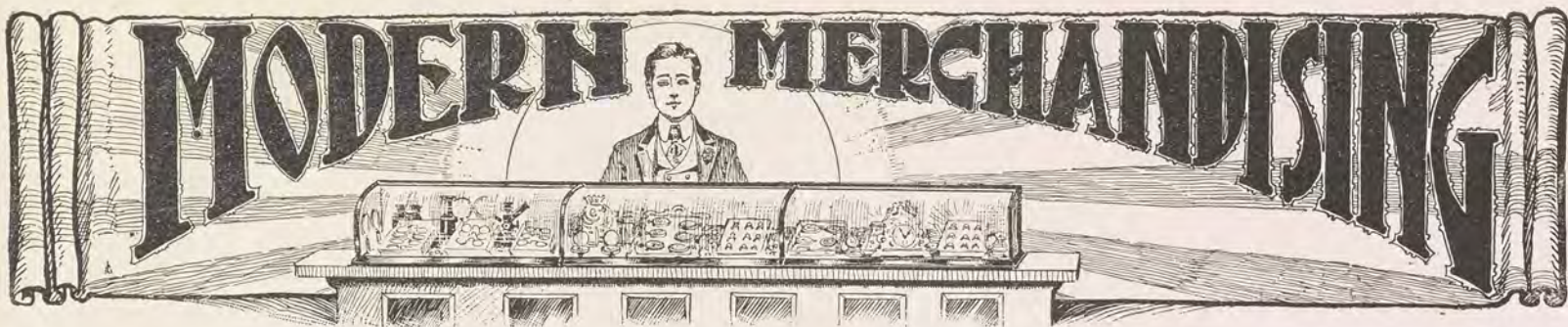
and the ring itself are
inseparable, for we stamp the
“sign” into every ring we make

LOUIS KAUFMAN & Co.,



COLUMBIA & GREEN STS.,
NEWARK, N. J.





The Man who Thought he Could Retire

ONE of the most interesting facts which the evolution of modern commerce has been the means of bringing to light, is that continuity of physical and mental occupation in a certain line of business activity often conduces to longevity. This condition in the abstract may seem to conflict with scientific theories and even with common sense, especially when we are wont to hear so much about the debilitating effects of close and continuous application and constant grappling with serious problems. But is it not a fact that nature adapts itself to various conditions, and that when these conditions involve a not over strenuous exercise of the mental or physical powers, these powers develop and go on gaining a cumulative strength until the man becomes so wedded to his work that work becomes one of the essentials to his existence? The foregoing is suggested to us by the experience, related in the *Merchants' Journal*, of a business man who is on the threshold of seventy and who is still putting in ten hours at his business every working day. Asked why he did not desist and spend the remainder of his days in ease and leisure, he made the following interesting reply:

WELL, I tried that about nine or ten years ago and somehow it didn't turn out just as I had figured it would beforehand. You see, I wasn't born with a silver spoon in my mouth. I had to commence earning my own living as soon as I was able, and from that time on I was mighty busy. I commenced as an errand boy and worked up until I was a partner in the business, and I finally bought out the whole establishment. From the time I started as an errand boy until I got control of the business, I generally put in every day in the week except Sunday and sometimes a good bit of the night. Well, after I got control and was my own boss I said to myself, "Now, if I have good luck until I'm fifty, I will clean up and retire and enjoy myself." When I got to be fifty I was feeling pretty young and coltish, and concluded that it was foolishness for a young man of fifty to quit work and that I would just put off the quitting time for ten years and then I would quit for certain.

Well, the time ran along until I was sixty. A couple of fellows who had more money than experience came along just then and offered me what I thought was a big price for the business and I sold out to them, cleaned up everything and said to myself, "Now I'm going to take that rest I have been dreaming about for thirty years."

I HAD a lot of relatives that I hadn't seen for a long time, some that I never had seen, and I concluded that I would enjoy myself for about a year visiting. Well, after I had settled up the business transfer my wife and I started out to visit. By the time I had visited for four weeks it seemed to me that I had been doing nothing but visit for a year. It was just eat and talk and ride around. I never was so mortal tired of anything in my life. I managed to stick to it for six weeks and quit. Then I told my wife we had never been away from home and we would just take a trip and enjoy ourselves.

Well, it was all right for a little while, but I got tired of that in the course of three months and wanted to get back home. I had bought a place and started in to fix it up to live in. Between the carpenters and the plumbers I had enough grief to keep me busy for the next three months, but when that was over and I had nothing in particular to do I commenced to get uneasy. I could putter around the yard and manage to put in part of the time, but it did not seem like business. I used to wander down to the store nearly every day and watch how things were going. It seemed to me that there were a good many things that might be improved, and it was just all I could do to keep from butting in and making suggestions.

WELL, you might not think it, but at the end of that first year of rest I weighed fifteen pounds less than when I retired from business. I was sort of off my feed, my appetite was not as good as it had been, my clothes did not seem to fit me. I was feeling kind of miserable and out of sorts and my wife persuaded me to see a doctor. He looked me over and asked questions, and finally told me that if I did not get back into business I would probably furnish the leading character in a funeral within a year or two. I was ready to believe

him, and the next day I commenced to scent around to find out whether I could get my old business back. I found out the fellows who bought me out were not traveling on asphalt pavement exactly. They were ready to sell and I was ready to buy. I have buckled down to business ever since. I'm sixty-nine and feeling like a three-year-old colt. If I had kept on resting I would have been dead five or six years ago. After a man has stuck to business for sixty years, he can't jar loose and enjoy himself loafing.

The Colors that Light Up the Store

WE very frequently receive queries as to the best colors to use in store decoration. As many of the jewelry stores are comparatively small, and some of them insufficiently lighted, we are often asked what colors would best light up the store and beautify it at the same time. We notice in the *Clothier and Furnisher* the following question, which is a type of those received by ourselves:

What would you suggest as the best color paper to be used on a store? We thought a light green for the walls and a white border, with the ceiling white, would be quite desirable but feared green would fade easily. Is kalsomine or alabastine as good as paper?

Our contemporary's reply will be interesting to our readers: "No combination of colors will give your store either a more neat appearance or a better light reflection than blue for the sidewalls and white for the ceiling. It is, however, impossible to obtain a green-colored paper that will not fade. We would advise you to paint your sidewalls light green and give a relief near the ceiling by a white, irregular frieze. Kalsomine your ceiling white. Should you have chandelier places on your ceiling, have these done in the green tint of your sidewalls. If you give your sidewalls a second painting, after giving the first painting sufficient time to dry well into the plaster, you will have no trouble with the fading of the light green. We have seen like-painted sidewalls washed and the original shade retained. Do not attempt kalsomine for your sidewalls as it will crack off where it comes in contact with shelving and cases. The frieze stucco can be had in various designs of vines and clusters, and your decorator can furnish these.

1530 **LEONARD KROWER,** 536-538 Canal St., New Orleans, La.

**Manufacturer
and
Wholesale
Jeweler.**

Proprietor of the
**American
Cut Glass Co.**

Our long career in the wholesale business and our connection with the largest manufacturers places us in a position to supply you with your requirements at prices to defy all competition.

Since we assumed the American Cut Glass Co., supply you with Cut will induce your consideration of every line appertaining to the jewelry business, is an extra inducement for you to accept our invitation to visit New Orleans at our expense and inspect our line.



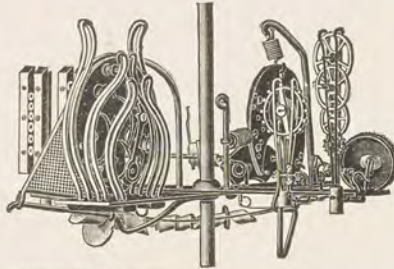
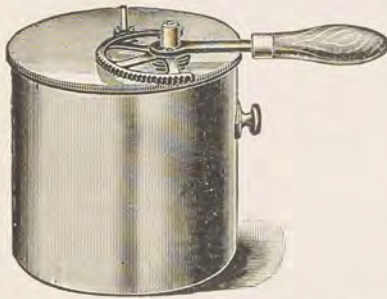
proprietorship of the we are in a position to Glass at prices which ation of the line. Our

Yours truly, **LEONARD KROWER.**

**Importer and
Exporter.**

**Manufacturing
Optician.**

Manufacturer of the
**French Alliance
Rings,** in 10, 14 and
18 Karat.



Pat'd Feb. 4, 1903.

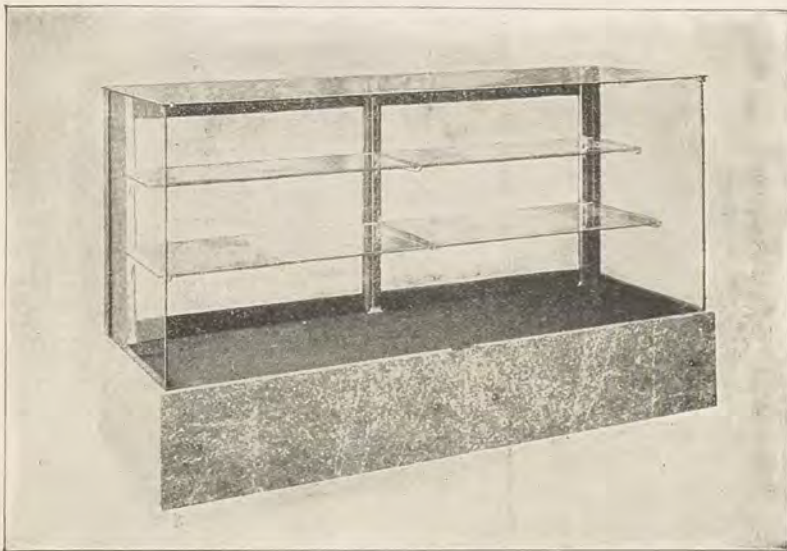
The Higgins Watch-Cleaning Machine.

Saves watches, saves time,
Makes money, makes reputation.

J. J. HIGGINS,
Du Quoin, Ill.

F. C. JORGESON & CO.

208 & 210 W. Lake St., Chicago,
MANUFACTURERS.



Patented Sept. 19, 1899, by F. C. Jorgeson.

The **BEST** and most practical
ALL-GLASS CASE.

Buy direct from patentee and maker.

We also make all kinds of Jewelers' Fixtures—
"THE BEST OF EVERYTHING."

ESTABLISHED 1867

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HALF TONE AND
FINE COLOR WORK
JEWELRY CUTS
A SPECIALTY

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If You Knew, as We Know,

how much more "hard money" you could make after a course in our school, you would lose no time in placing yourself under our instruction.

Remember, after you are through we will have a number of good positions for you to choose from; the reputation of a school decides the kind of positions it can offer its students, and those we offer to our graduates are the best. We have courses of practical instruction to suit the needs of everyone.

Our Prospectus is of vital interest to you, and is sent free.

**The Ezra F. Bowman
Technical School,**

LANCASTER, PA.

A school for the
through teaching of
Watchmaking,
Engraving,
Jewelry Repairing.

Among the Trade

The trade are invited to send us reliable items of news for this department

Arkansas

M. T. Graham, of Fort Smith, has recently been improving and decorating his store. He has also installed new safes and handsome fixtures. Jeweler Graham makes it a special feature of his policy to keep his methods and equipment well abreast of the times. He was formerly in the jewelry business at Nashville, Tenn., for a period of twenty-seven years.

Indiana

Ike Rosenbaum, of Mount Vernon, was in New York city recently purchasing an extensive line of fall goods, including a very fine array of watch cases.

Iowa

H. C. Milligan has located in Creston, where he has purchased some property and opened a handsomely-appointed jewelry store, in which he has installed an extensive line of goods. The store is equipped with new, light oak fixtures, and the grand opening, which began on August 15th and lasted ten days, attracted a large number of interested visitors and proved an encouraging inauguration to Jeweler Milligan's career in Creston.

Lee & Robinson have succeeded J. E. Carmichael, of Corning. Mr. Carmichael retired from business and has gone to Bozeman, Mont., where he intends to reside and take up outside work for the benefit of his health. He leaves many friends in Corning, but there are also a number of people from that town located in Bozeman. Lee & Robinson have made an auspicious start; both members of the firm are practical watchmakers, and they will make a specialty of optical work.

Kansas

D. P. Smisor, of Sterling, recently purchased a new automobile runabout with seven-horse power engine at a cost of \$750. Jeweler Smisor has become an ardent votary of the newest form of locomotion.

Kentucky

Mrs. Lula E. Warren, wife of W. N. Warren, of Warren & Warren, Paducah, died of consumption, September 7th, after a long illness.

Louisiana

Henry Peat Buckley, the oldest jeweler in New Orleans, died recently at the venerable age of eighty-one. The deceased jeweler had been suffering for seven weeks with a complication of diseases, which, at such an advanced age, he was necessarily unable to withstand. He underwent a surgical operation by a noted physician, but never fully recovered from the effects of this ordeal. Jeweler Buckley was born in the horological town of Coventry, England, and came to this country at the age of eighteen. As he had already thoroughly mastered the jeweler's art, he took up that kind of work in New Orleans. He was one of the best and most widely-known jewelers in that city and, in fact, in the entire South. His reputation as an authority on watches gained for him a wide clientele in this connection. His store at 108 Camp Street netted him very good profits, and with habits of the successful business man, he had accumulated quite a fortune at the time of his

death. He was considered one of the most influential business men of that city, and at all times did everything in his power to advance its interests. Mr. Buckley took a prominent part in the history of the local Masonic fraternity and he had at different times filled offices in that society with unusual merit and ability. His funeral was conducted under Masonic auspices. Four daughters, two of whom are married, survive him, Mrs. Buckley having died about two years ago.

Maryland

The jewelry business heretofore conducted at Hagerstown by I. S. Kahn and J. Walker Fell, under the firm-name of Kahn & Fell, is now conducted under the sole proprietorship of I. S. Kahn.

Mississippi

Mrs. Emma Martin, wife of Jeweler T. P. Martin, of Edwards, died recently after a four months' illness. Much sympathy is felt for her bereaved husband and five young children who survive her.

Missouri

Geo. Willis Chase, of Moberly, made a tour of the Eastern markets recently, buying goods for fall trade. While in Philadelphia he made a pleasant call at this office.

New Jersey

John H. Bernecker, formerly with R. M. Muinch, South Bend, Ind., has accepted a position with P. A. Peterson, of Trenton.

New York

Frank G. Hall has issued a well-worded circular in which he announces the opening by him of a new jewelry and optical store at Watertown. Jeweler Hall was with the Parsons Horological Institute, La Porte, Ind., for a term in the capacity of instructor, while his services in the respective stores of W. W. Scott and J. S. Baird, of Watertown, have afforded him valuable practical experience in the jewelry business; his connection with Jeweler Baird extended over twelve years. He is also a graduate optician.

Ohio

W. O. McMahan, of Cambridge, has sold his branch store at Urichsville to W. H. Pachard, formerly of the Hamilton Watch Co.

Oklahoma Territory

We learn from Jeweler D. M. Bowers, of Lawton, that valuable discoveries of gold and silver have been made in the Wichita Mountains, which have caused quite a sensation among speculators. "Possibly," Jeweler Bowers writes, "the richest discovery has been made by the Big 4 Mining and Milling Co., who have assays ranging from \$31.00 to \$356.00 at a depth of 30 feet. The mountains are besieged by prospectors."

Tennessee

The Humboldt Clock & Watch Mfg. Co. has been organized at Humboldt on a partnership basis. The concern will apply for a charter later on. D. A. Mount, the Humboldt jeweler, is one of the parties interested in the new company.

Texas

The town of Victoria was recently visited by a man who said he was "Marcus G. Cagle, of Phila-

delphia, Pa." He represented himself to be an engineer, wealthy and in quest of rice lands. He interviewed various merchants, bankers, insurance agents, real estate agents and others and entered into what afterwards appeared to be purposely abortive arrangements regarding land purchase. He purchased about \$600 worth of diamonds from Jeweler A. Levytansky and gave a check on a Portsmouth, Va., bank in payment. Inquiry at the latter institution, however, revealed that he was not known to it. The jeweler confronted the stranger at the Elks' Club soon afterwards, but he cheerfully restored the diamonds, saying that something was wrong at the bank and that he would telegraph his grandfather to forward an ample sum. Next morning he had disappeared. He was arrested soon afterwards at Edna and taken to the jail there. When taken to his cell he drew a 32-calibre pistol and shot Sheriff Wharton through the mouth and heart and then Deputy Braugh through the breast. The sheriff, wounded as he was, fired four shots into "Cagle's" head, killing him instantly. Wharton and Braugh died soon afterwards. A memorandum was found on the stranger stating that his true name was W. Guy Landers, Jr., of Georgia, escaped from Billings, Mont., May 28th, 1903. Notwithstanding his elaborate scheme and the tragic sequel to his visit, nobody in Victoria was duped to a serious extent. Jeweler Levytansky is to be congratulated upon eluding loss at the hands of the desperate and now memorable visitor.

W. C. Lansford & Co., hitherto at Cleburne, have sold out to Thos. Dee & Co., and have purchased the stock of Frank Miesch & Co., Clarksville, of which W. C. Lansford has taken charge. Jeweler Lansford has thoroughly renovated the newly-acquired place of business and installed a handsome set of new fixtures.

L. Lechenger, of Houston, made a tour of the Eastern States last month, purchasing goods for the fall and holiday trade. During his trip Jeweler Lechenger made a pleasant call at this office.

How to Paper a Ceiling

When, in order to strengthen a surface or hold up a badly-cracked ceiling, the surface is covered with paper canvas, the object to be aimed at is to hang the paper smooth and straight. Very much depends upon the laying of the first length, says *Artistic Home Ideas*. It must be perfectly true in straight line; the other lengths will then follow straight. A straight line, struck by means of a chalk line down the center of the space to be "lined," will serve as a correct start and hold all the other lengths to accuracy.

For work that butts, a straight-edge with a steel edge to it, and a trimming knife are necessary, especially for stout paper. Many manage to do the work with a pair of scissors, but in that case the edges seldom meet accurately. A roller is also of service to rub the edges well down. A roll of paper held in the left hand is useful; it helps to hold up the limp pasted lining paper when applying it to the ceiling, leaving the right hand to fix the paper to the joint. It is then easy to sweep the paper up with the roll in the left hand, continuing to butt or lap the paper with the other hand by means of a cloth or brush. When the paper is pasted and folded, take in the left hand the roll you are using to help to lay the pasted paper and place it under the center of the paper; then unfold the right end of the paper, which should be the shortest. In this way carry it up the steps.

1532



YOU
 CAN SECURE THAT
 CLASS PIN ORDER
 BY SHOWING
 OUR DESIGNS AND SAMPLES.
 WE ARE HEADQUARTERS.
 WRITE TO EITHER FACTORY.
 WENDELL & COMPANY,
 93, 95 AND 97 WILLIAM ST.
 NEW YORK.
 57 WASHINGTON ST.
 CHICAGO.

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.

Use of the Word "Messrs."

ED. KEYSTONE:—For the information of my stenographer, will you kindly state which of the following forms is correct, and is it proper to use the words "Messrs. The" in conjunction, as given below? 1. Messrs. John Smith Co. 2. Messrs. The John Smith Co. 3. The John Smith Co.

Yours truly,
"INQUIRER."

[The John Smith Co. is correct, and is not discourteous in addressing a corporation or joint stock company. You would not write, for instance, Messrs. The Keystone Watch Case Co., or Messrs. The New York Central Railroad Co.—ED.]

A Jeweler's Plight

ED. KEYSTONE:—A customer brought in a watch for repair. I was winding the watch in the customer's presence, and when nearly wound up, the mainspring broke. Should I replace the mainspring free or charge the customer?

Yours truly,
"MAINSRING."

[The joke is on the jeweler, and we trust he accepted the situation with a good grace, and promptly proffered to replace the mainspring free of charge. The humor of the episode completely nullified the logic of it.—ED.]

Stock and Sales Record of Watches

ED. KEYSTONE:—My attention has been called to a system of keeping account of stock, used by a brother jeweler, with a record of sales. His plan, he informed me, originally appeared on page 23, January, 1901, KEYSTONE. While I do not question the advantage and efficiency of such a system for one doing a large business, still I think a more simple plan for keeping the case and movement record is desirable for those who, like myself, cannot boast of a large business in the line of watches. To the end of having such a system I have devised one, and take pleasure in sending you a fac-simile of the headings, and have also filled in several lines which I think will make the diagram self-explanatory.

There are several points of advantage in this plan, and I will mention a few of them. In the

first place, every case and movement should be entered in the book before it is placed in stock, and the date and jobber's name placed in their respective columns, together with the net price, and the watch tagged with the same number the entry is made under, with the price mark in use by the dealer. The "cross reference" column is a very convenient feature in case of theft. For instance, should Mrs. Paul De Smythe lose her watch, or have it stolen, she would not, in all probability, have a record of either the movement or case. Such a record could be given by the jeweler from this book in a very few minutes, covering a description of both case and movement, and if the community learns that the record is thus carefully kept it will serve to help advertise your business.

The "cross reference" is kept in this way: We will say John Jones buys movement No. 1, in case No. 76. On the No. 1 line, in the "cross reference" column, I write No. 76, and on line No. 76, in the same column, I write No. 1. In this way, as soon as either one is found, reference to the other is the work of but a moment. The consecutive numbering will always keep the fact before you that the lowest numbers are the oldest patterns, and that it is desirable to push their sale, so they will not be in your stock when new and more desirable patterns appear, and thus become "dead" stock, so to speak. The entry of the jobber's name, date, etc., will save the trouble of looking over your bill file in case a duplicate is desired.

Yours truly,
"MAHARG."

The Stores Favored by British Royalty

ED. KEYSTONE: While in England last summer I noticed a number of stores which displayed the royal arms, with the intimation that they were favored by royal patronage. Is this a special privilege, and if so, how is it secured? Is any concern outside the British Empire ever accorded the privilege?

Yours truly,
"ANGLO-SAXON."

[The privilege of placing the king's arms over a store door is granted under certain interesting conditions. Only bona fide tradesmen who have supplied the king and queen have this right, and violation is punishable under the Merchandise Marks Act. Warrants of appointment to the king are granted by four different officers of the royal household, viz., the lord steward, the keeper of the privy purse, the lord chamberlain and the master of the horse. Appointments to Queen Alexandra are made through her own lord chamberlain. The Prince and Princess of Wales also grant warrants to their own particular tradesmen, which gives them the right to use the arms of their royal highnesses. Only two points are taken into consideration in granting the warrants—the standing of the firms, and their being bona fide suppliers to royalty. The custom of granting

royal warrants dates back to the reign of George III; but for a long time it fell into disuse, and was revived in the last reign by the prince consort. We do not think any concern outside the British Empire would be accorded or care to use this privilege. Tiffany & Co., the well-known jewelry firm, are on the privileged list, through their London house, of course.—ED.]

Screwing in Clock Movements

ED. KEYSTONE:—It is surprising how few know how to screw movements in clock cases; that is, to place the screws where they want them. I send you a device I have used for years. Simply take a full-length pegwood and flatten the end to fit tight in slot of screw. You can then place the screw where you want it, start it and pull out the pegwood ready for another. I have told several that have worked at the trade for years about my plan, and they all like it.

Yours truly,
GEO. W. GATES.

Cleveland, Ohio.

New York Time Used by Weather Bureau

When we read a report from any of the 160 regular Weather Bureau stations throughout our land bringing the information that a rainstorm, a tornado or some other meteorological phenomenon began at a certain hour, we need not suppose that the hour mentioned refers to the time at the place where the observation was made. The hour given is the exact New York time; for every clock at the regular Weather Bureau stations all over the land is set to the seventy-fifth meridian, or Eastern standard time, which is exactly five hours behind Greenwich time.

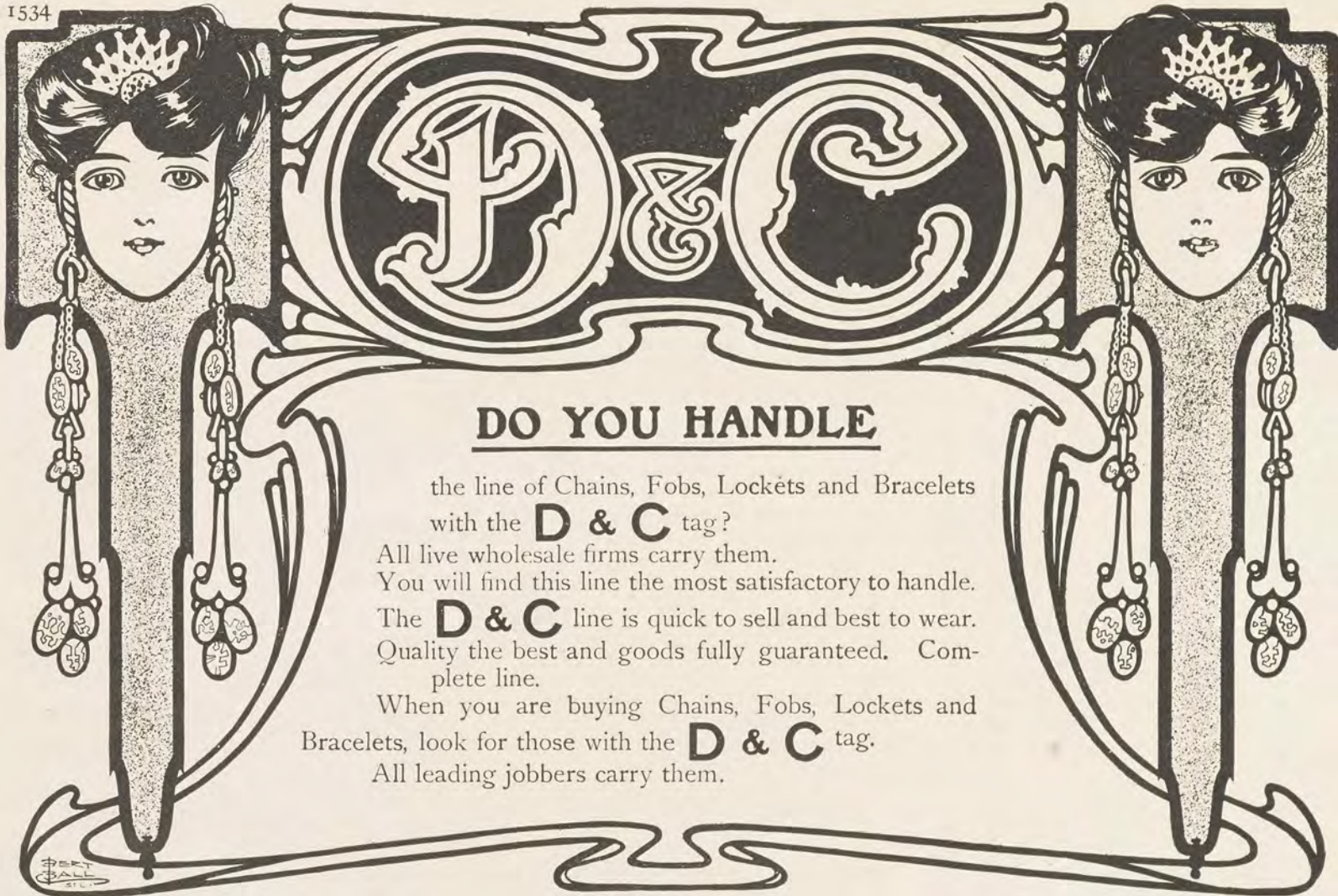
Only this standard of time is used in the text of the *Monthly Weather Review*, and all Weather Bureau observers are required to record observations by it. The reason for this is that the best scientific deductions from the weather reports must be based upon the conditions of the atmosphere existing simultaneously in different parts of the country.

It would be very laborious if all the hundreds of reports sent daily had to be changed at the central office in Washington from local to Eastern time, and so all the regular observers are required to use the New York or Eastern time.

There are many volunteer observers and newspaper correspondents who, in reporting weather phenomena, use other standards of time. If the Weather Bureau has occasion to use their reports the time is often corrected to agree with the Eastern standard or the local time is mentioned.

Record of Watch Stock and Sales

Number	Size	Grade	Htg. or O. F.	Style	No.	Cost	Sold for	Date of Purchase	Bought of	Date of Sale	Sold to	Cross Reference	Remarks
1	6	— 14-K. Filled	O. F.	E. T. Engraved	4113672	12.36	15.00	1-6-01	Brown, Jones & Co.	1-29-01	Mrs. Paul De Smythe	6	Present for her son
2	18	— Nickel	Htg.	Plain Pol.—Shield	6229114	3.00	...	1-6-01	" " "	...	...	...	...
3	12	— Silver	O. F.	Fancy Engraved	3438371	8.06	12.00	1-6-01	" " "	1-20-01	Peter Smith	7	½ cash—½ on Feb. 8th
4	16	" "	O. F.	E. T.—Shield	526713	12.36	...	1-6-01	" " "	...	...	...	...
5	18	— 7-Jewel	Htg.	New Model	4114481	4.16	...	1-8-01	Jones Jewelry Co.	...	...	...	...
6	6	— 11-Jewel	O. F.	¾ Plate	1015782	14.21	20.00	1-8-01	Smith & Brown	1-29-01	Mrs. Paul De Smythe	1	Guaranteed 1 year
7	12	" 15-Jewel	O. F.	¾ Plate	3982721	16.85	23.00	1-8-01	" " "	1-20-01	Peter Smith	3	Guar. to keep good time



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the line of Chains, Fobs, Lockets and Bracelets with the **D & C** tag?
 All live wholesale firms carry them.
 You will find this line the most satisfactory to handle.
 The **D & C** line is quick to sell and best to wear.
 Quality the best and goods fully guaranteed. Complete line.
 When you are buying Chains, Fobs, Lockets and Bracelets, look for those with the **D & C** tag.
 All leading jobbers carry them.

Flags for Schools and Colleges In All Sizes.

Owing to our patented process for manufacturing we can put any letters or figures on you may desire, corresponding in number to those shown in design, no matter how small the order may be.

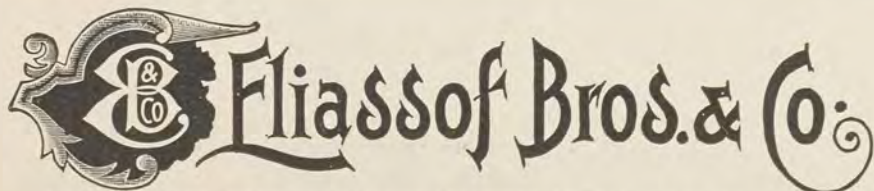
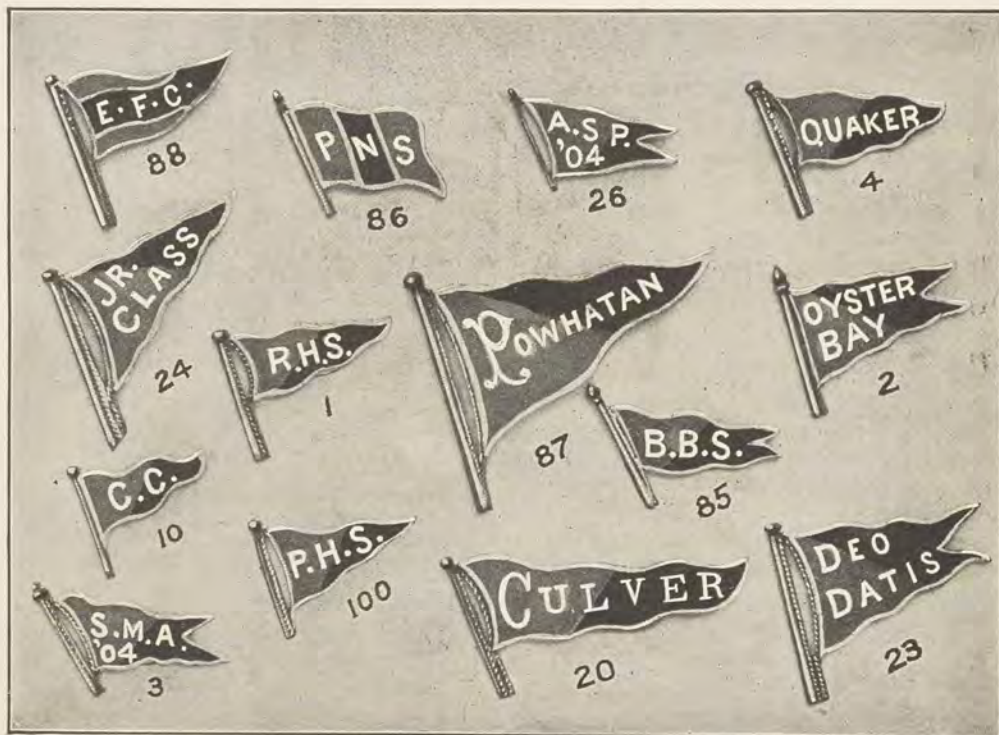
WHOLESALE PRICES BY THE DOZEN,
 Can you beat them?

- No. 1, 3, 10, 26, 85, 86, 88 and 100.
 Silver Plate, \$.75; Sterling Silver, \$1.88; Solid Gold, \$11.25.
- No. 2, 4, 23 and 24.
 Silver Plate, \$.95; Sterling Silver, \$2.25; Solid Gold, \$15.75.
- No. 20.
 Silver Plate, \$1.88; Sterling Silver, \$2.63; Solid Gold, \$18.00.
- No. 87.
 Silver Plate, \$4.50; Sterling Silver, \$7.50; Solid Gold, \$22.50.

MOTTO:—Prompt Service—Low Prices—Satisfaction.

Give us a trial order. Class, Club, Society, School and College Pins are our specialty. We will be pleased to mail you our catalogue upon request. No wholesale prices are quoted therein.

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



A LARGE ASSORTMENT OF DIAMOND MOUNTED JEWELRY CARRIED IN STOCK

IMPORTERS
 AND
 JOBBERS OF

**Diamonds
 Watches
 Jewelry**

9-11-13 Maiden Lane
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Twentieth Century Plea for the Rod



Humorous Discussion of the Question of Physical Punishment for the Misbehaving Schoolboy

A versatile writer in our contemporary, "Packages," seems to think that in the suppression of the rod at school the boy of to-day is deprived of one of his time-honored rights. He regards the rod as a manhood manufacturing agent. Discussing the discontinuance of corporal punishment, he says:



These new-fangled ideas of education are all right in their way, but I can't help believing that they are better adapted to girls than boys. I think they are too sloppy and fine drawn for boys.

Just think of their not allowing any "corporal punishment" in a city like Chicago! Think of a quarter of a million of boys—good, healthy, active boys, whom we are depending on to step in and take charge when we old fellows drop out—growing up without ever getting a licking! It is a shame—a shame!

I've noticed a sort of dazed look becoming settled on the faces of these Chicago boys. They don't understand it. It has been bred into them by generations of tough and sturdy ancestors, that when they do certain things they have a licking due them, and they expect to get it unless by superior tact, diplomacy and other manly qualities, they evade detection.

It is too blamed easy now to be interesting. Even if a boy be caught red-handed he is only taken before the principal, who shakes his head sadly and asks the boy to write a letter of apology. Think of it—a letter of apology! Have a boy write a letter of apology for tying a tin can to a dog's tail!

By gad! What that boy needs is a licking! What's the fun of canning a dog if there isn't any danger in it? Fudge! Who cares for a letter of apology? A fellow can write a letter of apology in two minutes. A letter of apology is like ma's lickings used to be. Who cared for ma's lickings? They wouldn't hurt a flea. But when pa got a-goin—um-m! And it was the standing everlasting possibility that pa or the teacher would catch a fellow at his devilment and give him what was coming to him that gave zest to life in those days. And now the worst that a boy has to dread is a letter of apology. Good land!

And, there being no danger in canning a dog there is no fun in it, and thus is boy-

hood robbed of one of its most legitimate pleasures. And the dogs and boys wander around in a dazed and uncertain way.

And do you expect that boys raised under such a handicap will grow into men who can hold their own in the world? If you do, you will be disappointed. The boys from the country who have been licked and thumped into some kind of shape will topple them over as though they were tenpins.

Why, when one of these boys, educated on these modern letter-of-apology methods, gets out in the world and his employer speaks harshly and unjustly to him, as any hurried employer is apt to do, he is liable to get on his dignity and go home and wait for a letter of apology.

It's the lad that can take a blow with a duck and a grin, and, if it came amiss on this occasion, can console himself by thinking of the dozen he has deserved and never got, who gets along in the world.

I tell you that it's a discipline that every man has got to learn before he amounts to anything substantial. There is a discipline in the business world, the same as there is in the army, and it's the same kind of discipline, too. It is the discipline of the drill sergeant's cane, in both cases. And a boy who is raised with a lot of high-flown notions that the only way to control him is to appeal to his reason and his sense of justice, is pretty nearly ruined. He's got to learn that he must step lively and obey orders or have the boots put to him. When he has learned that, and learned it thoroughly, he is ready to learn something about reason and justice, etc.

I know that a good many high and mighty philosophers will not agree to such a statement as the foregoing, but you ask any business man who hires boys and makes men of them, getting the kind of material he wants by the process of elimination and he'll tell you I'm right.

Moreover, he'll tell you that he has been through the mill himself, and that, if he hadn't learned to take a blow with a duck

and a grin, he would probably be a labor agitator or a socialist, instead of a prosperous business man and a credit to his community.

And he'll tell you, further, that even now the world hands him a back-handed swipe every little while, without any apparent cause or just provocation. But he has learned to take his medicine. It tastes pretty bad, but he knows it is good for him.

Responsibility of Banks

The Supreme Court of Pennsylvania has decided a case that has much in it to interest merchants and bankers.

A presented two checks to the bank for deposit to his credit, drawn by B on the same bank.

The teller endorsed the credit for the amount of the two checks in the pass-book of A. Later the bank found out that the amount of the two checks exceeded the balance due B on his account, and gave notice to A that the amount endorsed on his pass-book had been cancelled for that reason and that the checks were held by the bank, subject to the order of A.

A refused to accept this avoidance by the bank, and demanded that the credit therefore given him be kept good. Upon further refusal to do so, resort was had to the courts.

In passing final judgment the Court says: "The general rule of law involved in this case that a credit by a bank of a check of its own depositor, as a deposit, in the pass-book of another depositor, is equivalent to a cash payment, is one worthy the attention and reflection of receiving tellers of our large banks. Many checks on the institution are received at the receiving teller's window from another depositor, and credit given, which might either be overdrafts or be drawn upon accounts; which, like the one in the present case, were only apparently good, and if this rule of law is to be given its logical application, all such checks cannot be charged back, unless the depositor consents, but are payments by the bank of its own money, with its only right of redress against the irresponsible depositor who has drawn such worthless checks."

"Could not keep house without The Keystone. It seems almost like stealing to get as much as you give in your paper and give so little for it. If you can stand it, I will worry along in this connection."
—B. W. Martin, Jeweler, Harriman, Tennessee.



Where Do You Send Your Scraps and Sweepings?

It's of little interest to you why we do it or how we can pay the highest prices for **Old Gold and Silver**. We pay it!

That's the point for you to consider.

What's more, we pay it promptly. It only takes from three to five days for our check to reach you.

Any jeweler who sells to us will vouch for our reliability.

Do these prices interest you?

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, 20 to 35c. an ounce.

Old Silver (fluctuating), very highest market price.

All consignments held subject to your approval of our offer.

Thomas J. Dee & Company,
REFINERS AND SMELTERS,
67 & 69 Washington St., CHICAGO, ILL.



LATEST AND PRETTIEST IN NOVELTIES.

We make a complete line of quick-selling novelties in Sterling Silver:

Card Cases,	Pocket Knives,
Cigarette Cases,	Cigar Cutters,
Match Boxes,	Key Rings,
Scissors,	Emeries,
Tape Needles, etc., etc.	

Also a great variety of handsome new designs in

SASH PINS, HAT PINS, BRACELETS, BUCKLES, FOBS,
CHATELAINE BAGS, PURSES, Etc., in Sterling Silver and Plate.

Codding & Heilborn Co., North Attleboro, Mass.

Chas. Van Ness, No. 11 Maiden Lane, New York.

Advertising in Small Towns

THE KEYSTONE is pleased to be able to bear testimony to the excellence of the advertising now being done in many of the smaller towns. We are justified in saying, indeed, that of the myriad samples of advertising in our possession some of the most admirable specimens are the work of jewelers in towns of a very limited population. Some of smaller jewelers, who have failed to imbibe the progressive and aggressive spirit of the times, still maintain that their town is too small to make advertising profitable, that everybody knows them already and that the business is too limited anyway, a triple fallacy which keeps many a merchant in the background and which would mean ruin in face of militant competition. As an example of what a jeweler in a small town can do in the way of advertising, we reprint herewith three sample advertisements of Andrew M. Keck, Odon, Ind. The town of Odon is credited with something over a thousand population. Mr.

School Teachers, Look Here.

Are you among the number who will want a new watch ere school begins? If so, here are a few substantial reasons why you should come to us for it.

1. Having sold watches for the past fifteen years, we have had an opportunity to observe just the satisfaction that each grade and kind gives, and offer you the benefit of this experience free.

2. When we sell you a watch we put our own reputation back of it. We are interested in the service as well as simply selling it, for we realize that our future sales depend on the satisfaction our goods give.

3. If from any cause our watch should go wrong, we are interested and cannot afford to "turn you down."

4. While we do not carry as many as the city shops, we can always show you a nice lot of the more choice designs.

5. Our price, we buy for cash and at right figures, too. Our expenses are small when compared with other first-class houses. We price our goods in plain figures and have only one price for all.

If you are interested come and see us.

KECK, the Jeweler
and Optician

Keck is a persistent and accomplished advertiser, contracting for considerable space and changing his announcements each week. There is only one newspaper in his town, a weekly, with a circulation of five or six hundred copies, almost wholly local. Of course, advertising rates are correspondingly low, and this is one of the great advantages

of the advertiser in small towns. Each of Mr. Keck's advertisements occupied a space $8\frac{1}{4} \times 4\frac{1}{4}$ inches, which permitted fairly good display.

The first advertisement was very timely, being addressed to the teachers just before the opening of the schools. The logic in the advertisement is as orthodox as it is forceful. It covers the ground well and is marred neither by verbosity nor exaggeration of statement. It is, indeed, an ideal watch advertisement, and any improvement would be in appearance, not in matter.

The repair advertisement is equally excellent. There is reason and sincerity in

read, and we do not think that there is by any means an excess of matter in Mr. Keck's announcements. An occasional good, apt illustration would, of course, add to their attractiveness; but a liberal border of white space serves the same purpose, at least to some extent.

A Big Swindle

There is no bigger cheat in anything than in the jewelry business, unless possibly it is spectacles; but we will talk about that later. There are so many manufacturers who just make it to look and to sell, without any regard to its wear, and so many dealers who buy and sell the very cheapest they can get, simply because there are very few people who can tell a cheap piece from a good one.

WHEN YOU BUY JEWELRY,

unless you are a judge and an expert at that, you are simply at the mercy of the one you buy from.

We have made the jewelry business a study for the past sixteen years. We

DON'T CLAIM TO KNOW IT ALL,

but we do claim to know "a thing or two" about jewelry. The greater portion of this time we have sold jewelry at Odon, and undoubtedly the people should begin to know a thing or two about us. Suffice it to say, our business is larger than ever before, and we will

TELL YOU WHY NEXT WEEK.

KECK, Jeweler
and Optician

Mr. Keck is but one of hundreds of jewelers in small towns who are now doing intelligent, effective advertising, and we regret that limitations of space prevent our reprinting much of it. They magnanimously give credit to THE KEYSTONE for their progress in and mastery of the art, but their own talent and spirit of enterprise are among the responsible factors.

Dunning Letters

Acting Assistant Attorney-General Christiancy has recently made a ruling that will be of interest to all who are doing business on the consignment plan. According to this ruling, a letter too threateningly worded constitutes blackmail within the regulations of the post-office department, and such letters cannot go through the mails. This ruling was made in proceedings to deny the use of the mails to a New York collecting agency, which was trying to collect accounts which the American Jewelry Co. had against various people throughout the country to whom that company had sent jewelry on consignment.

Complaints had come in from all over the country that the collection agency had sent the complainants letters threatening legal proceedings, if payment were not made for the jewelry which had been sent out. The department investigated the matter, and the attorney-general's office has decided that some of the letters are of a blackmailing character under the rulings of the department, and an order was issued denying the use of the mails to the concern in question.

Our Repair Shop

Do you know that we have one among the best repair departments in Southern Indiana, equipped with up-to-date tools and machinery and a stock of material and repairs that a city shop need not be ashamed of? A pretty broad assertion, but it is a fact nevertheless, and

SIXTEEN YEARS AT THE BENCH

has taught us the "why's and wherefores" necessary to handle it successfully. That it is a success is shown by the constant stream of watches, clocks, jewelry, etc., that is daily being brought to us for repair. Watch repairing is our speciality, but we can do most any kind of small and delicate repairing. Our motto is

"WE'LL DO IT RIGHT OR NOT AT ALL."

Do you know where eight watches out of every ten are ruined? It is by some so-called repairer. You may drop your watch and break it—if it's properly repaired it's as good as ever; but I am sorry to say that it's very easy to leave it with a repairer who will do it more injury than the fall, when you get it back. They either don't know how, are not prepared for it, or don't care.

