



The
Keystone

THE ORGAN OF
THE JEWELRY
& OPTICAL
TRADES.



Copyright, 1898 by E. Thorpe, Publisher, 19th & Brown Sts., Phila.

Volume 19

Number 10

October, 1898



Announcement to the Trade

General Offices, Chicago, October 1, 1898.

Our **7 JEWELLED, 12 SIZE MOVEMENTS**
have been issued.

NAMELESS—ENGRAVED ELGIN NATL. WATCH CO.

**Three-Quarter Plate, Hunting and Open-Face,
Pendant Setting.**

No. 196, Hunting. No. 197, Open-Face. Nickel.



7 jewels, compensation balance, Breguet hairspring, exposed pallets, patent safety barrel with spring box rigidly mounted on bridge, display winding work, patent recoiling click, patent self-locking setting device, glass enamel dial, dust ring, damaskeened plates.

ASK YOUR JOBBER.

MANUFACTURED AND GUARANTEED BY THE

ELGIN NATIONAL WATCH CO.

GENERAL OFFICES,
76 MONROE STREET, CHICAGO, ILL.

NEW YORK OFFICE,
11 JOHN STREET.

FACTORIES, ELGIN, ILLINOIS, U. S. A.

SEE JOBBERS' LIST FOR PRICES, OR WRITE THE COMPANY.

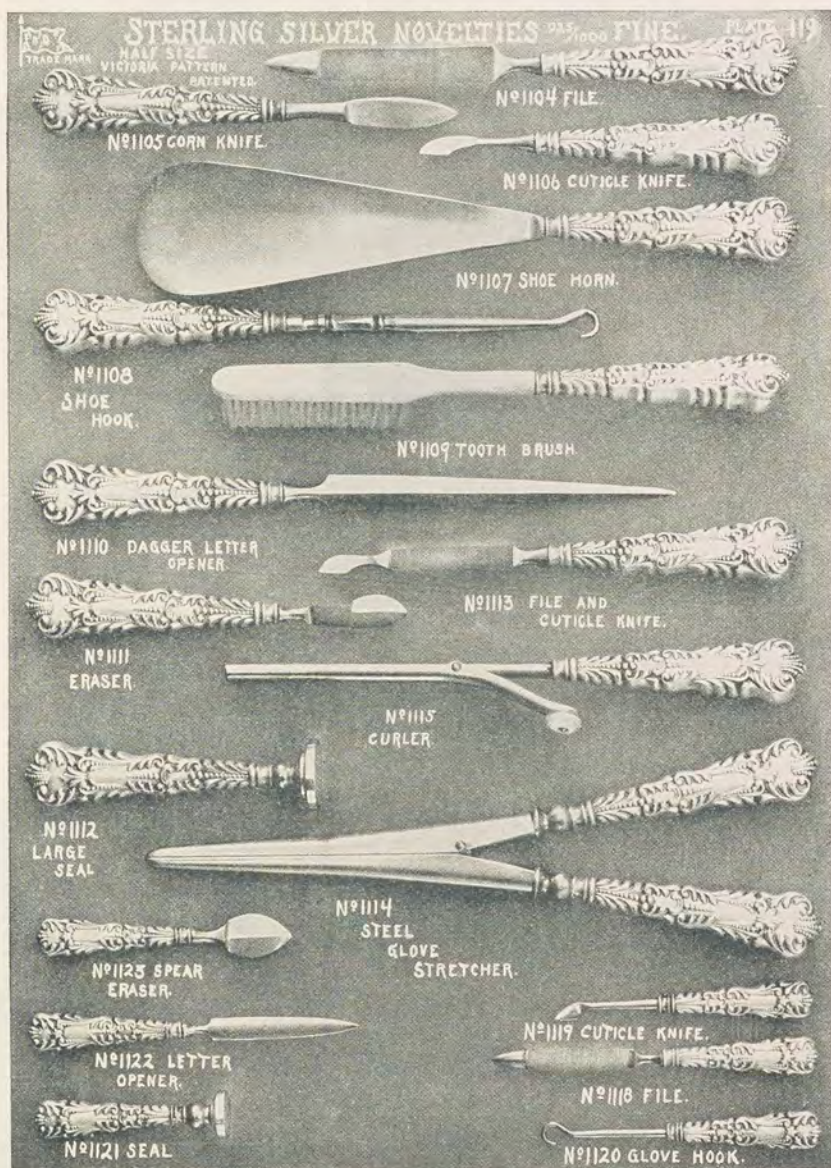


The Vacation Season



is now over, and people are again returning to their homes throughout the country. It is therefore imperative that every dealer should now have his STOCK in, and ready for the large business that will surely come. Through an error we illustrated last month our JEWELLED JEFFERSON pattern, under the name of our VICTORIA pattern. We illustrate below a sample page (on a reduced scale) from our new catalogue, showing our beautiful VICTORIA pattern. Ask us for a catalogue and we will send it to you; you will find illustrated everything for the Toilet and Manicure use.

We will surprise you by the low Prices we will quote you on the Goods illustrated on this page.



Mirrors
 Brushes
 Combs
 Cut Glass
 Manicure Sets
 Toilet Sets
 Whisk Brooms

Everything that is useful and pretty.

Sterling Silver $\frac{925}{1000}$ fine.

DESIGN PATENTED

We are also continuing with our WASHINGTON and JEFFERSON patterns, which were so successful last season.

Remember we are leaders in the lines of gold filled and gold plated Bracelets, Locketts, Vest Chains, Chain Mountings, Gold Front Pins, Earrings and Sterling Bracelets.

THEODORE W. FOSTER & BRO. CO.

Jewelers and Silversmiths

SUCCESSORS TO
 FOSTER & BAILEY

100 RICHMOND ST., PROVIDENCE, R. I.



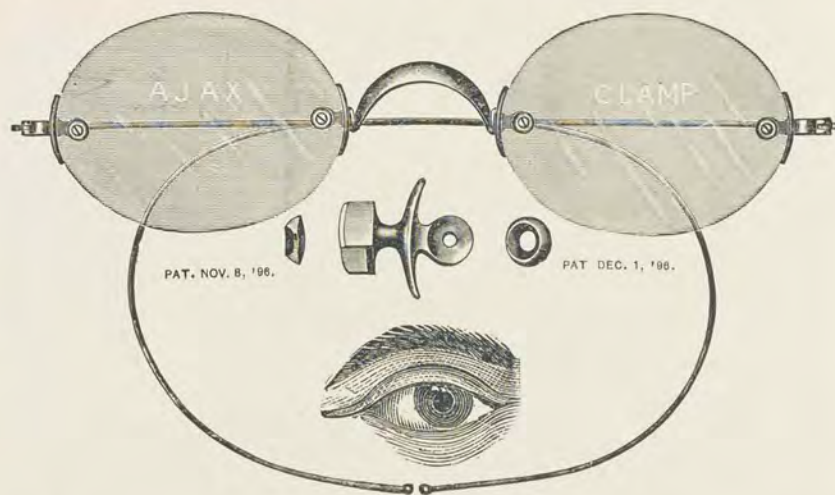
Time to buy Optical Goods



BUSINESS BOOMING! ORDER EARLY!

Headquarters for these goods. **AJAX CLAMP** Frameless Mountings

EYE-GLASSES
FOR



AND
SPECTACLES

This Mounting is the newest and one of the most practical inventions in the optical trade in recent years. The only **absolutely interchangeable** Spectacles and Eye-Glasses made. Does away with more than **one-half** the breakage incident to the old style of clips.

SPECIAL ADVANTAGE:

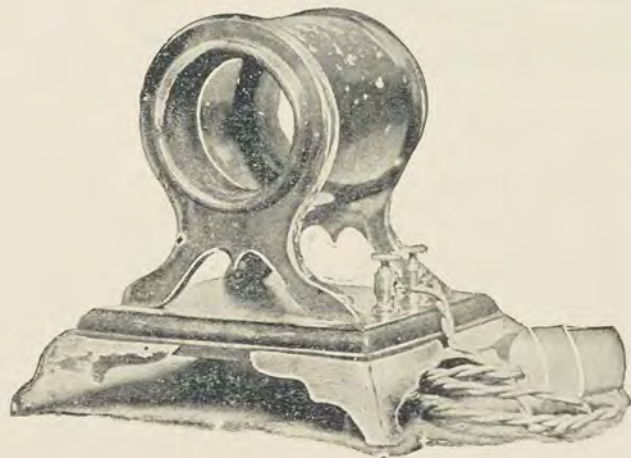
A small assortment of lenses, and a few of the different styles of mountings, will give you a complete stock of rimless goods, as lenses of any thickness will fit the same strap. These mountings are made of any material.