WE GUARANTEE STRICTLY FIRST-CLASS WORK.

KECK, the Jeweler
and Optician

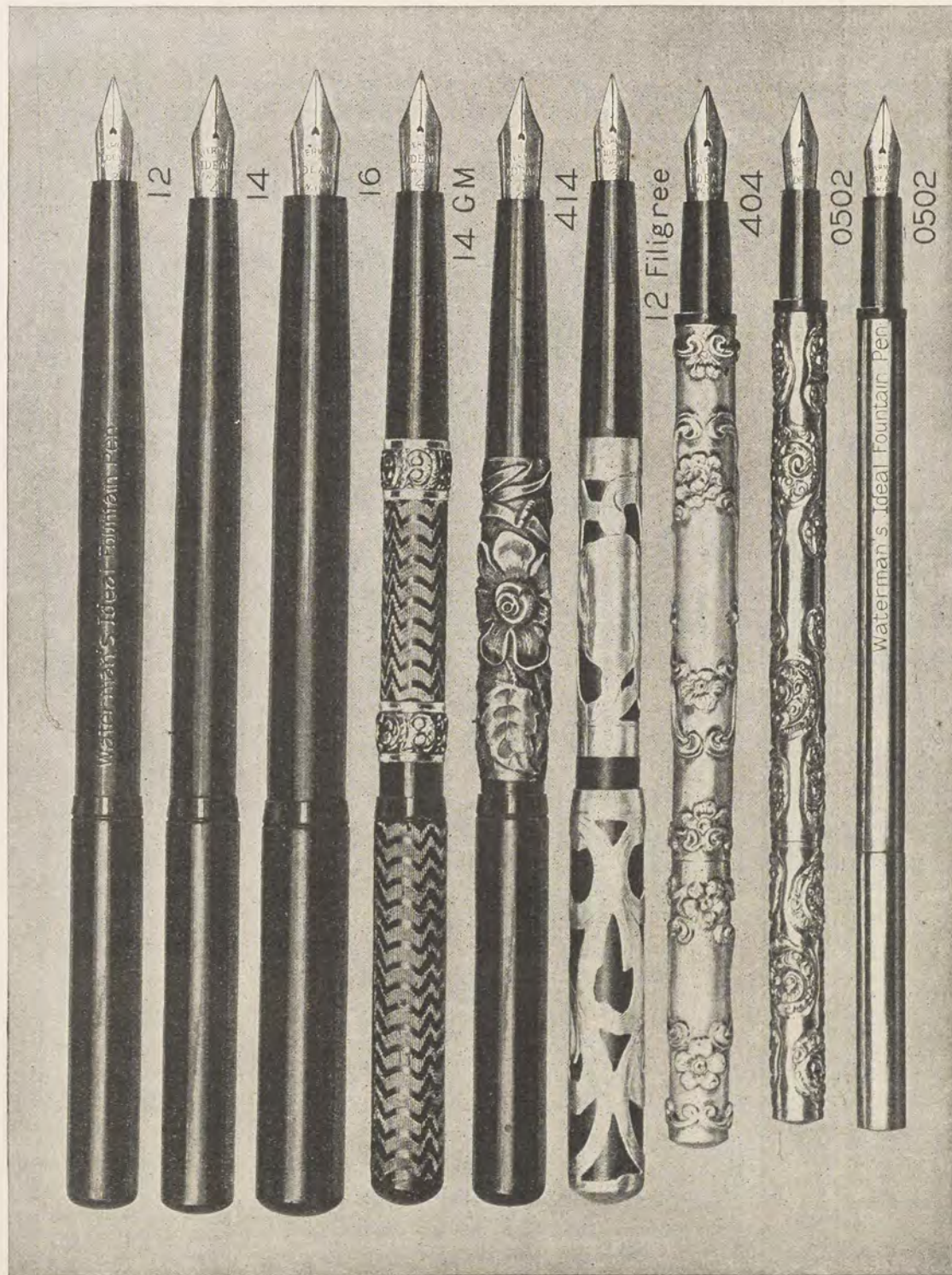
the statements made. There are very few people, indeed, who would risk a watch with a "botch" repairer for any inducement in charges for the work, and herein lies the cue for good repair advertising.

The third advertisement has the same points of excellence as the other two. It inspires distrust of the fakir and confidence in the jeweler. Indeed, the jewelry business is almost entirely a matter of confidence, a fact which the writer of the advertisements should always keep in view.

It will be noticed that Mr. Keck uses in his space an abundance of good reading matter, an excess some may think. But all of us know how carefully the town weekly is

Waterman's Ideal Fountain Pen

is the noblest gift of all, because it makes earnest Thanksgiving the year round. Jewelers will do well to lay in a large stock for the Christmas and Holiday trade, as the demand for Waterman's Ideal is constantly increasing.



Display
show case
loaned, and
suitable
advertising
material
furnished.

Our pens
are made in
other
handsome
designs,
both in Gold
and Silver.

Those who use it constantly affirm there is no other satisfactory pen. Those who sell it make a handsome profit. It makes pleased customers, the kind that always come back. Write to-day.

L. E. Waterman Company,
173 Broadway, New York.

Opal-Hunting in Australia



THRILLING ADVENTURES OF LAPIDARIES IN SEARCH OF THE FIERY GEMS.

OUR representative in Sydney, New South Wales, has favored us with a thrilling story of adventures of W. G. Jira, leading lapidist of that city, who recently returned from a trip to the Queensland opal fields. The story is interesting, as showing to what extent man will go to obtain precious stones.

Mr. Jira left Sydney by steamer for Brisbane, and from there took train for Cunnamulla, situated some 620 miles southwest of Brisbane. Cunnamulla is the railway terminus, and Mr. Jira goes on to say that he and his friend had to proceed from there on their bicycles to Euromanga—a run of about fifty miles.

“From Euromanga we started out again after a short stay, and crossed the Paroo River, which at that time was very nearly dry owing to the long drouth, but we experienced a very different sensation on recrossing this river on our return, heavy rains having occurred in the meantime. From the Paroo River we made our way to the Yowah opal mines, situated about forty miles farther on. The country is not altogether ideal for bicycling, as we repeatedly had to walk seven or eight miles through loose sand, while the entire district was parched and dry. We had intended to come via Duck Creek to Toomfine, but the rain had preceded us here, and poured down in such copious quantities that all hopes of taking this route were out of the question, so we headed for Thargomundah, which is sixty miles from the Yowah fields, where we spent one night, and the following day we started on our longest stretch of 128 miles to Euromanga, our modes of conveyance being our ‘bikes’ or legs. During the whole of this distance we met only two persons and passed one ranch, there being nothing of interest the whole way. We came across long stretches of unridable sand, and the water was pretty plentiful in holes up to within about thirty miles of Euromanga, where our water bags gave out, and we had to suffer a thirty-mile perish over some of the roughest and sandiest portion of the journey. My friend became totally exhausted owing to the excessive heat—registering 118° in the shade. At one time he gave out entirely, lying stretched on the ground, foaming at the mouth, and it was with the greatest difficulty that we managed to crawl into Euromanga.

An Opal Mining Town

“Euromanga we found consisted of one store and one hotel and a population of about seventy people, all the dwellings being built of galvanized iron, with the exception of the hotel, which was of brick. Although it was Sunday, the store and hotel were both open and in full fling. This spot is opal-bearing country within a radius of about 100 miles, and would now be turning out great quantities of opal were it not for the great want of water. Here every miner is on his own, and only exists on the hope in his breast of better times ahead. The outlying water holes we found surrounded by hundreds of dead cattle, many of which were evidently drowned in the holes, being too weak to crawl out after wading into the mud, and the water is poisoned in consequence. After leaving Euromanga we started for Monkeykola Camp, where our troubles began

again, being without tea or sugar and with only a crust of bread between us. On the second night before reaching this camp, about ten o'clock at night, we struck a water hole and were only too glad to lay down and drink our fill. We soon, however, discovered our mistake, starting to vomit most severely, finding afterwards that the water hole was full of dead cattle and the water poisoned, as was the case in the former instance. Our condition at this time was very serious, indeed, but we struggled on to the camp where we obtained some small comforts in the way of tea, sugar and damper—the latter being bread made of flour and water, and baked in the ashes. Here we secured our first parcel of opals, and after a stay of a day and a half made a move on our return to Euromanga. On the road back we met several miners and bought about £200 worth of ‘stuff’ from them. From this point we set out again for Thargomundah, and between here and Yowah our ‘bikes’ completely broke down, the tires being torn to ribbons, with the inner tubes one mass of patches, leaving us to do the remaining eighteen miles on foot, and on arrival at Yowah we were fortunate enough to be able to hire an open wagonette drawn by two horses. We found this district on our return in a totally different state to what it was when we first passed through, the rains having brought on the grass in the usual phenomenal way in Queensland. The two horses we drove were in such fine condition that anyone would have been proud to drive them.

A Thrilling Experience

“We camped alongside Yowah Creek, but in a couple of hours a terrific downpour set in—the water seeming literally to fall in sheets—and we had the lightning on three sides of us. We very quickly realized that we must make a move, but before we had finished getting the horses into the wagonette the water was up to our hips, and we had to make all haste for higher country. We contracted with the driver to take us on to Cunnamulla, but on arrival at the Paroo River he would go no farther on account of the volume of water rushing down, but being determined not to turn back we at last decided to float our goods and chattels on logs and swim the river as best we could. This we negotiated successfully and then set out for Euro, where we had to wait for the mail coach, which was delayed many hours owing to the heavy rains which had set in. Even now our troubles were not over, as when crossing the Bell Creek the water came up to our middle in the coach, the horses repeatedly having to swim. We arrived at Cunnamulla on a Thursday morning after having no change of clothes for a fortnight. After having a bath and securing a change of attire, I had only just time to catch the train for Brisbane, and, therefore, was forced to turn the coach into a dressing room for the time being in order to put on the fresh, new clothes I had just procured. My friend did not accompany me thus far. He remained behind to obtain medical assistance.

Thrilling Memories of the Trip

“Looking back on the trip, with its salt lakes, stray blacks, dead cattle, mirages, etc., it seems more like a dream than reality, as the trip down in the boat enabled me to pick up some of my usual health, but I never want

to experience again the few terrible hours of agony I spent at one time during the trip when I thought myself lost in the bush. I had ridden on ahead of my friend, and being no bushman, got off the track into the thick scrub and discovered myself lost. I at once started into shout and ‘coo-ee’ in the usual bushman style, but owing to the quantity of dead timber and density of the atmosphere, the sound carried little or no distance. I then unslung my rifle and fired shot after shot to attract my friend, but the report of the rifle sounded little more than the clap of hands. However, after some three hours of great anxiety, my friend got on my track, and we proceeded on our journey, taking no further chances.”

Umbrellas as Lightning Rods

The astounding tension of natural electricity and the smallness of the quantity are the despair of electricians who attempt to utilize the forces present in our atmosphere. At the same time it is to these two conditions that we owe the surprising variety of effects produced by lightning, and the interest which we find in observing these effects. The editor of *Cosmos*, for example, recently received from one of his correspondents a letter stating that not long ago, while walking through a snowstorm with an umbrella raised in front of him, he received clearly perceptible shocks of electricity through the steel ribs.

This phenomenon is all the more interesting as it is easy to explain it with the aid of known and observed facts. For a long time it has been known that during falls of snow one frequently sees, when the storm takes place on moonless nights, flashes of light denoting the presence of a large quantity of positive electricity. When the snow is blown by the wind and falls through dry and cold air the rubbing of the crystals on the air suffices to produce the phenomenon. This theory is confirmed by aeronauts, who state that the spontaneous combustion of balloons, which frequently occurs when they reach the earth, is due to the electricity developed by the rubbing against the air of the moving envelope while it descends. A recent catastrophe in the Alps also proves that an abundant fall of snow is accompanied by intense electrical phenomena.

The *Times*, in one of their recent issues states that seven students of the University of Geneva were overtaken by a snowstorm in a cabin on the Aiguille du Gouter, in which they had taken refuge. They ridded themselves of all articles of iron which they had about them, but notwithstanding this, four of them were struck. After this terrible example the appearance of the sparks noted by the correspondent is not surprising.

The experience described by the writer is identical with that which is experienced in all similar cases. The silk of the umbrella may be considered as a protecting veil capable of arresting the effects of electricity if the interior is not wet. In this case an effect is produced similar to that experienced by aeronauts. We need not be the apologist for umbrella lightning rods, which would seem to be the logical ending of this article, but it is interesting to recall that this invention was once considered by Benjamin Franklin.

Mercantile Fountain Pen

In many new styles, in cabinet and show case assortments.

No. 3 A retails \$2.00



ACTUAL SIZE.

STERLING SILVER PENCIL HOLDER.

The daintiest and most useful pencil holder yet made, and in the most convenient shape—nearly flat, in reality an oval flat.

Retail price—
Plain \$1.00
Chased 1.50
Decorated Pattern, 2.00

Manufacturers and Exporters of

Made and warranted by
AIKIN, LAMBERT & CO.

Nineteen Maiden Lane, NEW YORK.

GOLD PENS, PENCILS, TOOTHPICKS and NOVELTIES.

General Agents of PAUL E. WIRT.

ENGRAVED WEDDING INVITATIONS.



Largest Plant in the Middle States.

Established 1865

Just now is the season when the live, wide-awake jewelers look into the matter of preparing for the fall crop of wedding, reception and every other kind of society stationery and put themselves in touch with a first-class engraving and stationery house who can easily and promptly take care of their wants in this line. This is where we come in, for we know just how to help out the live dealer in this particular. Let us tell you how we do it.

WM. FREUND & SONS,

174-176 State Street, CHICAGO.

Also Makers of Every Size and Style of

Gold Pens, Pen Holders, Pencils, Toothpicks, Thermometer Cases, etc.

Catalogues Free.

THE JOHN HOLLAND GOLD PEN CO.

Established 1841.

127-129 East Fourth Street, Cincinnati, Ohio.

JOHN HOLLAND FOUNTAIN PENS

Fitted with New Patent Elastic Fissured Feed (Pat. July 1, '02).

Incomparably the Best Fountain Pen Made.

Trays, show cases, etc., furnished gratis to dealers.



THE "WRIGHT" WRITES RIGHT.

That is the sole reason why it is the best seller and most popular Fountain Pen made.



This Solid Oak Show Case free with first order for \$10.00 to \$15.00. Style B Oak Case, with space for 18 pens and drawer for boxes, free with first order for \$20.00 or more.

ELEGANT CATALOGUE, ILLUSTRATING OVER 100 PATTERNS, FREE ON REQUEST.

WE HAVE A WINNING PROPOSITION that will enable you to more than double your fountain pen sales. It is a plan which interests every man, woman and school-child in your community, and will not only increase your fountain pen profits surprisingly, but will give you the best local advertising you ever had. A postal card with the words "Pen Proposition" written thereon will bring you complete information. It will pay you to write us by return mail.



No. 30. \$7.50 per dozen. 14 K. Solid Gold Pen. Assorted Holders—Black, Mottled and Chased.



No. 30 M. \$12.00 per dozen. 14 K. Solid Gold Pen. Plain or Chased Holder with 18 K. G. F. Bands.



No. 82 F. C. T. \$60.00 per dozen. 14 Solid Gold Pen. 18 K. Gold Filled, Full-Mounted Holder, Beautifully Hand-Chased.

Wright Pen Co.,

614 Locust Street,

ST. LOUIS, MO.

THE "RIVAL" FOUNTAIN PEN

PATENTED FEBRUARY 14, 1893

is the best value for the money that has ever been offered to the public.

SPECIAL No. 1, plain and chased, assorted, \$7.50 per dozen, net cash.

A HANDSOME PLUSH TRAY, holding twelve pens, given with every purchase.

Send for catalogue. Export trade solicited. Send for prices and discount to the trade.

Ask your jobber for the "RIVAL" Pen.

All pens are 14 K. gold. Every pen warranted.

Members of National Association of Manufacturers of U.S.A.



No. 1. Plain. Large Cap.



Our New Nail File. The best selling 25-cent novelty on the market.

D. W. BEAUMEL & CO.,

Office and Factory,

All makes of Fountain Pens and Gold Pens Repaired.

45 John St., New York City



The Approaching Holiday Season and the Stationery Department

AUTUMN brings its suggestions for holiday trade, and the jeweler-stationer who has not made his preparations for his stationery counter ought to do so at once. These preparations, while not large, perhaps, are of constantly increasing importance and require increased attention each season. It is frequently a question of knowing what is in the market, and this portion of the subject should be attended to at once, if it hasn't already been. Trade waits for no man to get ready after the season for a certain variety of trade opens. It is, then, absolutely essential to be ready long enough in advance so there will be no delay when the season opens.

Manufacturers of stationery and stationery supplies appreciate this, and are yearly getting their lines ready earlier. Some lines for the fall and winter trade were on the road in May. Traveling men were showing the holiday line of papetries and correspondence papers in the South and West as early as May. This same firm subsequently withdrew more than half the number originally sent out, because the boxes were exhausted. Another firm sold more than it sold all of the corresponding season last year before July 15th. These two instances, which illustrate the trend of trade tendencies in stationery, should be sufficient suggestion to the jeweler-stationer to do his buying early.

There will be considerable opportunity for tasteful selection this fall for those who have not already bought. One large firm has nothing but imported boxes. They were all made in Germany and their decorations are real metal and leather. Some of the leather decorations are beautiful, but the real bronze and copper decorations are among the finest goods of the kind ever shown.

Other boxes prepared by this same firm are imitation leather and metal, and are almost as elegant as the real goods. Sales of these goods have been remarkably heavy. A good many numbers are already exhausted and only early buying will secure any of what are left. Long before the holidays begin there will be none of these beautiful boxes obtainable.

The line of another large firm, largely composed of medium-priced goods, has much to commend it to a stationer who has a class of trade that doesn't care to expend the larger sums for such goods. There are such people

in every community, whether large or small. They want moderately good stock, but they want it at a moderate price. As this class of trade is by far the larger in most communities, it is wisdom to secure a fair supply of the best quality of the moderate-priced goods for their benefit. It isn't necessary to stock your store with it. Only have enough for the people who will not buy the higher-priced articles.

Push the Good Goods

But even though you provide a quantity of goods particularly for this class of custom, always show them your best goods first. Frequently they will buy the higher-priced goods, even though they expected only to buy the usual moderate-priced varieties. Suggestion of this sort is sometimes the most profitable part of salesmanship, especially in the case of small articles like stationery. And it is, indeed, poor salesmanship to permit these customers to leave the store without making a few educational suggestions regarding buying stationery. Much of the desired increase in trade can be obtained in this way. This scheme is not practiced enough, but as long as there is improvement, as has been suggested, there is no reason for complaint.

The boxes of stationery manufacturers are especially beautiful this year. No pains or expense has been spared to make them the best things of the kind ever produced. There is no danger in stocking moderately heavy with them, because the boxes will sell the goods and are salable without the goods at any time. Moreover, the decorations are such that they are suitable for gifts at any season, and they are useful beyond their capability of holding paper and envelopes. Manufacturers have seen, in some instances, the additional attractiveness which arises from having the box blank, not an advertisement for a manufacturer or a dealer, and they have acted accordingly. The result is some very artistic work, which is very pleasing to the ladies.

No jeweler-stationer ought to purchase stationery which bears the imprint of the manufacturer. All stationery of this sort should have the dealer's own name on the boxes, or there shouldn't be any name on them. The beneficial effects of the advertisement are problematical, but that there is some benefit is probably true, and whatever the proportion of that benefit it ought to belong to the stationery department of the jeweler's business.

The Jeweler's Opportunity

With business prosperity at its highest, there is no reason why any jeweler shouldn't do a large business in the better varieties of stationery in his department. As has heretofore been suggested in this column, the department should not be large. But it should be representative, and it should contain a fair quantity of the best the market affords in stationery. In every town of 2000 or more population there are several stores which sell stationery, but it is almost safe to make the definite assertion that the quality of this stationery is not up to the standard required by a larger proportion of well-to-do families, and those people are looking for some place to trade. They want good stationery. They

are willing to pay the price if they can get what they want. They are not willing to pay the outside price for some of the stuff which has been showered upon them by manufacturers and dealers, but because it is impossible to buy anything better they take an inferior article, one which seems to them inferior, and let the matter go, declaring that when they go to a larger place they will purchase a quantity of good stationery. And frequently they do. That means so much trade lost to the town merely because the dealers are not willing to invest a little money in the better class of goods.

The question of quantity will trouble the jeweler-stationer until he knows about what his trade will buy. When beginning, there is no question but that the quantity purchased by customers will depend largely upon the personal solicitation of the salesmen in the store. Whatever questions may be asked, they should be answered accurately and pleasantly. It is a question of building up a trade, and even though it is in small articles and the whole thing seems small, the profits are relatively large; because there is no waste, and there is no reason why the department shouldn't be extremely profitable.

Much Depends on the Salespeople

The attention of every lady who enters the store to buy jewelry ought to be called to the stationery department. It is ladies who will buy in it principally, and they are the ones to whom you should give the information regarding the elegance and beauty of the new goods; and you should not, under any circumstances, permit anyone to escape without seeing a little of it. The probability is that when the customer wants paper next time she will go to you.

Keep your lines full. Never let them run down to two or three numbers. It isn't so disastrous to remove a number entirely from the line as it is to keep only a few on hand, particularly if the number is a popular one. There are some numbers which will sell to the exclusion of everything else. It is sometimes impossible to keep the stock full, and then it is likely that just as arrangements have been made to secure all that are wanted, the manufacturer or importer runs out. A box that is popular with you, will be popular almost everywhere else that similar customs prevail. It becomes, then, sometimes a problem to get hold of some article or box that will lead the line, and secure sufficient to hold out. Popular lines are dangerous, because they sometimes leave you in extremely bad situations.

Retailers, as a rule, furbish up their windows and display cases and counters, and place new goods which may be rapid sellers upon these particular pedestals. It is the same with you. There is no reason why you shouldn't do something to emphasize your excellent articles and make them all the more attractive.

The main feature of the business now is the preparation in time for the fall and holiday trade. Get about it early. See that the work is done well and in ample time. The idea is to run your stationery department just as you run the rest of your business—for profit, and it can be made an important profit-yielding feature if intelligently conducted.

1542
NEW

NEW



FERNERIES,
All prices and sizes.



4 cents each.



LATEST

Sprays, Plants, Trees, Vines,
LATEST Fall Grape Vines, etc.

in every genus will be shown in my Catalogue No. 2.

FRANK NETSCHERT, 34 Barclay Street,
NEW YORK.
NO BRANCH OFFICES.

Learn to Engrave!

At a School where practical engraving is taught in all its branches.

At a School whose graduates are always in demand.

At a School which is established and is recognized by the Jewelry trade in this country and abroad.

At a School where instructions are given by and under the personal supervision of Mr. Richard O. Kandler, who is recognized as foremost authority on Engraving; who studied under the best masters of Europe and America; who is the founder of the first exclusive Engraving School in this country, and is still at the head of the Jewelers' School of Engraving, established in 1889. Terms and catalogue on application.



CORRESPONDENCE SOLICITED.

The Jewelers' School of Engraving,
Suite 1117 Masonic Temple, CHICAGO.

CLEAN-TO-HANDLE

MOORE'S NON-LEAKABLE FOUNTAIN PEN

CLEAN-TO-CARRY

CLEAN-TO-FILL

UNLIKE ALL OTHERS

Guaranteed to write freely at first stroke.

INKY FINGERS

ARE NOT PLEASANT and a good fountain pen is appreciated. Designs from the most elaborate gold chased barrel to the modest plain rubber. All pens shipped filled ready for use.

Send for Catalogue

AMERICAN FOUNTAIN PEN CO., 168 DEVONSHIRE STREET, BOSTON



Patented April 7, 1903.

Something New for Watchmakers

TWAMBLEY'S LITTLE GEM CENTERING DEVICE.

Every watchmaker should have one, as you can center perfectly any balance staff or pinion in a watch in five seconds. Every tool made from the best of steel and finely tempered. Will last a lifetime. For sale by all leading material houses, and by

S. G. TWAMBLEY & SON, Biddeford, Me.

Sent by mail on receipt of price. \$3.00, with full directions.

Foot-Power Lathes.

High-grade tools { Correct in principle.
Elegant in design.
Superior in construction.

The Best Foot-Power Lathes Made.

This cut represents our No. 4 Lathe, which is admirably adapted for the heavier work of watchmakers and jewelers. Send for our Catalogue.

We also make a line of Screw-Cutting Lathes for Bicycle Repairing.

W. F. & John Barnes Co.,
660 Ruby Street, Rockford, Ill.



Mainspring Satisfaction.

A cheap mainspring is a poor investment. No good watchmaker will use them. When a spring breaks your customer is dissatisfied and you lose the time in replacing it and your reputation for doing good work. You can remedy this by using

TIDD'S RED CROSS SPRINGS,

which are guaranteed against breakage. Out of over 100 gross sold last year we only replaced 27 broken springs. Our price is only \$1.00 per dozen or \$11.00 per gross. Each spring guaranteed. Try a sample dozen.

Tidd & Co.
Columbiana, Ohio.

High-Grade Artificial Pearls.



\$15 per doz., asstd.



Solid 10 K. substantial mountings.

Special value.



SIGNET Rings

A Specialty.



Selection package to dealers of mercantile standing.

Assortment 1486.

L. Witsenhausen
37-39 Maiden Lane,
N.Y.

Factory, 52 Maiden Lane.
Chicago, 405 Masonic Temple. L. Katlinsky.

The Planet we are Living On

Some Curious Scientific Deductions as to the Atom of the Universe we call the Earth

HARDLY any two scientists agree as to the age of the earth—that is, as to the length of time which has elapsed since the earth's crust became solid. Considering the very slow rate at which rocks are deposited by water, and the immense thickness of the beds of these "stratified" rocks as they are called, it seems that at least 1,000,000,000 years have passed since the globe evolved in its present shape out of the whirling mass of incandescent matter which it must once have been.

But Lord Kelvin, arguing from the known rate of loss of heat, declares that not more than 100,000,000 years is the limit of time which has passed by since firm rocks appeared and life began upon the earth. More recently Prof. Tait has shown reason to believe that a tenth of Lord Kelvin's estimate may be nearer the truth. All geologists, however, declare that the latter's estimate is too low.

The Weight of the Earth We know with the utmost exactitude how heavy our little world is. If you put down the figure 6 and follow it by twenty-one naughts, you have it within a very few million tons. Roughly speaking, this implies that the earth is five and a half times as heavy as a globe of water of the same size.

But, in spite of this accurate knowledge of the earth's weight, we have no real idea of what is the condition of things inside our planet. Thousands of experiments made in all parts of the world show that the temperature rises on an average about one degree for every sixty feet below the surface. If this rate of increase continues regularly toward the center, that part of the globe must be at a heat so appalling that imagination is unable to grasp it. When this fact of increase of temperature with depth first became ascertained geologists got the idea that we were living upon a furious furnace, of which volcanoes were the escape pipes.

Now we know better than that. We have found, among other things, that an earthquake in Japan is able to register itself in England. This actually happened in the case of the disaster in North Japan four or five years ago when 30,000 people lost their lives. A tremor of this kind could not pass unless the earth had a rigidity approaching that of steel, and observations of tides and the attractions exercised upon us by sun and moon have made it pretty certain that our world is just about as hard and solid as so much steel.

A Solid Interior This does away with the liquid interior theory and makes it fairly certain that the earth is solid all through, with perhaps occasional accumulations of fluid rock here and there in parts where, for some reason or other, the pressure is not so great as it is in others.

It also upsets the old theory of volcanoes, and the modern idea with regard to these mountains of death and destruction is that water from the surface finds its way through a few miles below the surface, and then, being suddenly turned into steam, causes an explosion, or series of explosions, like boiler burstings on a gigantic scale.

Every schoolboy knows that the shape of the earth is an oblate spheroid—that is to say, that it is flattened a little like an orange at the two poles. The polar diameter



of the earth is actually twenty-seven miles less than its diameter at the equator. But it is as yet not absolutely ascertained whether the flattening is similar at both poles. Some Arctic explorers appear to be of the opinion that the flattening is greater at the North than at the South Pole.

Another rather startling fact which has recently been demonstrated is that the equator is not a perfect circle. If you could drop a plumb line from Ireland through to New Zealand it would be somewhat longer than another which cut the earth at right angles to it. The difference has not yet been ascertained with absolute accuracy.

Mountains of Water We are accustomed to talk of sea level as an invariable quantity. It is positively startling to find how very far from level the sea is. Not, of course, merely from the passing influence of tides and winds, but there are great and permanent elevations in the sea—positive mountains, in fact. It is calculated that in the Bay of Bengal the water lies at a level exceeding that of the Indian Ocean by fully 300 feet, and that of the Pacific Ocean along

the coast of South America may be heaped up as much as 2000 feet higher than the water in the opposite Atlantic. These water mountains depend upon the attraction of great mountain masses, the Bay of Bengal upon the Himalayas and the South Pacific upon the American Andes.

The height of our highest mountains has been measured to within an inch or two, and we have accurate information on the subject of the great depths of the sea. But we do not yet know with any certainty how deep is the atmosphere envelope of the earth. At one time twenty-seven miles was given as the limit. This was increased to forty, and soon even this estimate was extended to 100.

Our only means of measurement is by the meteors, which spring into an incandescent blaze through friction when they strike our atmosphere. As man cannot live at a much greater height than five miles, it may be that we shall never learn exactly how thick is the atmospheric ocean at the bottom of which we crawl.

Greatest Organ in the World

According to the *London Express*, the greatest organ in the world has just been installed in the cathedral at Seville. It was built by a Spaniard, Senor Aguilino Amezua, and is of truly gigantic dimensions. There are four metal flute stops, each sixteen feet long, such as no other organ in Europe possesses. It is also the only organ which has bass-bourbons which give thirty-two vibrations a second and produce a deeper tone than the organ in Murcia, which has hitherto been the deepest-toned organ in the world. There are altogether 200 independent stops and five bellows worked by electricity. The cost was \$50,000.

Conscience Pianissimo

You are honest as daylight. You are often assured
That your word is as good as your note—unsecured.
We could trust you with millions unaudited, but—
(Tut! tut!)

There is always a "but,"
So don't get excited I'm pained to perceive
It is seldom I notice you grumble, or grieve,
When the custom-house officer pockets your tip
And passes the contraband goods in your grip.
You would scorn to be shy on your ante, I'm certain,
But skinning your Uncle you're rather expert in.

Well, I'm proud that no taint of the sort touches me
(For I've never been over the water, you see.)

Your yardstick's a yard and your goods are all wool
Your bushel's four pecks and you measure it full.
You are proud of your business integrity, yet—
(Don't fret!)

There is always a "yet,"
I never have noticed a sign of distress or
Disturbance in you when the upright assessor
Has listed your property somewhere about
Half what you would take were you selling it out.
You're as true to the world as the world to its axis,
But you chuckle to swear off your personal taxes.

As for me, I would scorn to do any such thing,
(Though I may have considered the question last spring.)

You have notions of right. You would count it a sin
To cheat a blind billionaire out of a pin.
You have a contempt for pettiness, still—
(Don't chill!)

There is always a "still,"
I never have noticed you storm with neglect
Because the collector had failed to collect,
Or growl that the game wasn't run on the square
When your boy in the high school paid only half fare.
The voice of your conscience is lusty and audible,
But a railroad—good Heavens! Why that's only laudable.

Of course, I am quite in a different class;
For me, it is painful to ride on a pass!

—E. V. Cooke, in *Saturday Evening Post*.

Quality is the
redeeming feature
of Bassett Goods.
Sold direct to the
Retailer.

The
Bassett Jewelry Co.
Manufacturers' Building,
Providence, R. I.

NEW YORK OFFICE, 37 Maiden Lane.
CHICAGO OFFICE, Masonic Temple Safety Deposit Vaults.
SAN FRANCISCO OFFICE, 120 Sutter Street.
MINNEAPOLIS OFFICE, 1116 Lumber Exchange.

ALWAYS ASK FOR THE **B.B.**  **MARK** **B.B.**  **MARK** **LOCKETS, CHARMS AND FOBS**



Bliss
Brothers
Company,

ATTLEBORO, MASS.



Our quality is the highest.
Our designs the swellest.

New York Office:
13 Maiden Lane.

Ask your travelers and jobbers for these goods.

Chicago Office:
103 State Street.

SEND FOR CATALOGUE OF **MASONIC** AND OTHER SECRET SOCIETY CHARMS, JEWELS, RINGS, BADGES AND LAPEL BUTTONS.

SEND FOR CATALOGUE OF **COLLEGE BADGES** CLASS PINS AND SCHOOL MEDALS.

The G. G. Braxmar Co.
Manufacturing Jewelers
NO 10 MAIDEN LANE
NEW YORK.
BADGES & MEDALS
A SPECIALTY.

SEND FOR CATALOGUE OF **MILITARY G.A.R. ATHLETIC, SHOOTING AND SPORTING MEDALS.**

SEND FOR CATALOGUE OF **FIRE AND POLICE DEPARTMENT** AND OTHER OFFICIAL BADGES.

Items of Interest

L. W. Levy, the New York importer, has left for Europe to secure the latest novelties and new samples for his next spring line.

Oliver H. Watts, assistant in the jewelry store of E. H. Klahr, at Middletown, Pa., was married recently to Miss Maud Guild Barton, of Bloomsburg, Pa. The ceremony was performed at the home of the bride's parents. THE KEYSTONE extends congratulations.

William S. Tiffany has recently gone with Wm. Weidlich & Bro., St. Louis, Mo., as a traveling salesman and will cover Western and South-western territory. Mr. Tiffany hails from Boston, Mass., and the trade will find him a man of business and a pleasant gentleman to meet.

H. L. Hall, formerly of Hall & Co., Muncie, Ind., has taken over the management of Hall & Co., Rockville, in that State. He has remodeled and improved the latter establishment, making it a handsome and thoroughly modern place of business. The store is an unusually commodious one.

J. J. Mugnier, for the past thirty-seven years employed as watchmaker with the late H. P. Buckley, of New Orleans, La., and who has been a resident of New Orleans for over half a century, will continue to do repairing at his new address, 204 Camp Street, Room 409. He extends a cordial invitation to the visiting trade to call on him in his new quarters.

Louis H. Nathan, the Australian director of S. Hoffnung & Co., Ltd., who have offices in New York City, London, England, and Australia, will arrive in this country the early part of October and will visit the manufacturing jewelers in the Eastern States in the interest of the export trade. This concern are among the largest distributors of jewelry and kindred lines in Australia, and already have connections with a great many of our manufacturers, whose goods they handle in that country.

We regret to announce the death of Wilhelmine Pflieger, daughter of Louis Pflieger, jeweler, of Trenton, N. J., which occurred September 6th. Deceased had only attained her eighteenth year, but was well known to many in the Eastern trade through having assisted in her father's store for a year and a half as saleslady and bookkeeper, in which latter capacity she was especially proficient. Her loss is severely felt by her father and the other members of the family, with all of whom the deepest sympathy is felt.

Jeweler Frederick Wm. Haury, of Helena, Ark., was stricken with malaria fever some time ago and after he had almost recovered he experienced a relapse. Before further serious developments he went to his old home at Carleton, Nebr., but while there it was deemed advisable to summon his wife. While en route to her husband's bedside, accompanied by her brother, the pair came through two railroad wrecks, from one of which their escape was exciting. A railroad bridge had been washed away in Kansas by a swollen river, and after the smash up had occurred they were attempting to cross the river in a skiff when they were upset by colliding with a log. Mrs. Haury was brought safely ashore, however, by her brother and they proceeded to where her husband was staying. He has almost fully recovered from his sickness, and will return via St. Louis to finish his purchases for the holiday trade.

H. F. Keller & Sons, Appleton, Wis., recently had an interesting and valuable display of jewelry in their show window. The display included a solid gold watch, a diamond-set locket and a diamond ring, which articles have since been presented to Brother Clement by his fellow-members of the staff of the Quaker Medical Institute of Minneapolis, on the occasion of the twentieth anniversary of the founding of that establishment. These articles cost about \$1000 in all and formed an attractive feature in the show window of the Appleton firm.

Val. Bergen, who has been representing the J. D. Bergen Co. on the road for the past two years, has gone to the factory at Meriden, Conn., where he will act as superintendent in place of Thomas Niland, who has gone into business for himself at Meriden in the manufacture of plateaus. Mr. Bergen is well equipped for his new duties, as he is a practical glass cutter, having served a thorough training at the factory previous to his taking up the duties of a salesman. In fact, all the Bergen family on the male side are practical glass men, in all branches, which no doubt accounts for much of the company's success.

Art of Letter Writing

"The difference between the business courtesy of to-day and that of my boyhood," said a corporation lawyer in New York, "was impressed upon me the other day by a letter which my boy received from a big concern in this city.

"My boy is ten, and in his way something of a mechanic. He has been building something out in the back yard that he calls a house. He wanted an article in his work which he couldn't buy in the neighborhood. He learned of the concern that manufactured what he wanted and he sent in an order for it, accompanied by the cash.

"The letter of the concern in reply fell into my hands, and to read it you would think my boy had sent in a big order and check. The letter thanked the boy in the most approved commercial form, and closed by saying that the concern trusted the article would prove satisfactory and hoped that it might have further orders.

"I showed the letter to the young man, and he was somewhat surprised. He blushed to the roots of his hair.

"I told him that it was all right, but I was anxious to know what he had ordered. He told me, but I don't really remember what it was. I was mostly interested in knowing the amount of cash he had invested. Then he showed me the bill. It was for two cents.

"If the amount had been a thousand dollars the letter of the concern could not have been more courteous.

"Then I recalled an incident in my boyhood—a letter I had sent a somewhat noted author and professor of that time, and his reply.

"I had witnessed the first aurora borealis of my life, and was very much impressed with its startling beauty. In spite of some inquiries of my teacher as well as of my parents as to the cause of the auroral display, their answers were too scientific for my mental grasp.

"I had at the time a certain work on natural philosophy by a certain A. M., and I wrote him, asking him to explain what I was curious about. I also stated in my letter that his book was a part of my curriculum.

"In reply he called my attention to page —, paragraph — of his book and added; 'You can-

not have studied my book to much advantage or you would have learned the cause without writing to me about it.' He also added that a letter requiring a reply should always be accompanied with an enclosed stamp.

"His letter, to my youthful mind, honestly reaching out for information, was not only a disappointment, but almost brutal. He was right about the stamp. In those days, however, it was not so customary as it is now.

"You may say that the letter from the concern to my boy was courteous because the concern was expecting other orders and more cash, while my letter to the college professor was an incursion upon his time, and that it cost him two cents to reply to it. The principle and the result are the same, as I will show you.

"The letter of that professor caused my father to send me to another college, for he said he would not be the patron of an institution that would have as a member of its faculty a man who could not or would not courteously answer a letter, and especially when the letter was one in which the writer was honestly seeking information.

"I think that too many letters are written. But the art of answering a letter is one that needs cultivating. Somebody once said that there are times in a man's life when a decision decides his whole destiny. There are times, also, when the way in which you answer a letter means much to both parties to the correspondence."

Helpful Hints to Housewives

To prevent flannel from shrinking, put it away in a drawer. Do not keep on going to look at it, as the shrinking habit is often due to nervousness.

As soon as a skirt shows signs of wear round the pocket, remove the pocket. You will in time get used to the change, and be brighter without it. Another good plan is to remove the skirt.

To try if eggs are fresh, drop them into a deep bucket of pure water. If fresh, they will at once sink to the bottom and break.

Warts may be cured by rubbing them for seven or eight hours a day with a piece of pumice-stone. As often as the pumice-stone is worn away, begin again with a fresh piece —Punch.

Cleanliness in the Studio

Photographic studios, as a rule, are by no means patterns of cleanliness and general tidiness. Some few of the higher class ones are, it is true, but in the majority of cases the middle and lower classes are just the reverse. The apparatus is often lacking in polish, the furniture more or less dingy, and the compo accessories, where they are used, chipped, and too frequently dusty, while the blinds are dirty and stained. This state of things usually comes about so slowly, and the owner has become so familiar with them, that he fails to realize the real state of affairs. Not so with strangers, however, who see the place for the first time. They are at once impressed with them, and not always favorably. It is true, this makes no difference in the quality of the work turned out, but too frequently the sitter may have misgivings on the point, and that may influence the expression during the exposure.

"Would not do without *The Keystone* for ten times its cost."—H. A. Hubbard, Jeweler, Volun-town, Connecticut.

TWO POSTERETTES AND 29 BAGS OF GOLD

This announces the third annual Simmons Chain window-dressing competition.

Two posterettes and twenty-nine bags of gold tell the story.

To join in all you have to do is dress your windows with these posterettes, some Simmons Chains, and whatever else you choose.

Do it enough better than the rest to get in the prize-winner class and you are in a bag of gold.

But even if you lose you still have an attractively-dressed window, made doubly fetching by the posterettes, with which to draw the holiday shoppers.

So you see, win or lose, you come out ahead. That sounds paradoxical but it's true, for the very simple reason that it pays handsomely to dress your windows well at this season—it arrests the attention of the people who pass your store, it attracts many to your counters and it results in a surprisingly large number of sales.

Better join in. The posterettes are free for the asking. Here are the details of the competition:

A Bag of \$100 to the jeweler with the best window display.

A Bag of \$75 to the jeweler with the second best window display.

A Bag of \$50 to the jeweler with the third best window display.

A Bag of \$25 to the jeweler with the fourth best window display.

25 Bags of \$10 each to the twenty-five jewelers whose displays rank next.

The window display must be made between November 15th and December 25th, 1903, and shall be of not less than three days' duration.

Windows may be dressed with any class of goods the competitor desires, the only condition being that Simmons Chains, and the two posterettes of Simmons Chains we will supply free on request, shall form an important part of the display.

Photographs of the displays must be sent us on or before January 15th, 1904, with name and address of competing jeweler marked plainly on back.

Prizes will then be awarded by a committee of three, and as soon thereafter as possible an announcement of the prize winners, together with reproductions of the winning displays will appear in the *Jewelers' Circular-Weekly* and THE KEYSTONE.

R. F. SIMMONS CO.

NEW YORK,
9-13 Maiden Lane.

Attleboro, Mass.

CHICAGO,
103 State Street.

Largest Gold Mine in the World

Sold for \$435. Pays a Profit of \$6,000 a Day. Gold in Sight to Keep the Plant Working Day and Night for 20 Years

"Glory Hole" of Treadwell

The largest gold mine in the world is one of the things which has made the fame of Alaska. For many years the great Treadwell has paid its owners a profit of nearly \$6,000 a day, and there is enough ore left to keep their monster plant working day and night for probably twenty years to come. The man who discovered this extraordinary mineral deposit did not realize its value and sold it for \$435. Almost every schoolboy has heard about the "glory hole" of the Treadwell, but few of them know how it came to have that name. French Pete was the discoverer of the mine, which has already produced enough bullion to make seventeen million gold dollars. He was a small merchant in Juneau and had a hard time to make both ends meet. In the fall of 1881 he received a shipment of goods to replenish his stock for the winter. The freight charges amounted to \$435. Pete didn't have the money. A prospector by the name of Treadwell was panning along the beach, and Pete offered him the claim on Douglas Island if he would redeem the goods. Treadwell paid the freight and the mine has been called by his name ever since.

The property which changed hands by this deal contained the largest body of gold-bearing rock in the world—at least the largest that anyone knows anything about. There may be larger deposits, but they have not been discovered. The location of the ore is very favorable, being right at the water's edge, where steamers can tie up alongside the mills. A city block could be stood on end in the "glory hole." It is a monster pit where the ore has been lifted out in chunks, like building rock is taken from a quarry. Men working in the bottom of it look like flies crawling along. The thunder of the blasts, the clouds of smoke rising, the hollow voices of the men, all combine to make an effect so uncanny that it would not seem at all surprising if his Satanic Majesty, hoofs, horns and all, should bound out of the rock at your side, or come soaring up through the smoke from the depth.

Operations on Douglas Island

Douglas Island is twenty miles long and eight miles wide. Although the Treadwell is best known on account of the "glory hole"—many people supposing that to quarry is the only method of taking out the ore—the fact is that there are over sixty miles of tunnels under the ground. One of these extends out under the sea for nearly a quarter of a mile. No mules are used in the underground passages, the motive power being steam. On the surface there are six miles of track which run to and from the buildings, as well as inside of them, also along the piers. Numerous dummy engines push and pull long strings of little cars, making more fuss about it than as many moguls. It is the prerogative of a rooster to crow whenever it feels so disposed, and the engineer of a small locomotive thinks as much of blowing its whistle as he does of drawing his salary.

The Treadwell runs twenty-four hours every day of the year except Fourth of July and Christmas. The roar of its machinery can be heard a mile away. It takes two hundred tons of coal every day to keep the many wheels moving. There are eight hundred and eighty massive crushers, called stamps, each consisting of five heavy, upright bars of steel, that are lifted up to fall with terrific force on flat, hard plates.