HAVE YOU SEEN A SAMPLE?

Headquarters, **L. H. KELLER & CO.**

Special Attention to R. Work.

64 Nassau St., NEW YORK.



The "QUICK" Demagnetizer

A new Demagnetizer embracing the latest and most approved scientific construction. Thoroughly reliable in its performance and rapid in execution.

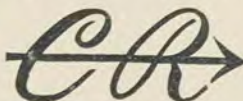
Nothing but the best of material being used, this machine is not like **all** other Demagnetizers, but differs in this particular. It is not necessary to put in a new main-spring or to remove the old one while demagnetizing a watch, thus saving time, material and cost, but rearranges every molecule and destroys any existing polarity.

Only made for Alternating Current.
PRICE: Plain Stand, \$5.00; Fancy Nickel Plated, \$10.00.

1853

Our 45th Anniversary

As Sole Agents for
The Celebrated



Mainsprings

1898

Our advertisement, in the September number of THE KEYSTONE, of the closing-out of our Ring and Spectacle lines, for the purpose of concentrating all our resources and attention on the **Watch and Chain** lines, brought such a flood of orders from all parts of the United States that our entire stock of Rings, Diamonds and Spectacles is practically sold out—on the margin is enumerated the few items left, with prices that will close out this remnant quickly.

Henceforth we are Jobbers in *Watches and Chains*, exclusively. To signalize this concentration of business on the Watch and Chain lines we have added largely to our stock and are offering some remarkable values. Among them is a line of 14 K. O-size Htg. Engraved Cases, fitted with 7-jeweled Elgin or Waltham Movement, at \$27.00 net (according to *Keystone Key*); and 250 Watches, another lot, with heavier and more richly engraved cases, at \$30.00 net (according to *Keystone Key*). Another feature in our stock is the superb line of fine *hand-made* cases—substantial in weight, artistic in design and decoration, perfect in workmanship.

We send Selection Packages on request, to responsible jewelers.

The Non-Retailing Company,

Jobbers in
Watches and Chains,
Lancaster, Pa.

The End of the Ring Stock.

Fine Marquise (Opal, Turquoise, Emerald or Ruby, combined with finest Diamonds); Marquise (combinations with Rose Diamonds); at 60 per cent. off of regular price. A few papers of small Emeralds, Sapphires and Opals, at cost to import.

The End of the Spectacle Stock.

No. 31½ Rubber Eye-Glasses (the \$1.75 kind), focus numbers 5, 6, 7, and from 38 to 60, 75 cents per doz. Smelters' Specs, \$1.50 per doz. Finest Steel Eye-Glasses, blued frames, adjustable spring (the \$3.25 kind), at \$1.50.



Tourbillon Chronometer.

16 Size Movement.

Ours is the only school in America which produced such a watch. For the second time,

We Challenge Denial.

**Canadian
Horological Institute**

115 to 121 King St. East
TORONTO, ONT.

WE lately, more than ever before, received numerous evidences of the good will of the trade towards our policy, work and endeavor, that I desire to express my heartfelt thanks for the kind, appreciative words and helpful deeds of which I am the fortunate recipient.

My zeal, enthusiasm and endeavor has thereby been further intensified and stimulated, to follow the path which I chose for the school to its final goal; no matter what the work, difficulties and obstacles encountered may be, I am more than ever determined to advance the Canadian Horological Institute to the proud position I wish it to occupy, and have every reason to believe that our efforts are more and more successful. I am always pleased to meet experts at the school, and cordially invite all who come to Toronto to visit us, and I hope that what they see here will at least convince them that my endeavors are in strict accordance to what those of a true horologist should be.

Again I say "thank you" to all our friends in the trade, and promise that I will do my utmost to deserve the many kindnesses and favors with which I have been honored.

H. R. PLAYTNER,

DIRECTOR.

A Rare Combination

Business

Send us your old GOLD and SILVER and your SWEEPS. Don't put it off, saying that you will wait until later. It is worth the trouble to go at it at once. What is worth doing is worth doing promptly. Every successful business man will tell you so. That's **Business**.

Pleasure

When you get our check—it will come to you by return mail—giving you the biggest results that can be obtained, because of our great plant with all its latest modern facilities, you will appreciate our offer and be thoroughly satisfied. If not it will be returned intact at our expense. That's **Pleasure**.

GOLD ASSAYERS
REFINERS
SMELTERS **SMITH**
BROS.

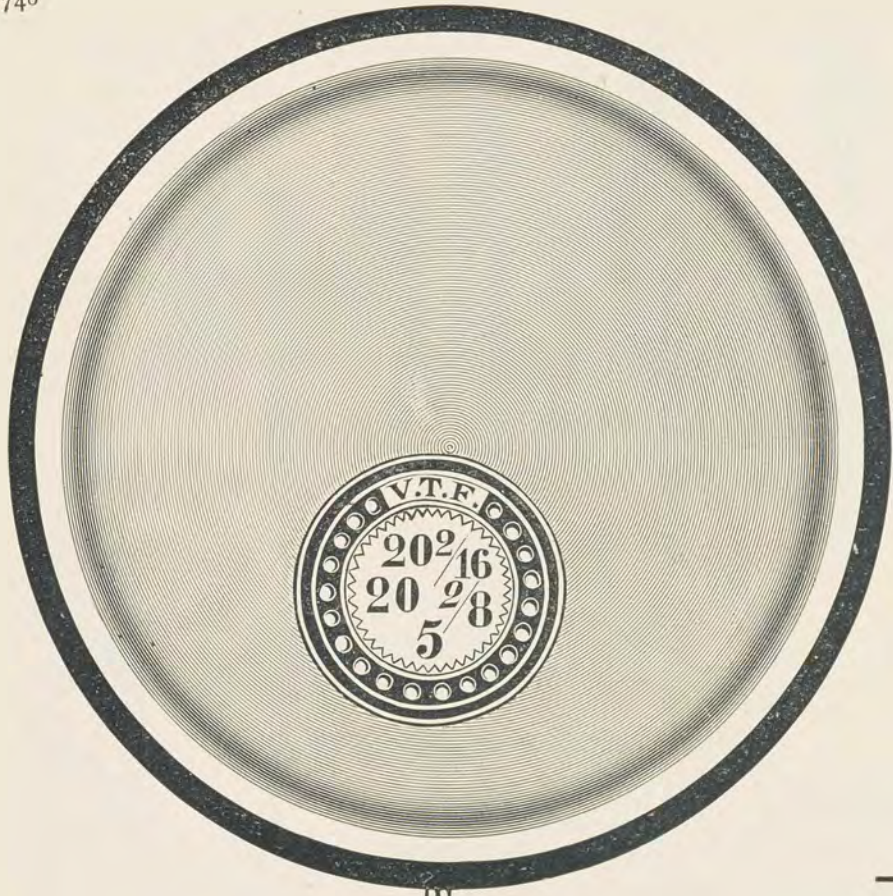
OFFICE, 63 AND 65 WASHINGTON STREET

CHICAGO



Sterling Silver Novelties,
 To retail from 25c. to 50c.
 Sold by all leading Jobbers
 In United States and Canada.
 Ask for Attleboro Mfg. Co.
 Goods.





V.T.F.

V.T.F.

Watch Glasses

are used by more watchmakers than all others.

are used by more casemakers than all others.

are made in larger quantities than all others.

cost no more and are better than all others.

for sale by all leading Jobbers.

means everything that is first quality in a watch glass. Without V. T. F. on each and every label you are in danger of receiving inferior quality. Can you afford to?

The success of the V. T. F. has induced others to copy the label, but not the quality. There is only one **Beaded Border Label with V.T.F.**, and that stands alone as the *perfect* watch glass.

Manufacturers of Beveled-Edged Clock Glasses, all manner of Round Beveled-Edged Glasses, as well as Lenses for Bicycle and other kinds of Lamps. For information, address J. W. Riglander, 35 Maiden Lane, New York.

E. & J. Swigart,

JEWELERS' SUPPLIES,
BOXES, TOOLS AND MATERIALS,
No. 15 W. FIFTH ST., CINCINNATI, OHIO.

THE WAY TO WIN.

THE naval battle off Santiago harbor was won because we were "ready for business" whenever the Spaniards came out.

That's the way trade battles are won—by being ready for business whenever it comes.

This is the time to get everything ready for the holiday trade. And remember, half the battle is in having your "fixings" all complete—boxes, cards, tags, trays and supplies for keeping stock clean, fresh and bright.

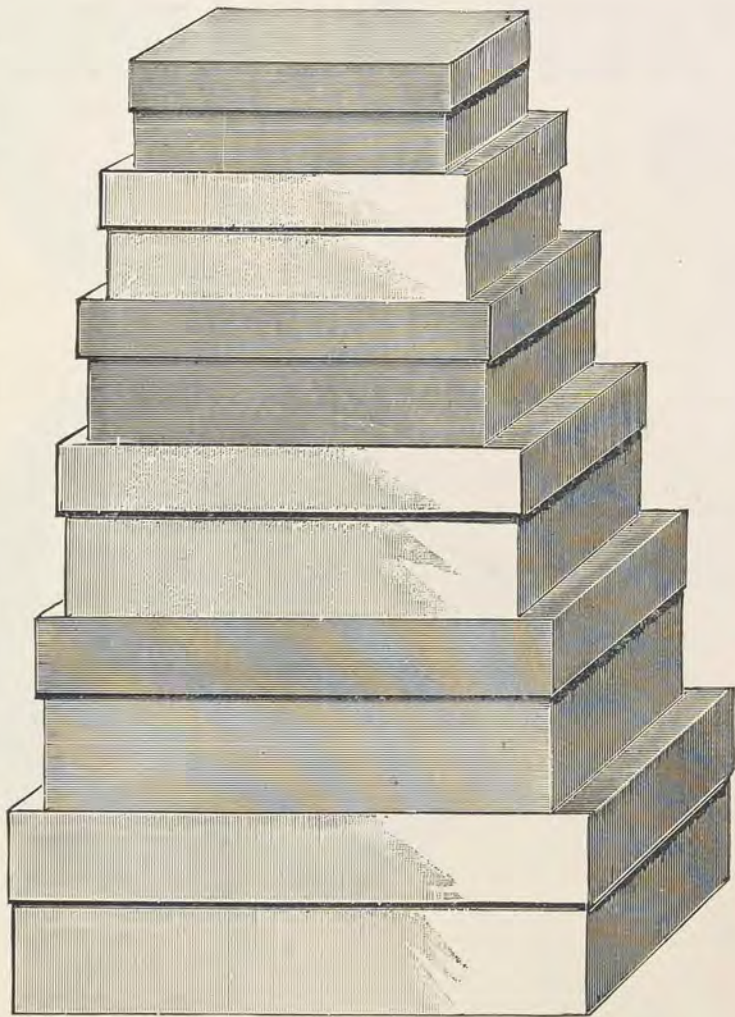
Don't get "in a box" by being out of boxes.

We are all ready. Being ready is our specialty. You don't wait for supplies that you order here. New customers tell us that the promptness with which their orders are filled was a revelation to them.

Our special Box Price-List will keep you posted on the latest styles in boxes of all kinds. Ask for it.

E. & J. SWIGART,
CINCINNATI, OHIO.

EVERY wide-awake jeweler keeps our Complete Illustrated Catalogue of Tools and Materials at his elbow. That's what keeps him wide awake.



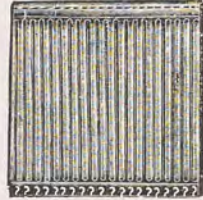
PAPER BOXES.

No.	Description	Per Gross.	Per Gross Printed.
No. 141.	Fair quality, white boxes, six in nest,	\$1.00	\$1.35
" 1639.	Good " " " " " " " "	1.40	1.75
" 1939.	Fine " " " " " " " "	1.90	2.25
" 1680.	" " " " " " " "	3.20	3.55
" 1699.	" " " " " " " "	2.40	2.75
" 1678 1/2.	" " " " " " " "	3.00	3.95
" 1603.	" " " " " " " "	2.00	2.35

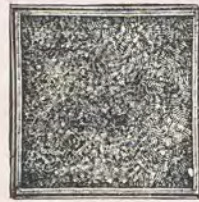
Elegant Show Case Trays.



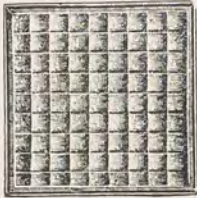
Watch Tray.



Chain Tray.



Plain Tray.



Ring Tray.



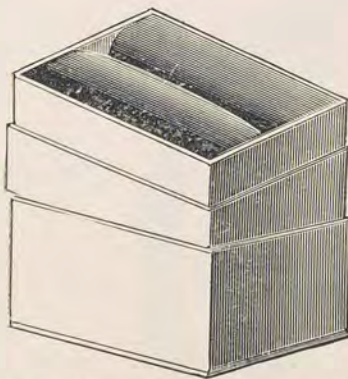
Charm Tray.

PRICES FOR SHOW CASE TRAYS.

Description	Each.
Watch, chain and ring trays, plush lined, 11 3/4 x 11 3/4,	\$1.15
" " " " " " " " 11 3/4 x 7 3/4,	1.15
" " " " " " " " 11 3/4 x 5 7/8,	1.10
Plain walnut stack frame " " " all stock sizes,	.75
" leather bound " " velvet " " "	.40

Our trays are all made to stack. Frames made from seasoned wood and well finished. Colors of plush lining—ruby, purple or peacock blue. Extra quality and special sizes of trays made to order on short notice.

ALL PRICES LESS
6 PER CENT FOR CASH.



PAPER RING AND THIMBLE BOXES.

No.	Description	Per Gross.	Per Gross Printed.
No. 1556.	Fine white baby ring,	\$2.65	\$3.00
" 1554.	" " " " " " " "	2.65	3.00
" 1550.	" " " " " " " "	2.90	3.25
" 1583.	" " " " " " " "	2.75	3.10



WATCH BOXES.

No.	Description	Per Dozen.
No. 76.	Good quality plush,	\$2.75
" 78.	Fine " " " " large,	4.50
" 91.	Finest " " " " "	6.00
" 90.	" " " " " " velvet,	9.00
" 77.	Leather, velvet-lined,	3.00
" 190.	Morocco, fine quality,	9.00
" 191.	Silk, fine quality,	6.00



JEWELRY BOXES.

No.	Description	Per Dozen
No. 8.	Velvet ring, good quality,	\$4.50
" S.F.	" " " " " " fine " "	6.00
" S.M.	Morocco ring, good quality,	2.50
" S.F.M.	" " " " " " fine " "	6.00
" 2.	Plush ring, telescope square,	2.25
" 4.	" " " " " " round,	2.25
" 15.	" thimble, " " " "	2.25

ROTARY HAMMER ALARM

No. 97



FRONT.

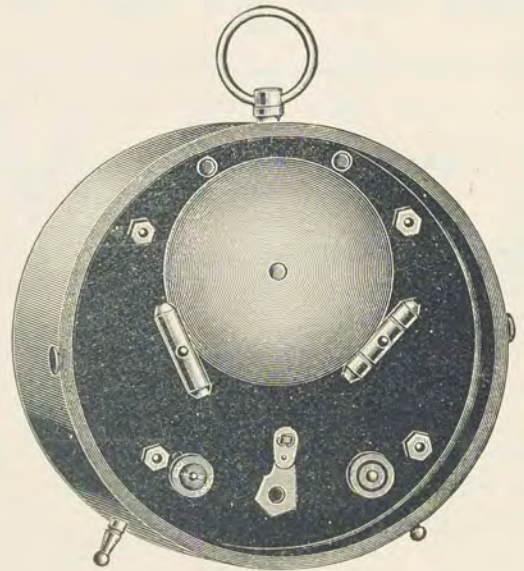
TRADE MARK.
PARKER.