The rock passes under these pounding bars and is smashed into dust. These noisy, powerful machines consume about 4,500 tons of rock daily. In order to keep the ore rolling into their insatiable mouths \$1,400 worth of powder is exploded in blasting every day. The amount of gold realized in every twenty-four-hour run is about \$10,000, and the expense of operating about \$4,000. The ore is very low grade—the

lowest in the world to pay such profits. It only averages \$2.65 per ton; but there is so much of it, and it is handled in such a wholesale manner, with such economy, that it runs fast into money.

Clean-up of \$139,000.

On the afternoon I was taken through the plant, says Fred-eric J. Haskin, a clean-up was in progress. A chunk of gold the size of an ordinary brick was brought into the office. The scales showed that its valuation was a few cents short of \$20,000. There were seven more in the lot and their total value was a little over \$139,000. Not long ago an excursion ship called at Douglas Island and a swarm of tourists, all eyes and ears, came trooping ashore. Some repairing was going on at one of the buildings, and a pile of old bricks obstructed the passageway. A gold brick was laid carelessly on this pile and a crowd gathered to await developments. "What a funny looking brick," said one woman. "See how yellow and smooth it is," said another. A man at her elbow—one of those cheerful persons who knows all about everything, or if they don't know, always pretend to—volunteered the information that it was "the effect of the weather." He said he had heard a good deal about it, and the farther north one went the more yellow and more smooth the bricks were liable to become. Her rejoinder would have silenced an ordinary liar, but he pulled out of it beautifully. "Why are not the rest of them that way?" she inquired. "Haven't been exposed long enough," he replied, and she seemed to be satisfied with the explanation. It is claimed that we all have a talent for something, and that man, with a little rehearsing, would certainly shine as the steering committee for personally-conducted parties.

On account of the Treadwell being so remote from civilization, it is necessary to maintain very extraordinary resources. There is a complete foundry where any piece of broken machinery can be immediately replaced; a fine assay office makes it unnecessary to send their ore away to determine its value; they maintain a modern hospital to care for their sick and wounded; so many people work in the mine that it supports a United States post-office of the third class; the company store has a stock of goods in it valued at \$110,000; the stock of iron and steel kept constantly on hand is worth \$50,000, and that of powder, \$40,000. The company store, butcher shop and cook houses are large departments, because the firm boards its men.

Employs Force of 1,500 Men

At present there are 1,300 men working in the Treadwell, and the force is two hundred hands short. There is such a mixture of nationalities that seventeen different languages are spoken in the camp. The rule in employing labor is "anybody but a Chinaman." The unique feature of the situation is that the superintendent can only talk to twenty per cent. of his men. To the remainder he has to make signs, or depend upon interpreters, which is always very unsatisfactory. Sometimes an interpreter's head is as hard as a miner's when an attempt is made to force an idea through it. Besides, there is the inconvenience of it. It frequently happens that an interpreter is not at hand when he is wanted. Suppose in a moment of indignation—righteous or otherwise—you wanted to express your feeling by calling someone "a blame fool," or some other mild form of expression, common with superintendents of miners, and that you had to wait twenty minutes or a half hour before the official mouthpiece of the camp could be located and brought to your assistance. The chances are five to one that your wrath would have cooled in the meantime, and the force of your reproof with it. There is nothing so effective in the management of laboring men as the heart to heart talks of the boss at critical moments, but this interpreter business, with its drawbacks, takes all the sauce out of the proceedings. That's what the boss says—and he ought to know.

Slavs and Scandinavians predominate among the nationalities employed in the mine. About the only expression in English they ever master is "all right," and they make it work overtime. No matter whether one of them is called a liar, or told that dinner is ready, in either case his answer will be "all right." Their inability to

understand what is said to them often gets the men into trouble.

Danger to Ignorant Foreigners

One day a new boss was superintending a big blast, and as a couple of workmen approached he told them, "Don't go that way or you'll get your head blown off." One of them answered "all right," and the boss, supposing from their answer that they understood English, made a break for cover. They had not understood him at all, and walked right into the blast, receiving the full force of it. There wasn't enough left of them to hold an inquest over.

Working with powder is always a dangerous job, and it is particularly so for these ignorant foreigners. The principal blasts are made at noon and at six o'clock. An elevator goes down in the shaft to the level where everything is ready, but the lighting of the fuse, which is followed by the flight upward to safety. Sometimes the men complete their work before the elevator is due. In order to get to the surface and loaf a little while before the whistle blows, they light their fuses and climb the ladders that lead from one level to another. It takes lively scrambling to get out of harm's way before the giant charge explodes. One day three men touched off their fuses and ran for the ladders. Two of them mounted to safety, but the third one missed his first step and it rattled him so that he couldn't do a thing. They shouted to him to hurry, but to save his life, he couldn't make his feet stick to the rounds of the ladder. The blast went off with a resounding report, and about all they were able to find of the poor devil were the buttons of his breeches and the buckles from his suspenders.

Probably the most remarkable accident that ever happened at the Treadwell was when a Swede fell down a shaft two hundred and fifty-six feet deep into ten feet of water without killing him. Whenever this story is told the hearer is naturally skeptical, but remarkable as it was, he actually fell that distance and is alive and working in the mine to-day. When he fell he had on a slicker coat and a pair of gum boots. Both his boots came off, one of them being found at the one hundred and ten-foot level, the other at the two hundred and twenty landing. He maintained an upright position during the whole of his awful fall, and struck the water feet first. When the cage was sent down after him it was not with the intention of performing a rescue—merely to get ready for a funeral.

He was not even unconscious. When taken out he complained of being chilly. An examination revealed the astounding fact that not a bone was broken by the terrible plunge, but his nerves sustained a very severe shock. He was confined to the hospital for eight months and did not do any heavy work for two years. In referring to his experience, he said: "I one big yumper."

Miners Save Their Money

Few of the men who work in the Treadwell are married. They get from \$2 to \$3.50 per day and their board and lodging. Many of them come direct from Europe to enter the employ of the company. The most of them save their money. They spend very little. They cut their own hair, do their own washing, and, in fact, get along so cheaply as only Europeans can. Their only regular expenditure seems to be the purchase of cigarettes, of which they are excessive consumers. Many of them leave their money with the company. The books show that over \$300,000 salary is uncalled for. The company pays no interest on this money, but agrees to pay any or all of it on demand. The largest sum due any one man is \$5,000. He did not draw a cent for a year and a half after he went to work. Now he never draws over \$10 at a time, and that only at long intervals.

The Treadwell Company is constantly making additions to its holdings. The Juneau-Alaska property, on the mainland across Lynn Canal, opposite the Treadwell, is the latest acquisition. A tunnel two miles long, costing \$250,000, will be run under the mountain. It will open up on a body of ore in which there are 33,000,000 tons. Mr. McDonald, the Treadwell manager, is authority for the statement that this ore will run \$1.80 to the ton, and that it can be taken out for sixty-six cents.



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 merchant jeweler thoroughly posted on the very latest and most salable goods, and the practical jeweler equally well posted on the newest inventions and improvements in tools and appliances used at the bench. For the benefit of the optician, we also illustrate and describe new optical goods and instruments in this department.]

A New Motor

One of the latest additions to the available mechanical equipment of the jewelry store is the motor shown in the accompanying illustration. This motor runs on dry batteries and it costs from one to two cents per hour only to operate it. The makers are J. Jones & Son, 64 Cortlandt Street, New York, who state that it is perfectly reliable in operation and very durable in construction. In addition to its cheapness of operation its use also obviates acid fumes and all danger of spilling.



tion and very durable in construction. In addition to its cheapness of operation its use also obviates acid fumes and all danger of spilling.

An Interesting Nursery Clock

The accompanying illustrations give two views of the inside mechanism of an interesting timepiece of novel construction, entitled the "Tick-Tack" nursery clock. This clock, together with being an accurate timekeeper, is also a delightful mechanical device for children, and it is so designed that a child of ten can put it together. The parts are all suitably designated by letters or numbers and are suitably arranged on a card. In addition to this, Sussfeld, Lorsch & Co., 37 and 39 Maiden Lane, New York, by whom these clocks are supplied to the trade, give such ample and explicit directions with each one as to enable the youthful possessor to manipulate the timepiece without difficulty. Another commendable feature of these interesting clocks is that they are admirably adapted to window display.



the timepiece without difficulty. Another commendable feature of these interesting clocks is that they are admirably adapted to window display.

New Electric Lathe Motors

At the present time, when there is an electric-power circuit in almost every community, jewelers have an opportunity of advantageously using an electric motor for grinding, buffing, polishing, etc. The trade will consequently be interested in the motor shown herewith, which has been specially made for that class of work and is supplied to the trade by W. Green & Co., 6 Maiden Lane, New York. In the construction of these motors all possi-



ble precautions have been taken to insure the durability of the machine and the safety of the operator. The wearing parts are interchangeable and are well made, and the chucks are held by a lock-nut which is easily and quickly adjusted. The contrivance is automatically lubricated. Under average working conditions the motor consumes about as much current as one 16-candle power lamp. The direct-current motors are supplied for any voltage from 6 to 250, the alternating-current motors for any voltage from 52 to 220 and for any frequency from 6 to 125 cycles per second. All the company's alternating-current motors are self-starting.

Improvement in Setting Mechanism



The accompanying illustration represents an improvement in clock construction by the use of which the relative positions of the pallet and escape wheel can be readjusted from the front of the timepiece without disturbing its position. Obviously this is a time and labor saver to the operator, and among the many other merits claimed for it by the makers, the Wm. L. Gilbert Clock Co., Winsted, Conn., to whose clocks it has been solely applied, are its simplicity of construction, accurate and positive action and comparative immunity from disorder. As is well known, if the support on which the clock is placed is not

exactly level, the co-operation of the pallet with the escape wheel is hindered or interrupted and the clock consequently will either run inaccurately or stop altogether. In order to remedy the difficulty it has been necessary heretofore either to level the clock up or else to readjust the relative position of the pallet and escape wheel, and in order to do this it is necessary to get at the back of the clock. This, of course, necessitates a change in the position of the clock, and it cannot then be regulated with any absolute accuracy. This new contrivance obviates lifting and turning of the clock and enables the operator to do the work in less time than it takes to set the hands.

Improvement in Eyeglass Cases

Simultaneous with the evolution of the eyeglass to greater perfection, the cases in which they are carried have undergone a corresponding transformation in design. A maximum of convenience without a sacrifice of external beauty has always been the object-in-chief of the creators of these eyeglass cases. The case shown herewith is known as the "Climax," and is one of the products of E. Kirstein Sons Co., Rochester, N. Y. It is a spring-hinge case, which remains either open or closed. The spring takes up no room in the case and will not break or pull out, while its operation is smooth and positive. This is, the makers state, the only spring-hinge case that can be made in aluminum. Another case made by this firm is the "Acme," which is similarly neat in design and is practically identical with the "Climax," except that it fastens with a button and contains no spring.



How Fires May Start

Damp lampblack will ignite from the sun's rays. The same can be said of cotton waste moist with lard or other animal oil. Lampblack and a little oil or water will under certain conditions ignite spontaneously. Nitric acid and charcoal create spontaneous combustion. New printers' ink on paper when in contact with a steam pipe will ignite quickly. Boiled linseed oil and turpentine in equal parts on cotton waste will ignite in a few hours under a mild heat and will in time create enough heat to ignite spontaneously, says *Cassier's Magazine*. Bituminous coal should not be stored where it will come in contact with wood partitions or columns or against warm boiler settings or steam pipes. This coal should not be very deep if it is to be kept on storage for a long period. If piled in the basement of a building it should be shallow and free from moisture and under good ventilation. That liable to absorb moisture should be burned first. If on fire, a small quantity of water showered on this kind of coal cokes it and retards any great supply of water reaching the fire, thus necessitating the overhauling of the pile. Iron chips, filings or turnings should not be stored in a shop in wooden boxes. The oily waste which is not infrequently thrown among them adds to the danger of fire from this source. The sweepings from the machine shop, if kept on hand, should never be placed over iron shavings. This mass of disintegrated iron is enough to incite heat and combustion. Iron and steel filings and turnings when mixed with oil will ignite spontaneously after becoming damp. A steam pipe against wood will cause the latter to ignite spontaneously after being carbonized.

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Great Inventions Lost to the World



RECENT issue of *Power* reviews a number of interesting instances which cannot do otherwise than convince even the most doubtful that engineering is to-day very far from having reached the pinnacle of perfection. Among other notes it states that it is hardly twenty years since John Waymouth, the Wolverhampton engineer and designer, discovered the motive power of heat, exhibited it in one of the simplest, cheapest and most useful engines imaginable, and then deprived the world of its benefit.

Harnessing Heat

He had produced beforehand a round dozen of excellent inventions, which still bear his name, including the modern revolving chimney-cowl, and having made a large fortune, he devoted himself to harnessing the ordinary heat of a fire and making a new power of it. The idea was laughed at by all his friends; but, after four years of study and experimenting, he produced a stationary engine, that gave double the power of any steam-driven mechanism at about a third of the cost, and also a small model heat-locomotive large enough to draw a truck with a man in it.

He invited a committee of scientists and engineers, including Prois, Huxley and Forbes Brown, and showed them that his two machines worked to perfection. The affair made a great stir, and it was proved that a great power of unlimited scope had been discovered. Waymouth was flooded with offers of huge sums for his invention, but, for no apparent reason, except, perhaps, the alleged madness of genius, he absolutely refused to either bring it out himself or sell the secret. He announced himself satisfied with the triumph of his invention, and before his death, a year later, he destroyed all the papers and plans explaining the system and removed the essential parts of the two engines. These engines are still possessed by his heirs, but nobody has been able to make anything of them.

Manufacturing Diamonds

Still stranger was the famous loss of the recipe for the manufacture of diamonds, some fifteen years ago. Herbert Warner, who alone discovered and held the secret of diamond making, did not live to wreck the diamond industry as people thought he would, and the circumstances of the loss were mysterious and tragic. Inferior diamonds can still be produced artificially, but only at a cost of about ten times their value. Warner, after years of experimenting, was able to turn

out a genuine diamond of large size and of the first water at the cost of a small fraction of the complete stone's worth. He, like Waymouth, of heat-power fame, manufactured his diamonds before an audience of scientists and produced three fine stones, which were tested and pronounced faultless. Two of them are still in existence and are the greatest curiosities the jewel world has ever seen. But within a fortnight of his triumph, before any new stones were put on the market, Warner utterly disappeared from his house on Harley Street, London, leaving no trace whatever. So complete was his disappearance that from that day to this not the smallest explanation has been hit upon.

Secret of a New Metal

Then there is the lost secret of the wonderful new metal called "talium," which would certainly have been worth many millions to the nation and the inventor. Grantley Adams discovered it just eight years ago, and during its short life it was one of the greatest wonders of the "science and commerce" world. "Talium" was an alloy of metals, artificially treated, nearly 55 per cent. lighter than steel, both stronger and tougher, and costing 30 per cent. less to produce. It was the fruit of four years' hard work and study, and eventually Adams completed it and publicly exposed it to every kind of test.

Trains or any other vehicles, it was proved, would be able to travel at nearly double their present speed if constructed of "talium," and there was no kind of edged tool that would not be as keen, as well as much lighter, if made of the new metal. The commotion caused by this discovery was extraordinary, and still more so was the upshot of it, for the magnitude of its success overcame Adams' reason and he became insane before ever the secret of the construction of "talium" was given out. Adams died a year later a hopeless lunatic, but, as there were no papers explaining his method, the great secret was lost. All the tools and engines of "talium" which he had made remain, but no analysis has revealed the method by which the metal was blended. "Talium" is lost.

Wonderful Perpetual Lamp

The extraordinary "perpetual lamp" of Henry Mills, which he invented, perfected and proved the worth of twelve years ago, was lost in quite a different manner. The Mills lamp was an incandescent light produced without any using up of materials—it had nothing to do with combustion and the "flame" of it was perfectly cold. It was certainly one of the most wonderful inventions of the age, and not at all an expensive affair. Mills made

two of these lamps and demonstrated their absolute success, but an extraordinary thing happened before the invention was put at the disposal of the public. On the night of May 20th, 1899, Mills' laboratory in Hampstead was broken into, both lamps broken into fragments and all the papers describing the invention, involving years of work, stolen. There was not the slightest clew to the perpetrators of the burglary, which was done most scientifically, and the crime has never been traced. Even the reason for it is not known—whether it was malice, jealousy or theft. No use has been made of the stolen papers, and Mills, who depended on these papers, set to work again, but two months later he contracted typhoid and died, and Britain was thus deprived of his secret.

A Destructive Gunpowder

In one way it is perhaps as well that the new gunpowder "fulmite," invented by Herbert Sawbridge, six years ago, never came to a head. Sawbridge discovered this powder by accident in his little chemical experimenting room at Exeter. He perfected the powder, after a good deal of study and trouble, and finally showed that in an ordinary service rifle this powder could drive a bullet accurately a distance of nearly six miles, and that at ordinary ranges it gave over ten times the penetration that "cordite," the present powder, gives. A bullet propelled by it at 600 yards, would penetrate twelve men. It would have been a terribly destructive invention, and one of its best points was that it did not strain or corrode a gun in any way; and, above all, damp could not harm it. But such is the extraordinary fatality that seems to dog inventors that Sawbridge was killed in an explosion in his laboratory, which wrecked the entire cottage. This happened soon after the Government had begun to negotiate with Sawbridge for the purchase of his invention; but the explosion that killed him destroyed any records there might have been of his work. It was not "fulmite" that killed him, but an accident with ordinary nitro-glycerine.

Money in Photography

It is often said that the days of fortune making by photography are past, but from information that crops up occasionally it is evident that there are still some fat pickings. One of those showings appears in a recent exchange which tells of the purchase of a business for five thousand dollars by two photographers who soon found that they did not get on well together, and one of whom raised an action for separation. The result was an appointment of a receiver *pro tem.*, and a public examination, from which I learn that the drawing of each from the business during 1902 was over five thousand dollars, and that the defendant to the suit was employed by the receiver to carry on the business at a salary of eighty dollars per week.

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shows them all, and you should have one for your information if for nothing else. It costs you but a postal to get this, and we'll gamble the cost of the catalog that you get not only information but GOODS and PROFITS before the season's close. Now's the time to send for it, and the address:

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**THE E. A. FARGO COMPANY,
ATTLEBORO, MASS.**

The Making of a Lead Pencil

THE lead pencil, so generally used to-day, is not, as its name would imply, made from lead, but from graphite. It derives its name from the fact that prior to the time when pencils were made from graphite, metallic lead was employed for the purpose. Graphite was first used in pencils after the discovery, in 1565, of the famous Cumberland mine in England. This graphite was of remarkable purity and could be used without further treatment by cutting it into thin slabs and incasing them in wood.

What Lead Pencils Are Made From The principal raw materials that enter into the making of a lead pencil are graphite, clay, cedar and rubber. Although

graphite occurs in comparatively abundant quantities in many localities, it is rarely of sufficient purity to be available for pencil making. Oxides of iron, silicates and other impurities are found in the ore, all of which must be carefully separated to insure a smooth, serviceable material. The graphites found in Eastern Siberia, Mexico, Bohemia and Ceylon are principally used by manufacturers. The graphite, as it comes from the mines, is broken into small pieces, the impure particles being separated by hand. It is then finely divided in large pulverizers and placed in tubs of water, so that the lighter particles of graphite float off from the heavier particles of impurities. This separating, in the cheaper grades, is also done by means of centrifugal machines, but the results are not as satisfactory. After separation the graphite is filtered through filter presses.

The clay, after having been subjected to a similar process, is placed in mixers with the graphite, in proportions dependent upon the grade of hardness that is desired. A greater proportion of clay produces a greater degree of hardness; a lesser proportion increases the softness.

Furthermore, the requisite degree of hardness is obtained by the subsequent operation, viz., the compressing of the lead and shaping it into form ready to be glued into the wood casings. A highly-compressed lead will produce a pencil of greater wearing qualities, an important feature in a high-grade pencil. Hydraulic presses are used for this purpose; and the mixture of clay and graphite, which is still in a plastic condition and has been formed into loaves, is placed into these presses. The presses are provided with a die conforming to the caliber of the lead desired, through which die

the material is forced. The die is usually cut from a sapphire or emerald or other very hard mineral substance, so that it will not wear away too quickly from the friction of the lead. The lead leaves the press in one continuous string, which is cut into the lengths required (usually seven inches for the ordinary size of pencil), placed in crucibles, and fired in muffle furnaces. The lead is now ready for use, and receives only a wooden case to convert it into a pencil.

Wood Used in Lead Pencils

The wood used in pencil making must be close and straight grained, soft so that it can readily be whittled and capable of taking a good polish. No better wood has been found than the red cedar (*Juniperus virginiana*), a native of the United States, a durable, compact and fragrant wood, to-day almost exclusively used by pencil makers the world over. The best quality

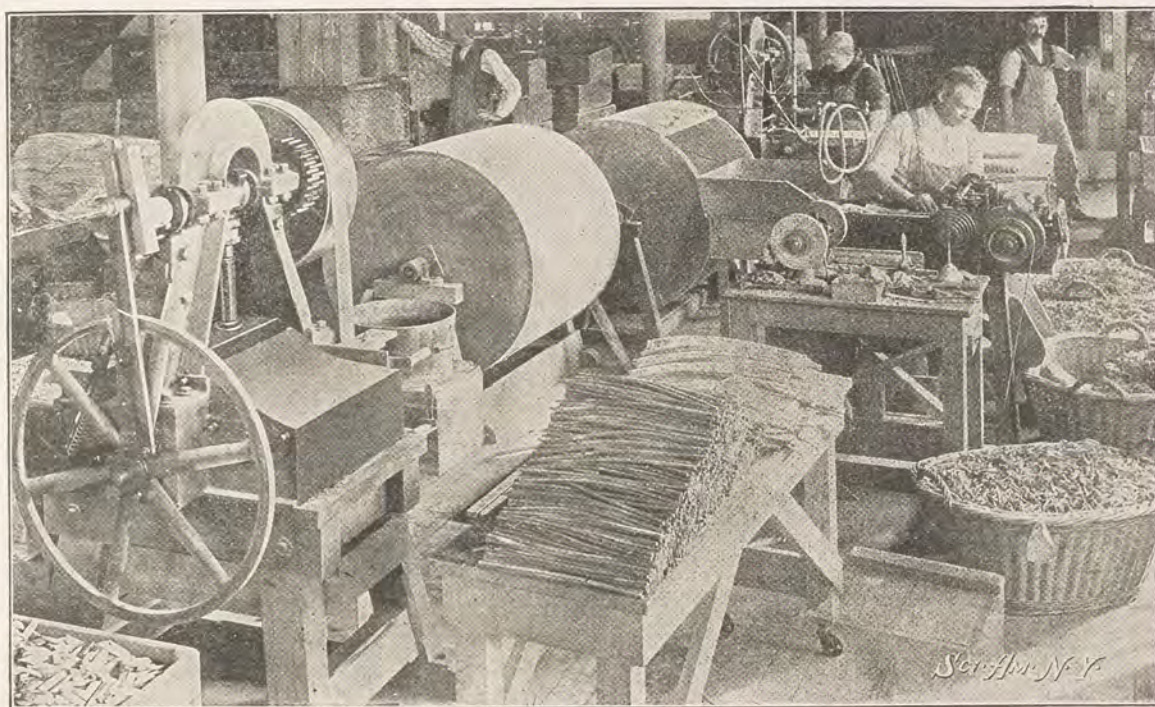
apertures just large enough to admit the pencil. The varnish is applied to the pencil automatically while passing through, and the pencils are then deposited on a long belt or drying pan. They are carried slowly a distance of about twenty feet, the varnish deposited on the pencils meanwhile drying, and are emptied into a receptacle. When sufficient pencils have accumulated, they are taken back to the hopper of the machine and the operation repeated. This is done as often as is necessary to produce the desired finish. The better grades are passed through ten times or more. Another method is that of dipping in pans of varnish, the pencils being suspended by their ends from frames, immersed through their entire length and withdrawn very slowly by machine. A smooth enameled effect is the result. The finest grades of pencils are polished by hand. This work requires considerable deftness; months of practice are necessary to develop a skilled workman. After being varnished, the pencils are passed through machines, by which the accumulation of varnish is sandpapered from their ends. The ends are then trimmed by very sharp knives to give them a clean, finished appearance.

Stamping is the next operation. The gold or silver leaf is cut into narrow strips and laid on the pencil, whereupon the pencil is placed in a stamping press, and the heated steel die

brought in contact with the leaf, causing the latter to adhere to the pencil where the letters of the die touch. The surplus leaf is removed, and after a final cleaning the pencil is ready to be boxed, unless it is to be further embellished by the addition of a metal tip and rubber, or other attachment.

In this country about nine-tenths of the pencils are provided with rubber erasers. These are either glued into the wood with the lead, or the pencils are provided with small metal ferrules, threaded on one end, into which the rubber eraser plugs are inserted. These ferrules are made from sheet brass, which is cupped by means of power presses, drawn through subsequent operations into tubes of four or five-inch lengths, cut to the required size, threaded and nickel-plated. Eberhard Faber has a large number of these presses which are continually operated for this purpose alone. The rubber plugs used in these pencils are but one of many rubber products (erasers, bands and the like) made in the E. Faber factory in Newark. These articles are made from pure Para gum, which is thoroughly masticated in huge powerful masticating machines, then cured, mixed with sulphur and the necessary ingredients to add to its erasive qualities, and vulcanized.

—Scientific American.



Cutting Rubber Bands and Erasers.

is obtained from the Southern States, Florida and Alabama in particular. Eberhard Faber established his first cedar mill in Cedar Keys, Florida, in the early sixties, whence he supplied his own demand and exported considerable quantities to European manufacturers.

The wood is cut into slats about 7 inches long, 2½ inches wide and ¼ inch thick. It is then thoroughly dried in kilns to separate the excess of moisture and resin, and to prevent subsequent warping. After this the slats are passed through automatic grooving machines, each slat receiving six semi-circular grooves into which the leads are placed, while a second slat, with similar grooves, is brushed with glue and covered over the slat containing the leads. This is passed through a molding machine, which turns out pencils shaped in the form desired, round, hexagon, etc. The pencils are now passed through sanding machines to provide them with a smooth surface.

After sandpapering, which is a necessary preliminary to the coloring process, when fine finishes are desired, the pencils are varnished by one of several methods. That most commonly employed is the mechanical method, by which the pencils are fed from hoppers one at a time through small

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Credit Man's Plea for His Brethren

Credit Man's Difficult Task

There is probably no person connected with business enterprises who receives as many criticisms and raises as much spleen as the credit man.

The nearer he adheres to the line of duty the more he is liable to be censured by both salesman and purchaser, all of which is exceedingly unjust. The credit man is the watchdog of his employer's property, as the treasurer is of its money. He has no more right to let the merchandise of his employers go out on a known uncertainty than the treasurer would have to put up its money on a game of poker or a horse-race.

Many concerns have been ruined by credit men who "run chances" with its goods, but the honest man who has the keeping of another's property can do nothing else than to watch with the utmost vigilance and refuse to let it go out of his hands without a reasonable assurance that its equivalent will be forthcoming according to the contract made at the time of sale.

Futility of Sentiment

Friendship on the part of the salesman for the purchaser, general appearance on the part of the latter, a reputation for honesty in the community, and a thousand other things that tend to promote confidence, but are not evidences as to responsibility, will not move the credit man if he is true to his trust. Credit is a will-o'-the-wisp; to-day it flourisheth as the grass, and to-morrow it withereth and is cast into the oven.

A man may be good to-day and the next year may be absolutely unworthy of credit. Many a man whose credit in '93 would have been unquestioned, was bankrupt in '94, and that through no fault of his own, nor because of any dishonest intention or practice.

The credit man must be of a judicial turn of mind, and, like justice, must be blindfold to all sentiment and judge solely from conditions and not theories. It is not just to sell a man on his past record only, or because he paid his bill two or three years ago. A few hundred dollars' margin may be wiped out by a few months' illness, or by trusting out goods injudiciously, or by loss of trade, increased competition or hard times, a consequent loss of profit, and the eating up of all the capital in the living. Hence the credit man must look to present facts and not dwell in the past.

Varied Sources of Information

His sources of information are varied. First is the salesman, whose judgment is to be discounted by his interest in making the sale, by his tempera-

ment, whether sanguine or pessimistic, by his experience, and by the credit man's experience with him. If he is a new man on the road, he naturally believes any representation made. He takes all for granted, and feels that the credit man questions his honor if he questions his judgment, but he learns better as the bills become due, and his faith is proven unfounded.

Another source of information is the buyer's acquaintances. These are often pressed by the traveler as the best of evidence, whereas they are in reality of slight value, excepting as a straw which shows which way the wind blows. The butcher and grocer may say he pays them, but it is very easy to pay dollars at home where hundreds are owing abroad, and it is a matter of pride for the buyer to keep up his local credit.

The landlord is a rather prolific source of information to the inexperienced salesman, and almost invariably says that the merchant is "all right," but what does he know about it?

The banker may say he carries him for as high as \$500 or \$1,000, but he may have a lien on everything the man has.

A fellow-traveler for another house may say, "he is all right; my house sells him;" but he very seldom knows how much he is owing his house, so that these sources of information are varied, they are not sufficient to prove that a man who is asking credit is financially responsible.

Long Term Credits Demoralizing

Another conspicuous and glaring evil is the pernicious system of long term credit which now prevails. It is an old and truthful adage that "short credits and prompt payments make long friends." As the financial worth of many people is subject to financial variation—when monetary responsibility goes up and down like mercury in a thermometer—and under the system of long credits we sometimes find that persons to whom we are selling with the fullest confidence have ceased to be worthy of accommodation. Another and chief source of information is through the mercantile agencies. This source is ridiculed, and like all human institutions is doubtless defective, and at times grossly unreliable. As good as these agencies may be, they should only be a mere factor in determining credit.

Some lay much stress upon the desirability of a full knowledge of detail and nicety in the construction of a statement, the manner in which it is made up, etc., as indicative of good business, but this is a mere detail in determining credit. "The bird with the handsomest plumage does not always sing the sweetest."

The Credit Man's Burden

From the above will be seen that the credit man has considerable of a burden to bear. In fact, the nervous strain placed upon him because of the responsibility incident to his position is greater than on any other class of employés.

If he asks for a property statement give it cheerfully. Keep nothing back. If you are worthy of credit you must stand the consequences like a man and not try to put the credit man in a position where he is liable to be censured by his employers, or perhaps lose his official head.

"Credit never knocks at the door of the indolent, never lingers under the shadow of indecision, never smiles on good intentions that are barren of results."

Failings of Correspondents

"Not one person in ten folds a letter and puts it in the envelope right side up," said the correspondence clerk of a large New York publishing house, to a representative of the *New York Times*. "This firm receives upward of 1,000 letters a day, and it is my duty to sort them and send them to the various heads of departments. Each letter must be sent opened flat, with the envelope attached to a clip. In almost every instance the letter is folded and put in the envelope so that I have to turn it around before I can read it. I have talked with friends in similar positions to mine, and they tell me they have the same experience. It seems a trifling matter to a person who opens only five or six letters a day, but to me this loss of time caused by either the ignorance or carelessness of letter-writers is considerable.

"Fully two-thirds of the letters received by a business house are filed. Cabinets for this purpose are arranged so that one must refer to the beginning of the letter, on the right-hand side, to find the date. One-half the persons who write on matters of business, particularly women, put the date at the end of the letter and on the left-hand side, so that we have to lift the whole bunch to get at it. These failings of correspondents are worse than illegible writing and incorrect spelling."

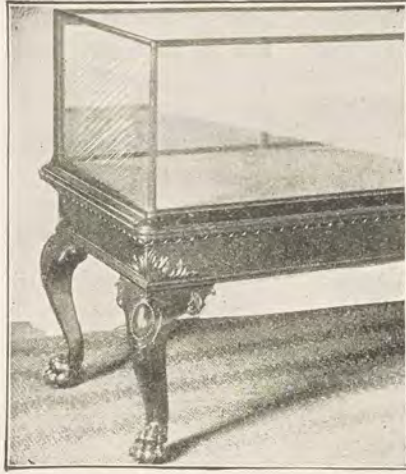
The Smallest Watch on Earth

Switzerland stands high considered from a standpoint of clocks and watches. A watchmaker at Zurich has lately displayed in his shop window a wonderful piece of Swiss workmanship in the shape of the smallest watch ever made. The watch is in the form of a rose and is so small and minute that a strong magnifying glass is needed to read the time indicated by its tiny hands. A specially prepared contrivance is resorted to in winding the little watch. The manufacturer has been offered large sums for this curious article, but he will not sell. The watch keeps accurate time.

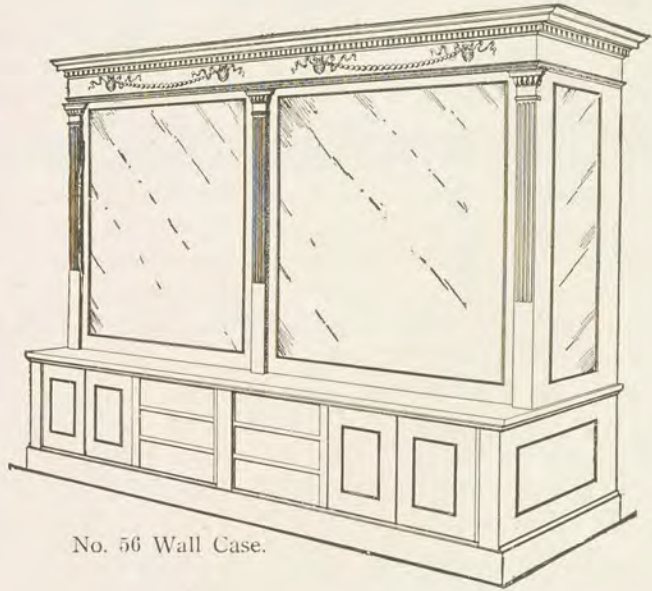
The "Quality" of your goods is "brought out" in the most attractive way, if your "Fixtures" are of the right quality.

If you contemplate purchasing a Jewelry Outfit, write us; we may be able to interest you.

If you expect to remodel your store, we shall be pleased to submit estimate for fixtures.



Our No. 11 Small Moulding, Steel-Lined Show Case and French Carved Leg Table.

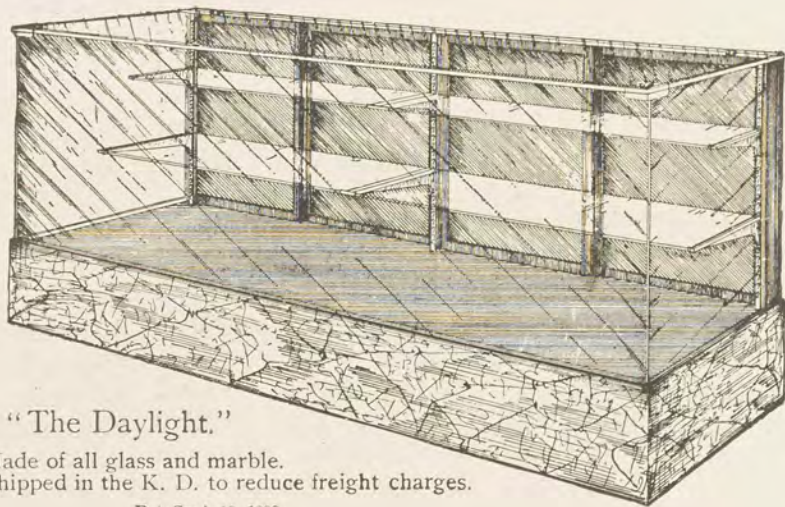


No. 56 Wall Case.

We make a specialty of manufacturing strictly high-grade jewelry fixtures of the most modern type in design and construction, with latest improvements for electric lighting if desired.

Goods well shown—half sold.

With ordinary care, this case should last a lifetime. Write for prices to-day.



"The Daylight."

Made of all glass and marble.
Shipped in the K. D. to reduce freight charges.

Pat. Sept. 19, 1899.

The best all-glass case on the market.

Alexander H. Revell & Company,

431 to 437 Fifth Avenue, Chicago,

MANUFACTURERS OF STRICTLY HIGH-GRADE JEWELRY FIXTURES.

A Traveling Man's Plea for his Brethren

WE do not know that the traveling men have much to complain of in regard to their treatment by the retail jewelers, but on the principle that there are exceptions to all rules, there could, no doubt, be improvement in some instances. All, however, will read with sympathy the following plea by an old machinery salesman for considerate treatment of his brethren in all branches of trade:

It would seem to be a reasonable conclusion that every business man who employs men, and especially in this consideration traveling salesmen, would appreciate a considerate reception to them when approached by them for business; but I am sorry that it is true that such is not the case, and the percentage of business men who neglect or decline to accord the courtesy to traveling men which is consistently due them, would surprise and startle many business men if they would consider what it is, and especially if they had to pay for the time and expense of said traveling salesmen. Courtesy ought to prevail in every business transaction, just as much as in social intercourse. Business courtesy assists materially in transacting business quickly, and thus a far greater amount of business can be transacted in a given time; but courtesy to traveling men is an unknown attribute to many business men. But few business men, however, who may perchance read this, will at first admit that they do not accord due courtesy to traveling men.

Indifference Due to Thoughtlessness

They will claim that they never speak or act discourteously to commercial travelers. Such claim may be true as regards language used, but an inconsiderate reception as regards time may be very aggravating and lack all consideration of the value of the salesman's time, and of the importance it is to him and his firm that he may proceed in his work promptly. Let us see one case. It is but a short time ago that I had occasion to visit one of the big manufactories in one of the suburbs of Chicago. Upon entering the door, over which was the sign "Office," I found myself in a small, square hallway, up the outer sides of which there is a long winding stairway. In the hall was a small desk, behind which a clerk sat who asked my business. Upon making it known to him (and I was there in answer to an inquiry by the firm, of me, for that which I was there to present), he directed me to ascend the stairs to the third floor, where I would find the man who

would attend to the business which I was there to transact. I climbed. At the third floor I found myself in the same sized hall as the first. There was no person in the hall. There was no desk there to indicate it being a business place. There was a dingy old chair, that was all. There was a door at one side. I found it locked. What was I to do to get at my business? The only thing to do was to rap on the door and see if it would call some one. I rapped.

Wearisome Waiting

A boy came to the door and asked my business. I made it known to him. He disappeared inside for a time, after which he came out and said that Mr. Pompous, the purchasing agent, was very busy now, but would see me as soon as he had time. What interesting information! It did not inform me whether Mr. Pompous was engaged for five minutes or two hours. I sat down in the dingy chair and waited. I waited a long time. Then I waited longer, and kept on waiting until the words and sentences which I thought would sound better if not uttered audibly. Finally, after an hour or so, the boy appeared again, unlocked the door and ushered me into the august presence of his majesty Mr. Pompous. I found him a gentleman in the interview; and if you were to ask him to-day if he treated me courteously, he would answer yes, indeed, and be almost insulted at the asking; but, oh, how I would like to put him, and better yet the president and manager of that company, into the same kind of a position that I was in for that hour of waiting alone in a dingy hall, and that without their knowing whether the man they were to see would appear in a minute or a day. It would afford a satisfaction to require them to thus wait all day. The experience might teach them an interesting and important lesson. That company could easily provide a neat reception room for commercial men to wait their turn in. Mr. Pompous could easily have come to me for a half minute and assured me of the prevailing circumstances and the probable time when my turn would arrive. The failure to do this and such things, is what I am kicking about and what business men might see, ought to see, and ought to remedy.

Time and Trains Don't Wait

It is not courteous to traveling men to send boys to them to ask what is their business. A boy cannot understand and appreciate conditions, and so cannot act as a person of mature age would see the necessity for acting. A traveling man often has occasion to make a business visit within an hour or a half hour maybe, before a train leaves, to miss which entails the loss of a whole day. The salary of a competent traveling salesman including

his expenses, taken together with the unavoidable vicissitudes in his making trains, make his time very valuable; but business men upon whom he calls often treat him as if his time was of no more account than a "\$10-a-week clerk." A merchant often continues to serve customers with unimportant goods, keeping a salesman waiting until he sometimes misses a train, when ordinary tact and diplomacy would shift the customer to a clerk, or the customer would do the waiting without being offended.

It is not the language used to a salesman that is complained of, at least very seldom indeed. It is the utter disregard of a salesman's time and often a failure to provide a decently pleasant place in which the salesman may wait "his turn," and a habit of sending word out from his den, "I am busy to-day; you will have to come again." The buyer who sends out this message by some clerk, or often by a boy, is not competent to fill such a position. He may hold it, but he cannot fill it. The salesman has often spent two hours, or quite often a whole day, in which to make a call, and it is not courteous to him to simply send word, "I am busy." A little ordinary consideration and tact would enable the buyer to grant a moment's interview in which a subsequent interview could be arranged mutually convenient to both parties. One of the department stores of Chicago used to have a buyer who made it a practice to frequently leave a salesman with whom he was negotiating long enough to grant a minute interview to other salesmen who were waiting. That "minute interview" was often sufficient in which to transact all the business between buyer and salesman that could be transacted at the time, and the salesman could then go, thus saving from one to perhaps three hours' time. If it developed in the minute interview that more time would be required in which to consider the matter presented by the salesman, the buyer would ask him to wait his turn, and inform him of the probable time he would have to wait. Every salesman appreciated this course.

Photo-Telegraphy

Korn's system of photo-telegraphy comprises a selenium cell, excited by the variations of light due to the varying density of the traversed photograph, and connected to the coil of a galvanometer. The needle of the galvanometer carries a contact which approaches or recedes from a fixed contact. The contacts are connected to line, and, at the receiving station, include a Tesla generator and a vacuum tube. The vacuum tube is enclosed so as to allow the variable radiations to pass through a small opening onto a photographic surface fixed on the interior of a moving cylinder.



Beauty Made More Beautiful.

The Marguerite Bracelet is the Crowning Glory of a Perfect Wrist.

This bracelet is beautiful in design and perfect in workmanship.

Adjustable to any wrist; never slipping from the position in which it is placed, and at no time causing discomfort to the wearer.

The Marguerite is of the simplest construction with a strength far beyond any other adjustable bracelet, and cannot break no matter how roughly used.

The Marguerite is a ready seller, and is always popular with the best trade.

It is made in 10 K. gold, gold filled and silver; either plain, chased or jeweled; also with a large variety of lockets, signets or large jewels.

PROVIDENCE STOCK CO.,

100 Stewart St., Providence, R. I.

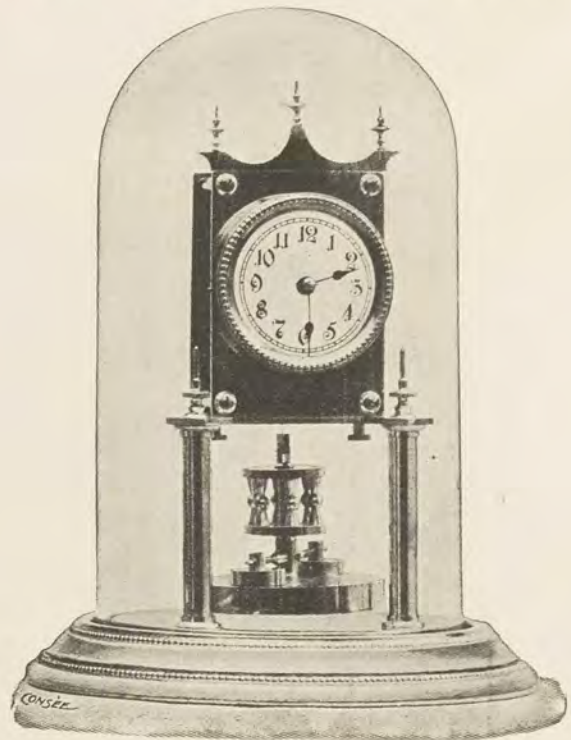
SALESROOMS { New York, 11 John St.
Chicago, 131 Wabash Ave.
San Francisco, 112 Kearny St.

ALARM WATCH.



The **ALBERTA** is still the most unique and clever novelty on the market.

YEAR-LONG CLOCKS.



A new shipment has just arrived and orders will have immediate attention.

J. B. BECHTEL & CO., 725 Sansom St., Philadelphia.

The Mount and the Photograph

A Paper by H. D. Gower, Read Before the London Scientific Society.

THE mount which has been used for photographs has, during the last twenty years, undergone considerable modification, as most of you know, and, like many things which come and go, has been subjected to fashion to a somewhat alarming degree in many ways. Photographs being but a single color, or monochromatic production, leave very little scope for invention in color, but probably more changes are brought about in the material that is brought into use from time to time, and generally supplanted by fresh and newer mediums, but rarely far from the colors to which we have been trained to some extent as a suitable tint for mounting our pictures upon. Years ago the walls of our exhibitions had upon them little else than a plain, white mount, sometimes cut out, which contained the picture, mounted in the center with, perhaps, a line of some color surrounding the print, leaving a wide margin of white, and outside this light frames. It was the fashion of the moment; to-day this is all changed.