CUTS
HALF
SIZE



Dial, 4 1/4 inches.



BACK.

Has the following mentioned **SPECIAL POINTS**,

Making it the **BEST** and **CLEANEST** Alarm that has ever been made.

Must be seen to be appreciated. HEAVY BRASS CASE. Nickel-Plated.

Can be drawn from the Case in a second's time by simply pressing the buttons at the sides.

Mainsprings can be removed, also replaced, without disturbing the escapement or the trains.

The hands are easily set to any position on dial circle, even by those having tender fingers.

The steel pallet faces are well polished, and all wheels and pinions have higher number of teeth than any other **ONE-DAY CLOCK**.

The centrally mounted Alarm Pointer is another important feature, the advantage of which is apparent.

ROTARY HAMMER ALARM

No. 98



FRONT.

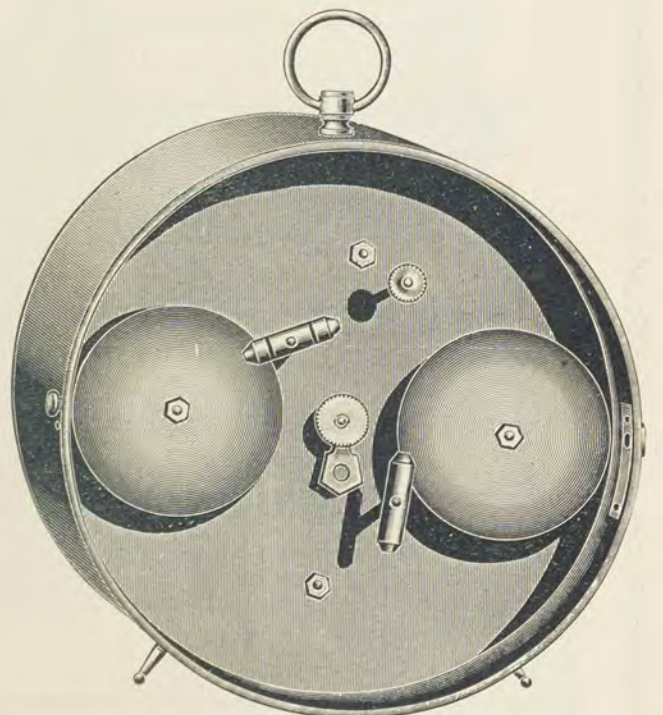
TRADE MARK.
PARKER.



CUTS
HALF
SIZE



Dial, 6 inches.



BACK.

THE PARKER CLOCK CO.

Meriden, Conn., U.S.A.

SOLE MANUFACTURERS.

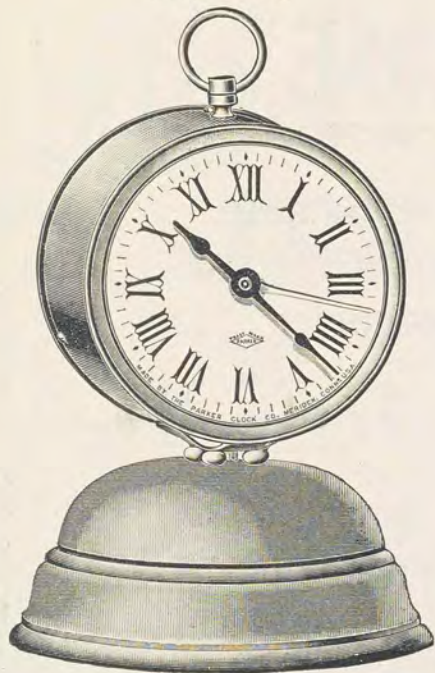
These New Model Clocks can be had from all leading jobbers.

Look for our trade-mark.

These Clocks are being sold by the best jewelers, who want an Alarm Clock that is a good timepiece and thoroughly reliable.

ROTARY HAMMER ALARMS

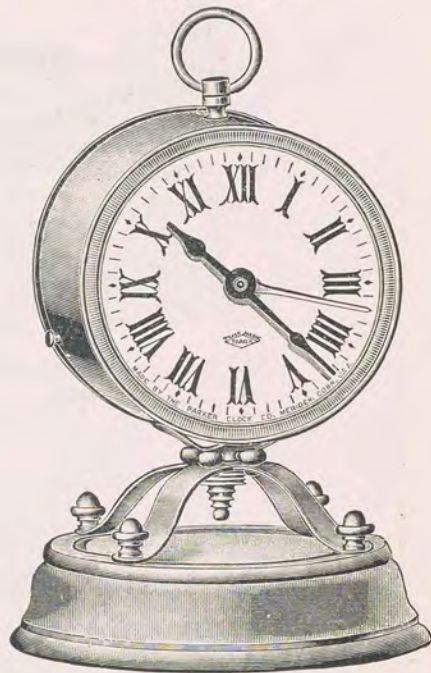
No. 61



CUTS
HALF SIZE

DIALS, 3 INCHES

No. 63



No. 99



FRONT



CUTS
HALF SIZE

DIALS, 4 1/4 INCHES

No. 99



BACK

No. 100



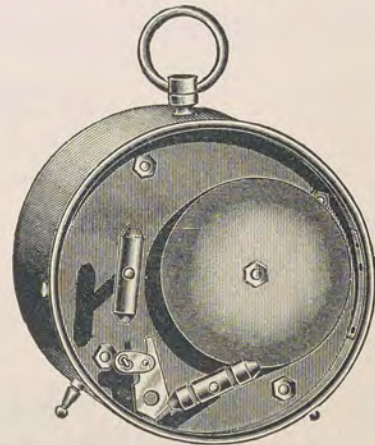
FRONT



CUTS
HALF SIZE

DIALS, 3 INCHES

No. 100



BACK

THE PARKER CLOCK CO.,

Meriden, Conn., U. S. A.

—SOLE MANUFACTURERS—



THE EAGLE COIN-SLOT GRAPHOPHONE,
\$20.

THE GRAPHOPHONE

*The Talking Machine up to date.
A New Coin-Slot GRAPHOPHONE
efficient and well constructed
for \$20.*

Jewelers can handle GRAPHOPHONES and RECORDS as a side line with much profit. The GRAPHOPHONE attracts customers. Liberal discounts offered dealers can be learned on application to any of our offices.

WHY THE GRAPHOPHONE?

In the First Place

The GRAPHOPHONE reproduces perfectly and delightfully the music of bands, orchestras and vocal and instrumental soloists. With a GRAPHOPHONE one can provide, at any time, a most enjoyable entertainment, having the whole range of melody to draw on for his program. It is all musical instruments in one.

And then

On a GRAPHOPHONE cylinder anyone can record easily and instantly music, the human voice or any sound, and the record can be reproduced immediately and as often as desired. Only on talking machines manufactured under the GRAPHOPHONE patents can sound be recorded, the performance of other so-called talking machines being limited to the reproduction of records of cut and dried subjects made in laboratories.

Columbia Phonograph Co.
Dept. 21.

NEW YORK, 143 and 145 Broadway.
Retail Branch, 1155, 1157, 1159 Broadway.
PARIS, 34 Boulevard des Italiens.
CHICAGO, 211 State St.
PHILADELPHIA, 1032 Chestnut St.
WASHINGTON, 919 Pennsylvania Ave.
BALTIMORE, 110 E. Baltimore St.
BUFFALO, 313 Main St.
SAN FRANCISCO, 723 Market St.



Use the 

"Imperial" Mainsprings

They are the best, the most reliable, are COILED AND TAGGED, put up in the most convenient manner, and are "Guaranteed for One Year."

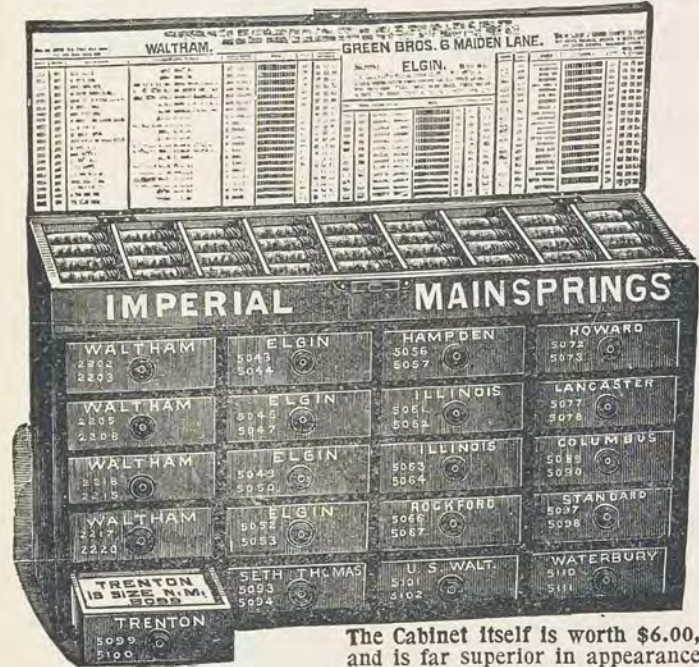
Beware of Imitation !!!



Price, **\$12.00** per Gross.
1.00 per Doz.

Cabinet and a full set of Screw-Top Bottles sent GRATIS.

"It is worth securing."

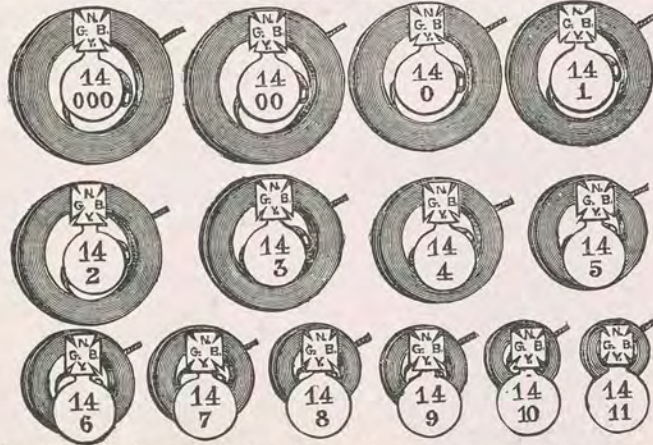


The Cabinet itself is worth \$6.00, and is far superior in appearance than is represented by the cut.

SPECIAL NOTICE.

With a first order of one gross of the "Imperial" American or Swiss Mainsprings, we send gratis our Improved handsome polished Solid Black Walnut, Oak or Cherry Mainspring Cabinet, as 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 glass 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 Gauge, and the proper numbers and names for ordering.

Fac-simile of an assortment of "IMPERIAL" Swiss Mainsprings, coiled and tagged, showing width 14 and strengths 000 to 11.



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

Fac-Simile of No. 2203 Imperial American Springs, Coiled and Tagged.



None Genuine unless marked "Imperial" and bearing our Registered Trade-Mark.

GREEN BROS. 6 Maiden Lane, NEW YORK.

Importers, Manufacturers and Jobbers of { Fine Grade Watch Materials, Tools and Jewelers' General Supplies.



1885.

THE PAUL E. WIRT FOUNTAIN PEN.

1898.

"First in Reliability and Popularity."

Over a Million Wirt Fountain Pens have been sold and are in practical daily use throughout the world.

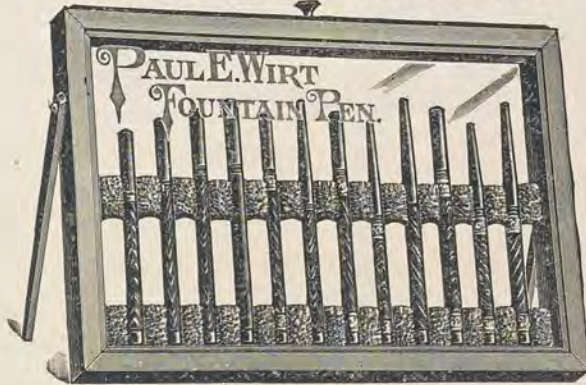
Therefore

A select assortment tastefully exhibited in an attractive manner will greatly increase your sales, also percentage of profit.

The neat and practical show case illustrated, contains one dozen of our most popular and best-selling styles arranged in a particularly convenient manner for customers to examine and make selection.

Discounts liberal. If your jobber cannot supply you send orders direct.

JEWELERS' SELECT ASSORTMENT.



EVERY WIRT PEN IS FULLY GUARANTEED.

Still "Remains Unequaled."

"The Paul E. Wirt was the first successful fountain pen manufactured, and it remains unequaled."
—Boland's Book News, St. Louis.

No charge is made for the show case which, because of its transparency, is inimitable as a fountain pen exhibitor and a most desirable piece of store furniture.

Any pen in this assortment remaining unsold at the end of six months will be exchanged for such as the dealer may conclude are more desirable.

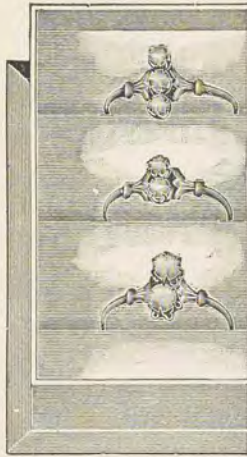
"Mr. PAUL E. WIRT, Dear Sir:—With your pen I have been able to noticeably improve my spelling and also my standing among Christian people."
Yours truly, BILL SYR.

WE CHALLENGE THE WORLD FOR ITS EQUAL FOR CONSTANT PRACTICAL USE, AND WE CHALLENGE SUPERIORITY IN THE CLASS OF GOODS.

PAUL E. WIRT FOUNTAIN PEN.

BLOOMSBURG, PA.

When writing to advertisers, kindly mention The Keystone.



\$12
per dozen.
Good quality
Opals,
10 K. settings,
in box.



No. 3249.



No. 3138.

\$12
per dozen.
Good quality
Rolled-Plate
Soldered
Links.
Fancy Stone
Slides.
Warranted
to wear.



**LOOP
BRACELETS**
of
assorted widths.

Sterling, **\$5** per dozen up.
Plate, **3** " " "

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

FACTORY—Newark, N. J.



Our own make Cuckoo Clocks

**Speak for
themselves.**

Never become dead stock. Always remind your customers of their presence by their attractive little call. Sales naturally follow. Better drop us a postal for our catalogue. You know we are the only makers of "CUCKOOS" in America.

American Cuckoo Clock Co.
37 and 39 N. Ninth St.,
Philadelphia, Pa.

Miniature Portraits in



**WATCHES,
BROOCHES,
LOCKETS.**
Hand-painted
MINIATURES
on Ivory or Porcelain.

Copied from any photo.
Equal to any made in Europe.
Our work will not fade or peel off.
Send for Circular and Price-List.

The Goldstein Engraving Co.
45 MAIDEN LANE,
NEW YORK.

GET THE BEST—THE "RIVAL" FOUNTAIN PEN.

\$8.50 per dozen, plain holder, } NET CASH.
9.00 per dozen, chased holder, }

Full Protection Given by This License
to Our Customers.

All pens are 14 K. gold. Every pen guaranteed.
Gold pens repointed.



PATENTED FEBRUARY 14, 1893.

LICENSED UNDER PATENTS NO. 260,134 AND 311,554.

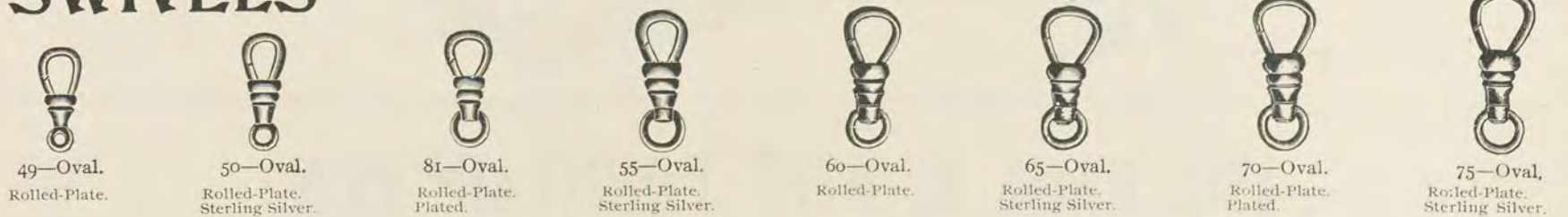
They have proved to be the best Fountain Pens on the market. Our **STYLO PENS** have also been a great success. Send for catalogue. Export trade solicited.