Importance of Mounts

Now, the subject of mounts is one that should always command some attention from the photographer; of course, pictures may be kept in boxes, or albums, where they are not always detachable, and are sometimes inconvenient, and to my idea a print and mount should (if it is worth it) be a creation in itself, especially if some individual design and arrangement are personally carried out in its production. The commercial mount is, of course, useful where prints are multiplied by the dozen, but when you have a picture that is worthy of some consideration of arrangement, then by all means leave the bought mount alone and carry out your idea in other ways. There are, at the moment, any number of tinted papers that adapt themselves to home invention; paper makers have recognized this some time ago, and they now offer these papers in so many tints and varieties that it is difficult to find a color that does not exist, but you must pardon me if I tell you I am somewhat conservative in saying I prefer the white or cream paper for many subjects if they are small. I am not alluding to large photographs that require no mount, but those little pictures that so often find their way into my hands for the portfolios, a small print badly trimmed, that, had the producer just given a little care and attention and mounted the subject, he or she might have found on the criticism sheet

some words of praise for even the mount, and perhaps a little for the picture.

A plain mount has much to recommend it, rather than it should be decorated in such a fashion to call one's attention from the print, and although a colored mount may be used, it should be of a nature that the color harmony of the picture is not destroyed. Some years ago that dreadful frame known as the Oxford frame was the cause of much comment and dissatisfaction on our exhibition walls, with the result that it was at last barred from being hung. Then we had the Oxford line in red decorating our trade mounts, and afterward, to some extent, followed by ornamental corners, not of Oxford origin, but at the same time not beautiful, and so on until we reached the age and craze of matt surface prints, bromide and platinum, that called forth our tinted mounts with a plate-sunk mark, which was, of course, an effort, to some extent, to copy and plagiarize the engraving. From this we got away to large pictures, which were framed up close in dark frames, and in this point we seem to have tried to follow out the fashion, when occasion has arisen, to mount our small pictures upon dark mounts to give some prominence in the final framing.

An Easy Form of Mounting

The passe-partout is both an easy and early form of both mounting and framing, and has been somewhat revived during the last few years, but it has its objections, and was commonly used to illustrate books of the sixteenth and seventeenth centuries. It is simply the mount, and a sheet of glass bound together, lantern-slide fashion. If such a method of binding as this was adopted with all pictures that were to be framed, and which I advocated years ago, we should hear less of dust and pictures getting dirty with age, and probably it would be a great protection from waste gases deteriorating our print when hanging in a room; for convenience and economy of exhibiting, this method has much to recommend it, but for permanent work is not desirable.

The mediums at our disposal for making mounts suitable for our photographs are many, and perhaps one of the most useful as a basis is brown paper. There are many against it (for the simple reason because it happens to be brown paper), but there are any number of browns to be had, and a large selection of samples is valuable, and it must not be forgotten that a brown paper is capable of being stained with colors that will entirely alter the tint, and be quite as good as many of the commercial tints we now get and have to pay a much larger

price for; but for lighter colors we must make our choice accordingly.

Colors may range from pure white, through the grays, to a black, if necessary; but when we choose a white to range through other colors we come to tints that are in no way suitable for mounting pictures except when the mounts are very dark indeed, and, in nine cases out of ten these are unsuitable. The harshness of such combinations is very pronounced if the picture is not of a suitable tint, and that is rare indeed, unless the color of such a picture matches to some extent the colored mount (such as we may get in some carbons and toned prints), and then they should be of such a nature as to be used with that amount of judgment so necessary with good mounting.

The second hint in mounting is a method that may be carried out in several ways, first by masking the print, and, to some extent, reducing the size of the picture; and, secondly, by using a matt of any tint desirable, and, what is more, it has the effect of making the print appear larger than it really is.

Home-Made Mounts

Now comes the question of home-made mounts. How many times has the question been mooted that the sizes and shapes of our photographic plates are inconvenient for pictures upon artistic lines, and how many times have photographers been told to trim their prints to the proper limit and leave the plates alone? And once for all, let me say that the size of our plates has nothing whatever to do with any of our pictorial creations. It is the latitude that we can take advantage of in this respect, to make our mount to fit our finished print, and not the print to fit the commercial mount. The making of mounts calls for no particular skill by any one who has a straight-edge and a thick piece of board, such as ash, beech, teak or oak, and a supply of different tint papers.

The print may be mounted on a series of tints, or simply plain with a line of some quiet color round it, or even pencil or crayon, or a tint may be made by the so-called old-fashioned method of splatter work. To the experienced photographer many ways of improving the mount will suggest themselves, and much may be learned from a little experimenting. Then, each one should help his fellows by making known every improvement.

Mike—"Are you much hurted, Pat? Do ye want a docthur?"

Pat—"A docthur, ye fule! After being runned over be a throlley car? Phat Oi want is a lawyer."—*Judge.*

WENDELL AND COMPANY. No. 38999

GOLD AND SILVER SMELTERS AND REFINERS

CHICAGO, ILL. Dec 6th 1902

OFFICE AND WORKS
NO. 57 WASHINGTON STREET.

Pay to the order of George H. Rogers \$223 ¹²/₁₀₀

Two hundred, twenty three ¹²/₁₀₀ DOLLARS.

To FIRST NATIONAL BANK, CHICAGO. Wendell & Co.

WHEN YOU RECEIVE ONE OF OUR DRAFTS

the amount will represent the actual cash value of the Old Gold and Silver consigned to us. We can give it because we are not in the refining business exclusively.

Our large business requires complete smelting, refining and assaying departments. We handle without additional expense and use in our own factories all Old Gold and Silver consigned to us.

The difference in the value of old gold (before refining) and new gold (after refining) is our profit, which is much smaller than it would have to be if we conducted a separate refining business with expenses and refining costs ranging from 15 to 20 per cent. of the value of the old metal received. We remit the same day consignments are received, by bank draft (on which there is no exchange to pay). Consignments returned express prepaid in exactly the same condition received if the amount is not up to your expectation.

WE PAY FOR OLD GOLD

24c. per dwt. for 6-karat	36c. per dwt. for 9-karat	48c. per dwt. for 12-karat	60c. per dwt. for 15-karat
28c. " " " 7 "	40c. " " " 10 "	52c. " " " 13 "	64c. " " " 16 "
32c. " " " 8 "	44c. " " " 11 "	56c. " " " 14 "	68c. " " " 17 "
Highest market value paid for OLD SILVER and PLATINUM			72c. " " " 18 "

Polishings, Crucibles, Bench and Floor Sweeps economically handled and proceeds promptly remitted

DON'T PAY YOUR BILLS WITH OLD GOLD OR SILVER.

Sell it to us for full cash value and pay your bills with the returns. You will save much by so doing. Most of the firms that take gold and silver on account do not use it themselves; nor have they any means of ascertaining its exact value, but depend on others, who place a value on it that will afford two profits.

WENDELL & COMPANY,

Smelters, Refiners and Assayers,

93, 95 and 97 William Street, New York.

Established 21 Years.

57 Washington Street, Chicago.

WENDELL AND COMPANY. No. 13998

GOLD AND SILVER SMELTERS AND REFINERS

NEW YORK, Dec. 5th 1902.

OFFICE AND WORKS
93, 95 & 97 WILLIAM STREET.

Pay to the order of Bush and Roberts \$87 ³⁵/₁₀₀

Eighty seven ³⁵/₁₀₀ DOLLARS.

To THE NATIONAL PARK BANK, NEW YORK. Wendell & Co.

Confessions of an Optimist

BY JOHN TWEEZER

No, my son; an Optimist is not one given to the use of opium, nor are these the "Confessions of an Opium Eater." No sane human being would undertake to thresh the chaff of that wheat which De Quincey gleaned a century ago—none but an amazing egotist would try to picture the dreams of an opium eater, with the master's canvas on view in the next gallery. Read De Quincey and you will need look no further, if you would know "the baneful drug."

An Optimist, my son, is one who looks on the bright side of things. Optimism is believing that whatever is is right. A Pessimist is one who thinks "the time is out of joint"; and he sighs, with Hamlet,

"O cursèd spite,
That ever I was born to set it right."

For the Pessimist does always thus sigh. He feels discouraged that he must in time cease to illuminate; he worries over the thought of what posterity will do when he is gone. He finds himself in a state of chronic anguish because "the good old times," of which he is the saving remnant, are past. He is a prophet crying in the wilderness; and, like Rachel, he refuses to be comforted.

The Pessimist's trouble is that he is unable to make a just comparison of the past with the present.

It is a great pain to a person who is in a state of cheerful and iridescent optimism to observe the self-depreciation of the age.

These gloomy ones lament that Romance is dead. And yet only the other day a Crown Princess relinquished her hope of a throne for a fiddler! There is no falling off in the quantity or quality of love, in these days, though there is a less tinkling of guitars beneath casements and no clashing of lances between armed knights to speak of. Cupid is busy as ever at the same old stand, and Fernando whispers the eternal tale into ears as willing as "when knighthood was in flower."

The gruesome folk grieve at the extension of education, declaring that soon there will be none to do the menial tasks, since all will aspire to higher things. But isn't it better that many should have a little knowledge rather than that a few scholars should have a great deal? better that the mass should be able to inter-communicate than that the pedants should quarrel over formulas, debate abstractions, and tower in arrogance above the fear-cursed and superstitious? better that the body of the people should know what's what?

They say that the newspapers of the day are demoralizing; yet there is no more active agent in civilization. Crime can no longer hide its head, nor wrong go long unpunished, nor the great forward movements of the human society be hindered. The lamp of Publicity is lighting all the places that were dark of old.

They urge that criticism is now of little value; yet it was never so formulated, so disinterested, so generous, so disengaged from personal considerations.

They urge that art is mediocre. Well, let us frankly admit that its renaissance has not fully evolved; but it is at least lucid, sane, definite and eager for excellence.

No, the Pessimist is all wrong. Never in human history was life so well worth living. The independence of the employed increases yearly; the hours of labor have been reduced to allow much time for rest, for recreation and self-improvement; the wage-scale has never been so high; the humanities, the activities in philanthropy, have never been so active; the human mind and soul have never been so free. Not even the church can teach submission to painful estate. Arrogance no longer overaws. And no one believes in caste.

Never did so many men, in proportion to the whole, eat meat as now; sit by fires, wear overcoats, send their children to school, as now.

I believe

that machine-made coats of good material for many men are better than hand-made coats for the few and rags for the balance;

that a flood of books, including some that will never be classics, is better than a few manuscripts treasured in cloisters;

that commercialism and utilitarianism are better than crusades, wars, visions and superstitions;

that convenience with comfort is to be preferred to art with squalor;

that newspaper publicity is a better safeguard of liberty and justice than star-chamber courts and thumb-screws;

that the railway train is better than the caravan and the noisy trolley car is a long way ahead of a Roman chariot;

that the kindergarten which teaches mutuality in the relations of employer and employee is a greater agency of civilization than the Mahatma;

that banks are safer depositories of treasure than caves, and factories have something to do with the progress of human happiness;

that disagreeing sects are better than a dominating State church;

that the clamor of a free multitude is a more hopeful augury than the silence of a sullen people;

that in this virile age the constructive occupations are to be as highly regarded as the contemplative;

and that whatever is is as nearly right as the temper and capacity of the age affords.

I celebrate Our Day. Let us turn our eyes away from mediaevalism, though the Pessimists quote Ruskin and Ouida: they have looked so long over their shoulders that they have become cross-eyed. There will always be some drawbacks to happiness: we are living on the earth: we are not yet angels. But it is a pretty good earth, after all; and we can't shift our place to any other and better world while we live; and we may not find another quite so cozy after we are dead. So let us make the best of it, and go about gleefully; and God bless us, every one!

Tweezerisms

"Fine feathers make fine birds," but the man at table never inquires as to the plumage of his duck.

If only three times seven were fifty-six, what difficulties were removed from the way of the conscientious advertiser!

All is not gold that is stamped 14 K.—if the other fellow made it.

Very few politicians have had occasion to regret the things they didn't say.

There was never a man, whatever his state, but found satisfaction in contrasting himself with some other.

A word to the wise is sometimes sufficient to demonstrate your own ignorance.

The first "lock out" of which mention is made in history occurred in connection with the fruit business, when Adam found himself outside the Garden of Eden.

It isn't the much you know that counts—it is whether you know how to best *apply* the much you know.

"Give a beggar a horse and he'll ride to the devil." If you will guarantee the horse's return, I'll cheerfully invest in the horse.

J. T.

The Geneva Combined Ophthalmoscope and Retinoscope



RETINOSCOPE ATTACHMENT IN USE.

Patented.

Price, \$80.00, Less 6 per cent. for cash,
F. O. B. Chicago.

Ophthalmoscopy and Retinoscopy made easy.

No dark room needed.

Illumination perfect; oil, gas or electricity.

Distances absolutely fixed.

No annoying reflections.

Mirror always in position.

Patient's head supported and held steady.

Results accurate; no additions or deductions.

Lenses always in correct position.

Light always in proper position.

Hot dark room avoided.

No trouble to find patient's eye.

Latent defects made manifest.

Combines fogging method with skiascopy.

Puts an end to guessing.

A model pair of instruments for the modern refractionist.

A friend and assistant whose services are invaluable.

Indispensable to those who aspire to stand in the front rank of their profession.

It is a business-getter.

A money-earner and breadwinner.

It will aid you to work up your business.

It will help to retain the business you have.

It will bring the extra business to pay for itself.

You can show the retina to others as well as see it yourself.

Write to-day for full particulars.

Read This Endorsement:

GENEVA OPTICAL Co., Chicago, Ill.

Gentlemen:—I have used your Ophthalmoscope and Retinoscope in my practice for the past ten months and am more than pleased with it. I cannot recommend it too highly. If accurate work is not done with the Retinoscope, I believe the fault is with the operator and not the instrument. The accuracy with which you can determine the axis in cases of astigmatism in my judgment makes it an indispensable instrument in the office of every oculist and refractionist.

Sincerely yours,

Saginaw, Mich., Aug. 27, 1903.

EUGENE W. DAVIS, M. D.

GENEVA OPTICAL CO. CHICAGO. ST. LOUIS.
DES MOINES.

OUR TWENTY-FIRST ANNUAL WHOLESALE CATALOGUE, an elaborate and handsome volume of 195 pages, is just out. It is copiously illustrated and is a complete hand-book and price-list of stock and prescription work, trial cases, lens measures and optical appliances used by opticians. It will prove a convenient and valuable source of reference to you. If you have not already received one, we will be pleased to send you our new Catalogue upon request.



Reviews of Current Ophthalmological Literature of the World

The Accommodative Asthenopia of Donders

In a recent number of the *Annals of Ophthalmology*, Dr. G. J. Bull, of Paris, endeavors to prove that the suffering in errors of refraction is caused not so much by fatigue of the ciliary muscle as by irregular and disordered tension of the motor muscles of the eye. He is, therefore, not in accord with Donders, who, when treating of the relations between accommodation and convergence, attributes the defect to an error of accommodation, while Bull considers it as due principally to a fault of convergence. The doctor says:

Not accepting his (Donders) data I cannot admit his conclusion that to obtain complete relief the use of glasses is necessary.

Neither do I admit that "the hope of a radical cure of asthenopia is extinguished forever."

Ordinarily the symptoms of this disorder are manifested in series, the consequence of overwork or of the general depression caused by illness. Rest and treatment of the general health, with the temporary use of glasses, will generally suffice to relieve the state of hypertension upon which the suffering depends. In certain cases glasses must be worn permanently, but in others an operation which regulates the accord between accommodation and convergence makes a radical cure.

Dr. Bull performed a series of experiments by means of the Holmes stereoscope, from which he concludes that there is much more sensation of tension and pain in the eyes from efforts of convergence or divergence than from efforts of accommodation, and that therefore difficulties with the external muscles are of greater importance for the treatment of asthenopia than those of the ciliary muscle. It would seem to the reviewer, however, that these experiments are not quite conclusive because the greater pain from more or less convergence during the same accommodation may have its cause simply in the fact that these exercises are much more difficult for the six muscles of each eye, because they do not occur during the normal visual act. It is much harder for six muscles to adjust themselves to a certain unusual visual act than it is for one muscle alone to perform a certain function. At the same time there can be no doubt that the muscles play an important part in the symptoms of asthenopia, and that their condition ought to be inquired into in every case of this kind. On the whole, we are ready to accept his statement that "the greater number of cases of this asthenopia are easily relieved by convex glasses, through the lessening of the innervation of the internal recti muscles; others are cured by glasses which facilitate in various ways the fusion of

images; but certain cases are not relieved by glasses, and it is here precisely that surgical treatment finds its justification." The only question, of course, would be how many of these cases would have to undergo surgical treatment.

Fusion Tubes and Their Use for Strabismus

In the *American Journal of Ophthalmology* Dr. Edward Jackson, of Denver Colo., describes his new tubes for the educative treatment of strabismus as follows:

One end of the tube is closed by a metal diaphragm, in which is a minute hole and a narrow slit. At the other end of the tube is placed a convex lens, having its principal focus at the diaphragm. One side of the tube is cut away or flattened, so that the slits can be brought almost together.* This allows fusion when the normal axes converge to a point as close as three inches from the eyes. The tubes, as made by Paul Weis, of Denver, are shown in the accompanying figure.



With these tubes a person with emmetropia, or corrected ametropia, holding one before each eye sees the hole as a light dot, and the slit as a light line, most distinctly without any effort of accommodation. When they are held with the flattened sides of the tubes toward each other, one who has the power of binocular fusion can fuse the two lines or the two dots, but cannot fuse both the lines and the dots at once. When a patient looks through them, if he sees only one dot and one line he is seeing with but one eye. If he sees two dots and two lines, he is seeing with both eyes, but is not fusing the two images. If he sees one line and two dots, he is seeing with both eyes and fusing the images. He is exercising the power of normal binocular fusion. The same is true when one dot and two lines are seen. When the acuteness of vision is much better in one eye than in the other, the brightness of the line and dot seen by the better eye may be diminished by pasting over the hole and slit before that eye one or more thicknesses of paper.

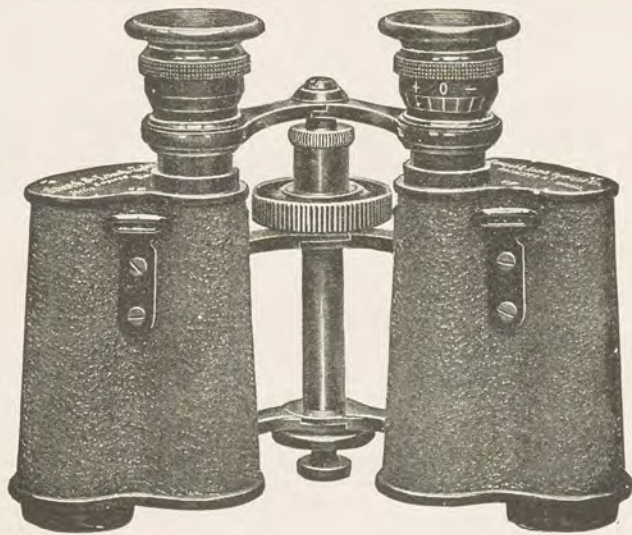
In general the exercises begin by securing binocular fusion. When this has been done, so that the one line and two dots are seen, the tubes are moved as far as is possible without a separation of the images. That is, the power of fusion

* In the cut the slit appears very near the cut end of the diaphragm.

is made to guide and control the ocular movement. For a convergent strabismus the principal movement would be to diminish the convergence of the tubes. For divergent strabismus, to diminish their divergence. For vertical strabismus, to bring the tubes into the same plane. In each case the tubes are brought toward parallelism. For rotary deviation (cyclotropia), fusion would be obtained when the slit of the tube before the deviating eye is not parallel to the slit in the other tube. The movement then would be to bring the two slits toward parallelism.

Amber-Yellow Glasses for the Examination and Treatment of Eyes

Lately the treatment of diseases by the different rays of light has been carefully studied by many prominent physicians abroad and in this country. It must appear strange, therefore, that so little of this science of phototherapy has been applied so far to the treatment of the diseases of the eye. The reason probably lies in the fact that for the treatment of general diseases and those of the skin the actinic or chemically-active rays have been employed almost exclusively, while the same rays are too irritating for the human eye to be used therapeutically. In fact, phototherapy for the eye must exclude the very rays which are employed for other regions of the body. This is well shown in a paper lately read in the Ophthalmic Section of the New York Academy of Medicine by Dr. Seabrook. He there called attention to the action of amber-yellow glass as a ray filter for white light, because it allowed the visual or light rays to pass through freely, the heat rays partially, and not at all the actinic rays which caused a chemical inflammation and irritation of the eyes. He mentioned that yellow is used as the standard light to determine the index of refraction, and that yellow glass practically corrects the chromatic aberration of the eye and dulls dazzling reflections by reducing the blue violet rays. He has employed an amber-yellow glass No. 2, the color of which is nearly equivalent spectroscopically to glass stained by a saturated alcoholic solution of tropalolin 000, as this was a perfect filter for the actinic rays. He had used a lens of about 16 D. with a plain amber-yellow glass introduced between the two plano-convex parts for oblique and indirect examination, as he had found that the iris contracted less with this than with the usual light, and that the modified light was more agreeable to the eye, especially when there was congestion, lachrymation and photophobia. The doctor considers these yellow glasses indicated in cases of neuralgia about the eyes and where the eye is too sensitive to light. In inflammation of the cornea he found it always to relieve the symptoms of irritation, though the vision seemed to be improved only in the acute central cases. Cases of inflammation of the retina or the



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Reviews of Current Ophthalmological Literature of the World

(Continued from page 1563)

choroid showed improvement with the same glasses also. He further reported three cases of glaucoma, in which the chronic irritation from light had been entirely relieved by these glasses where the smoked ones had been a failure. He finally recommended them for people working in electric-light factories and for the treatment of all those cases in which dread of light and constant watering were annoying symptoms.

In this connection it is interesting to read an extract from the *Wochenschrift f. Ther. u. Hyg. d. Auges*, as published in the *Annals of Ophthalmology*:

The author of the article agitated this question of colored glasses several years ago, and as a result of his efforts a number of batteries of artillery equipped their cannoneers with yellow glasses. Exhaustive experiments were made in all sorts of weather and under different degrees of illumination simply as control measures. Reliable data were obtained, showing that in any kind of weather and light, shooting was one-third more accurate with the yellow glasses. The artillerymen could see the mark far better through the yellow glasses and the light was much less disturbing. These results were especially noticeable in a fog, in the dusk, and when the mark for other reasons was less clear. On the basis of these results it is suggested that not only artillerymen but all arms of the service be provided with such glasses.

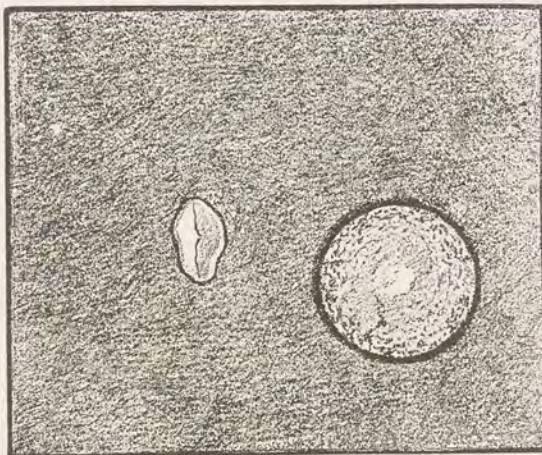
Loss of Vision from an Observation of an Eclipse

It is well known that the light of the sun, when looked at directly, is very harmful to the human eye; and that many a careless man seriously injured his sight and that some people even lost their sight altogether from this cause. Such a case has been reported again lately in the *Clinique Ophthalmologique*. The patient, a girl of twenty-one years of age, had observed an eclipse of the sun with the unprotected right eye three years before she consulted the doctor. Immediately after the observation she felt great pain in the eye and the vision was lost ever since. The examination revealed a central scotoma and a visual power which was reduced to counting fingers. With the ophthalmoscope there was seen a dark-red spot of the size of a pea situated in the region of the macula. As already three years had elapsed since the unfortunate accident, no hope for further improvement could be given.

A Case of Imperfect Development of the Optic Nerve and the Retinal Blood Vessels

Our Declaration of Independence states that all men are created equal, but that this is not always so and that nature sometimes acts like a bad stepmother to some human beings is again shown by a case of Dr. A. Duane, reported in the *Archives of Ophthalmology*. The case is that of a small boy who ever since birth lacked the power of sight, though all his other senses seem to be good. The eyes were normal in size and

showed no abnormality in sclera, cornea, iris and lens. The pupils, however, did not respond to light and the ophthalmoscope revealed the following condition in the eye, as indicated by the figure. The optic disks were irregularly oval, of a uniform dirty white and devoid of any distinct markings. The papillary vessels were limited to two very slender twigs arising in each eye from the center of the disk and running respectively up and down to the border of the disk, beyond which they could not be traced in the left eye and very little in the right eye. But except for these little twigs no blood vessels either in the retina or choroid were to be seen in the entire background of the eye. About the breadth of one papilla from the disk and to its temporal side there was in each eye an almost circular area which had the width of several disks and looked almost like a bubble as seen under the microscope. The rest of the fundus appeared perfectly



normal, and the refraction as measured by skiascopy was about .5 D. of myopia.

Similar cases have been observed and reported by other authors, who declare the condition to be due to an arrest of development during fetal life. Such imperfect development of certain tissues is called an aplasia and, of course, renders the function of that tissue and organ impossible. This condition is the more deplorable, especially in such an important organ as the eye, as nothing can be done to improve it.

Periscopic Lenses

In the *Archives of Ophthalmology*, Dr. A. S. Percival, of Newcastle-on-Tyne, lately published a corrected table for the curvatures of the periscopic lenses. With regard to it he states:

By this table one can see that a + 6 D. periscopic lens is a meniscus, of which the anterior surface has a convex curvature corresponding to that of a + 15 D. lens, while the posterior or ocular surface has a concave curvature corresponding to that of a - 9 D. lens. Spectacles ordered according to this table will be accurately periscopic for all eccentric vision within a solid angle of 50° between the powers of + 8 D. and - 14 D. For powers beyond this range extreme eccentric vision will not be so good as centric vision—e. g., with the + 12 D. lens distinct vision will be obtained of any object about 20° on either side of the middle line, or of any object that lies within a solid cone of 40°. I might also point out since my paper was written, a German firm of opticians have secured

the monopoly of manufacturing toric lenses, so that the difficulty of obtaining periscopic lenses for astigmatic patients in other countries has considerably increased.

The index of refraction of the glass is assumed to be 1.54.

Power.	Anterior Surface.	Posterior Surface.
- 1 D.	+ 5.5 D.	- 6.5 D.
- 2 D.	+ 5 D.	- 7 D.
- 3 D.	+ 4.5 D.	- 7.5 D.
- 4 D.	+ 4 D.	- 8 D.
- 5 D.	+ 3.5 D.	- 8.5 D.
- 6 D.	+ 3 D.	- 9 D.
- 7 D.	+ 2.5 D.	- 9.5 D.
- 8 D.	+ 2 D.	- 10 D.
- 9 D.	+ 1 D.	- 10 D.
- 10 D.	Plane	- 10 D.
- 12 D.	—	- 12 D.
- 14 D.	—	- 14 D.
- 16 D.	- .5 D.	- 15.5 D.
+ 1 D.	+ 6 D.	- 5 D.
+ 2 D.	+ 8 D.	- 6 D.
+ 3 D.	+ 10 D.	- 7 D.
+ 4 D.	+ 12 D.	- 8 D.
+ 5 D.	+ 13 D.	- 8 D.
+ 6 D.	+ 15 D.	- 9 D.
+ 7 D.	+ 16.5 D.	- 9.5 D.
+ 8 D.	+ 17.75 D.	- 9.75 D.
+ 9 D.	+ 19.5 D.	- 10.5 D.
+ 10 D.	+ 21 D.	- 11 D.
+ 12 D.	+ 23 D.	- 11 D.
+ 15 D.	+ 27 D.	- 12 D.

Popularizing the Use of the Word "Optometrist"

The various bills before our State legislatures, and those that have become laws, are all known as "Acts to regulate the practice of Optometry." This term has also drifted into general usage in our literature, and as it is comprehensive and easy of use, and having a well-defined derivation, is generally considered acceptable. The definition of optometry is officially given as "the science which treats of the philosophy of light and sight, and the art of determining the visual status of the human eye, and the neutralization of abnormal conditions of lenses." This definition being accepted, the question of a title should not prove difficult. One skilled in physics is a physicist; a physiologist is one versed in physiology, while a technician is one skilled in some specific tech-



nology; the optometrist must have a knowledge of the physical laws governing light, and the modifying effect thereon by lenses; he must be thoroughly conversant with the physiology of the functions involved in the accomplishment of vision, and finally, he must be skilled in the technology of the various methods for determining the refractive condition of the human eye, and the adaptation of neutralizing lenses. Therefore he is a physicist, physiologist and technician of sight, and the form *Opto-metrist* suggested is logical. To those opticians who desire to use the word on their stationery and advertisements, the cut shown above will be sent from this office on receipt of 35 cents.

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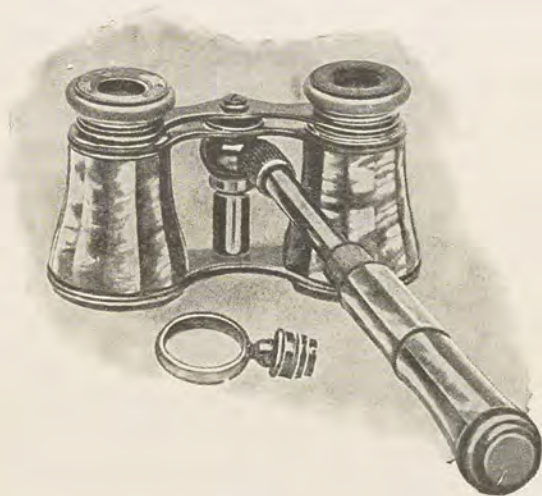
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An Exposition of the Principles of Refraction in the Human Eye Based on the Laws of Conjugate Foci

(Continued. Part II)

With 17 original illustrations.

By SWAN M. BURNETT, M.D., Ph.D., professor of Ophthalmology and Otology in the Medical School of the University of Georgetown, Washington, D. C.

WHEN the object is advanced to d , falling inside the anterior principal focus e (for parallel rays), the conjugate focus with its image passes beyond infinity, the rays becoming divergent, $d_2 d_2$, as if they came from a real object d_1 , situated on the same side of the refracting medium as the object d . The image d_1 is therefore erect, virtual and negative.

As the object d is still farther advanced to the right towards the refracting surface O , the conjugate focus d_1 also moves in the same direction, but at a more rapid rate, until the image finally overtakes the object, and both are merged into one at i (Fig. 1), which is the principal plane of the system. The object still proceeding in the same direction passes to the right of the refracting surface O and finds itself, say, at d (Fig. 2) and within the principal posterior focus c , for parallel rays $c_1 c_1$, coming from the left. The conjugate focus has also moved to the right, and according to rule 4 is to be found

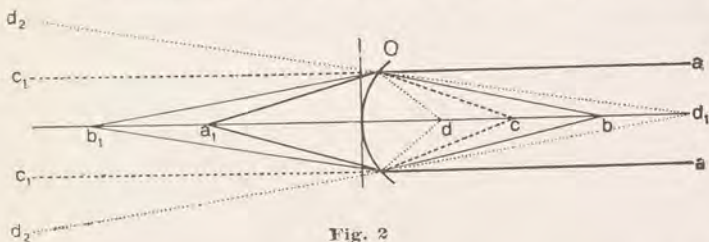


Fig. 2

on the same side of the refracting surface, at d_1 ; the image is negative, erect and virtual, the rays $d_2 d_2$ proceeding with a divergence as if they came from a real object situated at d_1 . The object still receding to the right from the refracting system, the conjugate focus likewise recedes in the same direction, but at a more rapid pace, until the object arrives at c , the posterior principal focus (for parallel rays $c_1 c_1$), when the conjugate focus will again find itself at infinity on the left, following the parallel rays $c_1 c_1$ and becomes real and positive and inverted. Proceeding with the object then to b , the conjugate focus advances from infinity on the left to the finite distance b_1 , the image being real. A further advancement of the object along the axis to the right is accompanied with a corresponding advance of the conjugate focus until the object reaches infinity (parallel rays $a a$), when the image is found at a_1 , the anterior principal focus of the system.

Comparing these two diagrams, it will be seen that one is just the reverse of the other, and that the object could, with the same results, have been started from the right and moved towards the left; demonstrating rule 1 of the laws of conjugate foci, that the image and the object can replace each other.

In studying the phenomena of the dioptric apparatus of the eye, we find that the

laws of conjugate foci admirably lend themselves to a satisfactory elucidation of the problems which it is necessary for us to solve in practice.

Application of the Laws of Conjugate Foci to the Human Eye

In making an application of these laws to the human eye we shall, for the sake of uniformity and simplicity, consider that one conjugate focus is permanently fixed on the retina; for it is there, for the purposes of best vision, that a distinct image must always be formed. The other conjugate focus, which is the varying one, must then be at the place where the object is situated in order that this retinal image be distinct. This position of the object has been called the "far point."

The far point and the retina are, therefore, always at conjugate foci.

Whenever the position of the retina relative to the principal focus of the refractive system changes, either by an increase or decrease in the refractive power of the eye, or an alteration in the distance between the retina and the refractive system, in other words, whenever the conjugate focus, represented by the retina, alters its position relative to the posterior principal focus for parallel rays, so also must the other conjugate focus change its position relative to the refractive system, and always in keeping with the laws of conjugate foci, as above explained.

It has been agreed, by convention, to adopt one single position of the retina in respect to the refracting system of the eye as a standard by which every other position shall be compared. This accepted place is when the retina lies at the focus of parallel rays, the posterior principal focus of its refracting system.

In this standard eye, the retina and infinity (from which parallel rays proceed) are at conjugate foci, and the optical condition is called Emmetropia (E).

As compared with this, the only other possible positions of the retina are two: First, that in which the retina lies outside the principal focus for parallel rays, which is called Myopia (M), and, second, that in which it lies in front of the principal focus, called Hypermetropia (H).

Every eye in all its states of refraction, static or dynamic, must fall in one of these three categories. It must be borne in mind, in these studies of the static refraction, that the absolute refracting power of the eye is not, as might readily be supposed, the matter at issue at all. We have solely to do with the retina and its conjugate focus. It is a fact which has been demonstrated innumerable times that the actual refracting power in myopic conditions may be lower than in emmetropia, while in hypermetropia it may be higher.

Let us now apply the laws of conjugate foci as above stated to an explanation of the phenomena of the various refractive conditions of the eye.

In Fig. 3 is shown the position of the retina in relation to the refracting system, in each of the categories of H, E and M, as they are usually represented, in which the retina c lies at the posterior principal focus for

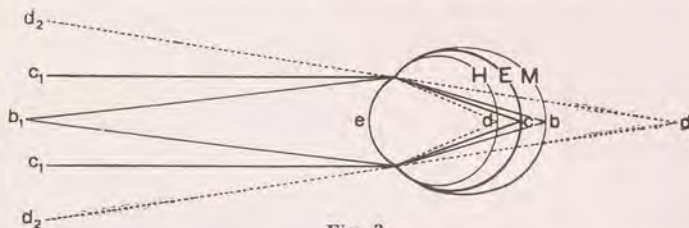


Fig. 3

parallel rays (E), while b gives the position of the retina, behind the posterior principal focus (M), and d its position in front of it (H).

As, however, according to our manner of considering the subject, the retina is regarded as occupying a fixed position, we can very properly assume that the differences in distance between it and the refracting system in the different categories is attained by a variation in the position of the refracting system itself, as shown in Fig. 3a, in which H, E and M represent the positions of the refracting systems in relation to the retina c in each of these categories respectively.

EMMETROPIA (E).—This proposition is simple, since the standard optical eye finds one conjugate focus at the retina (c Fig. 3 and d Fig. 3a), and the other, the far point, at infinity with parallel rays $c_1 c_1$. As the object and the image are on opposite sides of the refracting system, the image is real and inverted.

MYOPIA (M).—When the retina is located beyond the principal focus of the refracting system, c Fig. 3, and finds itself at b , its conjugate focus, representing the far point, will be found at b_1 . These conjugate foci, being on opposite sides of the refracting system, are positive. In accordance with law 2 of conjugate foci, in proportion as b recedes to the right the conjugate focus b_1 will advance towards e , and if such a thing were physically possible and the retina b could remove to infinity on the

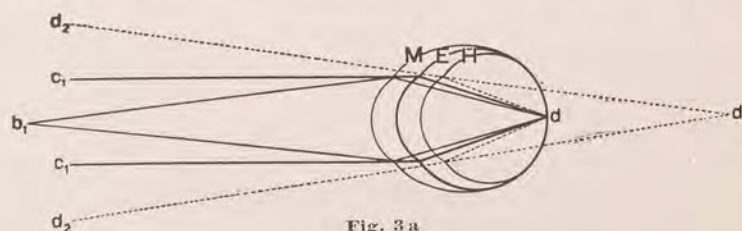


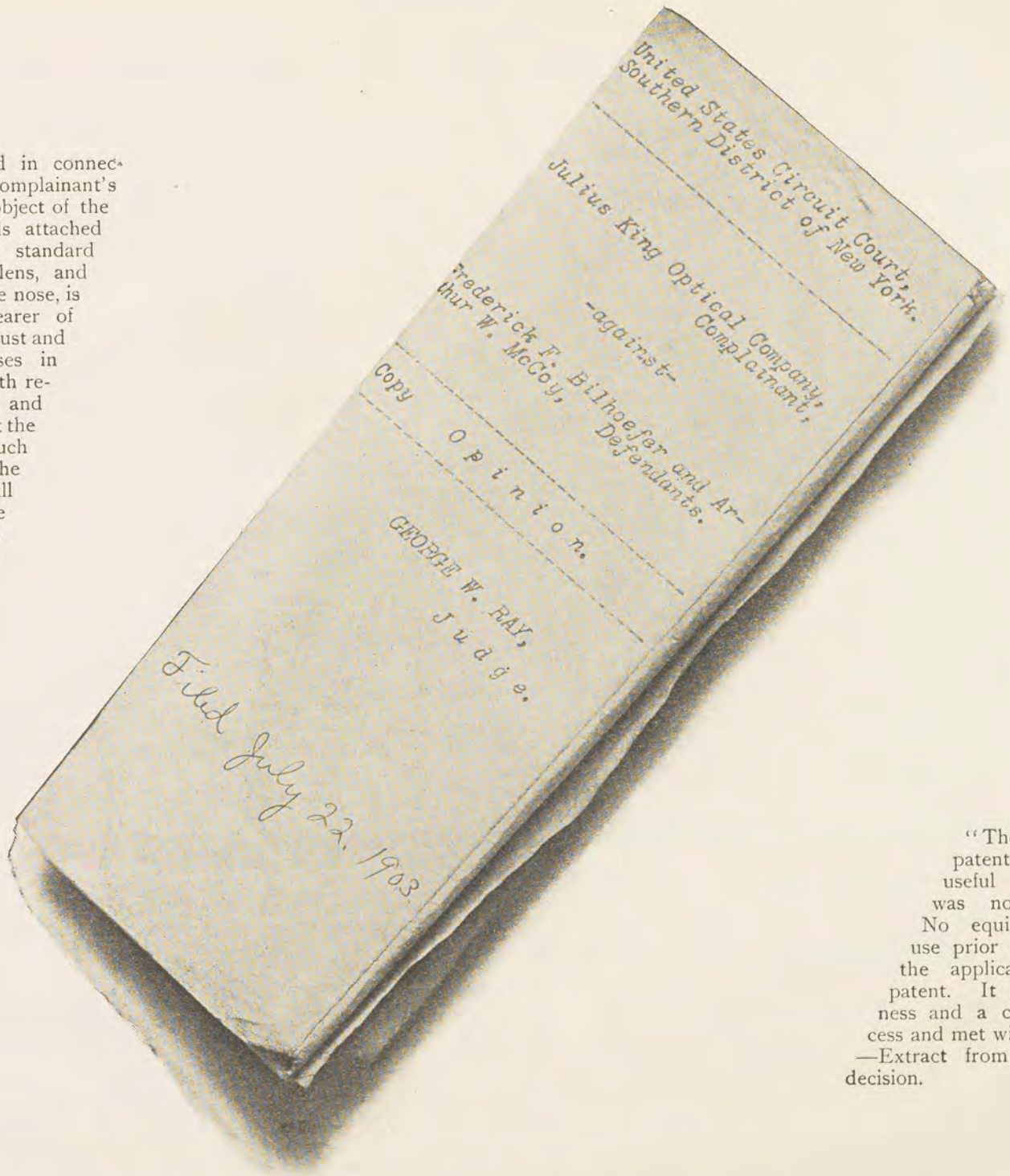
Fig. 3a

right ($c_1 c_1$, Fig. 1), b_1 would be found at the c , the anterior principal focus of the refracting system.

[TO BE CONTINUED]

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Optical Development

Paper by Messrs. BAUSCH & LOMB, Rochester, N. Y., read by B. V. MOORE before the Annual Convention of the A. A. O.

This society has already heard the story of how the attention of J. J. Bausch was first called to the value of hard rubber as a material for the manufacture of optical instruments, as he passed along the streets of Rochester one day and came upon a strip of stiffening that had once done duty in the section of that necessary adjunct to feminine form and beauty, the corset. His first idea was—What a fine eyeglass frame that would make! Taking the rubber to his shop he quickly finished it to the desired form, and found it so elastic and capable of so high a polish that he was more delighted than ever. Searching for the origin of the new material, its nature and mode of manufacture, he came in touch with the India Rubber Comb Company, which at that time was the holder of all the patents on the new material, and whose policy it was to sell to the various manufacturers whose product it was thought could be improved by its use, the right to employ vulcanite in the making of their goods. The result of Mr. Bausch's investigation was the organization of the Vulcanite Optical Instrument Company, in 1866, which later developed into the Bausch & Lomb Optical Company, in 1876.

Evolution of Spectacle Frames

Prior to the first-named time, the entire spectacle and eyeglass product was imported from Europe, chiefly from France. The frames were ordinarily made of a horn stock, and gold was also used. But the immense cost of gold during the Civil War made its use practically prohibitive, and on that account the use of the new material met with immediate approval and success. The course of the evolution of the manufacture of rubber optical instruments, beginning with eyeglasses, was through magnifiers, reading glasses, opera and field glasses to other later instruments. When the company was organized all these were imported.

The evolution in the shape of the eyeglass is not without interest. When the manufacture was begun in America round forms were popular. The oval form had been successfully made in France, but had not yet received the popular favor. There was no demand here for anything but the round form, which was the original shape and, incidentally, the easiest to make. As a matter of fact, it required some experience on the part of the American manufacturer before he could produce the oval form at all. And it is further true, that it took some time for the public to become used to the alteration. The transformation is now complete, however, and a manufacturer would not think of putting on the market anything but the modern form—graceful, conforming to the general shape and outline of the face.

A most interesting and important feature of this entire development, is that relating to the nose guard. This was one of the principal things to which the inventive genius of the American mind was directed. The original nose guard was merely the convex outline of the frame. This is equivalent, in our age, to saying that there was no nose piece at all. First came the solid projecting form. Then a patent was secured on the device of filing off this projection to fit the conformation of the nose, but this was seldom put into practical use. Then the spring was continued in length along the inside edge of the lens rim, being fastened to the latter by screws at two points, the resistance of the

spring being the force to hold the glasses in place upon the nose. Then, at the lower edge of the spring a slit was introduced, in which the end of the spring worked, making the convexity of this primitive guard adjustable to suit varying distances between the nose and either eye. The idea of this sprang from an investigation looking to the discovery of some method by which the peculiar requirements of the facial conformation of the late General Benjamin F. Butler could be met.

Manufacture of Nose Pieces

The evolution of the material employed in these nose pieces must not be passed over lightly. With the solid projecting form, the material was the same as that of the frame; but this was wearing on the nose and soft rubber was used, a thin coating of this being placed over the metal. Soft rubber hardened, however, and rotted, and was superseded by hard rubber. This was not considered entirely satisfactory, and when a prize was offered American workmen for the best suggestion on the subject, the result was the adoption of whalebone. This had the desirable quality of resistance, and conformed better to the change of the nose. Something more was needed, however, for although the material was in use for many years it peeled away, practically none of the guard being left. Various other substances were tried—among them celluloid, zylonite, tortoise shell, etc. Finally came the cork guard, last, but most popular and now in general use; although even to-day the rubber and zylonite guard is sold in large quantities.

After having occupied a high position with the wearers of eyeglasses for a number of years, the rubber, shell and zylonite frames were gradually forced to share their popularity with the steel and other metal frames, and later with the rimless mounting; which, as is well known, constitutes to-day a large proportion of all the eyeglasses worn by your customers. The reasons that contributed to this popularity are obvious.

The introduction of the rimless eyeglasses and later the offset guard, which called for a more skillful manipulation of the plyers in the hands of the optician, probably had much to do with hastening the demand which already existed for spectacle lenses whose focal measurements could be depended upon with more exactitude, and whose optical centers would be more nearly coincident with their geometrical centers.

Manufacture of Lenses

To the great majority of your members the history of lens making in this country is no doubt contemporaneous with the origin and growth of their own business; but even to this class of our hearers it will no doubt be a revelation to learn that as far back as 1865 we ground and polished spectacle lenses. Prior to this time and after the formation of the co-partnership of Messrs. Bausch & Lomb, which was in 1853, our efforts in this direction were confined to lenses for watchmakers' loupes and magnifiers.

True, for many years this work was carried on experimentally only and later for our own consumption, until we felt that we had reached a stage where we could supply at least a part of the urgent and persistent demand of our customers for lenses. This was in 1885 when we offered to the trade the first American lenses to find a market in this country. By leaps and bounds, in a few short years, the American manufacturer placed upon the market spectacle lenses of such a quality as to make it practically impossible for the foreign maker to ever hope to successfully compete with him on his home grounds.

This result was accomplished only by exercising the utmost care and precision in the manufacture and improvement of our machinery and tools, the most notable of which was probably our method of blocking, which consists in spotting the glass in the pitch on the block, thereby insuring as far as practicable the coincidence of centers mentioned above. Letters patent were issued to us for this device as for numerous other appliances in connection with this branch of our manufacture. But to all this must be added the skill and the care of the individual workman, for the grinding of lenses is, as many have found to their cost, a scientific and not a mechanical proposition.

It is but necessary to hint to the gentlemen present to-day that the machines now in use in their shops are the direct outgrowth of the construction of American lens machines. The manufacture of these small machines has made possible the prescription feature of the optical business of to-day. An optician may secure a surface grinder, a stone for grinding the edges, a lens cutter and a lens drill. With these in his possession it is not necessary for him to keep so complete a line of lenses in stock, the different sizes of frames being kept on hand and the rough or ground lenses being finished to fit as required.

In connection with this subject it may be noted that the adoption of standard sizes of spectacle frames in America has had an important effect on the manufacture of lenses throughout the world. When their manufacture was first begun in this country, there was no basis of uniform measurement. The adoption of a standard size of eye was finally commended, although it was then as hard to get American opticians to see the benefits of it as it was later to persuade their European brethren, and the result was a demand, on the part of trade, that all lenses conform to this standard.

Thus the element of interchangeability added, which always carries with it the idea of adaptability and consequent economy. Standardizing lens designations constituted an important step in this department of optical manufacturing. Slow as opticians were to appreciate that fact, to go back to-day to the old methods of manufacture would be to introduce a chaotic condition, not to be tolerated.

Late Types of Lenses

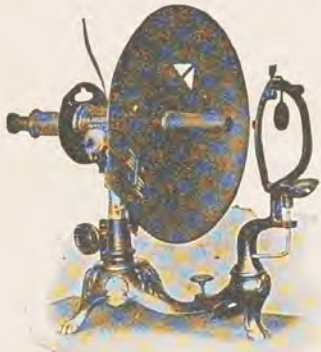
It may be well to speak briefly of a few of the later types of lenses. The periscopic lens was invented by Dr. Wollaston.

The concave curve of this lens has become standardized, a development whose importance is easily recognized when the construction of the cement bifocal lens is considered. As for the toric lens, there seems to be some divergence of opinion on the subject. Dr. Javal, of Paris, in an article in the *Annales d'Oculistique*, of 1866, relates the incident of Lorenzo Suscipi, an optician in Rome, who was perhaps the first who corrected astigmatism by means of a toric lens.

In February, 1877, M. George Porillain described before the French Association for the Advancement of Science an apparatus giving a method for manufacturing toric concave lenses.

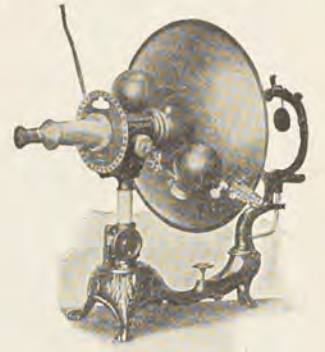
It will be evident from these statements that there is nothing new in the toric lens itself, and it must be equally evident that the new element is in the method of construction. In fact, the toric is a direct outcome of the natural course of evolution. In the correction of astigmatism it is not always possible to distribute the curvature of lenses equally on both sides. The toric appears to be one of the expedients adapted to accomplish this end, enabling the production of the spherocylinder in meniscus form.

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G. W. McFATRICH, M. D., Secretary,
Masonic Temple, Chicago.

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.

"M. E. C."—*I have a patient who is thirty years old, tall, well built and intelligent. Suffers constantly from headache (frontal) and eye-ache. Says his stomach bothers him at times, but most when his eyes feel the worst. On examining with the ophthalmoscope the fundus appears very clear; in the indirect method the optic disk appears normal; the blood vessels show up very clear, and on removing the lens the disk does not seem to change its size. Both eyes appear the same. The retinoscope shows the reverse shadow moving slowly (concave mirror) both eyes. The ophthalmometer does not show any astigmatism in the R. E. and but very little in the L. E. On trying him on the distance, he sees $\frac{1}{2}$ very plainly with either eye and can even see some of the letters in the line below. With R. E. + .25 sph. can be used; + .50 sph. blurs; + .25 sph. seems to rest the eye and head and the lines in the astigmatic chart all appear the same and distinct. With L. E. the + .25 sph. can be used he seeing just as well as without (+ .50 sph. blurs) but causes a smarting in the eye. The line 2 and 8 on astigmatic chart appears the darkest, while line 6 and 12 appears more narrow. A -.25 cyl. will not correct this error at any angle. A + .25 cyl. will not correct the error at any angle but is the best at 30°, though then he sees indistinctly and his head and eyes ache. A + or - .50 blurs and when used in connection with a sph. is more blurry and causes more ache. The + .25 at the proper axis, 30°, seems to be the best I can find, yet it does not relieve the ache. The lines seem to change about, one being bright, then another; this condition remains the same with or without lenses. The same condition exists in the R. E. on looking steadily at letters. He has had headache and eyeache for five or six years. I have instilled atropine, using two minims per day for a week. Glasses have never been worn. On trying vision with candle, I find by placing an 8° prism over the left eye, base at 90°, the lower vision sees candle about 18 inches to the left, and 4° prism, base in, corrects this. An 8° prism over R. E. makes lower candle about 6 inches to the right. A 1° prism corrects this but by placing any prism over either or both eyes causes them to ache badly and tires them. What can I do to correct this case?*

Our correspondent has given us a very complete description of this case, from which we are led to infer that the trouble is due to latent hypermetropia. We are told that + .25 D is the strongest convex lens that will be accepted; but it is more than likely if the fogging method was made use of, that a greater degree of hypermetropia could be found. The fact that retinoscopy by the concave mirror shows the shadow moving in the reverse direction indicates hypermetropia; but unfortunately our correspondent seems to have stopped there instead of going farther and trying to find the convex lens that will neutralize the movement of the shadow. In a case of this kind, where we are endeavoring to determine the presence of hypermetropia, a knowledge of the amplitude of accommodation is very desirable. We find that atropine has been used but we have no record of the result of an examination of the refraction while the eyes are under the influence of the drug. Of course, the use of atropine in sufficiently strong solution (2 to 4 grains to the ounce) would show at once the total amount of defect.

We confess that we are not able to understand the result of the muscle test as described. When

an artificial vertical diplopia is produced by placing a prism over one eye, with its base up, if the light seen by that eye is on the same side it is undoubtedly esophoria, a condition that is corrected by prism base out; but the history of this case tells us that when such a test is made, the deviation is corrected by a 4° prism, base in. This is an impossibility; either we are misinformed as to the position of the lower light or as to the position of the base of the correcting prism. Presuming this case to be one of hypermetropia we would expect to find more or less esophoria accompanying it, which, however, should be corrected, not by a prism, but by the strongest convex lens the eye can be induced to accept. It is very evident that concave lenses, neither spheres nor cylinders, should not be thought of in connection with this case. But instead, convex lenses, the strength of which we are unable to suggest, but which must be determined by further trials. It is barely possible that + .25 D may suffice but we are inclined to think that stronger lenses would afford greater relief.

In order that a correct and definite understanding may be had of each case submitted, it is necessary that correspondents should give ALL the particulars asked for at the head of this page.

"A. H. P."—*Can glasses be obtained to improve an object from 500 yards to 1000 yards for rifle men and not blur the back sight, some ten inches from the eye? Age about forty-five. Has never worn glasses. Finds after looking at object awhile the object becomes indistinct. Minus glasses make distant objects blurred; with + 1 glasses, cannot see anything.*

Unfortunately our correspondent has failed to comply with our request to give full information about each case, and hence we are handicapped in our endeavor to give an intelligent answer. We are told the patient has never worn glasses, that concave lenses blur distant objects and that + 1 lenses shut off all vision, from which we are led to infer that the eyes are emmetropic; but if we knew the acuteness of vision we would be able to form a much better conception of the case. If the eyes are emmetropic with a normal visual acuity, spectacles could not be fitted to improve upon this condition. But probably the telescope rifle sights made by various dealers would answer the desired purpose.

"F. W. S."—*What would you advise in the following case: Old lady, 82 years old; good health; R. E. $\frac{2}{30}$ with - .75 sph. can read $\frac{2}{30}$; L. E. $\frac{2}{30}$ with - .75 sph. can read $\frac{3}{30}$ but not good. Wants glasses to improve vision; has no trouble with her eyes; for reading uses both eyes 1 sph. Would you advise me to fit her with - .75 for both eyes or would this correction do harm. She wants to wear them all the time.*

In reading the history of this case we are led to believe that the patient is suffering from incipient cataract, in spite of the fact that we are told she has no trouble with her eyes. We base our diagnosis on the following facts: first, the age of the patient; second, the impairment of vision improvable but not entirely corrected, by concave lenses; third, the ability to read at this age with so weak a glass as + 1 D. Of course, it is barely possible that the refraction of the eyes has always been myopic; on this point we have no information. But we are rather inclined to believe that the apparent myopia is due to the softening and swelling of the crystalline lens, as the result of the cataractous changes, and which would increase very greatly its refractive power. The presence of cataract could, of course, be discovered by the use of the ophthalmoscope for which purpose it may perhaps be necessary to cause an artificial dilatation of the pupil. We can see no reason why these weak concave glasses should not be prescribed if the patient desires them, with the proviso however, that if any evidence of cataract is present, some member of the patient's family should be advised of the fact, so that any further failure of vision that is likely to occur, cannot be blamed on the optician or on the glasses that he has prescribed.

"R. E. S."—*Age thirty; watchmaker. Pupil dilated most all the time. Eyes feel as if there was a current of air blown in them all the time, followed by pains in the eyeballs. Vision good: R. E. $\frac{2}{30}$, with + .50 sph. C. .25 cyl. ax. 65° gives $\frac{2}{30}$; L. E. $\frac{2}{30}$, with + .12 sph. C. + .25 cyl. ax. 115° = $\frac{2}{30}$. Going without glasses, there seems to be a squinting or frowning sensation. What causes the eyes to ache so? What causes the eyes to have that unpleasant sensation? What causes the pupils to dilate upon rising in the morning? When the patient goes to read he cannot read long without a drowsy sensation coming over him. The accommodation seems to be normal.*

We are told that the accommodation seems to be normal, but we have no means of knowing whether our correspondent's conception of a normal accommodation is the proper one. If he had told us the amplitude of accommodation in this case, we would be in position to judge of this point for ourselves. At this age the power of accommodation should be 7 D., and if this man's accommodation is less than this it cannot be normal. A dilated pupil indicates a sluggish accommodation, because the circular fibres of the iris and the ciliary muscle are both supplied by the same nerve; therefore, when the ciliary muscle is called into action the pupil contracts, and when the ciliary muscle is passive the pupil dilates; all of which would tend to show in this case an inactive accommodation.

We are inclined to think that the trouble is due to compound hypermetropic astigmatism, of greater degree probably than the glasses mentioned would indicate. Such an error of refraction would account for the squinting and frowning, the aching and unpleasant sensation in the eyes. The symptoms are more annoying in this case doubtless because of the dilated pupil and the sluggish accommodation. The one thing needful is an accurate measurement of the refractive error, giving as strong convex spheres as the eyes can be induced to accept.

"A. J. P."—*I have been reading the serial articles in The Keystone on optics and am much interested in them, but there are some things that are not very clear to me; for instance, how are the fractional figures of the acuteness of vision determined, such as $\frac{2}{30}$, $\frac{1}{20}$, etc. I understand that $\frac{2}{30}$ vision is normal, but what I do not understand is where they get those figures, or what they are based on. I would like a little explanation of this part, as it would make it more interesting to me.*

The acuteness of vision is measured by the smallest interval which exists between two points while they are still distinguished as separate. It has been found that this interval subtends an angle of less than one minute, but for practical purposes a visual angle of one minute has been determined upon as the minimum. Snellen has made use of this fact in the construction of his famous test letters for the examination of visual acuity. The letters are square and subtend an angle of five minutes, both in their width and height. The limbs or strokes of the letters are exactly one-fifth of their width and height, and consequently each stroke of the letter subtends an angle of one minute. The visibility of the letter depends upon the ability of the eye to see clearly the strokes of which it is composed; which, as has been stated, subtend the visual minimum angle of one minute.

The visual acuity is expressed by a fraction, the numerator of which represents the distance at which the examination is conducted, and the denominator the number of the line which the patient is able to read. For instance, if the card was hung at a distance of 20 feet from the patient and he was able to read the letters on the number 20 line, the visual acuity would be expressed by the fraction $\frac{20}{20}$, which is normal. If the patient was able to name only the letters on the number 40 line, the visual acuity would be expressed by the fraction $\frac{20}{40}$, or one-half the normal. If the card was hung at a distance of 15 feet and the patient was able to name the letters on the number 15 line, the visual acuity would be expressed by the fraction $\frac{15}{15}$. If such patient was able to name the letters on the number 10 line, and this sometimes occurs in young persons, the visual acuity would be expressed by the fraction $\frac{15}{10}$, which is one-half better than the normal.



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The **AMETROPOMETER** is a protection against prescribing the wrong lens, as it infallibly indicates when the eye is properly corrected, which fact entitles it to the claim, "Optician's Best Friend."

We have sold 523 since February, and many letters of commendation have been received from Opticians and Oculists using it. We give below a few extracts from some of the letters received:

PHILLIPS BROS., Portland, Ore., August 5, '03.

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CHAS. B. GILLET, Lansing, Mich., August 25, '03.

"The Ametropometer I bought of you March 13, '03, I consider the best investment that I ever made in optical instruments, as it has proved absolutely perfect in all cases of Hypermetropia, Myopia and Astigmatism, and it is the only instrument where the patient can see when the eye is corrected perfectly. All my patients that I have fitted by the aid of the Ametropometer have praised it very highly to their friends, thus giving me the best and cheapest advertising I ever had and I can correct all cases in one-tenth the time required by the trial case alone."

W. M. EDDY, Marengo, Iowa, August 22, '03.

"In March, 1903, I purchased one of your Ametropometers and find it in practice to be very satisfactory."

W. C. MARTIN, Belding, Mich., August 23, '03.

"I am very much pleased with your Ametropometer. I have used nearly all of the principal instruments devised to aid the optician, but have found nothing that compares with yours, either in speed or accuracy. I have fitted several very particular people that others have failed upon entirely. One lady in particular, who is very nervous and could not tell what was right, and was under the impression that there was only one optician who could fit her—one in Grand Rapids that she had known from a child. She came in after wearing my lenses, saying they fitted her better than any she had ever worn. I have sold all my instruments but yours, and am well satisfied with my investment in it."

W. H. POOLE, M. D., Detroit, Mich., August 25, '03.

"I have made use of your Ametropometer and believe it to be a great help in determining the correction of refractive errors."

ROSENKRANS & MCKEE, Oconomowoc, Wis., August 18, '03.

"We are using one of your Ametropometers and find it a most satisfactory instrument in every way."

GEO. H. KING, Nevada, Iowa, August 20, '03.

"I bought one of your Ametropometers a few months ago and find the same a great help in correcting errors of refraction, and it is the most satisfactory instrument I have ever used."

E. A. MARSH, Grinnell, Iowa, August 13, '03.

"I bought one of your Ametropometers seven months ago and find it a valuable assistant for correction, and especially with children. I thought it might be of interest to you to know my experience."

F. B. DOWNARD, Marengo, Iowa, August 13, '03.

"Received the Ametropometer some few months ago, and it is the finest instrument I have ever used."

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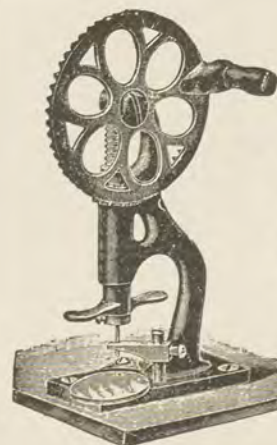
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If your wholesale dealer cannot supply it, we will forward one prepaid to any part of the world on receipt of \$3.50 (with steel drill). It is also supplied containing a diamond drill, on receipt of \$7.50.

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Transposition of Lenses

(Continued. Part VII)

TRANSPPOSITION OF SPHERO-CYLINDERS INTO CROSS CYLINDERS

Any sphero-cylinder may be transposed into an equivalent cross cylinder, in accordance with the following rules :

Rule 13.—The sphere becomes a cylinder, retaining its number and sign, with its axis at right angles to that of the cylinder in the original formula.

Rule 14.—The other cylinder will have the number and sign that results from the algebraic addition of the sphere and cylinder of the original formula, with the corresponding axis of the latter.

Practical applications of the above rules.

1. A generic sphero-cylinder.

$$+ 1 \text{ D. S. } \odot + 1.25 \text{ D. cyl. axis } 90^\circ.$$

By following rule 13 we have as the first cylinder + 1 D. cyl. axis 180°.

By following rule 14 we have for the second cylinder, + 2.25 D. (as the algebraic addition of + 1 D. and + 1.25 D.) cyl. axis 180°.

$$+ 1 \text{ D. S. } \odot \quad + 1.25 \text{ D. cyl. axis } 180^\circ \\ + 1 \text{ D.} \\ \hline + 1 \text{ D. cyl. axis } 90^\circ \odot + 2.25 \text{ D. cyl. axis } 180^\circ$$

Inasmuch as a sphere is equal to two cylinders of the same sign and number with axes at right angles, we have the following sum :

$$+ 1 \text{ D. S. } = + 1 \text{ D. cyl. axis } 90^\circ \\ \odot + 1 \text{ D. cyl. axis } 180^\circ \\ \text{combined with } + 1.25 \text{ D. cyl. axis } 180^\circ$$

$$+ 1 \text{ D. cyl. axis } 90^\circ \odot + 2.25 \text{ D. cyl. axis } 180^\circ.$$

2. A contra-generic sphero-cylinder, + 1 D. S. \ominus - 2 D. cyl. axis 180°.

According to rule 13 we have for the first cylinder

$$+ 1 \text{ D. cyl. axis } 90^\circ.$$

According to rule 14 we have for the second cylinder - 1 D. (as the algebraic addition of + 1 D. and - 2 D.) cyl. axis 180°.

$$+ 1 \text{ D. S. } \odot \quad - 2 \text{ D. cyl. axis } 180^\circ \\ + 1 \text{ D.} \\ \hline + 1 \text{ D. cyl. axis } 90^\circ \odot - 1 \text{ D. cyl. axis } 180^\circ.$$

Or if we reduce the sphere to its component cross-cylinders, the problem will be worked out thus:

$$+ 1 \text{ D. S. } = + 1 \text{ D. cyl. axis } 90^\circ \odot \\ + 1 \text{ D. cyl. axis } 180^\circ \\ \text{combined with } - 2 \text{ D. cyl. axis } 180^\circ.$$

$$+ 1 \text{ D. cyl. axis } 90^\circ \odot - 1 \text{ D. cyl. axis } 180^\circ.$$

PROVING TRANSPPOSITIONS

Transposition simply changes the relations of the two surfaces of a lens to each other without altering their combined value. Therefore the formula that would neutralize the original lens, would also serve to neutralize the transposed form. The algebraic addition of the neutralizing lenses and the original combination will equal zero, as will also their addition to the transposed formula.

For example:
+ 2.50 D. S. \odot + 1.50 D. cyl. axis 90°
which can be transposed into
+ 4 D. S. \odot - 1.50 D. cyl. axis 180°.

The neutralizing formula for the original combination is

$$- 2.50 \text{ D. S. } \odot - 1.50 \text{ D. cyl. axis } 90^\circ.$$

If these be added to the original we have

$$+ 2.50 \text{ D. S. } \odot + 1.50 \text{ D. cyl. axis } 90^\circ \\ - 2.50 \text{ D. S. } \odot - 1.50 \text{ D. cyl. axis } 90^\circ \\ \hline 0 \qquad \qquad \qquad 0$$

and if added to the transposition

$$+ 4 \text{ D. S. } \odot - 1.50 \text{ D. cyl. axis } 180^\circ \\ - 2.50 \text{ D. S. } \odot - 1.50 \text{ D. cyl. axis } 90^\circ \\ \hline 0 \qquad \qquad \qquad 0$$

Inasmuch as the - 1.50 D. cyl. axis 180° combined with - 1.50 D. cyl. axis 90° equals - 1.50 D. S., the result is

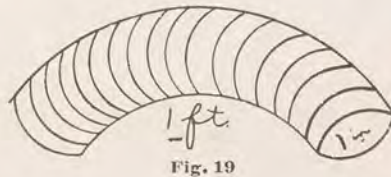
$$+ 4 \text{ D. S. } \odot - 2.50 \text{ D. S. } \odot - 1.50 \text{ D. S.} \\ \text{which can be simplified into} \\ + 4 \text{ D. S. } \odot - 4 \text{ D. S. } = 0.$$

OBLIQUELY CROSSED CYLINDERS

A lens with two obliquely crossed cylindrical curvatures is a useless and foolish combination, because it has been proven that there can be no combination at any oblique angle that is not equivalent to two other cylinders whose axes would be at right angles, or to a sphero-cylinder. No matter what inclination the two cylinders may bear to each other, they must result in two curvatures of least and greatest refraction, which are necessarily at right angles to each other.

TOROIDAL OR TORIC LENSES

A toroidal surface is one that presents two meridians of different curvature at right angles to each other.



Let Fig. 19 represent a section of a bicycle tire, of which the diameter of the wheel itself is two feet and of the tire two inches ; the radius of curvature in the horizontal meridian would be one foot and the vertical meridian one inch. These are two distinct curvatures and they are at right angles to each other.

If a tool of this shape was used as a grinding surface, the result would be a concave toroidal surface, the power of which in the two meridians would be as follows :



Such a surface resembles very much the bowl of a spoon. The optical value of a toric

lens can be equally obtained by using the respective cross cylinders or their equivalent sphero-cylindrical combination. Some authorities claim that there is no optical advantage in the toric form of lens ; while there is the great disadvantage of requiring special costly tools to grind each separate form of toric lens.

There is one thing to be said in favor of this form of lens, and that is the curvatures of a compound lens can be more equally divided between the two surfaces than is possible in the usual form of sphero-cylindrical lens.

For example, if the examination showed that any certain case was corrected by the following formula :

$$- 10 \text{ D. S. } \odot - 1 \text{ D. cyl. axis } 180^\circ,$$

all of the spherical curvature would be on one side (that is, 10 D.) and the cylindrical curvature on the other side (that is - 1 D.)

Now in a toric lens the curvature of the two surfaces could be more nearly equalized as follows:

$$- 5.50 \text{ D. on one surface} \\ - 4.50 \text{ horizontal and } - 5.50 \text{ vertical on other surface.}$$

Another advantage that the toric form of lens presents is that it can be made more periscopic. For example, if + 5 D. is desired at 90° and + 6 D. at 180°, the utmost periscopic effect that could be obtained in the ordinary form of sphero-cylindrical lens would be

$$+ 6 \text{ D. S. } \odot - 1 \text{ D. cyl. axis } 180^\circ,$$

the convex spherical surface being of course placed away from the eye.

It could be made in a toric form to show a greater periscopic effect as follows :

$$- 5 \text{ D. sphere on one surface} \\ + 10 \text{ D. at } 90^\circ \text{ and } + 11 \text{ D. at } 180^\circ \text{ on other surface.}$$

Or the concave surface can be ground to any curvature, the toric surface being made correspondingly weaker or stronger.

TRANSPPOSITION OF SPHERO-CYLINDERS INTO TOROIDALS

A sphero-cylindrical lens may be transposed into a toric in accordance with the following rules:

Rule 15.—The sphere is obtained by dividing in half the power of the greatest meridian.

Rule 16.—Subtract the strength of this sphere from each of the meridians in turn in order to obtain the power of the two toric curvatures.

PRACTICAL APPLICATION OF THE ABOVE RULES

1. A generic sphero-cylinder.
+ 7 D. S. \odot + 5 D. cyl. axis 90°.
If we divide the greatest meridian (7 + 5 = 12) in half, we obtain + 6 D. as the power for the spherical surface.

Subtract 6 D. from 12 D., and the result will be + 6 D. as the power of the one toric curve: subtract 6 D. from 7 D., and the result will be + 1 D. as the power of the other toric curve. The lens will be + 6 D. S. \odot toric + 1 D. at 90° and + 6 D. at 180°.

(Continued on page 1575)

Geneva Optical Company.

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The increasing demand for all lines of Optical Goods will tax the capacity of the Factories to the utmost to meet the full wants of the optical houses. We advise our customers and the trade generally who desire Geneva high grade Gold and Gold Filled Frames, Mountings and Finishes to place their orders at once for the seasons needs having goods shipped as needed during Oct. Nov. & Dec.

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 "Geneva & work is accurate"

Sight Restored to a Congenitally Blind Man

OUR readers have doubtless noticed in the daily press brief accounts of the remarkable case of a man whose sight has been restored after thirty years of blindness. In the *Lancet*, Dr. A. Maitland Ramsay, the surgeon by whose skill the unfortunate was enabled to see the world which had been shrouded in blackness to him since his birth, publishes a very complete account of the case.

The patient, aged thirty years, **Blind from Birth** blind from birth, was brought to the Glasgow Ophthalmic Institution on February 24, 1903. He had been allowed to run about as he pleased, no attempt to educate him having ever been made. He became, however, so familiar with the country district (a few miles from Glasgow) in which he resided, that he could go about without the slightest fear; and his hearing was so acute that he knew at once if there was anything unusual on a road along which he was walking, and thus he never had any difficulty in keeping himself out of danger. As he passed along a road he could tell a wall from a hedge by the sound of the air coming through the leaves and branches of the latter. He could easily go on an errand to any house in his native village, for the resonance of his footfall—quite different in sound when he was passing a building from what it was when he was opposite an open space—enabled him, perfectly familiar as he was with his surroundings, to count the houses as he passed, and thus to turn corners and finally to stop at the one which he wanted. He distinguished different blossoms partly by touch, but chiefly by smell, and by dint of asking questions he got at last to know so much about their form and color that he could arrange them in a bouquet. Occasionally he worked in the harvest field, and he could bind the corn and arrange the stooks as well as any of the other laborers.

The patient was quite unable to distinguish objects, but he could tell day from night, and could easily perceive a light and locate it accurately; he seemed to have no perception of bright colors.

As a cataract seemed to be the only obstacle to vision, Dr. Ramsay resolved to operate, and extracted the lens from the right eye on March 11th, and that from the left eye a week later. Both lenses were small and shriveled, and the nucleus of the right was calcareous. For about ten days after the operation on the left eye the patient appeared to be quite dazed and could not realize that he was seeing. The first thing he actually perceived was the face of the house surgeon. He said that at first he did not know what it was that he saw, but that when Dr. Stewart asked him to look down, the sense of hearing guided his eye straight to the point whence the sound came, and then recalling what he knew from having felt his own face, he realized that this must be a mouth, and that he must be looking at a face. Once he properly understood what vision meant he made very rapid progress, and his extraordinarily retentive memory enabled him to take full advantage of everything that he was told. He was quite ignorant of color, but learned to distinguish hues very quickly. The first tint that he saw was red. A red blanket lay across the foot of his bed. He asked what it was and was told, and never afterward did he have the slightest hesitation in discriminating red again. He was shown a

narcissus, and on being asked to describe it, he immediately recognized the flower and knew from his bouquet-making experience that it was white and yellow, but he now for the first time also became aware of the little red band in the center, and at once called attention to it. When he was shown a bunch of daffodils he recognized them by their smell, and immediately said that they must be yellow. The color that took him longest to master was green, but he can now name all ordinary tints readily and correctly. His difficulty with green is hard to explain unless it be that with green he has no smell association such as he had with colored flowers. Unlike Locke's blind man, who imagined that "scarlet was like the sound of a trumpet," he does not seem to connect any distinct ideas with particular colors, except that he said that red gave him a feeling of pleasure, and that the first time he saw yellow he became so sick that he thought he would vomit. The latter feeling, however, has never recurred.

Interesting Experiences

He rapidly learned the letters of the alphabet and figures, and he will soon be able to read and to reckon. From the very first he saw everything in its actual position, showing that the retinal inversion of a picture is interpreted psychically without any education.

He could count accurately after he had looked at objects one by one, and seemed to derive much help in his calculations by pointing with his finger. Here again he seemed to translate touch into vision and to arrive at a perception of the whole through the perception of the individual parts. He cannot take things in at a glance. He does not see the passers-by on the opposite side of the street quickly. He looks most intently and moves his head backward and forward and from side to side, as if trying to get a view of them all round before he can make up his mind what he is seeing; in a room, however, he can distinguish things more quickly. With any complex outline, however, or group of outlines, he still has considerable difficulty, though pictures are no longer to him, as they were at first, mere masses of confused color.

He was able to estimate size and distance more readily than might have been anticipated, although he said that he felt that if he were out of doors by himself he would be "wandered." From the time he got out of bed, after the operation, he could guide himself with ease through a doorway and walk about on the level, but he had considerable difficulty in ascending a stair, because the steps seemed so high that to begin with he raised his foot much farther than was necessary, and without meaning to do so went up two steps at a time. Whenever he discovered his mistake he began to pay attention to the rise of each, and he has now no difficulty in estimating their height. This, of course, was part of his difficulty in judging distance, though when he first looked out of a window on to the street and saw the pavement below, he said that he felt that if he had a stick he should be able to touch it.

Lack of Muscular Control

When he is requested to look in any particular direction he is unable to cause the ocular muscles to do what he wishes, and the balls oscillate and one or the other turns inward to such an extent that a portion of the cornea is hidden by the inner canthus. This want of control renders it very difficult to make a satisfactory ophthalmoscopic examination, but as far as can be made out the fundus oculi is normal; indeed, the functional activity of the optic nerve

since the cataracts were removed is very remarkable, and is in striking contrast to the purposeless muscular movements. Disuse has crippled the function of the latter, but seems to have had but little effect on the activity of the former. The eye is a receptive organ, and the light that gained access to the retina through the opaque lens proved stimulus sufficient to maintain the optic nerve in health, while the want of visual power deprived the co-ordinating center in the brain of all stimulus to develop, and hence the ocular muscles are not trained to obey the dictates of the will.

Transposition of Lenses

(Continued from page 1573)

2. A contra-generic sphero-cylinder
 $+ 5 \text{ D. S. } \ominus - 1 \text{ D. cyl. axis } 180^\circ$.

The sphere in this case represents the greatest power, the half of which would be $+ 2.50 \text{ D. S.}$

Subtract 2.50 from 5 equals $+ 2.50 \text{ D.}$ as the value of one toric curve; subtract 2.50 from 4 equals $+ 1.50 \text{ D.}$ as the value of the other toric curve. The lens will be $+ 2.50 \text{ D. S. } \ominus$ toric $+ 1.50 \text{ D.}$ at 90° and $+ 2.50 \text{ D.}$ at 180° .

TRANSPOSITION OF A TORIC INTO A SPHERO-CYLINDER

$+ 4 \text{ D. S. } \ominus + 2 \text{ D.}$ at 90° and $+ 4 \text{ D.}$ at 180° .

The sphere represents the power in the meridian of least curvature, which in this case is $+ 6 \text{ D. S.}$

The cylinder represents the difference between the power of the sphere and that of the meridian of greatest curvature, which in this case would be $(4 + 4 = 8 - 6 = 2)$ $+ 2 \text{ D.}$, with its axis at right angles to the meridian of greatest power. The lens would then be

$+ 6 \text{ D. S. } \ominus + 2 \text{ D. cyl. axis } 90^\circ$.

With this article we bring to a conclusion the serial on the transposition of lenses, and we feel that the readers who have followed us attentively have now mastered once for all this important branch of their profession. It was the general need for accurate information on the subject, as evidenced in the many questions asked, that induced us to write the serial, and we would suggest that each reader preserve carefully the seven parts, as he will find them very useful for reference in particular cases that may turn up in his practice. We have endeavored to cover the subject very thoroughly, but if any difficulty still remains unsolved, we will take pleasure in elucidating it on request. We would again emphasize the importance of this matter of transposition, and the necessity of each refractionist mastering it thoroughly.

[THE END]

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Optical Organizations

NATIONAL

American Association of Opticians (1898)

JOHN C. EBERHARDT, President, Dayton, Ohio.
E. L. JONES, Secretary, Sandusky, Ohio.

Meets annually. Next meeting to be held at Milwaukee, in 1904.

Worshipful Company of Spectacle Makers (England) (1629)

THE RT. HON. SIR WM. HART DYKE, Bart., M. P., Master.
COL. T. DAVIES SEWELL, F. R. A. S., Clerk, Guildhall, London, E. C., England.

British Optical Association (1895)

S. COWAN, F. B. O. A., President.
J. H. SUTCLIFFE, F. R. S. L., F. B. O. A., Secretary, 17 Shaftesbury Avenue, London, W., England.

Canadian Association of Opticians (1896)

SAMUEL S. GRANT, President, Montreal.
ALEX. MOFFAT, Secretary and Treasurer, Brantford.

Scottish Optical Association (1903)

JAMES CHALMERS, President, Springburn, Glasgow.
JOHN LAMONT, Secretary, 514 Victoria Road, Glasgow.

INTERSTATE

New England Association of Opticians (1894)

CLARENCE S. HART, President, Lynn, Mass.
G. A. BARRON, Secretary, 3 Winter St., Boston, Mass.

Meets third Tuesday of each month, except July and August.

Northwestern Optical Association (1901)

J. W. GRAINGER, President, Rochester, Minn.
J. W. ANDERSON, Secretary, Rochester, Minn.

Annual meeting in December, 1903, in Minneapolis.

STATE

Pennsylvania Optical Society (1895)

A. MARTIN, President, Philadelphia, Pa.
C. A. LONGSTRETH, Secretary, 228 Market St., Phila., Pa.
Annual meeting, October 13, 1903, at Philadelphia.

New York State Optical Society (1896)

B. B. CLARK, President, Rochester, N. Y.
P. A. DILWORTH, Secretary, 1032 Third Ave., New York City.

Indiana Optical Society (1896)

C. M. JENKINS, President, Richmond, Ind.
G. S. GRUBB, Secretary, Marion, Ind.

Michigan Optical Society (1896)

E. W. E. PATTERSON, President, Grand Rapids, Mich.
E. EIMER, Secretary and Treasurer, 105 Western Avenue, Muskegon, Mich.

Iowa Optical Society (1897)

W. B. ANKENY, President, Corning, Iowa.
G. E. BOYCE, Secretary, 202 Syndicate Block, Waterloo, Iowa.

Illinois Optical Society (1898)

W. C. SOMMER, President, Chicago, Ill.
LOREN L. BOYLE, Secretary, 103 State Street, Chicago, Ill.

California State Association of Opticians (1899)

L. KUTTNER, President, San Francisco, Cal.
ALBERT J. SCHOHAY, Sec'y, 308 Hays St., San Francisco, Cal.
Next meeting, October 5, 1903.

Oregon Association of Opticians (1899)

J. O. WATTS, President, Eugene, Oregon.
C. L. HAYNES, Secretary, Portland, Oregon.

Washington Association of Opticians (1899)

H. CLAY EVERSOLE, President, Seattle, Wash.
L. W. KACHLEIN, Secretary, Tacoma, Wash.

Granite State Optical Association (1900)

GEO. H. BROWN, President, Manchester, N. H.
W. E. BURPEE, Secretary, Manchester, N. H.
Meets third Wednesday of January, March, May, September and November.

Wisconsin State Optical Society (1900)

ALVA SNIDER, President, Beloit, Wis.
I. M. ADDLEMAN, Secretary, Tomah, Wis.

North Carolina Optical Society (1900)

F. W. MAHLER, President, Raleigh, N. C.
SAMUEL RAPPORT, Secretary, Durham, N. C.

Minnesota Optical Association (1900)

J. M. CHALMERS, President, Lake City, Minn.
C. A. SNELL, Sec'y, 608 Nicollet Ave., Minneapolis, Minn.

Maine Association of Opticians (1901)

H. E. MURDOCK, President, Portland, Maine.
ROBERT B. SWIFT, Secretary, Portland, Maine.

Tennessee Optical Society (1901)

A. H. WENNING, President, Nashville, Tenn.
GEO. R. CALHOUN, Secretary, Union and Summer Sts., Nashville, 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)

THOMAS GOWENLOCK, President, Clay Center, Kans.
F. W. REED, Secretary and Treasurer, Wichita, Kans.

Missouri Association of Opticians (1901)

LEON BAER, President, Kansas City.
J. W. TALBOT, Secretary and Treasurer, Nevada, Mo.
Annual meeting, May, 1904.

Virginia State Optical Association (1902)

H. L. LANG, President, Staunton, Va.
J. W. BUCHANAN, Secretary, Petersburg, Va.

Ohio Optical Society (1902)

JOHN C. EBERHARDT, President, Dayton, Ohio.
EDWIN L. JONES, Secretary, Sandusky, Ohio.

Kentucky Optical Society (1902)

O. R. KING, President, Lexington, Ky.
J. M. IRMEN, Secretary, 336 Fourth Ave., Louisville, Ky.
Next meeting, October 20, 1903, at Lexington.

North Dakota Optical Association (1903)

E. P. SUNDBERG, President, Fargo, N. Dak.
W. R. BLAKELY, Secretary, Grafton, N. Dak.
Next meeting, January, 1904, at Fargo.

Delaware Optical Society (1903)

R. S. STEPHENS, President, Dover, Del.
ROSCOE C. TAYLOR, Sec'y., 28 Loocherman Street, Dover, Del.
Meets monthly.

New Jersey Optical Society (1903)

F. C. LEAMING, President, Trenton, 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.

LOCAL

Central New York Optical Society (1895)

WM. D. OERTEL, President, Syracuse, N. Y.
JAMES HOLDEN, Secretary, Syracuse, N. Y.
Meets second Wednesday of January, March, May, July, September and November.

New York City Optical Society (1897)

F. B. MARCHANT, President.
E. LE ROY RYER, Rec. Sec., 21 Maiden Lane, New York.
Meets second Wednesday of each month, except July and August, at College of the City of New York, 17 Lexington Avenue.

Rochester Optical Club (1897)

W. W. BISSSELL, President, Rochester, N. Y.
HARRY M. BESTOR, Secretary, Rochester, N. Y.

Utica Optical Club (1901)

RICHARD PERLEN, President.
C. T. EVANS, Secretary, Utica, N. Y.

Chicago Optical Society (1902)

W. F. NEWCOMB, President, State and Adams Sts., Chicago, Ill.
O. J. HALBE, Secretary, 67 Wabash Avenue, Chicago, Ill.

Niagara District Optical Society (1902)

JONAS HOUSE, President, Welland, Ont.
F. G. DUNLOP, Secretary and Treasurer, St. Catharines, Ont.

Buffalo Optical Society (1903)

ERNEST V. SYRCHER, President.
ROGER F. WILLIAMS, Secretary, 455 Main Street, Buffalo, N. Y.

Seattle Optical Society (1903)

S. R. PECK, President.
LEANDER BUTT, Secretary and Treasurer, 720 First Ave., Seattle, Wash.

Los Angeles Association of Opticians (1903)

FRED. DETMERS, President.
F. LEE FULLER, Secretary, Los Angeles, Cal.

Medical Society Sues Refractionist

WE had thought that the medical societies had made up their minds to accept the refractionists, if not as a public blessing, at least as a necessary evil, but we find our conclusion was too previous. G. E. Boyce, secretary of the Iowa State Association, informs us that a member of his organization, J. W. Edmunds, of Clarion, Iowa, has been arrested on a charge of "practicing medicine without a license from the State Board of Health," and is held for trial in the district court which will convene the first week in October. Mr. Boyce says:

Dr. Edmunds uses no medicine whatever and does not profess to use any, but is doing a legitimate business of refraction work the same as the rest of us are doing daily. But the secretary of the State Board says they have had so many complaints of same nature against the Iowa Medical Law that they have decided to make a *test case* of this one and it will be a "fight to the finish," but will establish our rights in Iowa if we win; and we can certainly do so if we have the proper support from every optician of the State.

I am personally acquainted with Mr. Edmunds and know him to be a competent man and a gentleman in every respect. He has hosts of friends in Clarion and vicinity who are with him in his fight for his and our rights. If we all stand back and let him lose this case the State Board can stop us all from even prescribing glasses for relief from headache, but if we win it will give us the standing we have long been working for in this State. After corresponding with the president and vice-president of our association, we have thought best to issue a call and ask each member to contribute to a fund to win this case. We should have a fund of a thousand dollars to meet all emergencies, and if each one in the State will contribute from \$2.00 to \$5.00, and upwards, it will not fall very heavily on anyone.

The Iowa opticians are thus confronted with one of the purposes for which their organization was intended, and self-preservation, if not fidelity to their association, should induce them to contribute their mite in defense of their brother and themselves. The knowledge that there is a strong organization and sufficient funds back of anyone who is assailed will be very effective in deterring prosecutions or persecutions of this character. At least one good purpose of such a suit as this is the object lesson it is to the trade at large. It keeps fresh in their memory the need of a strong protective organization and the advisability of striving for legal recognition. The refractionist has now progressed too far towards the goal of professionalism to be checked or intimidated, but there is still need of advancement and united effort.

We would advise our readers not to get alarmed over these sporadic efforts of medical societies. So far such prosecutions have been uniform failures, and we feel confident that this latest one will have the same fate. Opticians, however, should be judiciously conservative in their statements in advertising, and claims to cure various diseases with glasses were better unmade.



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Spring takes up no room in case.
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The only spring hinge case that can be made in Aluminum. The "**Acme**" is the same as the "**Climax**," except fastens with button and contains no spring.

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ROCHESTER, N. Y.

What is a Safe Light in the Dark Room?

THIS has always been a somewhat vexed question, and it once again formed a topic for discussion at a recent meeting of the Croydon Camera Club. In this discussion two well-known dry-plate makers took part, and their opinions as practical men have value. It has just been said that the question is a vexed one, and we imagine it is likely to be one among the general run of photographers who do not always study conditions. Under some conditions a light may be safe, while under others it is just the reverse. A light that will be quite safe with plates of medium rapidity, may fail completely with those of a high degree of sensitiveness. Again, a light that may have no effect on ordinary plates—*i. e.*, those not made "color sensitive"—would be useless for isochromatic ones. Setting aside the theoretical part of the subject, we come to the practical question, What is a safe light and at the same time the most comfortable one for the ordinary photographer to employ?

We often hear that one or two thicknesses of such or such material may be relied upon, but nothing is often said as to the source of illumination. What would be perfectly efficacious with a night-light or candle behind it, might be just the reverse with a gas-flame or electric light. It does not follow that a dimly-lighted room with a red light is a whit more reliable than one illuminated with an orange one, for we have seen some samples of ruby mediums and glass that pass a large amount of the blue and violet rays, though sold for dark-room lights. S. H. Wratten, speaking at the meeting above referred to, said that he pinned his faith to two thicknesses of orange fabric, and also offered a handsome premium to any one present who would give him a brighter light with the same margin of safety. For ordinary plates—those unorthochromatized—we always use two thicknesses of the paper known as "canary medium," with an oil lamp behind. It yields a pleasant light to work with, and is quite safe with the most sensitive plates, if they are not brought too close to it; but of course it does not answer with isochromatic plates. Another

very pleasant light is one thickness of flashed orange and one of green—that known as "cathedral green"—and this is safe with ordinary, though not with isochromatic plates. With these a ruby light is absolutely necessary, and even with that the plates must be well shielded from it.

It is really extraordinary how many photographers neglect to test the safety of the light they work, considering it is such a simple matter. All one has to do is to put a plate of the kind ordinarily used in a dark slide, withdraw a portion of the shutter and expose it to the light—say, a foot from it—



As a companion picture to the photo. of the twin boys of G. Harris, of New Orleans, La., shown in the July issue of THE KEYSTONE, we herewith reproduce the twin daughters of Jeweler Harry E. Holloway, of Herscher, Ill., taken at ten months old. They are alike in appearance to almost absolute identity, and at this time there is a difference of only five ounces in their avoirdupois. It is of interest from an heredity point of view that their parents were of twin births and that their grandmothers gave birth to two pairs of twins each.

for a minute, then develop. If no difference, or only a slight trace of fog, is seen, the light may be considered practically safe for that kind of plate; that is, supposing ordinary care is taken that it is not exposed unnecessarily long to it, either in putting it into the slide or in the early stage of its development.