All makes of Fountain Pens Repaired.

D. W. BEAUMEL, Office and Factory, 45 John Street, New York City.

Established in 1858.

SWIVELS



49—Oval.
Rolled-Plate.

50—Oval.
Rolled-Plate.
Sterling Silver.

81—Oval.
Rolled-Plate.
Plated.

55—Oval.
Rolled-Plate.
Sterling Silver.

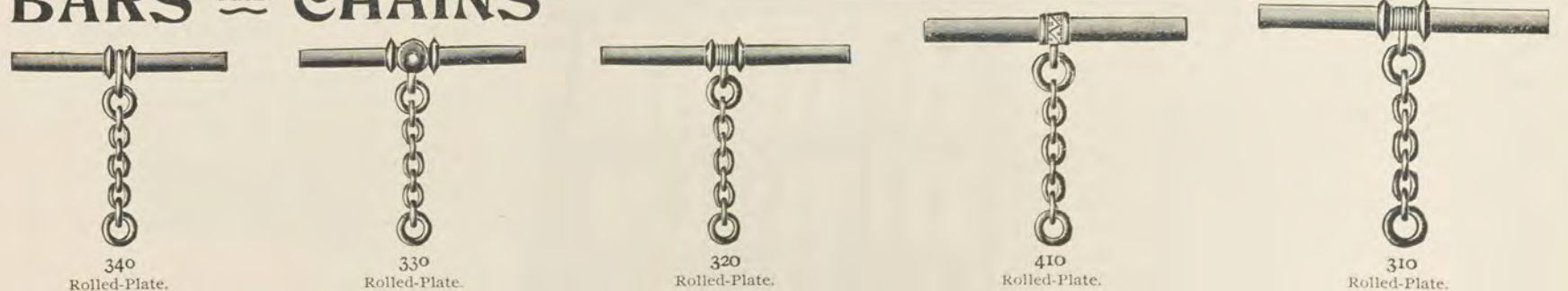
60—Oval.
Rolled-Plate.

65—Oval.
Rolled-Plate.
Sterling Silver.

70—Oval.
Rolled-Plate.
Plated.

75—Oval.
Rolled-Plate.
Sterling Silver.

BARS AND CHAINS



340
Rolled-Plate.

330
Rolled-Plate.

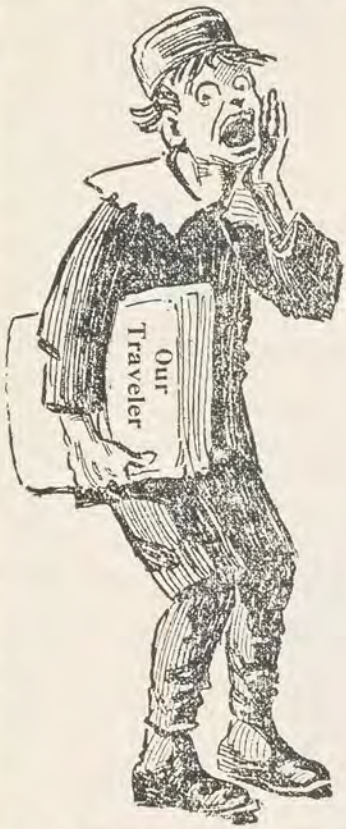
320
Rolled-Plate.

410
Rolled-Plate.

310
Rolled-Plate.

We carry a fine line of the goods illustrated above, and shall be pleased to serve the Jobbers and Manufacturers. The Bars have 14 K. ends, and all are seamless, excepting No. 410. The Chains may be had with soldered or unsoldered links.

GEO. H. FULLER & SON, Factory, PAWTUCKET, RHODE ISLAND.
CHICAGO OFFICE, 103 State St., Columbus Memorial Building.



We want you to know
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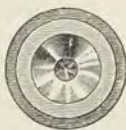
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Illinois, 6, 16 and 18	" 75 cents "	
Columbus, 18	" 75 cents "	
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Trenton, 18	" 75 cents "	
N. Y. Standard, 18	" 75 cents "	



★ "STAR" Brand American Roller-Jewels, one gross (12 dozen), nicely assorted in walnut cabinet, 12 bottles, for the leading makes of American watches, perfect fit.
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THE REGULAR CATALOGUE has been sent out, and if not received, advise us. The new booklet containing the full line of enamels and setts is ready for delivery.

We caution the trade to order early to insure the prompt attention received in the past.

The New England Watch Co., Waterbury, Conn.





18 Size Open-Face.

THE POPULAR AND BEST AMERICAN-MADE
LOW-PRICED WATCH MOVEMENT

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18 Size, $\frac{3}{4}$ Plate, 7 Jewel, Quick Train, Stem-Winding and Setting, Nickel Finish Damaskeened, Hard Enamel Dial with Depressed Seconds.
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Height, 6 $\frac{1}{2}$ inches. Base, 5 $\frac{1}{4}$ inches.

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THE KEYSTONE

VOLUME XIX.

PHILADELPHIA, OCTOBER, 1898.

NUMBER 10

THE KEYSTONE

A MONTHLY JOURNAL DEVOTED TO THE INTERESTS OF THE JEWELRY AND OPTICAL TRADES.

B. THORPE, PUBLISHER.

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Advertisements—Advertising rates furnished on application. No advertisements but those of a reputable character will be inserted. To Advertisers—Copy for advertisements must reach us by the 25th of each month to insure insertion in the issue of the following month. Notices of changes in advertisements should reach us not later than the 20th of the previous month.

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All communications should be addressed to

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TO UNWRAP YOUR KEYSTONE, SIMPLY PULL THE STRING

THE Trans-Mississippi and International Exposition, at Omaha, Nebr., has entered on the last month of its prosperous existence, and a multitudinous attendance is expected and deserved. This exposition will be unique in that it will not only pay for itself, but afford a profit on the invested capital. THE KEYSTONE took pleasure in doing its share towards this end. The outbreak of the war, it was thought, would hurt, if not prove ruinous, to the exposition, but better luck was in store for it.

Our Holiday Issue Next Month.

OUR November issue, which will be the handsomest and most valuable achievement in trades journalism ever attained, will be entitled "The Greater United States and Holiday Number," and will be in every respect worthy of this pretentious title. The cover will have a beautiful special design based on our new territorial acquisitions and symbolic of the new peoples and industries that come under the flag, as a result of the war. The design is a work of art, well executed, and will be handsomely printed in colors. A portion of the contents of this number will also be printed in colors. One of the many special features that will give zest, interest and value to the contents will be an illustrated account of our new territory with interesting description of natives, industries and resources. The wealth of contents and illustration of the entire number will excel any previous achievement in trades journalism. Those whose subscriptions lapse in the meantime should renew at once so as not to miss this greatest number of THE KEYSTONE. We will print an extra large edition of this number, as it is our intention to mail copies to jewelers and opticians of the foreign English-speaking countries of the world.

Proposed Consolidation of Silverware Manufacturing Interests.

THE International Silverware Company, with \$30,000,000 capital, was recently organized with a view to absorbing all or as many of the great silverware manufacturing concerns as could be induced to dispose of their interests to the new Company. This combination of competing forces would include, it was alleged, all the leading silver-plating concerns, the aggregation representing eighty-five per cent. of the total production. The purpose of the combination, as stated by the organizers, is not to raise the prices of standard silver-plated ware, but to procure a greater profit to manufacturers by reducing expenses and curtailing competition.