It must, however, be kept in mind that, although a light may be considered practically safe, there is a limit to the time that a plate can be exposed to it without suffering. We have suggested the above test for ordinary plates, but we have never yet met with a medium that would stand it with the most sensitive isochromatic ones. But with them a test should be made, as it will enable the worker to judge how much or how little liberty he may take with his light. Many plates, isochromatic and otherwise, have been condemned when the fault has really been due to the light.

Best Way to Dry Negatives

Many an amateur, ignorant of the method of obtaining a print in a hurry, has destroyed valuable negatives by resorting to rough-and-ready methods of drying them. The amateur cannot learn too soon that nothing is to be gained in great haste to dry his negatives. Nearly all the dodges for attaining that end are fraught with danger, especially to the beginner. If in the morning, after an evening's development, he finds a negative from which he is most anxious to see a print more than half dry, the temptation to warm it before the fire or to place it in a strong current of air is almost irresistible. If the amateur gives way, he may reckon that the chances are ten to one against his having that negative to print from; for the change from a slow to a rapid method of drying is almost certain to leave its mark on the film. Another dodge is to soak the negative in methylated spirit, but unless that operation is very carefully carried out, and the spirit drained away in an even manner, there is considerable risk of the negative being ruined beyond recovery. To hasten slowly is a golden rule in photography, as in so many other things.

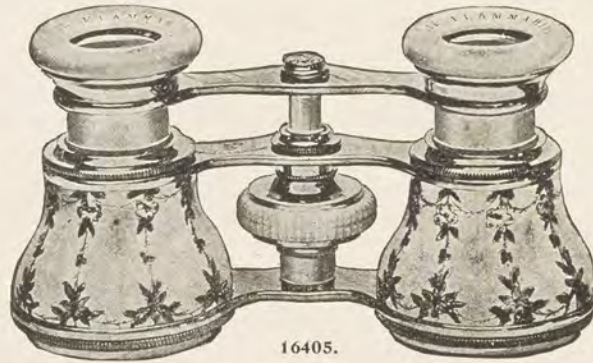
—The Traveler.

A Flashlight Accident

Ernest H. Wilhelm, an enthusiastic amateur photographer, was instantly killed and his bride of a few months and others were seriously injured on May 29th while making a flashlight group in their apartments. Mr. Wilhelm had already made one exposure and it is possible that he used an extra charge of powder to overcome the effects of the smoke. The flashlight arrangement consisted of two sticks fitted together like a capital letter T. On the cross of the T in the center was a tin box filled with burning alcohol. From this flame two pipes led to the outer ends of the cross, where, in tin boxes, reposed two flashlight cartridges. To the pipe opposite the flame was fastened a rubber blow-tube, which Wilhelm held by the stem of the T and then blew through the rubber tube to explode the cartridges. Holding the T-shaped instrument away from him, he blew through the tube. Instantly both cartridges exploded, the pipe was ripped from the cross of the T and piercing his lungs, caused instant death.

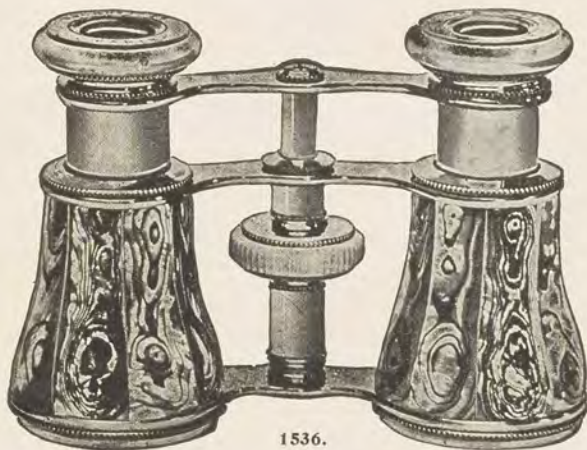
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UP-TO-DATE OPTICIANS USE U. S. GUARDS.

They do not pinch. They will not slip off.

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FEATURES.

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On light and its refraction by lenses and prisms. Anatomy and Physiology of the eye. Retinoscopy and the Ophthalmoscope explained and demonstrated. Ametropia in all its phases. Emmetropia.

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Professor Optical Jurisprudence.

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Professor of Refraction.
JOSEPH M. DALY,
Professor of Mechanical Optics.

Special Lectures by John E. W. Sanderson, M. D., Dr. Frank Northrup, Henry L. DeZeng and others.

N. B.—Until further notice, students may enter any day and will be classified according to their requirements.

For further information and Prospectus write to the Secretary.

Utica Optical Club

The regular monthly meeting of the Utica Optical Club was held Tuesday evening, September 15th. The committee on blacklist, of which N. A. Burrill is chairman, reported having received a list of undesirable customers from one firm, and that by the next meeting of the club the complete list would be ready. The committee on minimum price-list reported having secured the signatures of those not on the list at the previous meeting. This committee also reported having presented to each firm, the opinion of the club, that free examinations should be discontinued, and that it had been successful in obtaining consents to display a moderately worded sign, notifying the public of the fact.

The committee suggested several different wordings for signs, and the following was adopted: "A reasonable charge will be made for a thorough examination of the eyes, when glasses are not purchased." The committee was authorized to have fifty signs printed and distributed among the opticians of the city. Among those present were: Messrs. Perlen, Burrill, Merriman, Enquest, Evans and E. D. Kenney.

Pennsylvania State Optical Society

The annual meeting of the Optical Society of Pennsylvania will be held at 228 Market Street, Philadelphia, on Tuesday evening, October 13th. At eight o'clock the regular business will be inaugurated and officers elected, after which will follow an illustrated address by Dr. C. H. Brown, on "How to Determine What Eyes are so Diseased that they Should be Referred to an Oculist for Treatment." Refreshments will be served at ten o'clock.

New York City Optical Society

The first of the regular monthly meetings of the New York City Optical Society for the fall season was held on Wednesday evening, September 9th, at the College of the City of New York, President Marchand in the chair. Scientific matters occupied the first part of the meeting, a lecture being delivered by Dr. Walter Bryan, on "Various Kinds of Eyes" which he illustrated with lantern views of numerous specimens. The regular business was afterwards taken up. L. L. Ferguson formally tendered his resignation as treasurer of the society and the resignation was accepted. The retiring treasurer's report showed that he had received \$336.68 and had disbursed \$330.31, leaving a balance, \$6.37, which was turned over to the president. Philip Apfel was appointed treasurer *pro tem.* until January 1st.

Secretary Ryer's report of the last meeting was read and approved, and it was voted to abrogate section V, of the constitution, the secretary being instructed to communicate with Dr. Finlay concerning the privilege of holding meetings in the college rooms. Bills were passed which included the reimbursement of P. A. Dilworth in the matter of his expenses as delegate to the State Society convention at Rochester. Prof. Fox wrote stating that he would be unable to lecture to the society during the coming winter. The membership applications of Henry H. Ehrlich, proposed by M. Cohen and Geo. H. Tracy, proposed by Mr. Ryer, were laid on the table for the usual form of procedure.

It was then voted that the secretary send a letter to each member of the society for the pur-

pose of determining the number who would regularly attend a class to be formed for the study of optics as was proposed at the last meeting.

South Dakota Optical Society

South Dakota opticians are the latest to fall in line and organize a State association. At a meeting held at Sioux Falls, S. Dak., August 18th, a permanent organization was effected by the election of William H. Fritz, of Sioux Falls, president; Guy Livingston, Yankton, first vice-president; E. H. Keel, Sioux Falls, second vice-president; D. G. Gallett, Aberdeen, secretary; and H. G. Gebhart, Flandreau, treasurer. The board of directors consist of C. S. Fisher, Pierre; J. J. Krall, Tyndal; E. B. Hill, Sioux Falls.

These constitute a good "bunch" of officers and the association can well be proud of them, as all have made their mark in the profession, and with just a little of their natural energy expended in the interests of the association it will not be long before South Dakota will rank well up with her



D. G. Gallett

sister States, Iowa, Minnesota and North Dakota.

After the general business was completed, S. B. Millard, Litchfield, Minn., gave his celebrated talk on "Wave Motion," which was well received and enthusiastically applauded. Mr. Millard and W. J. Keating, Sioux Falls, S. Dak., formerly one of South Dakota's prominent optometrists, but now State manager for the Equitable Life Insurance Co., of New York, were elected honorary members of the association.

The executive committee will work up interest as much as they can and trust the profession throughout the State will answer readily to the calls for membership, as the only way to get a good association is for everyone to make it his especial business and *duty* to join at once. This is the only way to success and we trust the response will be liberal. Do not wait for a call, but send your name to the secretary at once.

Wm. H. Fritz, president of the association, started in the jewelry business in 1892 with A. F. Robertson, St. Cloud, Minn. He took an especial interest in the optical branch and after serving his apprenticeship went to Duluth, Minn., where for four years he was connected with the store of F. D. Day & Co., one of the finest in the Northwest. Then he went to Litchfield, Minn., where he took the optical and engraving course with S. B. Millard, after which in partnership with J. H. Bechold they succeeded the Keating Jewelry Co., Sioux Falls, S. Dak. Mr. Fritz is a "pusher," and as president of the South Dakota State Optical

Association should succeed in giving it a first-class start.

H. G. Gebhart, treasurer, began his jewelry career with S. J. Strickler, Salina, Kans., in 1886, and since then has followed it continuously and successfully, having spent his time as journeyman with some of the best stores in St. Joseph and Kansas City, Mo., and Chicago. In 1899 he started his present business in Flandreau. Mr. Gebhart is devoting his attention principally to optics at present and is very successful in that work, enjoying a large patronage through Southeastern South Dakota. He was one of the originators of the movement to organize the association.

D. G. Gallett, secretary, is one of if not the oldest optometrist in South Dakota. He has been connected with the jewelry and optical business since 1873, and for the past twenty-one years has been located at Aberdeen, S. Dak. In 1893 he graduated from the Chicago Ophthalmic College, and holds degrees of Doctor of Optics, Bachelor of Ophthalmology and Master of Ophthalmology from the Northern Illinois College. Mr. Gallett is also secretary of Aberdeen Council, No. 123, of the order of United Commercial Travelers, has a very extensive acquaintance through South Dakota and should make a very good "hustler" for the association. He wishes as a special favor that every optician in the State write him at once whether they are in favor of an early meeting or not, and also to call for application blanks.

North Dakota State Board

At the meeting of the North Dakota State Board of Examiners in Optometry, held at Hillsboro, N. Dak., last month for organization, the following members were present: A. O. Wold, Langdon; E. A. Nelson, Hillsboro; D. D. Sullivan, Fargo; Louis Hansen, Devils Lake, and A. W. Blakely, Minto. A. O. Wold was elected president and E. A. Nelson, secretary.

Tribute to the late Charles Lembke

The committee named by President Eberhardt, of the American Association of Opticians, to frame resolutions on the death of Charles Lembke, of New York, first president of the organization, reported as follows:

WHEREAS, In the death of Mr. Lembke the opticians of the American Association, the city of New York and the whole country, have suffered the loss of one of its highest type of man, citizen and brother. Though born in Germany Mr. Lembke early in life became thoroughly imbued with American ideas and standards. At a time when identification with optical organization might, possibly, have jeopardized his personal interests, he did not hesitate to obey the call of duty and to contribute his best efforts to the elevation of the calling in which he had spent nearly his whole life. Therefore, be it

Resolved, that in the death of Mr. Lembke the members of the American Association of Opticians desire to record their great loss and to express to his bereaved family the high appreciation in which his memory will ever be held. And it is further

Resolved, That a copy of this report be suitably engrossed and delivered to his family, also that further copies be furnished the trade papers and that a minute be spread upon the books of the Association.

Respectfully submitted,
A. JAY CROSS,
GEO. R. BAUSCH,
GEO. H. BROWN,
Committee.

A brief sketch of Mr. Lembke's career, with portrait, will be found on page 1461 of this issue.



THE BALLAND MAKE OF Opera and Field Glasses



is guaranteed by the houses for whom it is made.



It is **SUPERIOR** to any other make on the American market and is sold at a medium price. Prices on application.



TRY THIS MAKE ON YOUR FALL ORDERS.



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3 Points



are necessary in choosing a profession :

- (1) **Get the best education.**
- (2) **In the shortest time.**
- (3) **And for the least money.**

We believe we are in a position to offer this to all applicants by giving our \$25 Course in **OPTICS** for \$8.00 (\$2.00 down, balance \$1.00 a week).

Our new method (short cuts) teaches you **ANATOMY, PHYSIOLOGY** and **REFRACTION** in less time than any other system in vogue, and so thoroughly that you have the knowledge at hand that enables you to fit glasses without any guesswork.

A **DIPLOMA** of a chartered school like ours, means prestige, and qualifies you to become a member of any State Optical Society.

**AMERICAN OPTICAL COLLEGE,
DETROIT, MICH.**

AN ACTUAL FACT

The Great German Eye Water

(From the formula of Dr. Agnew) is the best, simplest and most effective preparation ever compounded, for inflammation of the eyes or eyelids, Conjunctivitis, Blepharitis or scaly eyelids, burning, smarting or itching of eyes. Its antiseptic properties destroy the germs and prevent acute inflammation. The phenomenal success of this Eye Remedy, has encouraged several opticians, (would-be) eye specialists and "home-made" Doctors to put upon the market Eye Remedies of divers kinds, and by extensive advertising attempt to divert the attention of the trade from a valuable Collyrium that has been used for years in nearly every hospital in the world, to remedies of which little is known, except by the advertisers, but the many opticians who have sold the German Eye Water for 20 to 25 years will attest to its value and recommend no other. Dr. Agnew's portrait is on every box. Get the original. Sold on its merits.



A handsome Show Case with your order for three dozen bottles. Also your special label on bottles if six dozen are ordered, and express paid to all parts of the United States. Price, \$1.63 per dozen, \$19.50 per gross. Order from your jobber or direct from the proprietor.

W. F. CUSHMAN, 711 Boylston St., Boston, Mass.

An Eye REMEDY, Not an Eye WATER.



Prevents incessant winking. Immediately relieves all spasm of the ocular muscles, all congestion and nervous irritability. Reduces an inflamed eye to its normal condition. Acts immediately and will not cause any systemic action or alarming symptoms.

Guaranteed absolutely harmless to adult or infant. A **positive** cure for all sore eyes and eyelids. A powerful antiseptic and astringent. Makes weak eyes strong.

After being treated for many months at a great expense by a prominent New York oculist, Mr. W. E. Boardman, of 15 Wall Street, a well-known broker, writes: "I beg to state that I have been using **Eyneed** for some time with entirely satisfactory results, it having been prescribed for me by New York's most eminent oculist, under whose care I had been for inflamed and generally weak eyes. The character of my work is such as to be particularly trying on my eyes, but fortunately **Eyneed** furnishes the desired relief."

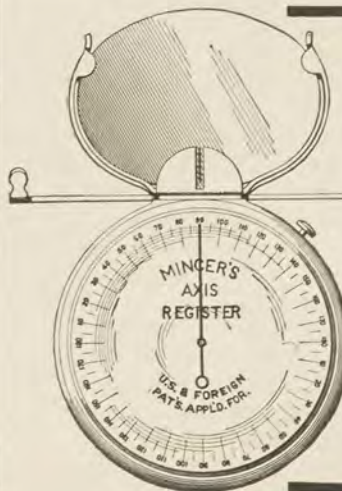
Eyneed costs you even less than a mere eye water—\$3.00 per dozen. Send for free sample and testimonials, or, better still, send for a dozen—you'll like it.

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Quick, Accurate Prescription Work. Everything Optical.

Something New

The Mincer Instantaneous Axis Register.



Having added a stop lever, a neutralizing lens cell and a spectacle and eyeglass holder combined, so that it is not necessary to remove lenses from frame, with the object of perfecting my **AXIS REGISTER**, I have had a complete new set of costly dies made for its production. I can therefore offer my patrons a better instrument than as originally introduced.

The Price for the New Model **\$3.50**, Net.
will be **\$3.50**, Net.
FOR SALE BY ALL JOBBERS.

Manufactured by **L. L. MINCER,**
Rochester, N. Y.

On a Little Known Method of Examining the Anterior Surface and Curvature of the Cornea

THAT the human cornea acts like a little convex mirror for all objects in front of it is a fact so well known to the readers of THE KEYSTONE that it would appear almost ridiculous to repeat it again. Nevertheless we do not always apply this knowledge in our daily work, and then we wonder if somebody calls our attention to an application of it which we already have observed for ourselves but which we did not give any further consideration. Thus every reader who has used the ophthalmoscope must have observed the corneal reflex of the mirror of the instrument, and in the beginning has probably been annoyed by it when trying to look into the eye, or may even have mistaken it for a corneal ulcer. But it probably did not occur to him to make use of this reflex for studying the surface and the curvature of the cornea. This has been done by Dr. S. Stephenson, of London, in an article in a late number of the *Ophthalmic Review* which we give below. We must remind the reader, however, that the ophthalmoscope used by the author of the article has a round mirror, while that of Loring, mostly employed in this country, has more of a rectangular shape. The corneal image of the mirror therefore will not look round but rather rectangular. This will not interfere with the detection of disturbances of the anterior corneal epithelium, as these irregularities of the surface are detected only by the broken-up appearance of the corneal image. Even astigmatism can still be detected by the change in the form of the corneal image of the rectangular mirror, though it is certainly easier to observe small changes in the form by means of the circular mirror. The reader, however, can make the same observation if he employs a higher convex lens, like a 20 D. lens, in the same way as it is used for oblique illumination of the cornea. He will then be able to study the form of the cornea by means of the circular image of the illuminating lens in the same manner as is indicated in the following article:

Studying the Form of the Cornea

While examining the anterior parts of the eye by means of the small concave mirror and a + 20 D. spherical lens, every one must have noticed a strikingly bright image of circular outline. For several years I have been in the habit of attaching some little importance to the clinical significance and diagnostic value of this image. It is, of course, an image of the edge of the mirror reflected from the surface of the cornea, and, like all images formed by convex mirrors, it is erect, negative and

smaller than the luminous objects of which it forms the reflection. It becomes larger the nearer one approaches to the eye under examination.

Supposing it to be reflected from the central parts of a normal cornea, it is absolutely circular in outline. If on the contrary, the reflection be obtained from periphery of the cornea the circular outline is replaced by an oval figure, the major axis of which is horizontal if the transverse meridian of the cornea is approached, and vertical if the vertical meridian is approached. No well-defined or unbroken reflection can be got from the ocular conjunctiva in the neighborhood of the cornea, because that membrane furnishes anything but an ideal surface for reflection.

The mirror-reflex, when closely examined, is found to include (a) a smaller circular spot, which represents the central perforation in the mirror; and (b) a small, upright image of the flame, gas or electric light, as the case may be. (c) Shifts its position within the mirror-reflex in the reverse direction to the movements of the mirror.

I have found an examination of the mirror-reflex of service in two conditions, *viz.*: (1) In disturbance of the anterior epithelium of the cornea; (2) in departures from the normal curvature of the cornea.

The first is well exemplified in the stippling of the anterior epithelium common in cases of commencing interstitial keratitis, where the ring-reflex is broken up and distorted over the affected portions of the cornea, while normal elsewhere. The same is seen when portions of the epithelium have been lost after an injury to the eye.

When the normal curvature of the cornea is disturbed, the mirror-reflex is distorted in various ways, according to the exact kind of disturbance present. This may be seen, to some extent in cases of high regular astigmatism, but is much more pronounced in the alternations in curvature produced by an adherent leucoma or a conical cornea.

Examination of the mirror-reflex, it will thus be evident, is a convenient clinical substitute for a so-called keratometer, as Placido's disk, etc. It is, in fact, a rough-and-ready means of examination. It is, however, convenient in actual work, because every surgeon who possesses a refracting ophthalmoscope possesses also a fair substitute for a formal keratometer.

The method above explained will afford interesting examination gymnastics for the enthusiastic optician who values the educational potentiality of a little research. Many of the refractionists are now sufficiently proficient in their specialty to investigate in all ways, and it is by such investigation that all new and valuable discoveries are made.

The Eyesight of Children

Comment has often been made, much more so in the past than now, on the large number of persons in American cities, including even many children, who wear glasses, and it has been suggested that this state of affairs is the expression of a fad or of a bit of affectation or of avarice on the part of the oculist. The fact is, however, that as a result of our indoor habits, demanding constant use of the eyes at short range, ocular defects that would otherwise cause no trouble, and thus remain concealed, become manifest as eye-strain in one form or other. To the credit of American ophthalmologists be it said that they were among the first to appreciate the significance of such eye-strain, and to the correction of its cause they have given most assiduous, intelligent and successful attention. We think it may be stated, without fear of contradiction, that no better refractive work—including muscle equilibration—is done than that of the ophthalmologist of the United States. As a result of observations made upon children in the public schools the relatively large preponderance of ocular defects has been amply demonstrated, and some investigation made by a competent Swiss oculist tend to show that similar conditions exist among the school children of continental Europe. In the course of examinations into the eyesight of 19,947 children in the public schools of Zurich during the eight years from 1884 to 1902 defective vision was found in 19.1 per cent. of this number, in the following percentages: Hyperopia, 1.2; myopia, 0.9; astigmatism, 8.6; spasm of the ciliary muscle, 1.4; strabismus and amblyopia, each 1; corneal maculae, 1.3, and various other defects, 1.5. It is uncertain from the accessible report whether a cycloplegic was employed invariably or at all in making the examinations, but the statement that an exact ophthalmometric examination of eyes with defective vision was an absolute necessity for the detection of the large number of cases of astigmatism suggests at least that paralysis of the ciliary muscle was not induced as a rule. It seems also that only those children may have been examined who complained of defective vision or apparently had impaired eyesight. In accordance with the results of the examination, written instructions were given in the case of each child, defining the distance of the seat from the window and from the blackboard, the use of spectacles, etc. The parents were informed when the eyesight was defective and were referred to an ophthalmologist for treatment. The Germans certainly deserve credit for valuable contributions to both the theory of optics and the practical application of optical principles.

HOW TO BECOME A GOOD OPTICIAN

A Thorough Course in Refraction, Including Degree, "Doctor of Optics," for \$7.50. Lists for Next Class Close Oct. 20th. Class Begins on Oct. 26th.

"How to Become a Good Optician" is the name of our 64-page Announcement.

It contains full particulars of our college and methods of instruction by mail.

It contains a reduced fac-simile of our highest degree diploma, Doctor of Optics, which we confer under authority of the Secretary of State.

It contains a long list of voluntary testimonials from nearly every State and Territory in the United States and Canada as well as from foreign countries.

Many of these testimonials are from some of the most prominent men in the optical and medical professions.

They speak in enthusiastic terms of the thoroughness of our course of study and of our practical system of imparting instruction through the mails.

We want every optician and jeweler in America to write us for a copy of this book.

We will mail it free for the asking, together with our circular "A Permanent Reduction," which gives particulars of our recent reduction in price from \$25.00 to \$7.50.

Several thousand students have paid us \$25.00 for this course during the past ten years, and have told us that it was really cheap at that price.

From now on you can secure the same course including a life scholarship and our highest degree diploma for Seven Dollars and Fifty Cents.

When you consider that our course has stood the test since 1893 and that we have a larger number of students in the field than any two other optical colleges in the world combined, you cannot make a mistake in taking it at such a price.

We do not want you to take our word for it.

We want you to write for our prospectus and then correspond with as many of our students as you may wish and get their opinions of the work that we do.

It will only take a minute to write us a postal, and it will bring our circulars and full particulars by return mail.


Write us to-day.

The South Bend College of Optics

(Incorporated),

South Bend, Indiana, U.S.A.

"Among the Blind," by Javal

 ONE of the books of the famous Javal just published is entitled "Entre Aveugles" (Among the Blind), and is intended for those threatened with the loss of sight. The name of Dr. Javal is familiar to our readers. He it was who, together with Dr. Schioetz, modified Helmholtz's ophthalmometer in such a manner that it has found its way from the laboratory into the examination room of every eye hospital and every ophthalmic practitioner, if not in every country, certainly in America, suffered many years from glaucoma, which blinded one eye more than ten years ago, and the other three years ago, in spite of the care of most competent oculists. His blindness (in his sixty-second year) was neither sudden nor unforeseen by his attendants and himself. His exceedingly active mind before and immediately after the advent of this calamity, resignedly set to work to use the remainder of his faculties to the best advantage for himself and others.

What a Blind Man May Achieve

The little book before us is the report of his endeavors and their astonishing results. He at once concluded to continue his active life, aided by the eyes of other people, using his other senses and his mental and economical resources. He describes how a blind man can keep himself independent, attentive, and safe in the house and on the street, useful in many ways, clean, healthy, and with good manners, even at the dinner-table, provided the maid be taught to put the plates and other things before him in the right places. He can attend to his watches and clocks, walk with a cane in the city and in country, ride a bicycle tandem—his portrait, riding on such a vehicle with a companion, is used as a frontispiece of the book—and undertake long journeys. Of all these achievements he cites remarkable examples. To be read to is one of the greatest resources of the blind, but how inferior to personal reading! He appreciates the satisfaction a blind person feels in the preservation of his handwriting. He describes and illustrates one of the writing machines for the blind which he presented to the "Académie de Médecine" April 3, 1901. He favorably mentions the fountain pen, an American invention. He advises young blind persons to learn type writing. He advises that in many American mercantile houses the principal dictates at the phonograph to his clerk, who afterward brings him the typewritten copy. "Nothing prevents a business man or an author who has become blind from using the phonograph in this way." He says he gladly avails himself of the phonograph. "It seems that the gramophone, quite a new invention, is much superior to the phonograph."

The remainder of the book treats of the alphabet and the reading of the blind, embossed letter-signs, system Braille; marriage, music, games and the use of different kinds of tools for the blind, and the sixth sense, "the sense of obstacles" of the blind. The author cites many published examples of the existence of such a sense, but he speaks of it with great reserve. He has no personal evidence of it in his own case. The book is interesting and gives many suggestions and rules to oculists, as to how they should treat and comfort people that are blind or getting blind.

The Alleged Sixth Sense

As to the alleged special sense which enables the blind man to steer clear of obstacles, there was recently an interesting article in *Cosmos*, by M. Laverune, who relates some

interesting anecdotes of this peculiar faculty. He says:

The sense of hearing and touch supply in great measure the place of the sense of sight in blind persons. One is often struck with the rapidity with which they decipher with their fingers characters in relief and with the way in which they recognize the voices and the steps of persons whom they know. By practice they finally become able, if not to sharpen their senses, at least to know how to utilize more completely than those who see, the impressions transmitted by those senses.

It has been remarked that numbers of them possess a certain aptitude in guiding themselves and in avoiding obstacles without using the sense of touch or apparently that of hearing: this has been called by certain authors the sense of obstacles. Thus a blind person walking through a house will tell without hesitation whether a door is open or shut. Young blind persons may be seen walking about in a playground without striking against the trees.

Some Curious Experiences

Some facts relating to this subject have been cited by Dr. Javal in his book "Among the Blind." The first of these was observed himself: M. G—, professor of history in the National Institution of Paris, lost his sight about the age of four years by atrophy of the optic nerve. There is complete absence of odor. He can just distinguish light from darkness, and occasionally can vaguely perceive large objects. M. G—, who is an observer of the first order, undoubtedly possesses the sense of obstacles, which enables him, for instance, when walking along a street to avoid with certainty the trees and the lamp-posts. He even avoids in the country great piles of stones on the roadside. He feels the presence of a wall at more than two yards' distance. In my presence he recognized in the middle of a room the existence of a large piece of furniture, which he correctly guessed to be a billiard-table. We have proved that the mass of the obstacle influences his perception; a leaf of paper does not produce the same effect as a thick book of the same size. He affirms that his sense of obstacles is much more sharp in complete darkness; there is thus no possibility that his perception of objects is due to his sense of light. With him, as with many others, the sense of obstacles disappears almost entirely amid noisy surroundings.

Another anecdote of similar import runs as follows: I know in my neighborhood a young man of twenty-seven years, blind since the age of two years, very intelligent, who is just about to end his education and his apprenticeship to the trade of rope-making. He guides himself alone along the roads. His village is four kilometers (2½ miles) from my home; when he comes to see me, he walks very quickly and without hesitation, turns at a right angle when he reaches the road to my house. It is by the sense of hearing that he is able to avoid obstacles.

When there is a strong wind that shakes the leaves of the trees along the road, it sometimes happens that he will run against an obstacle that he avoids in calm weather. The confused noise of the foliage masks the sound of his footsteps.

In like manner, when snow is now on the ground, he hears no longer the echoes against the trees by the roadside, and he is obliged to strike his thigh with his hand to make a noise whose echo will indicate the neighborhood of the obstacle.

Substitutes for Sight

This example, the writer notes, illustrates the part played by audition in many of these cases.

But some seem to be altogether independent of it. The author next cites a case, quoted by Prof. William James, in which a blind man who possessed this "obstacle sense" in an unusual degree states distinctly that hearing has nothing to do with it, because it is more distinct when snow is on the ground, and also when the ears are stopped. It disappears entirely, however, when the face is covered with a thick cloth, and hence the possessor of this sense believes that it resides in the skin, although no part of the body

but the face shows it. The author of the article goes on to say:

Some blind people say that they detect obstacles by means of a peculiar sensation in the forehead. Can it be that the skin of this region is specially sensitive to the invisible radiations of the spectrum? It would be interesting, says Javal, to investigate whether obscure radiations do not play some part in the perception of obstacles by the blind. The experiments attempted in this direction are not conclusive.

The sense of obstacles is not, it appears, confined entirely to the blind. James relates that a friend of his can, with closed eyes, detect the presence of object and describe their size and shape. He ascribes this to variations of pressure on the ear drum, too slight to cause sound, but regards the sensation as rather tactile than acoustic. In concluding, M. Laverune says:

We do not think that the blind have any special sense of orientation. It is probable that they utilize better than those who see impressions that are less useful to the latter.

Refractionist Addresses Medical Convention

B. B. Clark, president of the Rochester Optical Club and of the Optical Society of the State of New York, addressed the Homeopathic Medical Society at Lake Placid, N. Y., on September 16th, with a view to enlisting the aid of the medical practitioners for the proposed optometry bill which the New York State Society hope to introduce at the next session of the Legislature. Mr. Clark was accorded a very courteous reception, and one of the leading oculists of the society moved that the latter organization endorse the efforts of the optical society. After an interesting discussion this matter was delegated to the legislative committee. The success of Mr. Clark's mission is very gratifying. His address was as follows:

Mr. President and Gentlemen:

My object in coming before this meeting is to ask your consideration and approval of a proposed bill which the Optical Society of the State of New York wishes to introduce at the next session of the Legislature.

The aim of this bill is to regulate the practice of optometry in this State, and it has been formulated to a certain extent after the law now in force in Minnesota and California; in the latter State the measure was signed by a Governor who is an oculist.

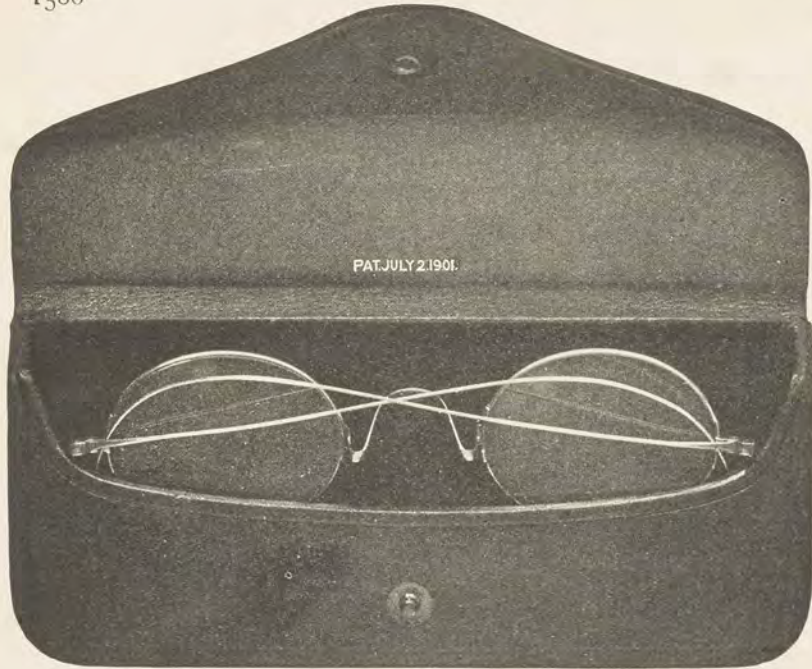
We wish to introduce a bill that will meet with the approval of the medical profession and are willing to adopt any reasonable suggestions or amendments.

Within the past ten years the practice of optometry has been taken up by able men who are working along lines which ought to receive the approval of the medical profession.

We believe that the proposed bill, if enacted, will prove trebly beneficial—to the public, the medical profession and to ourselves.

This proposed measure does not in any way invade the field of the practice of medicine. While the ideal condition is impossible, we contend that the regulating of the practice of optometry will result in placing it in the hands of men more able, competent and conscientious. We do not ask for any degree or title. What we do ask is, that every person who shall publicly practice optometry, after a fixed date, shall come before a State Board of Optometry and pass a satisfactory examination.

Gentlemen, I appreciate the courtesy extended to me at this meeting and I do not wish to take up more of your valuable time, but I assure you that if the Homeopathic Medical Society will, through its legislative committee or otherwise, endorse our efforts toward regulating the practice of optometry it will merit universal approval.



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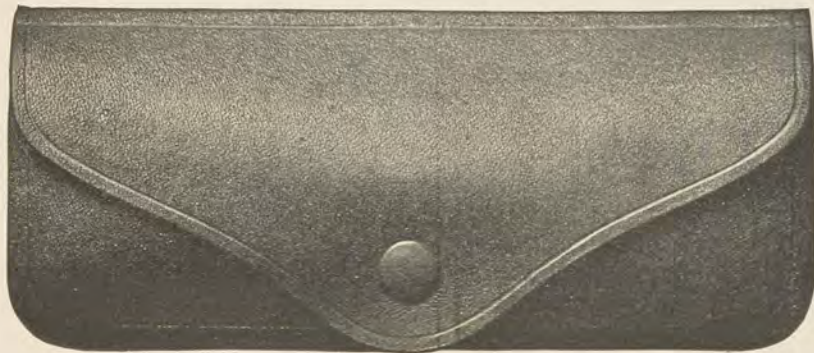
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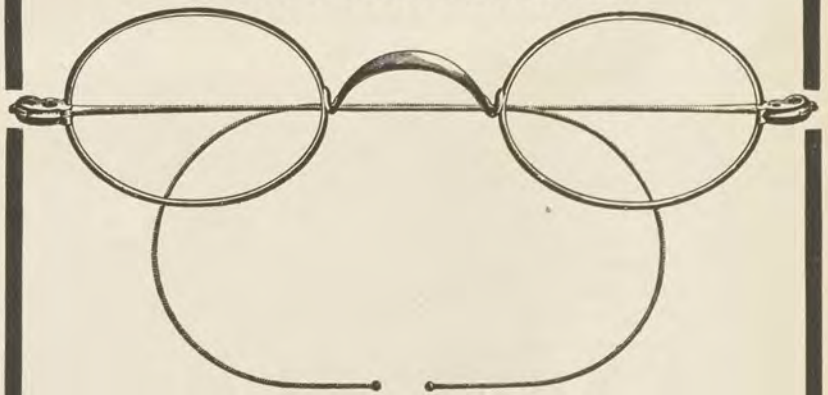
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Minnesota State Optical Association

The third annual meeting of the Minnesota State Optical Association was held at Odd Fellows' Hall, St. Paul, Minn., September 1st, and consisted of three sessions. The morning session was a clinic, and was the most successful yet held, it being especially instructive to the younger members who have come to appreciate this feature. As one of them remarked to your reporter: "One hour of such demonstration does me more good than to hear the best papers read, as I can follow it better, and it shows me what there is in optics and how much good we can accomplish." The operators were President Willson and C. H. Nerbovig, and the way they convinced the others that they knew what they were doing proved them thoroughly up in their profession.



President Chalmers

The afternoon session was called at 2 o'clock, and consisted of papers read and discussed. H. M. Hitchcock, Redwood Falls, had for his subject, "Eye Work versus Eye Worry." S. B. Millard, Litchfield, continued his subject, "Wave Motion; Mechanical Optics," begun at the Lake City June meeting. Frank Heitzman, St. Paul, read a paper on "Philosophy." These were followed by J. M. Chalmers, Lake City, and President Willson, and were very excellent papers, covering a greater field than ever before undertaken. Discussion was carried on liberally, and all seemed to derive great benefit from them.

The evening session was called to order by President Willson at 7.45. The minutes of the June meeting were read by Secretary Snell and approved. Reports of the secretary and also of the treasurer were received and ordered placed on the record. The treasurer's report, showing cash in hand, \$505.22, was received with applause. Dr. J. S. Johnson, one of St. Paul's leading oculists, then read a paper on "Diagnostic Errors and Errors of Refraction," a very carefully-prepared paper, and was well illustrated on the blackboard.

The report of the membership committee was read by Chairman Hitchcock, and the suggestions made were well received. The following, proposed at the June meeting, were then elected members: Philip Dowd, St. Paul; Mrs. Agnes Sawyer, Stillwater; Peter J. Schaefer, St. Peter, and R. H. Anthony, Minneapolis. One application was laid over for action until next meeting. The following applications for membership were then read, and on motion the rules suspended and they were elected: Frank C. Wittenberg, LuVerne; John A. L. Wallman, Minneapolis; M. Morrison, Winona; M. A. Scherfins, Sauk Center, and C. A. Sherdahl, Montevideo. One application was referred to the membership committee for investigation. On motion, a new membership committee, to be comprised of seven members, was to be appointed by the president.

Notice was given of a proposed amendment to article 2, section 1, of the by-laws, to be acted on at the next meeting. The election of officers resulted in the following: President, J. M. Chalmers, Lake City; first vice-president, C. H. Nerbovig, Mankato; second vice-president, Geo. R. Clark,

St. Cloud; secretary, C. A. Snell, Minneapolis, re-elected; treasurer, Louis L. DeMars, Minneapolis, re-elected; board of directors, for four years, A. M. Harper, Renville, and for two years, Frank Heitzman, St. Paul, who will fill the vacancy caused by the resignation of C. H. Nerbovig, to accept the vice-presidency. The meeting was then adjourned, to convene in May or June at a place to be selected by the board of directors, Duluth preferred.

Notes of the Meeting

The subject of uniform prices, as published in the July KEYSTONE, was informally talked over, and this matter will undoubtedly come before the next meeting again, as the majority seem to think it highly commendable.

Another lady member added to the rolls was one of the results of the meeting. We should have more; they are valuable additions.

The subject of publication of proceedings of the meeting and papers read also received informal attention. This policy and the sending of the pamphlet to non-attending members is one of President Chalmers' ideas, and is good. Let those not able to attend get the benefit as well as those present.

The growth of the association continues steadily, and the prompt payment of dues proves that all are interested. Very few are delinquent and the secretary expects these to respond as soon as notified. Keep up your membership as it is to your interests to do so.

The following were noticed in attendance: J. M. Chalmers, Lake City; C. A. Snell and L. L. De Mars, Minneapolis; Frank L. Willson, Mantorville; A. M. Harper, Renville; L. O. Hulberg, Northfield; Mrs. Agnes Sawyer and E. F. Huhner, Stillwater; C. H. Nerbovig, Mankato; Geo. C. Nerbovig, Le Sueur Center; H. M. Hitchcock, Redwood Falls; Prof. J. W. Grainger, Rochester; Andrew R. Wilton, Alexandria; S. B. Millard, Litchfield; B. W. Brokaw, Glenwood; Frank C. Wittenberg, Lu Verne; Geo. R. Clark, St. Cloud; Peter J. Schaefer, St. Peter; Hans J. Heram, Elbow Lake; C. A. Sherdahl, Montevideo; Albert Asleson, Dawson; Frank A. Upham, J. H. Zimmerman, F. Heitzman, Henry Jacke, Albert E. Upham, Geo. D. Hartmann, and Dr. J. S. Johnson, St. Paul; J. A. L. Walman, Minneapolis.

J. M. Chalmers, the newly-elected president of the Minnesota State Optical Association, has the honor of being one of the oldest members of the profession in actual practice in the State. Although still a comparatively young man he has been a close student and practitioner for fifteen years. Mr. Chalmers is a New Yorker by birth, being born in Fulton, N. Y., but when quite young removed to Canada, where after passing through the high school course successfully, he served his apprenticeship as watchmaker with W. Northgraves & Co., Perth, Ont. In 1880 he established his present business at Lake City, Minn., which he has carried on successfully ever since, with the exception that in 1882 his stock was completely destroyed by fire. With his usual pluck he started over again, and in a short time was once more prospering. In 1892 his desire for more knowledge took him to Chicago, where he took a course in optics with Dr. Martin. Mr. Chalmers has one of the neatest and most complete optical rooms in the State, and the visit of the State Association to his city last June convinced the members that he was the man for their next president and he was elected without opposition. His progressiveness and well-known professional attainments will undoubtedly do much to keep the association in the front rank.

Annual Convention of the Canadian Association of Opticians

The annual convention of the Canadian Association of Opticians was held in the Temple Building, Toronto, Wednesday and Thursday, September 9th and 10th. President W. G. Maybee, of St. Catharines, occupied the chair and there were about fifty members in attendance. The executive committee was instructed to secure a charter of incorporation as soon as possible. The papers read included one by Prof. Grant on the question, "What are we Doing as Opticians." He dealt with the subject chiefly from an educational standpoint. A paper prepared by John C. Eberhardt, president of the American Association of Opticians, was read by E. Culverhouse, of Toronto. It dealt with the development and influence of the American national organization and referred to the establishment of a Chair of Optics in the University of Chicago, the degree of which would be recognized by the Canadian Association. The central feature of the evening session was the illustrated lecture of Dr. Earl J. Brown, of Chicago.

The second day's proceedings included a paper by President Maybee on "Who were we, Who are we, and Who are we going to be?" The substance of this paper consisted of a review of the progress made by the profession in recent years. Prof. Geo. A. Rogers spoke on the present outlook for the profession, dealing with the need of scientific and mathematical proficiency. A banquet at McConkey's restaurant formed a pleasant finale.

The following are the newly-elected officers: President, Prof. S. Grant, Montreal; first vice-president, A. E. Lewis, Toronto; second vice-president W. H. Kearney, Renfrew; third vice-president, A. C. Skinner, Sherbrooke, Que.; fourth vice-president, W. C. Forbes, St. Thomas; secretary-treasurer, Alex. Moffat, Brantford. Executive committee, W. G. Maybee, St. Catharines; Alex. Ray, Bellville; E. Culverhouse, Toronto; T. Brown, Toronto; H. Batting, Toronto; F. Luke, Toronto. Membership committee, E. Culverhouse, Toronto; H. Geiger, Toronto; F. Luke, Toronto; H. Batting, Toronto.



Prof. Samuel S. Grant

Prof. Samuel S. Grant, the recently elected president of the Canadian Association of Opticians, is a refractologist of ability and wide experience. His predilection for optical science is a natural inheritance, in a sense, for the firm of Henry Grant & Son, of which he is the junior member, was dealing

extensively in spectacles and eyeglasses as far back as forty years ago. The new president of the Canadian Association has been one of the leading spirits of the optical organization movement in the Dominion, and is also well known in the refractive arenas of America and England. He is a charter member of the American Association of Opticians and first vice-president of its Physiological Branch, and is also a member of the Optical Society of London. Prof. Grant is an effective speaker, and has addressed meetings of the American Association on different occasions. In 1900 he was elected vice-president of the Canadian Association of Opticians.



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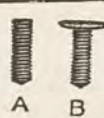
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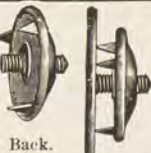
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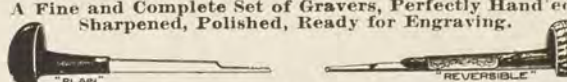
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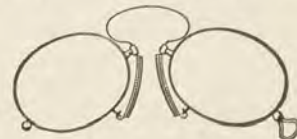
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An Interesting Addition to our Knowledge of the Movements of the Eyes

Some time ago we commented upon the observations which had been made regarding the movements of the eyes during the act of reading and which had shown that our eyes do not move uniformly over the letters but by sudden jerks, and that for each line of an ordinary book they would make about four or five such jerky movements. Lately Professor G. M. Stratton, of the University of California, has extended these observations. This scientist, some interesting experiments of whom we reported in our issue of March, 1898, has succeeded in exactly photographing the movements of the eye while the eye moves along the outline of some geometrical figure. He makes some philosophic remarks about the connection between the beauty of the outline and the actual path of the eye, extracts of which are as follows:

"A perfect circle is more pleasing than an irregular polygon, a serpentine line than a straight line or a line of sharp curves.