It was expected that the stockholders of the companies to be consolidated would agree to accept stock of the new concern in exchange for their old stock, but it seems that some of these companies are beginning to question the wisdom of the exchange. The new company would, of course, acquire all the patents, trade-marks and name prestige of the consolidating companies, and it can be readily understood that the shrewd and conservative down-East manufacturers are wary about transferring their property and valuable built-up reputation for stock in a concern largely controlled by outside capital, and the future of which is, at best, conjectural. Only under exceptionally favorable conditions would the transfer be made, and it is not certain that the new Company can afford such exacting conditions as will be acceptable—at least in some cases.

The hitch, according to the latest information, seems to have arisen from the fact that the new company is to assume all the indebtedness of the consolidated concerns, and that as a consequence several of the leading firms insist on knowing the terms on which individual companies enter and the assets and liabilities of such companies. This is a common sense demand under the circumstances, but it is just such a one as may spoil the consummation of the deal. On page 796j will be found a detailed account of the progress of the negotiations.

Russia Proposes the Disarmament of Nations.

THE greatest sensation of the past month was caused by the proposal of a general disarmament of nations made by the Czar of Russia, who rules despotically over the first military power of the world. Whatever the motives behind the Czar's action, the proposal comes from him with a good grace, for in his case at least it can not be charged that it is inspired by fear. The proposition has been variously received—with applause, suspicion, cynicism and sneer. Generally speaking, however, it has been accorded respect and even sympathy, and all concede that the end suggested is an ideal heartily to be striven for.



Nicholas III.

The note of the Russian minister contained excellent arguments in favor of disarmament. It stated that in recent years the longing for universal peace has become very prominent in the consciences of civilized peoples, and that the preservation of peace has become the fundamental object of international policy, of alliances and, paradoxical as it may seem, of increasing armaments. But armed peace, we are informed, has become a crushing burden, and must one day or another end in precipitating the cataclysm it is desired to avert. Millions are spent yearly on engines of destruction, capital and labor are diverted from their natural application and unproductively consumed, and national culture, economic progress and the growth of prosperity are checked. To terminate this, the Russian note asserts, is the supreme duty imposed on all nations, and to that end an international conference of representatives of the various governments is proposed.

There is but scant belief in the practicability of the Czar's humanitarian proposal, though it seems to have been sympathetically received by all the European powers, France excepted. England, Germany, Austria, Italy and Spain would be naturally satisfied with the present European *status quo*,

but France is not likely to be a party to any agreement which would not include the restoration of Alsace-Lorraine, and this Germany will never grant peacefully. But apart from its practicability at this time the Czar's proposal is hopeful for humanity. It makes more interesting the poet's dream of a time "when the war drums throbbed no longer and the battle flags were furled"—the time dreamt of by the Hebrew seer "when swords shall be beaten into ploughshares." In deference to Russia, the conference, no doubt, will be held, but the result is likely to be the same as the result of St. Anthony's sermon to the fishes:

"The sermon now ended, each turned and descended;
The pikes went on stealing, the eels went on eeling.
Much delighted were they, but preferred the old way."

"Peace," said the German Emperor, at a recent banquet, "will never be better guaranteed than by the German army, thoroughly efficient and prepared for war." This characteristic declaration of the erratic war lord is not reassuring, and sounds suspiciously like the hammering of a nail in the coffin of the Czar's disarmament proposition.

Peace Negotiations and the Philippine Situation.

THE post-bellum negotiations between Spain and the United States seem thus far to be proceeding satisfactorily. The Hispano-American commission, to arrange the details of the Spanish evacuation of Porto Rico, has worked most harmoniously, and its task will be completed at an early date. In the case of Cuba the task of arranging the details of evacuation is much greater, but no vexatious hitch is anticipated. In fact, Spain seems eager to hasten as much as possible the evacuation of both islands. The Peace Commission is now sitting in Paris, and the terms of the final settlement, more especially in relation to the Philippines, is anxiously awaited.

The situation in the Philippines remains practically unchanged. We continue to hold, in the islands, only what we conquered, viz., Manila with its harbor and the surrounding territory within range of the guns of our warships. All the rest of the island of Luzon is in the hands, not of the Spaniards, but of the Filipino insurgents. The insurgent leader claims to have over 60,000 armed men in the field, and to be able to increase the number on occasion to 100,000 men. This formidable force is a doubtful factor in the situation, though the insurgent general avows friendship for and harmony of action with the Americans. His position, however, is Micawber-like. He is evidently waiting to see what may turn up, and there is no predicting what action he might take in case of German or other interference. It is wise, therefore, to be prepared for all contingencies, and to that end the two formidable battle-ships, *Oregon* and *Iowa*, and an additional force of 6000 troops will soon start on their way to the Orient. Thus re-enforced, Admiral Dewey can compel good behavior on the part of the German or other fleet, and General Otis, with a force of 20,000 well-equipped troops, will be able to inspire Aguinaldo or other intermeddler with a wholesome respect for his authority.

AS to what will be the final disposition of the Philippines, there is as yet nothing definitely known. There is no doubt that the retention of the entire group would meet with popular favor at home, and even the European powers, desiring to eliminate a possible source of future trouble in the Far East, seem to think that we

should do one thing or the other; that is to say, permit Spain to resume possession of the whole Philippine archipelago or else take the whole of it for ourselves. It may be, however, that the Peace Commission may decide that we will hold the island of Luzon only, in which case we would, of course, require from Spain a covenant that a liberal administration, involving a complete separation of Church and State, should be established in all the islands south of Luzon, and also an agreement that none of them shall be sold to any foreign power without the consent of the United States. We would further insist on a provision that the United States would have equal commercial privileges with Spain in the entire archipelago.

There are many arguments, other than selfish, why we should retain the whole group. Spain has proved herself unequal to good colonial government, and insurrectionary turmoil would be likely to continue on the islands still held by her. Besides, are we justified in replacing around the neck of the Filipinos the cruel yoke which we have snatched from the throat of Cuba? Then again, the islands retained by Spain would be certainly schemed for by other powers, causing trouble in which we would become necessarily involved. Germany is even now scheming for a foothold, but the administration is, at least, determined that no foreign power other than Spain will be permitted to occupy any of the Philippine territory, nor will any Spanish authority to dispose of the islands be admitted or recognized. It is within the range of probability that we may have to keep the entire archipelago, for Spain, if allowed to retain only a part of the islands, may be unwilling to undertake the task of governing them, complicated, as this might be, with stipulations which she could not fulfil. There would be wisdom in such a decision on the part of the Spanish government.

Grasping at Post-bellum Opportunities.

WITH characteristic enterprise, and even while the terms of peace are being negotiated, our country is hastening to take advantage of the great opportunities, afforded by the post-bellum conditions, for the extension of our commerce and the industrial development of our new territory. A company has already been incorporated, with a capital of \$18,000,000, to develop Cuba and Porto Rico. It is entitled "The American Indies Company," and the necessary capital has already been paid in. The company has a general charter, authorizing it to build and operate electric plants, telegraph, telephone, steamship and railway lines, to conduct real estate and mining operations and to carry on business in a number of other branches.

A commission, organized by the Philadelphia Commercial Museum, is even now on its way to the Philippines with the object of securing such information as to commerce, natural resources and native industries, as will benefit American business men in extending their trade to the islands. The commission will also collect samples of products of the Philippine Islands and of the goods finding a ready sale there which are manufactured in foreign countries other than the United States.

The stimulating effect of the war on American shipping is already manifest. Last month the Polynesian Steamship Company, of New York, was organized for the purpose of establishing regular monthly communication between San Francisco and the ports of the Society and Friendly

Islands. The new company proposes to charter two steamers at once to be used until the Cramps, of Philadelphia, have time to build three new ones, which will be especially adapted for the trade. On August 18th, was launched at Cramp's shipyard the Admiral Dewey, the first of four merchant steamers for the American Mail Steamship Company, to be operated in the trade between Boston, New York and Philadelphia and Jamaica, British West Indies. The Seattle-Honolulu Steamship Line has also been organized to run ships between the points named, and the company's first loaded ship started last month for the Hawaiian Islands. No doubt other such companies are in process of organization, from all of which it is evident that the war will prove a powerful agency in arresting the decline of American shipping, and may mark the beginning of the restoration of our once ubiquitous merchant marine if only Congress will do its duty.

Disgraceful Decline of American Shipping.