Does this difference in esthetic effect rest upon a difference in ocular movements? The question has been debated for many years by aestheticians. Some have argued that the esthetic value of the circle and of the serpentine line is due to the ease and harmony of the movements which the eye executes in traveling over these figures. The eye is said to 'sweep' about a circle or along a wave-line without resistance or constraint. But on the other hand doubt has been expressed as to the validity of this physiological explanation. Beauty, it has been said, is a spiritual creation which has nothing directly to do with the eyes of the observer; it is, as the philosopher, Hermann Lotze, contends, a 'matter of intellectual enjoyment,' and not of the mere sensory factors in perception. The dispute might have waged endlessly had it not occurred to some one to settle it by direct appeal to experiment. Fortunately, the last five years have seen the development of extremely delicate methods of registering eye movements. Prof. G. M. Stratton, of the University of California, has attempted to utilize these methods for the solution of the problem just stated. In his experiments, which are described in *Philosophische Studien*, Prof. Stratton threw upon the cornea of the eye a bundle of rays from a stationary arc-light situated at some distance from the observer. As the observer's eye moved over the outlines of a figure laid before him, a photograph of the moving speck of light on the cornea was taken. Says the experimenter:

"Any one may observe that when the eye moves hither and thither, it causes a movement of any small image that may happen to be reflected upon the smooth surface of the cornea. And a photographic record of the movement of such a minute image would, to some extent, give an account of the course taken by the eye in running over characteristic curves and figures, a record, too, that would in no way inconvenience the eye nor add anything like a foreign momentum to its normal swing."

Of the accompanying figures, drawn from these photographic records, the writer says:

"Fig. 3 is the record of subject N in running the eyes around a circle 38.5 centimeters (14 inches) in diameter and about 80 centimeters (32 inches) from the eyes, starting from the top and taking the direction of the clock. The heavier points, of course, show the pauses in the eye's course, as it seemed to swing around the curve. Figs. 4 and 5 are similar records from the same subject, but with other diagrams. In the one case the drawing observed was an outline rectangle having the golden proportion (25 x 40.5 centimeters) placed perpendicularly; the other drawing (for Fig. 5) was a combination of two segments of circles as shown in Fig. 6 (extreme dimensions 60 centimeters). The point of beginning of the record is in each instance indicated by the letter A, and the direction of movement by an arrow."

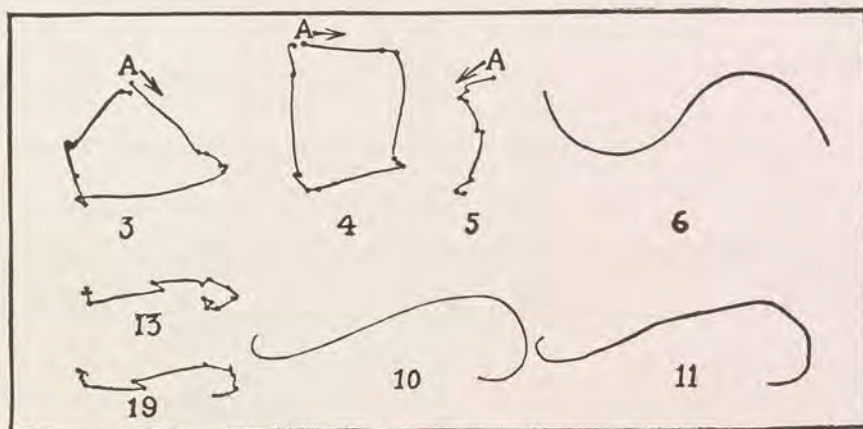
A scrutiny of these figures reveals an astonishing fact, which is thus stated by Prof. Stratton:

"The eye moves far less accurately over an outline than has usually been supposed; it takes a

course which is but a round approximation of the form which we perceive. The eye darts from point to point, interrupting its rapid motion by instants of rest. And the path by which the eye passes from one to another of these resting places does not seem to depend very nicely upon the exact form of the line observed. The eye may take a short cut that is nearly or quite a straight line while 'following' the segment of a circle, as in some portions of Fig. 3."

The illusion is due, the author thinks, to a confusion of the point of attention with the point of fixation. The attention moves continuously and freely along the line or the curve, though the eye moves jerkily and spasmodically. Since the attention is uniform and continuous, we neglect the discontinuity of movement and thus fall into illusion. It is, moreover, clear, from the experiments, that the esthetic quality of spatial forms and figures must come from some other source than the movements of the eye. The writer concludes:

"On the whole, it seems probable that the motor and tactual sensations obtained during the vision of a beautiful outline are no more intimately connected with the final esthetic effect than are the sensations from our leg muscles with our pleasure as we walk through the gallery at Dresden. The external apparatus of the eye merely brings the retina to such points of vantage as will permit various views of the more significant details, and out of the series of snap shots obtained during these stops in the eye's course the mind constructs its object into a clearer whole. The part played by the external muscles of the eye is thus a menial one esthetically. They are not the star actors of the performance; they are mere scene-shifters."



Movements of the Eye in Following the Outlines of the Various Figures.

The writer anticipates the objection that the movements indicated by these drawings, although they look harsh and irregular, may, nevertheless, by contrast with more irregular movements, from decidedly ungraceful and ugly objects, seem positively pleasant. He presents records taken from allied figures (10 and 11), one of which is decidedly graceful and the other decidedly ungraceful. The ocular movements caused by the observation of these two figures are shown in Figs. 13 and 19—the first form the graceful, the second form the ugly curve. A comparison of the two records will show that they are of the same type: there is nothing in the one that could give esthetic satisfaction, and in the other, esthetic displeasure.

"The main conclusions to be drawn from the present set of experiments seem plain enough. In the first place, they give evidence of a most striking introspective illusion. From the mere feeling, one would never suspect that they eye took so irregular a course. Introspectively it

made up it will be found that the lens used previously is either a trifle too large or too small for the new wire. To prevent the latter occurrence the workman usually endeavors to make his size at any rate small enough. In consequence it frequently happens that the eyewire is finished off slightly too little for the lens. A careful workman in such a case will see to it that the lens is duly eased, but frequently his more easy-going brother simply puts in the lens and screws up the joint as far as possible. The result is that the joint yawns and great strain is put upon the screw, with the further consequence that, if the latter is a poor and worn specimen, it very soon works loose and the lens drop out. Frequently an eyewire is so hardened in the soldering that the slightest strain upon the front causes it to snap and let the lens fall out of its groove. This indicates that the frame has not been properly re-tempered after repairing.

Workmen doing repairs should not be permitted to send in jobs where the parts dealt with have not been finished off in accordance with the rest of the frame. For example: A new bridge placed upon a bright steel frame, or even upon one originally colored, should not be passed if colored a vivid blue whilst the rest of the frame has not been colored to match. The same rule applies to other parts. It is a very unsightly to have one eye of a spectacle frame colored whilst the other remains untouched, as frequently happens with cheap repairs. These evidences of hurried work should be sufficient to condemn the jobs; so also should badly fitted spectacle sides, and sides that do not accurately match each other in length and character. A reputation for high-class repairs can be made to pay an optician's rent and taxes; but such a reputation is only gained by an unceasing attention to small details such as the above.

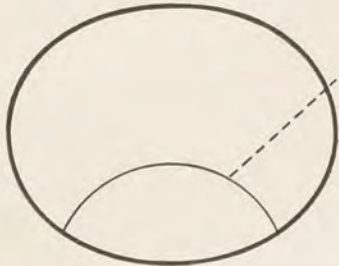
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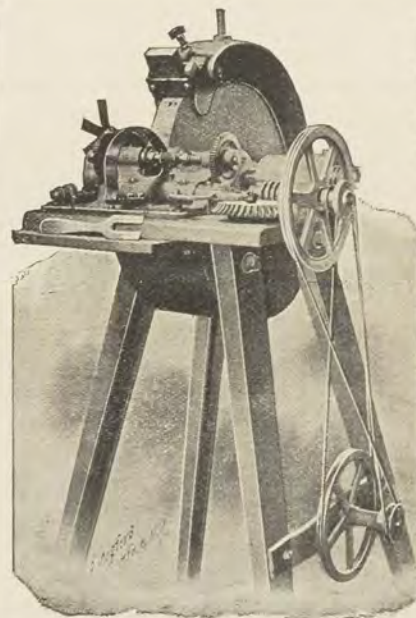
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If You Want a Good Machine for Edging Rimless Lenses, TRY OURS.

It is complete and practical, and will grind lenses smoothly.

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Is of a composition superior to the Craighleith. Has a smoother to keep it true. Has a holder to center lenses correctly. Has a set of easily changed cams varying in the proportion of length and breadth.

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- Foot Power Edge Grinder, complete, for \$12.00
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- { With 1 Diamond Drill 15.00

TILTON OPTICAL CO.,
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Minnesota State Board

The Minnesota State Board of Examiners in Optometry met at the State capital, St. Paul, on September 2d and 3d. There was a class of eight presented for examination, of which only three were successful; Geo. E. Spofford, Long Prairie; Ed. Castor, Waseca; and Owen R. McCormick, Minneapolis. The average work of the class was much below the standard, and again all were convinced of the wisdom of an examination before being allowed to practice. The more one sees of the operation of the law the more one is of the opinion that it was passed for the protection of the general public and not for a few.

The Northwestern Optical Association

The regular quarterly meeting of the Northwestern Optical Association was held at the State Capital Building, St. Paul, Minn., September 3d. There was a good attendance, especially of visiting non-members, who had become interested in the work and were anxious to help give it a good start. President Grainger called the meeting to order at 8 p. m., making a very nice opening speech, in which he called attention to the work the association was doing and at the same time stating emphatically that he wished it to be thoroughly understood that the Northwestern Association had no desire to interfere with the work or membership of any of the State associations in the Northwest, but rather to work in harmony with them. He advised every optician in the Northwest to at once join the State association in his State and also in the centers to organize local associations, to get together and harmonize their interests, all of which would be to their individual benefit and to that of the profession at large. This was received with applause from the members of both the Wisconsin and Minnesota State Optical Associations present.

This was followed by a very interesting paper on "Elusive Errors," by Mrs. Gertrude Ayer-Stanton, Oph. D., of Minneapolis, which was ably presented and received with hearty applause. Dr. Thomas McDavitt, St. Paul, Minn., read a paper on "The Prescribing of Glasses," advising opticians that when there are cases of diseased conditions of the eye, expert advice should be sought. Dr. John McLean, St. Paul, followed, his subject being "Lack of Balance of the Extra Ocular Muscles."

President Grainger then read letters of regret at not being able to attend the meeting from Gov. Van Sant, of Minnesota, who had a prior engagement; H. H. Witherstine, M. D., and F. R. Mosse, M. D., Rochester, Minn., who had been detained at home because of serious cases on hand that needed their attention. Judge Thos. Fraser telegraphed that he had missed the train. These absentees were on the programme for papers, and Prof. Grainger filled the time with one on "Retinitis," which subject was handled in the professor's usual vigorous style. Eight new members were reported as added to the rolls.

The annual meeting will probably be held in Minneapolis between Christmas and New Year's.

The following prominent refractionists were noted in attendance: Prof. J. W. Grainger, Rochester, Minn.; Dr. L. J. Korstad, Zumbrota, Minn.; F. J. Pratt, W. P. Knauer, J. H. Zimmermann, Geo. W. Boeringer, Fred. H. Harm, J. F. Patterson, Arthur Williams, C. F. Sischo and H. W. Harm, St. Paul, Minn.; Dr. C. M. Stanton, Mrs. Gertrude Ayer-Stanton, J. A. L. Wallman

and P. C. Hirschy, Minneapolis; Alexander Sweningsen, Moorhead; H. M. Hitchcock, Redwood Falls; Dr. E. C. Roberts, Redwing; Mr. Ennis, Detroit, Mich.; Dr. Jones and Dr. Clayton, Redwing; Dr. McDavitt, Dr. McLean and Dr. G. Bergman, St. Paul, and Prof. Stringer, Hayward, Wisconsin.

Virginia State Optical Association

The annual meeting of the above association took place at Staunton, Va., on August 29th, and was attended by a large number of members from all parts of the State, who showed a lively interest in the business.



President Jahnke.

A number of papers were read on subjects of importance to the optician, and a clinic in charge of V. B. Gilbert, of Richmond, followed.

Officers were elected as follows: A. F. Jahnke, Jr., Richmond, Va., president; Dr. A. Weck, Norfolk, Va., vice-president; G. L. Hall,

Norfolk, Va., treasurer, and John W. Buchanan, Richmond, Va., secretary. The following members were appointed as executive committee: C. H. Rudd, chairman; E. E. Shreiner, B. R. Tucker, G. B. Tilghman and F. H. White.

At the conclusion of the business a drive through the city and surrounding country was indulged in, and a banquet was held at the Eakleton Hotel, where the meeting assembled.

A. F. Jahnke, Jr., of Richmond, Va., who was elected president of the association and whose portrait we present herewith, is one of the best-known jeweler-opticians in the Old Dominion State. He is the proprietor of the well-known Richmond firm of Jahnke Bros., a concern founded by his father many years ago. He has always taken an active interest in the development of the optical business and has been closely identified with the optical organization movement in his State. At the annual meeting of the Virginia Association one year ago he was elected its vice-president, and his recent election to the presidency of that body is another evidence of his furtherance of the movement. Mr. Jahnke, who is still a young man, is a firm advocate of higher education in the realm of refraction.

New England Association of Opticians

The first meeting of the fall sessions of the New England Association of Opticians was held at Young's Hotel, on the evening of September 15th, and was well attended. After routine business the application of Wm. H. Wyman, of Chelsea, for active membership was favorably voted upon. The applications of Thos. W. Spencer and Fred. D. Simmons, of Boston, for active membership, and Enoch S. Eastman, of Swampscott, for associate membership were received and referred to the committee for investigation.

The chair then brought up the question of affiliating with the American Association, and remarked that the members of any section did not figure very much in the deliberations of the national body unless they had representation on the board

of delegates and he thought the New England opticians should be so represented. He told of the difference of opinion as to the terms that the different societies were willing to affiliate on. On motion, the question was referred to a special committee consisting of Messrs. Palmer, Donovan and Ward.

The chair then introduced John A. Tenney, M. D., of Boston, who talked on the "Diseases of the Crystalline Lens and How to Recognize Them."

The crystalline lens, the doctor stated, is suspended in fluid secreted by the ciliary body. It is surrounded by a capsule, which in foetal life is lined throughout with epithelial cells. After birth the cells that line the anterior portion of the capsule are the only ones that persist. These cells secrete the capsular substance; they form the lens fibres; they select nourishment for the fibres and protect them from normal and abnormal fluids.

The nutritive fluid for the lens enters that body near its equator, and the effete matters pass out near its anterior pole. Each accommodative effort increases the force of the circulation of fluid in the spaces between the lens fibres. In age this circulation of fluid becomes slower, sometimes becoming stagnant, when it is absorbed by the adjacent fibres to their injury.

The cells fail to protect the fibres in diabetes, in cholera, anemia and gout. The nutritive supply may be waiting for a time, and be supplied afterwards, causing lamellar cataract. Contact of the lens with the cornea before birth, or abnormal exudation causes anterior, polar or pyramidal cataract.

Nothing is easier than to make a diagnosis in mature senile cataract. We merely see a white pupil instead of a black one. Immature cataracts are more difficult to distinguish.

The center of the lens is denser than the outside, and grows more so as life advances. The outside is continually replenished by the cells lining the capsule, and is called the cortical portion. The center is called the nucleus. If the outside is affected with cataract, that is, becomes opaque, it is called cortical cataract. If the nucleus becomes opaque first, it is called nuclear cataract. The capsule sometimes becomes diseased before any change takes place in the lens proper, and then it is called capsular cataract.

The diagnosis is made by means of an ophthalmoscope in a dark room. The patient is seated back to the light and + 5 D. is turned up before the ophthalmoscopic mirror. If there is beginning cortical cataract, dark streaks will be seen reaching from the periphery of the lens toward the center. These opacities will be seen against a red background. If the cataract is nuclear, the cortex will be clear; and if capsular, there will be an opacity upon the surface of the lens as if ink were splashed over it.

Cataracts in children are of three kinds—soft, lamellar and polar or pyramidal. Soft cataracts appear at birth or soon after, the pupil being white. In lamellar cataract the opacity appears in layers, the periphery being transparent usually. In pyramidal cataract the opacity is in the center of the pupil. It is easily made out by oblique illumination.

At the conclusion of the lecture the doctor was given a vote of thanks. He is a prime favorite with the members of the association, who greatly enjoy his plain, practical talks. He speaks in a deliberate manner, and makes his subject so plain and can be so readily followed that the members always turn out in good numbers when he is announced to speak.

Most Complete Work on Refraction

Commenting on "The Optician's Manual, Vol. II," just published, the *Journal of Ophthalmology* says: "This is a good and clear treatise on the errors of refraction and their correction." The same opinion is expressed by all the medical magazines and refraction journals. The *British Optical Journal* says: "It is a good book and one which should be in the library of every studious optician." Vol. II can be had from THE KEYSTONE at the same price as Vol. I, two dollars.

A NEW TESTING CABINET

THE XX CENTURY TESTING CABINET, first shown at the meeting of the American Association at Atlantic City, is now on sale. Has many features not possessed by any other cabinet. All advantages of others. Charts lighted from behind by electricity, gas or oil, and controlled by operator from any part of room.

\$10.00

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Descriptive pamphlet on application.

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Manufacturing, Wholesale and Importing Opticians

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You'll not find it all onesided, either—it will prove a mutual benefit. If you are not taking advantage of the advantages our Prescription Department affords you are not doing the best that you can.

Why?

Because we are in the first place, "The Pioneer Surface Grinders of the South."

We have introduced all that means perfection and eliminated all that means mistakes.

With us you take no chances—talk with us.

Just as our Prescription Department has outstripped all others in the South, so has our Optical Stock, in keeping abreast with it, overtopped all others by growing to several times their size.

"Regular" or "Special" if it is at all in demand in Optical business you'll find it represented here.

Translucent Signs.

Inside the store, or outside they show—translucent, two-faced, yet always telling the same story to customers.

The eye in full detail and in colors. Opera-glasses, Field-glasses, etc.

You can apply them yourself to your show window.

Inexpensive—Three Sizes.

25c., 50c. and 75c.

Optical Notes

✿ Fred. L. Swart, of Auburn, N. Y., treasurer of the American Association of Opticians, was nominated for alderman of the Ninth Ward of that city at the recent primary elections held there.

✿ The E. Kirstein Sons Co., of Rochester, N. Y., have now in their services a lady representative, named Mrs. Miller, whose function is to do missionary work among oculists and opticians in the interests of the firm's "Shur-On" specialties.

✿ The Rochester Optical Club, of Rochester, N. Y., held an outing and clambake at Seneca Park Rock on September 26th. It was a very pleasant function and thoroughly enjoyed by the optical fraternity of the city, whose success in the social realm is evidently as notable as in the more vital matter of organization.

✿ The New York School of Optometry has been opened at 45 West Thirty-fourth Street, New York. Lectures and quizzes, laboratory and clinical work will be included in the curriculum of the school. In addition to the instruction of the regular faculty, special lectures will be given by other authorities on refraction.

✿ Dr. Geo. W. McFatrach, secretary of the Northern Illinois College of Ophthalmology and Otology, was elected to the 33d degree, Scottish Rite Free Masonry, at the recent meeting of the supreme council in Boston. The doctor has just attained the age which a candidate must reach to be admitted to this degree, and his election is a marked honor.

✿ M. O. Cockrum & Co., of Oakland City, Ind., have issued a small booklet exploiting their optical and repair departments. The initial pages are given over to an interesting talk upon the essentialness of correct vision to general physical comfort. Some illustrations of the anatomy of the eye are given and an unusual feature is the long list of patrons successfully fitted by M. O. Cockrum.

✿ Rudd & Buchanan have opened a very handsome establishment in the new buildings at the corner of Fifth and Main Streets, Richmond, Va. Both members of the firm are graduates of optical colleges. Mr. Rudd heretofore has had charge of the optical department for D. Buchanan & Son, 111 East Broad Street, Richmond, and Mr. Buchanan is a son of John McS. Buchanan, the well-known jeweler and optician, of Petersburg.

✿ Wm. R. Uhlemann, optician, Chicago, has announced his opening at 74-76 East Madison Street, by means of a very clever advertising device which takes the form of a folding card measuring $12\frac{1}{2} \times 4$ inches approximately. When folded and ready for mailing this card on one side represents a complete padlock with the lock suspended from a staple cut in the card. This is a unique symbolization of the announcement inside, "I have just taken the padlock off the door at 74-76 East Madison Street," etc.

✿ Geo. A. Griffin has temporarily taken the place of Perry Hanauer in the New England States in the interest of the Meyrowitz Mfg. Co. Mr. Hanauer has been traveling in that section for a number of years past. He has severed his connection with the Meyrowitz Company and will probably go into another line of business. He was formerly connected with M. E. Stern, the New York optical jobber, and has a wide acquaintance in the Eastern States. The territory is an old one to Geo. Griffin, as he formerly covered it while employed by the Julius King Optical Co.

Kentucky State Optical Association

All optical practitioners in Kentucky, whether members of the Kentucky State Optical Association or not, are cordially invited to attend the meeting of that organization to be held at Lexington, Ky., on October 20th. It is desired that all join in sharing the pleasure and usefulness of these meetings for personal advantage as well as to further the interests of the profession.

O. R. KING, Lexington, Pres.
JOHN M. IRMEN, Louisville, Sec'y.

A Hand-book of the Diseases of the Eye and their Treatment

This book by H. R. Swanzy, A. M., M. B., F. R. C. S. I., now in its eighth edition, needs no recommendation. This new edition has been revised and is thoroughly up to date. This is especially true of the portion of the book treating of diseases of the eye. According to our American ideas the subject of refraction is treated rather meagerly, being disposed of in fifty of the entire 550 pages. The reviewer is glad to see the author call the dioptric unit a *dioptry* instead of *dioptr*, as it is usually called in this country, and to see him use the correct term *chorioid* instead of *choroid*.

To any one who wishes to be instructed about the real diseases of the eye in a practical and thorough manner this volume may be heartily recommended. It is published by P. Blakiston's Son & Co., and can be had from THE KEYSTONE office on receipt of the publisher's price, \$2.50.

Damage Suits Against Department Store Opticians

The responsibilities of the optician are emphasized by two suits for damages instituted last month. One of these suits has been brought against John Wanamaker by a Philadelphia woman who claims \$25,000 damages for a permanent injury to her eyesight, said to have been caused by the faulty repair of her eyeglasses. She alleges that she went to the optical department of Wanamaker's store to have a new frame put on her glasses and that the lenses cracked and penetrated her eye.

Another contemplated suit came to light in Brooklyn, N. Y., when the court appointed Gustave A. Wessman guardian *ad litem* of his twelve-year-old daughter, Dorothy, in order that he might begin an action against H. A. Baker & Co., dry goods dealers, of 1720 Broadway, to recover \$50,000 damages for injuries to his daughter's eyesight. In his petition Mr. Wessman says that in September, 1902, his daughter visited defendants' store to purchase a pair of eyeglasses, and that an incompetent employee fitted them. He alleges that the glasses were faulty and that the child, as a result of wearing them, received serious injuries to the eyes, and now suffers excruciating pain. The child, the father says, was compelled to give up her schooling for a time, and had to be treated by an eye specialist, who, it is alleged, says that the injuries to the child's eyes are permanent.

The National College of Optics, Cedar Rapids, Iowa, is offering its regular \$25.00 course, with lithographed, highest honor diploma, for \$6.00. This course contains the same instruction as their attendance course, for which they have regularly charged \$100.00. A postal card will bring you full information. Write them to-day. —Adv.

"Skiascopy"

The following editorial of the *Ophthalmic Record* gives an excellent resume of all the reasons in favor of the term "skiascopy": In the end the supreme authority in determining the meaning of a word, or the proper word to express a certain idea, is usage. The usage may be local, establishing a dialect; national, fixing the word of one language; or world-wide. But within its sphere, popular usage finally becomes supreme. In general that will be regarded as the better word which has the wider use to support it.

In view of these facts, it seems worth while to call attention to the use of the term "skiascopy." It is not so old a word as retinoscopy; but neither is retinoscopy as old as keratoscopy, and keratoscopy had the advantage of being the suggestion of the originator of the test. Keratoscopy was given up because it was inappropriate and misleading. The *Index Medicus* placed it under the heading, diseases of the cornea, a very reasonable position for the word, although an entirely inappropriate classification for the thing signified. The procedure in question is not a method of examining the cornea. Neither is it a method of examining the retina, except that as an accident the refraction of the retina approximates the refraction of the surface from which the light reflex is obtained.

It was because of this inappropriateness of retinoscopy, and the tendency even then observable in the literature of the subject toward the general use of the more reasonable term, that the writer, some years ago, gave up its use, and began to employ skiascopy in its place. A recent examination of the literature of the subject shows that these reasons have had equal weight with most others who have written on the subject.

Outside of those who write in English and, indeed, outside of a small group of American writers, the term "skiascopy" has come to be almost universally employed. In examining the French and German literature of the last two years, with references also to Italian and Spanish, it is found that the term "skiascopy" has been used by seventeen writers, while the term retinoscopy occurs but three times, and then only in the quoted titles of American articles.

This is a striking fact in regard to the French literature, since both retinoscopy and skiascopy were proposed by French writers. But it is still more striking that in Hirschberg's 450-page catalogue of his library, issued last year, the term retinoscopy does not occur.

In spite of these facts those who speak and write will probably continue to use such language or dialect as they please. But to any one who does some reading outside of his mother tongue, it seems a matter of regret that local or national ignorance, or self-sufficiency, or the mere desire to be peculiar, puts obstacles in the way of a universal language of science.

Write the National College of Optics, Cedar Rapids, Iowa, for their special rates for correspondence course for October. —Adv.

The trade are hereby notified that the optical advertising booklet entitled "Goggle Giggles" is out of print. Our other eight-page booklet, "The Eye and Its Care," can be obtained in any desired quantity, with the name of the optician printed on each booklet. A sample and prices for different quantities will be sent on request. —THE KEYSTONE.

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"Master the Muscles"

is the new slogan of the higher optical educationalists. The standard treatise on the muscles of the eye—their functions, anomalies, insufficiencies, tests and optical treatment—is the well-known volume,

"The Ocular Muscles,"

by ERNEST E. MADDOX, M. D., ophthalmic surgeon to the Royal Victoria Hospital, Bournemouth, England, and author of numerous treatises and papers on refraction and ophthalmology.

Bound in cloth—420 pages—112 illustrations.

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We have no connection with any so-called Engraving School.

Benefits of a Trade Paper

By E. C. Damon, Seattle, Wash.

Mr. President and Gentlemen:—As I look about me to-night, I wonder why our secretary allotted to me the subject, "Benefits to be Derived from a Trade Paper."

True, he told me at this time there would be a blank in the programme unless somebody filled it in. So you gentlemen are the victims of such a circumstance. Ordinarily, you could have had a good speaker to discuss the whys and wherefores of a trade paper, but at this time that blank must be filled—I am here to fill it. If I had now talked my fifteen minutes (for that is the time I am told to occupy) I would stop short and not punish you further. But no, I'll have to attempt in my teeble way to go into the subject.

Read the Trade Paper

First, let me ask: Do you take a trade paper? Second, do you read it? In both cases, if not, why? Look over this broad land of ours. We find millions of people reading the daily papers. That is where they get their food for thought, that makes our people the most enlightened people on earth, the most progressive, the most ambitious. Yes, the most successful.

Gentlemen, I say to you to-night, as the daily paper is the educator of the masses, so the trade paper is the educator of the merchant.

Show me a progressive, enterprising, up-to-date merchant and I will show you a student of the trade paper. I might go further. Show me an ambitious, wide-awake clerk, and I will show you a trade-paper advocate.

Do not in any wise construe anything that I may say at this time appertaining to this subject as criticising our local or State trade papers. Nor by any means suspect that I am going to ask for your subscription for such papers. However, I might say that I am a subscriber for three trade journals and positively I would not be without them.

Worth Many Times the Subscription Price

Nay, not for thrice the fee of subscription. There is not an issue that I do not get some good out of. The subjects discussed in these papers give me thoughts; stimulate me in my work; give me a foundation to build upon. I find articles by competent writers on such subjects as "Credits," "Advertising," "System," "Full Measure," "Short Measure," on "Leaks and How to Stop Them." Gentlemen, I say to you that a well-written article on any of these subjects is worth times innumerable the price per annum of your trade paper.

I might admit at this time that I am an enthusiast, but, gentlemen, no man can make a success of any calling unless he is an enthusiast.

I find articles on "trade abuses." I find articles on "organization" and "why for?" I find articles on "confidence in your fellow merchant," and I want it publicly known that such confidence judiciously used will do much to overcome many petty annoyances.

I will say to you that any man desiring to serve his patrons intelligently and well must know something of the commodities in which he deals. A man doing business without a trade paper is doing business without his "price current," or, in other words, is like a boat adrift without a rudder.

I find articles on "profit." I am a believer in a revenue. The merchant's revenue is his profit. No nation, state or city can exist without a revenue. No merchant, big or little, can exist without a revenue. I say to you, gentlemen, that a well-written article on this subject (profit), distributed in every city, town and hamlet in this State, would do much toward building up this organization.

Can we but find means to impress that word "profit" into our vocabulary, we will be doing much to help ourselves, hold our heads erect and "stand as men among men."

I find articles on "window dressing," on "quality," "honesty" and "fidelity to business."

Gentlemen, I say to you that a trade paper stands in the front rank of commercial progress to-day. The trade paper can help make that friendship lasting that to-day exists between the wholesaler and the retailer; can help to weld it together; can rivet it a right. The trade paper can stimulate a merchant to better effort. It can teach him to say no and stick to it. It can teach him to give honest measure and demand the same. It can teach him to use home-manufactured goods—all things being equal. It can teach him that the "full dinner pail" is the foundation of all large cities. It can teach him that the shrill sound of the whistle, the blast of the furnace, the roar of the engine brings dollars back to his pocket.

The other evening, as I sat by my window at home, looking out on the placid waters of Elliott Bay, a steamer passed on its way to its mooring place. 'Twas grand to look upon, yea, magnificent, a blaze of light from stern to stem, but it passed on, and as it passed the water closed behind it. Not a trace was left of where the steamer had been. No mark, no record left behind to tell of what success. Is it to be so with us in this world of pro-

gression? We pass on through this life into the great beyond. Will we leave a mark, a record? Will posterity know that we were here?

Ah, gentlemen, unless we make that mark broad it will soon be erased. Unless we take the knowledge at hand and use it; unless we take the "pulse of commercialism," and I say to you, gentlemen, the trade paper is that pulse. Unless we grapple with the hordes of this world and conquer, we will not leave a broad mark. Is your soul or mine so dormant, or your ambition or mine so weak, that we would not that your child or mine, when they pass over this same road, could cry out: "My father passed here!"

Fancy for Beadwork Grows

Bead weaving is the newest thing in the way of fancy work. Quite business-like looking little looms come for doing it, and the product is as different from the sort of beadwork made by sewing beads on canvas or net as chalk is from cheese.

The looms come in boxes, with flax thread for the foundation warp, hanks of parti-colored bead patterns and other necessities. Amateurs pronounce the work not hard to learn.

For bead weaving the beads used are nearly always lusterless rather than glassy or transparent. They show the pattern better and make the belt, girdle, handkerchief bag or what not more appropriate to wear with the generality of costumes. Belts or bands of passementeries so woven in a simple pattern of Persian colors on a subdued groundwork of gray or cream are very satisfactory possessions and very decorative.

Many of the patterns are modeled after those seen in the specimens of Indian beadwork as exhibited on moccasins, medicine bags and belt pouches. The designs used in modern tapestry work, vine leaves and scroll work are also employed. Once familiar with the craft, the worker can originate her own patterns and apply the bead texture to a variety of purposes.

A tobacco pouch lately completed has bead panels woven in a pattern resembling the markings on a heron's wing, alternating with leather sections the shade of the groundwork. It is possible for a practiced weaver to depict almost any symbol on the bead groundwork, such as a pipe, an oar, golf stick, whip or other popular sportsman's implement. Initials, bars of music, crests, mottoes can also be satisfactorily interwoven. The rage for beadwork is so markedly on the increase, that dealers in embroidery and embroiderer's wares have made important additions to their stock. Lessons in bead weaving are to be had at many places in the larger towns.

Quaint, old-century looking bead bags that were carried by dames of four centuries ago, are being reburnished. Prim floral garlands, arched cathedral fronts and ancient-looking cherub faces characterize these heirlooms. And the older and more none such looking the better for the present fancy.

"I would not be without *The Keystone* for five times the cost. Your *Workshop Notes* are invaluable to any watchmaker. Keep up the good work."—Wm. J. Handley, Jeweler, Newark, New Jersey.

FRATERNAL ORDER EAGLES.



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If you want something for stock different from the conventional machine-made goods sold by everybody, or if you have a fastidious customer who is willing to pay for an exclusive and better article than is ordinarily shown, it would be a pleasure for us to send you an assortment for inspection. Our prices will be found very reasonable when quality, weight and workmanship are considered.

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Gift-making in Japan

Continuous Gift-giving—The Etiquette Regulating the Giving of Presents. —Every Day a Gift Day

The Custom of Gift-giving The making of gifts in Japan is such a frequent and elaborate affair, and the etiquette governing it is so rigid, that we of the Occident find it difficult to appreciate, or even to understand, this important feature of the domestic and social life in the far-off island.

Present-giving with the Japanese is not limited to festival seasons, holidays and birthdays, as with us. They send gifts upon any and every occasion, with and without seeming provocation. From the time of a child's birth to the day of its death it may be reasonably sure of receiving a certain number of gifts upon stated occasions; more presents at other seasons are contingent upon certain conditions, and it is safe to say that scarcely a week passes in a Japanese family of the better class without receiving or sending one or more gifts.

The general name of a present is *reintsu*; of one given, "*shinyo*;" of one received as a return present, "*menrei*." These presents are by no means always costly ones. They may consist of toys for children, rice, fruit, flowers or eggs, which are one of the emblems of good luck; delicacies for the invalid, books, embroideries, etc., for maids and matrons.

In presenting a gift it is usual to depreciate its value and assign a special reason for its presentation. The giver falls upon her knees and touches the floor with her forehead while she declares the worthlessness of her gift. The recipient also falls upon her knees and bows very low, though not assuming quite the humble attitude of the giver.

In receiving presents, whether direct from the hand of the giver or by a servant, it is customary in returning the "*furashiki*" to include one or two sheets of paper "*hanshi*," or some trifling gift, or, better still, if the gift is from a person of wealth or intelligence, a visiting card. This is called the "*etsui*." In case the gift is given on the occasion of death or marriage, however, this is omitted.

The Return Gift For every present received, sooner or later a return gift must be sent, appropriate to the season and the rank of the

receiver, and arranged according to the prescribed etiquette. For instance, every gift in Japan must be wrapped in white paper, and must be tied with a peculiar red-and-white string, in which is inserted the "*noshi*," or bit of dried fish, daintily folded in a piece of colored paper. This is an indispensable accompaniment of every present except those sent upon funeral occasions.

The stranger in Japan, upon seeing these curiously folded bits of paper thrust under the knot of red-and-white cord, which binds a gift from tradesman or friend, little thinks what an ancient custom it is, nor of its significance to these people. In speaking of the "*noshi*," Alcock says: "On the top of a present is a roll of dried fish and seaweed tied round by a red-and-white string made of twisted paper, the only string they use, supposed to be emblematic of humility, and to remind the Japanese that they were once a race of poor fishermen, and that by temperance and frugality they have risen to greatness, which only by such virtues could be preserved."

Another authority, in writing of ancient customs, states that "pieces of the *facus saccharinus*,

raw, are cut into strips, which are folded in little squares, a considerable number of which are usually strewed on the little tables or salvers on which the complimentary presents so common with the Japanese are offered. These presents, generally of trifling value, are always accompanied with a complimentary paper, so-called, folded in a peculiar manner and having strips of this *facus* pasted to both ends of it."

At present the dried fish and seaweed which accompanied the folded paper are not in general use. The tiny bit which is fastened to the paper suffices. The common people use the "*noshi*" quite as much as those of the better class. Your *amah*, if you be a foreign lady staying in Japan, will bring you a morning gift of buds and blossoms, tied about with red-and-white string with gold ends, and a bit of folded paper and seaweed thrust within the cords. Your *jinrickshaman*, who has run with you up hill and down dale, over miles of beautiful scenery, will, upon your departure, bring you a gift, of no value, perhaps, but a gift showing his good-will, done up in the same peculiar manner.

The Kind of Paper Used Two kinds of paper may be employed for wrapping gifts—the "*nosho*" and "*sugtira*," the first being the best and that usually employed. Of this two should be used to secure ordinarily with the colored red-and-gilt cord, "*midzn hiki*," tied in a double bow knot and mounted with the "*noshi*," placed with its joint downward toward the name of the sender.

The "*noshi*," with the bit of seaweed, is not usually employed in presenting fish, flesh or fowl, because of its being emblematical of animal life. In its place the feather of a bird or a fowl may be used, if more convenient; and in case neither can be procured, then a small piece of "*hanshi*"—paper about three inches square folded to the width of half an inch, twisted at the middle once on itself—may be employed, or the word "*noshi*" may be written on the wrapping-paper instead.

On special occasions, weddings or funerals, the "*midzn hiki*" is tied in a square knot and cut short. When the present is on the occasion of death, the "*midzn hiki*" is white; of marriage, red and white.

In most Japanese houses there is kept a stock of "*kosho*," "*midzn hiki*," red and gilt for general use, red and white for weddings and white for sending gifts to the house of mourning.

New Year's Gifts At the close of the year there is a general exchange of presents. Tradesmen send gifts to their patrons, scholars to their teachers, patients to their physicians, and so on down to the most menial. All obligations are paid at that time, and everybody starts in with a clean record. On the seventh day of the seventh month there is another exchange of gifts, though not so universal as at the beginning of the year. Presents are given to servants semi-annually, and when a guest who has been staying with a family takes his departure, he also makes a gift to the servant, who immediately takes it to the mistress and asks her to thank the donor for him.

Those who return from long journeys bring with them gifts for the members of their immediate family, the costliness of which is regulated by the length of the journey or the time of absence. Pleasure-seekers who go for a day or evening outing to "*masturi*," festival or fair, invariably bring trifling gifts to those who remain behind.

Gifts are sent by relatives and friends at the birth of any child, but the advent of a son and heir is welcomed with more and costlier gifts than that of any other one. When, on the seventh day, a name is given to the infant, many gifts are sent. On the thirtieth day after its birth, when it makes its first visit to the temple, friends are invited, and if there are any who have not performed their duty in regard to presents, they may do so on this day. This is the time when the family make return for gifts received.

A Proper Acknowledgment This acknowledgment sometimes "consists of the red bean rice, such as is prepared for the seventh-day celebration, and sometimes of cakes of *mochi*, or rice paste. A letter of thanks usually accompanies the return present. If rice is sent, it is put in a handsome lacquered tray, and the whole covered with a

square piece of crape, or silk richly decorated. The box, the tray and the cover are of course returned, and, curious to say, the box must be returned unwashed, as it would be considered very unlucky to send it back clean. A piece of Japanese paper must be slipped into the box after its contents have been removed, and the box and tray must be given back to the messenger just as they are. Sometimes a box of eggs or a peculiar kind of dried fish called *kals-wobushi* is sent with this present when it is desired to make an especially handsome return.

The present from the groom-elect to his intended wife is usually a piece of handsome silk used for the *obi* or girdle. This takes the place of the conventional engagement ring with us. These *obis* are the most expensive articles of a Japanese woman's wardrobe, and sometimes, being woven of real gold cord, cost several hundred dollars.

A Custom of Feudal Times

In feudal times the daimios were required to make a yearly visit to the capital to have an audience with the Mikado or shogun. On these occasions money and costly gifts were brought. The square of crape or silk in which the gift is always wrapped is called by the Japanese *fukusa*. This is lined with silk and may have handsome tassels, or may be guiltless of trimming, as the taste of the owner suggests.

Sometimes the "*fukusas*," which are of various sizes, are made of brocaded stuff, but more often they are handsomely embroidered with designs of flowers, fans, birds, fish, bamboo, pine or figures of daimios, samurai or court ladies.

The number and costliness of "*fukusas*" possessed by each family is limited only by their means. Some of very handsome material have only the owner's monograph or crest, done in gold or silver wire, in the center. In former days the Japanese used only pure gold and silver for their embroideries, consequently the old "*fukusas*" and other specimens of their work are as bright and untarnished as if they had been wrought yesterday. As these handsome wrappings were always returned to the sender of the gift, they could afford to make them very expensive.

Right Treatment

A party of gentlemen were discussing the phenomenal successes of many leading Pittsburgers yesterday afternoon at the Hotel Henry when one of them told the story of how George Westinghouse first came in contact with rough and gruff old Commodore Vanderbilt. Young Westinghouse—for he was only twenty at that time—had perfected all the details of the airbrake which has since revolutionized railroad operations and was making desperate efforts to gain recognition for it, and he knew of no better man to interest than the President of the New York Central and at that time the leading railroad magnate of the country. So he called at the Commodore's office one day, and after sending in his card waited an hour or more without any response. He reminded a clerk that he was still waiting, but was told that Mr. Vanderbilt was busy. Another hour passed by, when he was finally ushered into the presence of the old financial giant. "Your name is Westinghouse?" he said. "What business have you to transact with me?" The young man had the details of his great invention thoroughly at command, and proceeded to explain the same while the Commodore continued opening and reading letters. Now and then he would look up, with the query: "What was that you were saying?" After numerous repetitions and a fierce struggle to maintain his composure the young inventor concluded his speech. "So you propose to stop railroad trains with wind?" queried the man of great achievements. "Well, sir, I have no time to waste on — fools," and with this the interview ended. Some years later, after the tremendous success of the airbrake had been fully demonstrated, Mr. Westinghouse received a telegram from Commodore Vanderbilt which read: "Come to New York; want to talk to you about airbrake." Proud as Lucifer the now distinguished Pittsburger replied: "I have no time to waste on — fools," an independence which he maintained to a finish.



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 Dec. 1st.—Jones & Gorman, Fond-du-Lac, Wis.
 Jan. 10th.—W. P. Thornton, Salisbury, N. C.
 Feb. 10th.—F. W. White & Co., Colorado Springs, Colo.
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 Apr. 4th.—Olmsted & Hurdman, Ottawa, Can.
 June 1st.—J. S. Barnard, London, Ontario, Can.



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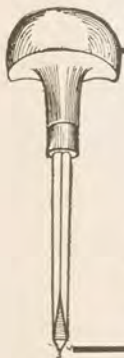
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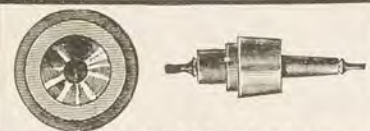


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 Prompt Attention, Low Prices, Good Work.
 Send work by express or mail.

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on Watch Dials, Caps, Porcelain, Etc., Also in Colors.
 Send five 2-ct. stamps for a beautiful sample watch dial and price-list.

CARMAN ART CO.
 115 Dearborn St., CHICAGO.



PRICE \$12.00.

FAY'S IMPROVED OPTOMETER.
 For sale by all Jobbers.

BARGAINS in optical instruments of all kinds. Send for our bargain price-list of frames, lenses and cases. The book, "New Methods in the Science of Fitting Glasses," 25c.

W. G. FAY MFG. CO.,
 Jobbing Opticians. 178 Broadway, New York.

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Grade	Description	Price
Grade 1	Balance Staffs, extra finish	\$1.50 doz.
" 2	" " polished	1.25 "
" 3	" " gray	1.00 "
" 1	" Jewels, extra finish	1.50 "
" 3	" " " "	1.00 "
Cap Jewels	" " " "	1.00 "

MEYER JEWELRY COMPANY,
 "Hurry-up Jewelers for Hurry-up People."
 KANSAS CITY, MO.

What School?

We teach Watchmaking, Engraving and Optics. Positions obtained for graduates. Students may enter at any time. Individual instruction. Send for catalog.

ELGIN HOROLOGICAL SCHOOL.
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J. J. DONNELLY

Gold and Silver Electro-Plater

73 Nassau St., New York

Send us your card, and we will mail you our price-list. It will pay you to look at our prices before sending your plating elsewhere.

ESTABLISHED 1886.

New and Second-Hand **MOVEMENTS**

BARGAINS!
 Bought from stocks. New as from factories. Send for catalogue.
 Watch Material and Jewelry Supplies.
 Watches Repaired for the Trade.
 All American Staffs fitted at 50 cents.

PHILIP KATZ,
 14 Maiden Lane, New York.



BUTTONS for ALL SOCIETIES.
 Solid Gold, \$6.30 per doz.
 Rolled-Plate, 3.00 per doz.
 Gold Plated, 1.20 per doz.

Chas. K. Winship & Co.
 78 State St., Chicago, Ill.

Pitkin's Anti-Break PEGWOOD

If you try it, you will always use it. It never breaks off in the finest pivot hole.
 25 Cents per Box. Discount to jobbers.
 O. H. PITKIN, GALION, OHIO, U.S.A.

100,000 American Watches have **Abbott's Patent Stem Winding Attachment**

A few more KEY-WINDERS are still in use. Send them to us and MAKE A FEW DOLLARS FOR YOURSELF

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ESTABLISHED 40 YEARS

C. L. Hoefler
EXPERT WATCHMAKER
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Chronometers and Complicated Watches

REPAIRED FOR THE TRADE

I teach adjusting in a thoroughly modern way. Write me for particulars and terms.

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F. C. KLEIN & BRO.

126 State Street, CHICAGO.

Steam Lapidary.

DIAMOND CUTTING.

Importers of Precious and Jobbing Stones.



EXPERT

Watch Case Repairing and Watch Case Manufacturing.

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



Old English and Swiss Cases changed to fit American Stem-Wind Movements

Special Cases made to order in Gold and Silver for English, Swiss and American Movements.
OLD CASES MADE NEW.

F. H. JACOBSON CO.
 88 State Street, Chicago.
 Send for Our New Price-List.

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 money must accompany all orders for advertisements, and copy must reach us not later than the 25th of each month for insertion in the following month's issue.

If answers are to be forwarded, FIVE CENTS in postage stamps must be enclosed.

The real name and address of every advertiser must accompany the copy of the advertisement.

Advertisers who are not subscribers must send 15 cents (special issues 25 cents) if they desire a copy of the paper in which their advertisement appears.

THE KEYSTONE,

19th & Brown Streets, Philadelphia, Pa.

SITUATIONS WANTED.

Under this heading, ONE CENT per word, for first twenty-five words. Additional words and advertisements, THREE CENTS per word. No advertisement inserted for less than 25 cents.

COMPETENT optician, exp'd. all branches, wants position as manager wholesale, general retail or refracting. Good salary or commission. Have responsible position but family can't stand malarial climate. Ad., "F 586," care Keystone.

SALESMAN, optical and jeweler, wants traveling position in United States and Canada. At ref.; 10 years' exp. "G 589," care Keystone.

BY a young man as watchmaker, jeweler and plain engraver; second pref. P. O. box 175, Cincinnati, Ohio.

CAN do almost any kind of watch, clock and jewelry repairing that any first-class jeweler can; plain engraver—some fancy. 15 years at bench; 12 years running store and optical business of my own. Just sold out here. Spent \$1000 learning the two businesses. Have 4 jewelry and optical diplomas. 36 years old; married and have 2 children. Might buy store if business proved satisfactory and for sale. Can go at once. Very best of refs. E. A. Maxwell, Mt. Carmel, Ill.

BY a young man, 27 years old, as traveling representative for a reliable jewelry house. 10 years' exp. in retail jewelry store and well acquainted with all branches of the business. "F 605," care Keystone.

WATCHMAKER, jeweler, optician, letter and monogram engraver. Single, 12 years' exp. Steady position wanted; Oklahoma, Indian Territory or Texas preferred. "H 616," care Keystone.

FIRST-CLASS watchmaker and jeweler, good engraver wants position, at once, in shop that has work enough to justify keeping good man. Chas. Bryan, Dysart, Iowa.

IN first-class Chicago jewelry store by watchmaker and engraver with best of refs. None but those offering a steady position need apply. "D 606," care Keystone.

BY first-class engraver and saleslady, graduate of Jewelers' School of Engraving, 3 years' exp. Best refs. and samples. Address, Box 108, Mukwonago, Wis.

WATCHMAKER, of 20 years' exp., wants situation. Can do all kinds of fine and complicated work; can make staffs of all kinds, also pivot anything. Will send sample of staff. Has fine set of tools, including bench. At present employed; want to make a change. A good salesman. "D 578," care Keystone.

BY first-class refractionist about Nov. 15th. D 12 years' practical exp., capable of taking complete charge of optical department. Best refs. "L 598," care Keystone.

BY mfg. jeweler and diamond setter; I am no engraver. State salary at once or no answer. 27 years' exp. "L 599," care Keystone.

BY an energetic young man who has had 20 years' exp. in the jewelry business, wishes to get with some good house where he can finish the trade under a good watchmaker and engraver. Understands clockwork and considerable job work. "B 600," care Keystone.

GOOD watchmaker, optician, engraver and jeweler; can speak German. Can give good ref. Can fix all escapements. No bad habits, age 22; all kinds of experience. Have tools needed for above work. "R 597," care Keystone.

EXPERIENCED optician would manage optical department or rent space, including show-window, in jewelry establishment in city over 20,000. Commission basis pref. Address, "F 587," care Keystone.

OPTICIAN, age 26, unmarried, wishes to take charge of optical parlor; first-class refractionist, good refs. State what you are willing to pay good man. "P 596," care Keystone.

PERMANENT at once, by first-class watch, clock and jewelry repairer, plain engraver; good, all-around man. First-class ref.; have own tools. J. A. Lukens, Bucklin, Kans.

SITUATIONS WANTED.

BY a young man, 20 years of age, position as salesman in first-class retail store. 3 years' exp. with good house. "K 604," care Keystone.

FIRST-CLASS watchmaker and jeweler, also stone setter. Competent to take charge of store. At refs.; age 35. J. E. Doss, box 171, McLeansboro, Ill.

YOUNG man, single, Nov. 1st, wishes position as assistant watchmaker; good engraver, graduate optician. Just completed course in horology school. Neat address, best of ref. given. Central States pref. Address, Box 315, Ewart, Mich.

FIRST-CLASS watchmaker desires position at once. Own tools, good habits; New England States pref. Address, "E. A. A.," 45 Charles Street, Springfield, Mass.

GOOD watchmaker, jeweler and plain engraver, own tools, moderate salary, wishes position. Good ref. given. Albert Schultz, 1032 Breckenridge Ave., St. Cloud, Minn.

IN Philadelphia as watchmaker and salesman. Have Rivett lathe, necessary tools and good ref. Marvin R. Clark, 635 N. Seventeenth St., Philadelphia, Pa.

BY young man as watchmaker, engraver and salesman. Have tools, good refs.; Minnesota or Northern Iowa pref. C. G. Williams, Esterville, Iowa.

AS watchmaker, also do jewelry and clock work. 4 years' exp.; first-class refs.; good salesman. S. A. Wise, Wilton Junction, Iowa.

WATCHMAKER, thorough, practical, rapid and experienced, contemplates change. Will be available on 60 days' notice. Correspondence and offers solicited from first-class houses. Refs., photo, and full particulars sent. "C 591," care Keystone.

LADY engraver, age 22, wants position Nov. 1st as engraver, saleslady and stock-keeper in good store. Central States pref. Landis School of Engraving, Detroit, Mich.

THOROUGHLY competent refractionist, with mechanical and executive ability, wants responsible position. Good salary, commission or interest in the business in Northern city. Address, "F 588," care Keystone.

BY young man at engraving, jewelry and silverware, 1 year's exp., desires to learn the trade thoroughly. Would prefer a position where I would have a chance to learn chasing. Best refs. Ivan W. Hershey, Lancaster, Pa.

AS refractionist, or assistant refractionist, by a young man, 4 years' exp.; also experienced jewelry salesman. "R 602," care Keystone.

ENGRAVER, young man, 22, wants position Nov. 1st as engraver, second watchmaker, jeweler and salesman of 3 years' exp. Landis School of Engraving, 119 Koch Ave., Detroit, Michigan.

WATCHMAKER and jeweler, age 30, married. All-around man, 8 years with last firm—15 years at the business. Wants situation by Nov. 1st; refs. exchanged. No offer less than \$15 will be considered. "F 577," care Keystone.

I DESIRE a good window location for bench work or will take a position. Have all tools. G. A. Messer, East Alstead, N. H.

GRADUATE and experienced refractionist, understanding ophthalmoscope, retinoscope and frame adjusting, good salesman, would like position in jewelry or optical store. Have own trial case. Address, Edward K. Gaard, 945 W. Twenty-first Street, Chicago.

GRADUATE and experienced refractionist, own all tools, would like place to take charge of the optical department; would assist in store—good salesman. Want place where hustler's efforts would be appreciated. Good ref.; can furnish bond. H. G. Earley, Northville, N. Y.

FIRST-CLASS watchmaker, engaged till the last of November or the first of December. Contract no less than 1 year. First-class ref.; 18 years' exp. Would prefer location in Cincinnati, Ohio. "W 572," care Keystone.

AFTER January, assistant watchmaker and engraver in large store in West only. Capable, rapid, young, single, good address, sober; first-class refs. and tools. Desire to make expert; no other than first-class house need answer. Graduate optician also. Accept best offer. Address, "R 571," care Keystone.

BY a first-class watchmaker and jewelry repairer, over 20 years at the bench. Good, neat stock-keeper, an all-around man. J. M. Burgess, Bloomfield, Iowa.

YOUNG man desires position as watchmaker, 4 years' exp. at the bench. Best habits; ref. from present employer. Prefer Kansas. Frank M. Barton, Minneapolis, Kans.

SINGLE young man, West pref. Watchmaker, jeweler and engraver, with 5 years' exp.; good salesman. All tools, including lathe; best refs. Box 580, Normal, Ill.

OPTICIAN and watchmaker, long exp., good refractionist, edge grinder and hard solderer, wishes position within 100 miles of New York City. Must be permanent, with good firm doing first-class optical business. \$21 per week. "K 609," care Keystone.

JANUARY 1, 1904, a position to represent a first-class jewelry house, or kindred trade, on the road. Have had seven years' exp. in the jewelry business. Ref. gilt edge. "S 611," care Keystone.

18 YEARS' exp. optician and watchmaker, good salesman, capable to take full charge of store; own tools and optical outfit. Salary \$25 per week. "F 614," care Keystone.

SITUATIONS WANTED.

BY jeweler and optician in factory or wholesale house; up to date on soldering, mounting, fitting gold filled. Refs. Speaks German. "B 615," care Keystone.

WITH first-class house, by watchmaker, 14 years' exp. on high-grade work, including adjusting, finishing, etc.; factory exp. Go anywhere, but prefer South or West. Address, E. T. C., box 98, Waltham, Mass.

BY first-class watchmaker, engraver and optician; At ref.; 12 years' exp. State salary; am no second-class man. Address, L. Box 461, Madison, Ohio.

YOUNG man wishes to finish trade; can do common watch and clock work and some jewelry repairing. Full set of tools. Best habits. Refs. State wages. R. F. Eaton, Belgrade, Nebr.

WATCHMAKER and salesman; young man, good habits. Plain engraver and jewelry repairer. North or West pref. Have ref.; own tools. \$15 per week. Edward Brown, 686 Nineteenth St., Des Moines, Iowa.

WATCH repairer on complicated work; optician and engraver. Permanent position only—any time for position to March. Have tools, lathe, instruments. West. State salary, requirements, first letter. "Mil. Watchmaker," general delivery, Minneapolis, Minn.

WATCHMAKER and jeweler. Single, 26 years old; 11 years at bench. Speaks Norwegian. Good ref. J. A. Skaugstad, Wiota, Wis.

YOUNG man, age 20 years, wants position as watchmaker; fair engraver and jeweler. Good refs. and habits. Own tools. Box 1, Parkersburg, Iowa.

YOUNG man desires a position with a refractionist optician. Good recommendations. J. J. Moulton, 122 Chandler St., Boston, Mass.

BY competent watchmaker. Good set of tools. Good refs. Address, "Jeweler," 528 Jackson St., Sandusky, Ohio.

A WATCHMAKER, plain engraver and graduate optician. Will go anywhere, near or west of Chicago. Experienced as salesman. "Jeweler," 1015 Masonic Temple, Chicago, Ill.

A THOROUGHLY reliable man, experienced in the jewelry business, would like a position with good house, either inside or on the road. First-class refs. given. "H 613," care Keystone.

OPTICIAN, At, with a large exp.; capable of taking care of an optical department or store, wishes a position. Highest refs. Wages \$25 per week. "S 620," care Keystone.

EXPERT refractionist, one who can solve the most complicated cases in refraction and heterophoria; also has a successful exp. as a teacher of optics, wishes a position. "S 621," care Keystone.

15 YEARS' exp., watchmaker, competent and reliable, capable of making staffs, cylinders, etc., good hand for clock work. Age 28, single, abstainer and good habits. Best refs. Desires position in Colorado or healthy town. "A 628," care Keystone.

BY young man, position as surface grinder, edge grinder, moulder and work in general in small shop pref. "D 626," care Keystone.

POSITION as salesman by first-class watchmaker and graduate optician. Best refs. 12 years' exp. Speaks German. "R 623," care Keystone.

BY first-class watchmaker and salesman, graduate optician; do hard soldering; own tools and trial case. Ref. "R 624," care Keystone.

AS optician and salesman, graduate, with wide exp., capable of responsible position. Married, 37, temperate, good character and appearance. Refs. exchanged. Address, "Optician," 486 College St., Beaumont, Texas.

OPTICIAN and refractionist, best refs., now with first-class firm in New York, wants situation in United States city; reliable; familiar with surgical instruments. "D 610," care Keystone.

BY young man, as salesman and stockkeeper; do watch work. Experienced man. Address, Box 582, Lenox, Iowa.

A YOUNG man of 5 years' exp. in Western and Northwestern territory, desires a road position with wholesale jewelry house. Good refs. given. Address, "John James," room 601 Columbus Memorial Building, Chicago.

EXPERIENCED graduate refractionist, owning fine business and offices, must leave owing to severe winters. Has full outfit. Wants position with reliable firm or refractionist. "L 634," care Keystone.

HELP WANTED.

UNDER THIS HEADING THREE CENTS PER WORD.

BY Chicago jewelry house, experienced traveling man for Western territory. Established trade. First-class man only. "C. B. No. 65," room 601, Columbus Memorial Bldg., Chicago.

FIRST-CLASS optical salesman; need not of necessity be an expert refractionist. Good salary to right man. F. B. Alexander, 565 Broad Street, Newark, N. J.

IN retail store, fair engraver who can do ordinary jewelry repairing and wait on customers. Steady position to reliable party. Send sample engraving, state salary wanted. "G 633," care Keystone.

JEWELER and clock repairer, also assist on watches. Steady position and good salary to right party. J. N. Hoffer, Homestead, Pa.

HELP WANTED.

1605

AT once, young man with some exp. G. S. Dunlap, Mapleton, Iowa.

GOOD watchmaker, and engraver for city of 11,000 near Kansas City. Good wages, steady job. Address, "X," care Woodstock, Hoefler & Co., Kansas City, Mo.

FIRST-CLASS watchmaker, jeweler and engraver by Oct. 10th, who owns tools. \$15 per week; expense of living low. Send sample of engraving and ref. with letter. Steady position for right party. Louis Selig, Elizabeth City, N. C.

GOOD watchmaker and engraver, good and steady position for man of good habits. Position open at once. Charles M. Evans, Reading, Pa.

WATCHMAKER and engraver, one who can do jewelry repairing pref. Wages \$15. Steady job. Henry Elbelt, St. Joseph, Mo.

ONE first-class jeweler, and also 1 first-class jobber. Chas. Corcoran, "Craft Apartment," Elsinore Square, Pittsburg, Pa.

RETAIL jewelry salesman; also watchmaker that can do plain engraving, jewelry repairing and sell. Good wages, permanent positions. Standard Jewelry Co., Pittsburg, Pa.

AN experienced traveling man with an established trade in the watchmaker, tool and material line. State whether salary or commission, and ref. "H 593," care Keystone.

WATCHMAKER, competent on trade work. Steady position and good pay. Address, with ref., E. & J. Swigart, Cincinnati, Ohio.

FIRST-CLASS traveling man for Wisconsin, Michigan and Illinois by a Chicago wholesale jewelry house. Established territory. Address, "H. R. No. 48," room 601 Columbus Memorial Building, Chicago.

FIRST-CLASS manufacturing jeweler at once; one who engraves pref. Permanent position. J. Herbert Hall, Pasadena, Cal.

A TRAVELING salesman for optical goods. Give full description, refs. and state wages expected in first letter. Apply, B. Mayer, 550 N. Gay Street, Baltimore, Md.

AN all-around optical workingman. Let me know what you can do and give refs., how much wages expected. Apply, B. Mayer, 550 N. Gay Street, Baltimore, Md.

AT once, a good watchmaker, jeweler and fair engraver. Must be sober and reliable, and one having watchmakers' tools pref. \$18 per week. August Jarecki, Erie, Pa.

OCT. 1st. Good watchmaker and engraver, permanent position. State wages expected in first letter. W. Heck, Kewaunee, Wis.

FIRST-CLASS watchmaker, one who does engraving pref., to work in a mountain town. Good wages, steady work. "H 573," care Keystone.

GOOD engraver and jewelry repairer for retail store. Wages, \$18 a week. Mahneke & Co., Tacoma, Wash.

AT once, good watchmaker and engraver. State lowest salary for starter. First-class refs. required. 5000 pop.; up-to-date town. Porter H. Torrey, Wellsville, N. Y.

YOUNG man for watch, clock and jewelry repairing. Good chance to finish trade under expert workman. Gust Rietzen, Ashland, Pa.

FIRST-CLASS watchmaker and engraver. Good opening for a good man; steady position. Good salary for the right man. John Brenner, Youngstown, Ohio.

FIRST-CLASS watchmaker and jewelry repairer, one who understands engraving pref. Good, steady job for the right person. State salary, ref. and length of exp. Address, I. S. Kahn, Hagerstown, Md.

CLOCKMAKER, thoroughly competent workman familiar with French and English clocks. Address, with ref., J. E. Caldwell & Co., 902 Chestnut Street, Philadelphia.

WATCHMAKER and engraver wanted at once. Good ref. required. Address, W. E. Schmid, New Castle, Pa.

FIRST-CLASS watchmaker and engraver, one who understands jewelry repairing or optical work pref. State salary expected and send sample of engraving, also copy of ref. in first letter. W. F. Sellers & Co., Altoona, Pa.

AT once, first-class watchmaker and engraver for watch material house. This is good position for right party who is looking for steady employment. Ref., sample of engraving in first letter. We will pay \$15 per week to start. Apply J. Mednikow Jewelry Supply Co., 105 Grand Avenue, Milwaukee, Wis.

A TEMPERATE man, good watchmaker, engraver and fair salesman. Permanent position and good wages to the right man. One who speaks the Scandinavian language pref. M. N. Berg, Duluth, Minn.

WATCHMAKER, one of some knowledge of optics or plain engraving preferred, and can speak German. Refs. required. All letters will be answered. W. O. Weniger, 51 Frankston Avenue, East Liberty, Pa.

YOUNG man who can do clock and jewelry repairing. State salary and send refs. Robt. C. Just, Vicksburg, Miss.

YOUNG man who can do jewelry work and engrave, one who can repair clocks and wait on trade pref. Charles T. Fuller, Olean, N. Y.

A GOOD practical watchmaker, one who thoroughly understands watch repairing. O. C. Hustad, Tower City, N. Dak.

(Continued on page 1606)

HELP WANTED.

(Continued from page 1605)

IMMEDIATELY, watchmaker and plain engraver, salesman and some knowledge of optics. Must be good man. I have lathe, foot-wheel, engraving block, benches and large tools. Address, "J. E.," Lyndonville, Vt.

WANTED a salesman for Louisiana and Texas; only such with highest refs. need apply. Good salary and position. Trade established. "K 603," care Keystone.

AT once, good jewelry repairer and engraver. If you are good all-around man or good optician, will pay accordingly. State explicitly first letter, ability, salary, when you can come. Permanent man pref. Walter Starcke, Junction City, Kans.

WATCHMAKER and jeweler, easy and permanent position. Engraver and optician not necessary. State salary, refs. and exp. "Kentucky 590," care Keystone.

EXPERIENCED watchmaker on Swiss and American watches, hard soldering, plain engraving. Steady position. \$18 per week. Refs. required. In Connecticut. "P 607," care Keystone.

AT once, young man with one or two years' exp. on jobbing and clock work. Good habits and refs. Hibbard & Wilcox, Akron, Ohio.

A FIRST-CLASS watchmaker, jeweler, engraver and salesman, all-around man, by Nov. 1st. \$18 a week to begin with. Permanent position. None but first-class men need apply. Send sample engraving. Hattiesburg Jewelry Co., Hattiesburg, Miss.

GRADUATE optician and watchmaker. Duties, optician and salesman. Must be up to date and temperate. Situation permanent. Give qualifications and refs. in first letter. A. Ross & Co., Port Arthur, Ont.

WATCHMAKER and engraver. Permanent position. State salary wanted. Irving Greer, Cedar Rapids, Iowa.

EXPERIENCED man as jewelry jobber. Must do stone setting. Steady employment. Good salary. A. E. Siedle, East End, Pittsburg, Pa.

PERMANENT situation to young man who is good watchmaker, jeweler and fair engraver, with lathe and tools. Must be single and sober. Send photo, and refs. of former employers and state salary first letter. J. Geo. Suhrer, Fernandina, Fla.

YOUNG, all-around on optical. Ref. McCarthy Opt. Co., St. Louis, Mo.

WATCHMAKER and engraver, also a jeweler. Permanent positions. State particulars and send sample of engraving. E. G. Hoover, Harrisburg, Pa.

SOBER, reliable watchmaker, jeweler, plain engraver, with tools. Name salary and refs. first letter. M. F. Conley, Louisa, Ky.

ENGRAVER wanted. E. Abrecht, 143 Euclid Ave., Cleveland, Ohio.

WANTED, hustling retail jewelry salesman, one familiar with white stone methods. Standard Jewelry Co., 706 Smithfield St., Pittsburg.

MAN under 40, of good appearance, with ability and exp., to manage a first-class jewelry store in Texas, one who does not chew tobacco or drink. "L 576," care Keystone.

FIRST-CLASS jeweler for job work. Must be good engraver. State exp., refs. and salary. Edwin Pape, Davenport, Iowa.

FIRST-CLASS watchmaker and engraver. Permanent position and good wages. Address, with refs., Knittle & Longtin, 556 Pearl St., Cleveland, Ohio.

WATCHMAKER and engraver. Phil. Levy, Henderson, Ky.

GOOD surface lens grinders wanted. Address, "Optical Manufacturer," room 601 Columbus Memorial Building, Chicago.

FIRST-CLASS all-around man for optical shop. Address, "Moreland & Company," room 601 Columbus Memorial Building, Chicago.

YOUNG man for wholesale and retail optical establishment. Must have some knowledge of book-keeping. Address, "James Smith," room 601 Columbus Memorial Building, Chicago.

JOBBER, engraver and assistant watchmaker. W. S. Quencer, Watertown, N. Y.

A GOOD, permanent position to the right man. Write at once. \$18 per week for good watchmaker and engraver, or watchmaker and optician. \$15 for good watchmaker. C. Aug. Carmany, Coatesville, Pa.

A FIRST-CLASS watchmaker; one who can assist as optician pref. Unmarried and well recommended. Rush. S. W. Moody Jewelry Co., Grand Junction, Colo.

JEWELER, capable of doing general jewelry repairing and stone-setting. Good position for right man. Address, with ref., Millard F. Davis, Wilmington, Del.

FIRST-CLASS engraver, with some optical exp., permanent position to right man. State refs., age and salary. New York State. "T 581," care Keystone.

HELP WANTED.

WATCHMAKER and engraver, salesman—all-around man. Steady place; \$75 per month. On receipt sample of engraving and ref., if O. K., will answer same by wire. "P 622," care Keystone.

FIRST-CLASS watchmaker, stock-keeper, optician and salesman, or either. Permanent position. Give ref. and particulars first letter. Address, "S 625," care Keystone.

AT once, a first-class watchmaker and optician. Address, G. W. Schmid & Co., 22 State St., Carthage, N. Y.

A FIRST-CLASS watchmaker and engraver. Permanent position and good salary. Judson S. Newing, Binghamton, N. Y.

ASSISTANT watchmaker, at once, that can do good engraving and hard soldering. Good wages to right man. Steady place. Harry Downs, Bellevue, Ohio.

FIRST-CLASS watchmaker wanted in large store in Southwest. \$25 per week. Address, Box 413, Shreveport, La.

AT once, first-class jeweler and engraver. Send A refs. and photo. in first letter and state salary expected. Ben. Guider, Vicksburg, Miss.

FIRST-CLASS watchmaker and salesman in old-established jewelry store. \$15 to \$18 per week to good man; ref. required. J. M. Saunders, 604 N. Second St., Philadelphia, Pa.

IS there a good watchmaker and jeweler that wants permanent position at once? F. H. Corwin, Riverhead, N. Y.

WANTED.

UNDER THIS HEADING THREE CENTS PER WORD.

FIRST-GRADE trial case, second-hand. "Watchmaker," 1033 Masonic Temple, Chicago, Ill.

SECOND-HAND New Century engraving machine. W. H. Barker, Sanborn, Iowa.

TEN to 25 each for Swiss movements in fair condition. Twenty to ten cents per ounce for plated jewelry and filled cases. James Broadbent, 4 S. Forty-second St., Philadelphia.

SECOND-HAND show cases. Describe condition and kind in first letter. Phil. Levy, Henderson, Ky.

A LADY partner with cash or stock, to take one-half interest in jewelry business. Am practical jeweler, middle aged, single. "H 585," care Keystone.

UMBRELLA show case, oval glass front (oak). State lowest price. A. P. Tiffany, Xenia, Ohio.

EVERY kind of gold and silverware, jewelry, watches, platinum. Market value paid. Sent by express or registered mail. Price not satisfactory I will return all articles. J. L. Clark, refiner and sweepmelter of gold and silver (established 1870), 727 Sansom St., Philadelphia.

TO buy stock in Colorado or Wyoming for cash (not over \$2000). Ad., Box 110, Station A, Boone, Iowa.

WOULD like to buy wall and shelf clocks. Price from \$1.50 to \$5. C. Meller, 410 Mitchell Street, Milwaukee, Wis.

GENEVA retinoscope and ophthalmoscope combined, also Geneva travelers' trial case. O. W. Sherman, Central City, Iowa.

SECOND-HAND lathe good for practice, cheap. C. A. Laffer, 705 W. Nebraska Ave., Peoria, Ill.

OPHTHALMOMETER, De Zeng's luminous retinoscope, new models; good order, cheap. "V 629," care Keystone.

FOR SALE.

UNDER THIS HEADING THREE CENTS PER WORD.

STORES, STOCKS AND BUSINESSES.

JEWELRY store in live, growing town of 1700 pop. in Iowa. Good, clean stock and fixtures. Will invoice about \$1800. The best location in town. "M 335," care Keystone.

\$1800—IN liveliest town in California; pop. 1500; little opposition. In new oil field that will be the best in State. "S 514," care Keystone.

AN established jewelry business with or without stock. Will be sold at a bargain if sold soon. Fixtures are very nice. C. Henry, Portsmouth, Ohio.

STOCK and fixtures, Eastern Michigan. Pop. 4000. Established 12 years; invoice \$4500. Sales 1902, \$5500; repairs, \$1050. Will sell complete at great reduction if sold at once, or will reduce stock. Other business. "B 574," care Keystone.

OPTICAL snap! Poor health. Well-established optical business, including stock, fixtures and good-will—Portland, Oregon. Don't write unless you mean business. "P 575," care Keystone.

\$900—NEARLY new stock in good town of 600 people. Husband dead. Write Miss Kate Brecht, Norway, Iowa.

FOR SALE.

STORES, STOCKS AND BUSINESSES.

\$500—Watches, clocks, silver, jewelry. Town 1000. Fred. Doan, Elma, Iowa.

JEWELRY store in heart of Philadelphia, Pa. Clean stock, fixtures, large modern safe; will invoice about \$2500. Large watch repair trade; established business. Fine opportunity for a good watchmaker. "H 583," care Keystone.

WELL-ESTABLISHED watch and jewelry repairing business. Stock about \$600; best location, reasonable rent. C. Proelochs, 234 Frankstown Avenue, Pittsburg, Pa.

JEWELRY business; neat, modern stock and fixtures. One of the best paying in St. Louis on investment; large repair trade. Snap. Address, 905 North Vandeventer Avenue.

JEWELRY store in a fast growing Michigan town; pop. 10,000; good location, low rent for store. Good, established repair work—more than one man can do. Reason for selling, old age. Stock, fixtures and good will, \$1600 to \$1800 when taken soon. "W 582," care Keystone.

\$1900 BUYS a money-making jewelry and optical business in the residence portion of Chicago. Fine class of trade. If you are looking for a good thing and can pay all, or nearly all, cash address, "A 584," care Keystone.

GOOD-PAYING jewelry business in the best mining town in Colorado; established 6 years. Sales have increased steadily every year. Fine run of watch repairing. If purchaser does not want entire stock, owner will retain diamonds and a portion of other fine goods. Excellent reasons for selling. Address, C. G. Alford & Co., 192 Broadway, New York.

DESIRABLE jewelry business in growing town. Stock and fixtures \$3500; can reduce. Frank Clement, Barton Landing, Vt.

JEWELRY store on Chicago Great Western, 65 miles to St. Joe, double that to Kansas City on same line, or road. Want to go in other business. Ad., Lock box 307, Blocton, Iowa.

JEWELRY store for sale; big bargain. Address, D. C. Slusher, Buckner, Mo.

A GOOD opportunity—an old-established business. Will sell one-half interest to a first-class watchmaker and optician, or will sell entire stock. Failing health compels a change. Address, C. H. Phelps, Bismarck, N. Dak.

JEWELRY and optical business invoice about \$1500. Reason for selling, poor health. Box 146, Vermillion, Ohio.

\$2500 IF taken before Nov. 1st. One of the best paying stores in Northern Illinois, everything up to date. The finest town in State, of 3000 people. "D 601," care Keystone.

A GOOD jewelry business is for sale in South-west Texas. Sales for 1902 averaged \$567 per month. Fine climate; best opportunity for anyone with lung trouble, rheumatism or catarrh. Takes about \$4000; can reduce. No competition; good prices. About 3000 inhabitants. "S 353," care Keystone.

JEWELRY store in South; no competition; \$3000; can reduce. Cash receipts for 1902, \$6800. No malaria. "S 595," care Keystone.

JEWELRY store in live, growing town in Eastern Iowa; no competition. Reason for selling, poor health. Goods will invoice about \$500. Fine location, splendid opening. G. E. Kimmel, Wellman, Iowa.

CLEAN stock of jewelry, Western Iowa town of 3000. Splendid chance for beginner. Stock and fixtures \$2200; can reduce. Good prices—no cut-throat competition; repairs pay all expenses. Reason for selling, am going to Europe. "E 608," care Keystone.

JEWELRY business in New Hampshire town of 3000. Chance for reliable man. Invoice \$2500. Terms easy. "M 612," care Keystone.

WILL sell at a sacrifice small stock of jewelry. Won't invoice over \$300. Excellent town and country. No competition. Northern Indiana. "N 140," care Keystone.

A JEWELRY store in good Western Iowa town, no competition; will invoice about \$1200. Address, "F 550," care Keystone.

IN one of the most prosperous and growing cities of the Northwest, long-established business of excellent reputation. Large railroad center, best location. Stock and fixtures about \$5000. Any desired information can be obtained through any local bank. Large watch and repair trade. Only strictly responsible parties need negotiate. Address, "G 632," care Keystone.

\$2000 BUYS the only jewelry stock and fixtures in growing New England town of 4000. Net profits last year over \$2000. Good reason for selling. "B 627," care Keystone.

IN large Western city, an established jewelry engraving business; gross income \$278 to \$300 per month. One good man can do all the work. A snap. Address, "Opportunity," room 601 Columbus Memorial Building, Chicago.

FOR SALE.

STORES, STOCKS AND BUSINESSES.

SNAP—jewelry stock and fixtures, invoice about \$750. Town, 550; no opposition; nearest competition, 20 miles. Good reason for selling. Write for particulars. R. F. Clapp, Echo, Minn.

JEWELRY store, World's Fair city, St. Louis. Fine location, fine trade; \$5000 cash. Good reasons for selling. 1632 South Compton Ave., St. Louis, Mo.

FOR SALE.

UNDER THIS HEADING THREE CENTS PER WORD.

MISCELLANEOUS MERCHANDISE AND EQUIPMENT.

FRANCIS engraving machine, complete attachments, 3 sets type, \$25. Phil. Levy, Henderson, Ky.

PARKER hammerless shotgun, 12 ga., perfect condition. A. E. Grimes, Sapulpa, Ind. Ter.

FINE machine for making balance staffs complete. Finished with pivots in four operations. Capacity 1000 per day. Machine patented. Price \$2000. Write for samples and particulars. Linden Mfg. Co., Aurora, Ill.

ONE roll-top bench (oak), wheel and lathe, with attachments, also good outfit of tools. Will send inventory on request. A. Detamore, Francesville, Ind.

COMPLETE outfit watchmakers' tools, also lot of material, turning and polishing lathe, worth \$300. Must sell at once. \$100 takes outfit, bench, watch sign and all. Address, C. Wolf, Pochontas, Ark.

TWO fine Swiss pin regulators, oak and walnut, \$25 each, good as new; De Zeng refractometer, good as new, \$20 takes it. C. J. Keil, Clinton, Mo.

GENEVA office trial case, cost \$55; complete set of lenses and trial frames, good as new, price \$35. H. T. Prange, Kalamazoo, Mich.

MEYROWITZ ophthalmometer, adjustable table and two chairs for \$50 net. Fay McFadden, Granville, N. Y.

DAMASKEENING attachments, something new; will fit any lathe. J. Denniston, Putney, N. Y.

130 KEYSTONES, covering period from 1890 to date. Best offer takes them. H. E. Gragg, Morocco, Ind.

PLATE-GLASS show case, window motor, 40 Dennison stack trays, Comfort glass cabinet. Send stamp for particulars. F. L. Parkhurst, Fitchburg, Mass.

COMPLETE optical office outfit, including two ophthalmometers, cheap. C. W. Hunt, 75 Lexington Ave., New York City.

FATON-ENGLÉ engraving machine, perfect order, four alphabets. "N 592," care Keystone.

COMPLETE numbers of KEYSTONES since started. Price \$1 per year. First \$1 received for any one year, will send at once. "C 594," care Keystone.

200 YEARS old, "A Treatise on Watch and Clock Work." Published 1714. Oldest work in the United States. C. E. Butler, Hudson, N. Y.

FATON-GLOVER engraving machine, good as new, a bargain. E. D. Osterfoss, Livermore, Iowa.

ONE Geneva ophthalmoscope and retinoscope combined, new, latest model, with carrying case. "R 617," care Keystone.

NEW Century engraving machine, used but very little. "R 618," care Keystone.

BUFFALO Dental Co.'s generator, foot bellows and Bodwell blowpipe; all complete ready for use. "R 619," care Keystone.

FOR SALE OR EXCHANGE.

UNDER THIS HEADING THREE CENTS PER WORD.

FINE greyhound, for anything I can use. G. S. Dunlap, Mapleton, Iowa.

NEW Cleveland chainless coaster brake bicycle, never ridden, for optical instruments, or what have you? Neville, Conneautville, Pa.

FINE viola in case, fine clarinet in case, double-barrel shotgun, 17-jeweled chronograph, adjusted, silver case. Want ophthalmometer or wall case. Box 12, Bloomfield, Ky.

ONE oak roll-top watchmakers' bench, nearly new. O. W. Sherman, Central City, Iowa.

NEW Century engraving machine, nickeled oak cabinet, new; \$87. Slot graphophones, records, one horse-power gasoline engine, scientific, electrical and photographic books and magazines. What have you to exchange? J. Stewart, Jr., Burlington, N. C.

FOR SALE OR EXCHANGE.

CRESCENT chainless bicycle, frame nickel-plated, coaster brake. Trade for ophthalmometer. Lock box 17, Baltimore, Ohio.

STEAM automobile. Will take \$200 cash, or trade for American watches, etc. F. Catlin, Winsted, Conn.

FINE graphophone, chainless bicycle, De Zeng refractometer, cameras, barometer. Wanted: Geneva ophthalmoscope and retinoscope (latest), watchmaker's lathe, small 110-volt power motor, optical instruments and goods, trial case. "M 531," care Keystone.

A GENEVA retinoscope nearly new, up to date. Will exchange for 3/4 square box buggy. Write F. B. Holman, Owosso, Mich.

SPECIAL NOTICES.

UNDER THIS HEADING THREE CENTS PER WORD.

LOST—Ladies' 14 K. watch, 7-diamond case No. 1987; Elgin movement No. 9678320. Substantial reward for its return. Ad., A. Berkey, 313 S. Sixth Street, Elkhart, Ind.

RARE opportunity in good Eastern Pennsylvania town. Write for particulars. "B 579," care Keystone.

WHILE they last! Special lot of Swiss main-springs in width 19, 20, 21, 22, 23, 24, 25. Force, 1/4, 1/2, 3/4, 1, 2, 3, 4, 5, 6, 8, 10, 12, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100. Also an imported Triumph second-hand lathe, with slide rest, universal face plate, 8 wire chucks and 10 odd chucks and hand wheel. Lot, \$20 net. Address, Emile Dreyer, 71 Nassau Street, New York City.

WE have special bargains in diamonds at all times. Try us. Collateral Loan and Banking Co., 143 Euclid Ave., Cleveland, Ohio.

A LIFE scholarship in our college, including diploma and highest degree, for only \$7.50. See our advertisement, page 1584, and write for our new prospectus. South Bend College of Optics.

WATCHMAKERS—For \$1 I will send you 3 dozen assorted watch jewels for repairing purposes. A. F. Freeland, watch, clock and chronometer jewel maker, 376 Washington St., Boston. Jobbing a specialty.

WE make a specialty of loaning money to jewelers. Write for information. Collateral Loan and Banking Co., 143 Euclid Avenue, Cleveland, Ohio.

THOROUGH watchmakers wanted who are familiar with "Excelsior's" "Watch Adjuster's Manual" and competent to translate it properly—one to translate it into French and one into German. His compensation would be a moderate share of the proceeds of publication in France or Germany, respectively. As the Manual is a standard authority on the adjustments it is expected that the sales will be large, and the translators would be fairly remunerated. Address (in English only), stating qualifications, "Excelsior," care of The Keystone, Philadelphia, Pa., U.S.A. Also wanted, hustling, reliable selling agents in England, France, Germany, Australia and Canada.

BUSINESS NOTICES.

UNDER THIS HEADING THREE CENTS PER WORD.

WHY not send me your watch cases that need repairing? Can replace any part of a case. G. F. Wadsworth, Silversmiths' Bldg., Chicago, Ill.

YOU are looking for a good, reliable firm to do your watch work. Here is the place. W. K. Sandberg, watchmaker to the trade, 802 Columbus Memorial Building, Chicago.

WHERE to receive the highest cash price for every kind of gold and silver. Refiner of sweeps, filings, brushings, polishings, everything containing gold and silver. Fine gold, silver, copper for sale. J. L. Clark (established 1870), 727 Sanson Street, Philadelphia, Pa. Send by mail or express; prompt attention given.

HAVE you an old English watch case you want changed into American stem-wind? If so, send it to me, and I will guarantee satisfaction. G. F. Wadsworth, Silversmiths' Bldg., Chicago, Ill.

SEND your balance staff work and demagnetizing to John Woollett, watchmaker for the trade, room 806, 103 State Street, Chicago, Ill.

GOLD and silver-plating, satin finish, engraving, engine-turning, everything in the line of watch case repairing. G. F. Wadsworth, Silversmiths' Building, Chicago.

THE Omaha Watch-Repairing, Engraving and Optical Institute is one of the most progressive of its kind, and gives more attention and better instructions to its students than other similar colleges. There are two ways for young men to learn this business. One is practical, up to date and profitable; the other entirely wrong or behind the times. Which will you choose? We want our graduates to be known as skillful workmen. This college has been recognized as producing work of the highest order, and by the trade as having the most perfect system of instructions. There being a constantly increasing demand for good workmen, one can make no mistake in learning this trade. Write for prospectus. Dr. Tarbox & Gordon.

SITUATIONS WANTED.

JEWELRY salesman, with 20 years' exp., open for engagement to take charge of exhibit at the exposition next year. Al ref. Address, "C 521," care Keystone.

BY first-class watchmaker, jeweler and salesman. Address, Box 140, Kent, Ohio.

Display advs., \$2.50 per inch per column. Smallest adver. inserted, one inch.

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Repairing for the Trade.
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H. R. PLAYTNER,
DIRECTOR. Toronto, Ont.

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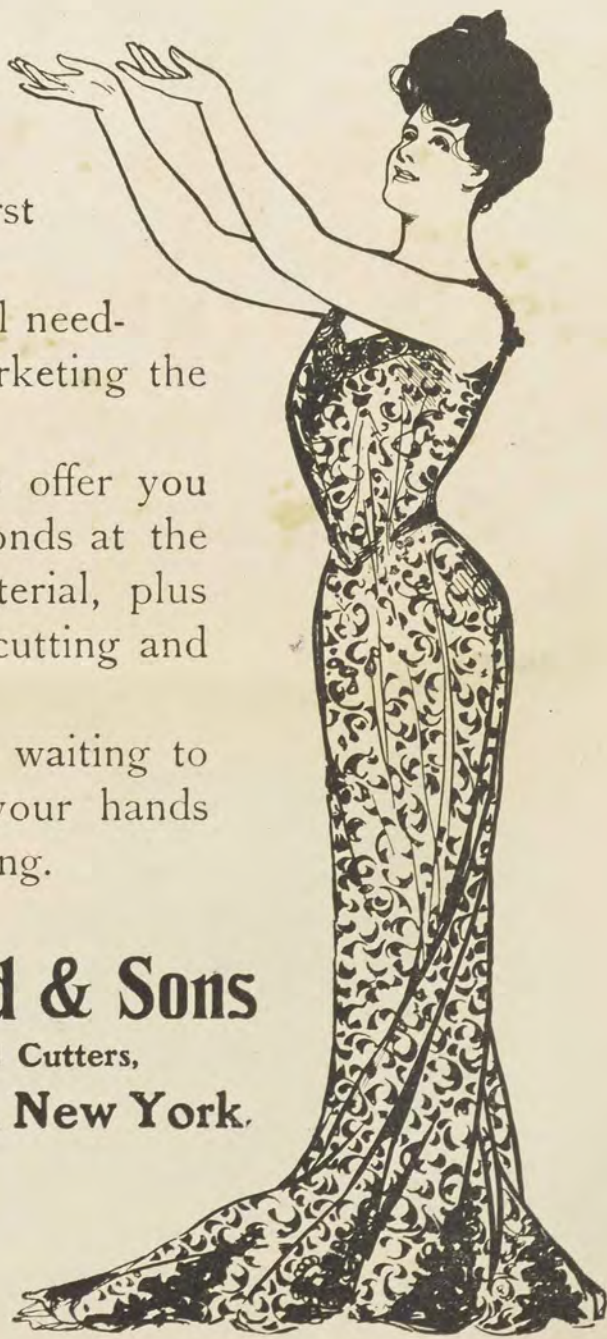
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We are able to offer you the finest cut diamonds at the actual cost of material, plus the cost of cutting and our profit.

They are waiting to drop into your hands for the asking.



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Diamond Cutters,

2 Maiden Lane, New York.

**The NEW CENTURY that you meant
to send for can't make money for you until
it is working in your store.**

The good resolutions that you made last year to have a NEW CENTURY will not engrave watch inscriptions or the many dozen spoons you sell, or cut the initials on the rings which will be purchased for holiday gifts.

Neither will good resolutions enable you to put your time in on watch work nor at the counter where your money must be made.

The NEW CENTURY, not the good resolution or good intention, is the thing that gets the engraving done.

The only way for you to solve your engraving problem for all time is to send for a NEW CENTURY—and do it now.

Not next week, or next month, or next season, but NOW.

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Don't let engraving bother you this year. Let the NEW CENTURY do the night work and worry, and pay you a profit while doing so.

Your order if sent to-day will be assured of immediate delivery.

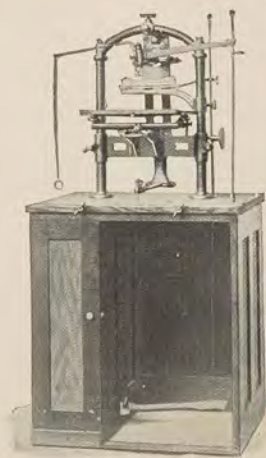
Our catalogue just published describes the machine in every detail and if you have not seen samples of the work done by a boy on the NEW CENTURY, we will send them to you without charge if you write immediately.

Promptness on your part will save you endless worry and bother and will add a healthy balance on the right side of your ledger at the end of the season.

Do it NOW.

The Eaton & Glover Co.,

87 Nassau Street, New York.





“Something for Nothing.”

An Ohio jeweler writes: “What will you charge me for two or three electrotypes of Watch Cases, for use in my newspaper advertising?”

Are there any other jewelers who would like Keystone Watch Case cuts for advertising purposes, but first want to know the cost of them?

We thought all knew—but it seems not; there may be hundreds of jewelers who do *not* know that

we send to any regular retail jeweler who will make use of them in his advertising two or more Watch Case cuts—as many as he can use to good advantage—without charge, express paid, on application.

The great watch-buying season of the year is just ahead; the live jeweler will prepare for it by live advertising; and we are glad to help him by sending him cuts of the best watch cases. A picture of a Boss Filled Case, or a Keystone Gold Case, will add much to the force of your advertisement; and when you show *this make* of case, the readers of your advertisement will be led to believe that *all* your goods are as reliable as your Watch Cases.

We are here to serve you in every way that we can.

The Keystone Watch Case Co.,
19th & Brown Sts., Philadelphia.