THE American warship has again forced the admiration of the world, but what of the once ubiquitous American ship of peace? Ours has been a great and a glorious history—industrially, commercially and politically—but there is one dark page in the luminous record, the story of the decline,

almost to extinction, of the American merchant marine. The figures are impressively discreditable. Seventy years ago the percentage of American carriage in foreign trade was 92.5; when the Civil War began, 65.2; when it ended, 27.5. During the fiscal year which ended on June 30, 1897, the proportion of the imports and exports carried in vessels of the United States was just 11 per cent., and this year it is within a fraction of only 9 per cent. Next year—but we refuse to entertain the possibility of further decline.

And this decline in our merchant marine, be it remembered, has been co-temporaneous with a voluminous increase in our foreign commerce, now nearing \$2,000,000,000 per annum. There never has been a year in the history of the United States when the value of its imports and exports was as great as during the last fiscal year, when the total was \$1,847,532,984; and there never was a year in our national history when the proportionate amount of our foreign carrying in the foreign trade, in our own vessels, was as small as last year. We thus contrast the greatest year of American foreign commerce with the worst year of American shipping in that trade. We have been glorying in the fact that for the last fiscal year the balance of trade in our favor was over \$600,000,000, but our pride in the figures is tempered by the knowledge that for the same year American products sent to foreign markets paid nearly \$300,000,000 to foreign ship owners.

AS a result of the war, a great increase in our foreign trade is expected, and a general movement for the revival of our merchant marine has become a national duty. The Board of Trade in our own city of Philadelphia has inaugurated such a movement, and solicits the co-operation of

all other boards of trade, the press and commercial interests generally. Such unity of action would force Congress to consider at the approaching session what action is needed to restore to the United States the ocean carrying trade in vessels sailing under the American flag.

That the revival of our merchant marine is a matter for Congressional consideration and action can no longer be doubted. The cost of ship-building here is not at the bottom of the trouble, as has been maintained; we are already sending plates to Glasgow, and our pre-eminence in steel production will soon be as great as it was in forests when our wooden ships covered every sea. Congress must see to it. Millions are to be spent on warships in the near future, and Congress should offer such inducements as will result in the investment of millions in an American merchant marine. England now monopolizes more than half the carrying trade of the world, and we are in the ridiculous position of a big industrial establishment, which would engage the delivery wagons of its greatest competitor to deliver its goods. No industry is so widely beneficial as ship-building. There are several hundred separate businesses and trades called upon to supply the materials and equipment required for both ships of war and peace. There is no single human construction that makes such varied drafts upon other industries as that of a finished ship. From this we see that the favorable influence of war and merchant ship-building will be felt in the remotest portions of the country. The time is favorable for pushing the good work, and as to the best way—well, we need only take a leaf from the book of Mother Britannia, who still rules the waves.

Destiny of the English Language.



THE fact that the English language is even now being taught in the schools in Santiago de Cuba, and that it will, in the near future, be taught in all the primary schools in our recent territorial acquisitions, directs renewed attention to the growing importance and probable destiny of the language. Prominent as is the position in the world's affairs held by the English-speaking people, the language itself plays a still more important part as compared with other languages. So widespread, indeed, is the use of English at the present time, that a person speaking this language alone can visit all the large cities of the world without much inconvenience.

English is the great correspondence language of the world. Two-thirds of all the letters which now pass through the post offices of the world are written by and sent to people who speak English. There are substantially 500,000,000 persons speaking colloquially one or another of the ten or twelve chief modern languages, and of these about twenty-five per cent., or 125,000,000 persons, speak English. Thus, while only one-quarter of those who employ the facilities of the postal departments of civilized governments speak, as their native tongue, English, two-thirds of those who correspond do so in the English language. This situation arises from the fact that so large a share of the commercial business of the world is done in English, even among those who do not speak English as their native language.

As letter-writers, the English-speaking people lead the world. For instance, while 90,000,000

speak or understand Russian, the business of the Russian post department is relatively small, the number of letters sent throughout the Czar's empire amounting to less than one-tenth the number mailed in Great Britain alone, though the population of Great Britain is considerably less than one-half of the population of Russia in Europe. Of all the nations, the people of the United States write most letters.

In view of the above facts, we can readily believe that one day English will be the great medium of communication all over the commercial world. The language followed the British flag to the New World, to Australia, India and Africa; it will follow our own to Hawaii, Cuba, Porto Rica and the Philippines. Even now in South America and the continent of Europe, a knowledge of English is yearly becoming a more valuable linguistic accomplishment; one day it may be a commercial necessity. Keep the flag flying on the little red school house.

An Ideal American Personality.

THE greatest study of mankind is man" was an apt expression of Pope, the poet. And the man in our own country to-day who, by all odds, is the most interesting and instructive subject for study is the now world-famed Colonel Theodore Roosevelt—athlete, author, soldier, statesman, etc. The versatility of this ideal product of our great republic is marvelous. He is equally at home in tent and mansion; in battlefield and ball-room. He can handle with the same ease the pen and the rifle, and can digest with the same facility hard-tack and squab. Absolutely fearless, he might well be named Roosevelt, *coeur de lion*. He is dangerously earnest in a fight, whether confronted by a foe to his country or his principles. Just turned forty, he has already attained literary, political and military glory; will in all probability be next Governor of New York State, and may one day be chief executive of the nation. His is a peculiarly American personality—as much so as Lincoln's or Grant's, and more picturesque than either. Born wealthy, he is nevertheless a man of the multitude, and to an extent that makes predictions as to his future interesting.

THE seeming pleasure of Colonel Roosevelt's life is overcoming obstacles, and his success has been great. Ill health was his first enemy, and he tackled it with such intrepidity that he became a champion at boxing and a polo captain. He then went to Europe and earned a membership in the Alpine Club by climbing the Matterhorn and the Jungfrau. At twenty-five, he was in the West hunting big game. Returning to New York, he joined the Eighth Regiment of the New York National Guard, and at thirty was captain. Meanwhile, he was up to his eyes in politics, fighting the boss of his district and getting himself sent to the Assembly at the age of twenty-four. He was the Republican candidate for mayor of New York City at the age of twenty-eight. He was made a member of the Civil Service Commission by President Harrison, and retained by President Cleveland, resigning to become the president of the Police Board of New York. Next he appeared as the Assistant Secretary of the Navy, and threw extraordinary energy into the preparation for war with Spain. He left his desk for the field at the beginning of hostilities, and the magic of his name brought ten thousand candidates for the one regiment of Rough

Riders. The glory he and his regiment gained in the war is known to all.

All this time he was an earnest student and prolific writer. He was a frequent contributor to magazines and wrote many books, including a naval history and two biographies. Surely, no more interesting personage is at present in the public eye than Colonel Roosevelt. He returned from Cuba, as he himself expressed it, "disgracefully healthy," so there is a likelihood of a long life of national usefulness before him.

Trans-Siberian Railway and Asiatic Development.



THE drowsy and mystic Orient has been invested with a new interest by recent developments. In that distant part of the planet the great nations of the earth are now engaged in a vigorous competi-

tion for trade, and a prolonged and bitter struggle for commercial mastery is in prospect. The United States, hitherto an unimportant participant in this contest, has suddenly become a formidable principal by the acquisition of her new mile-stone possessions directly across the Pacific Ocean. Hence our new-found interest in the land of the Celestials, Sons of the Sun and other primitive races of the Orient.

The opening of the Suez canal in Egypt marked an era in the development of Southern Asia, and now the northern and eastern portion of the continent, vast in territory and rich in resources, is to be opened to the world's traffic by the Trans-Siberian railway, which is being hurried to completion. In starting our own trade campaign in the Orient, we must keep in view the fact that this great trans-continental railway will revolutionize trade and travel between Europe and the Far East, giving the Europeans, as against us, competitive advantages they do not now possess, and furnishing another argument for the making of the Nicaraguan canal.

An interesting contribution to a recent issue of a French periodical shows that when the railway is completed a traveler from London to Peking will be able to pass over the entire distance in about fifteen days, which, when the line has been consolidated and strengthened by use and is in complete working order, should be reduced to eleven or twelve days, and the journey will be much cheaper than by either the Suez canal route or the sea and land journey by way of Canada.

At present the voyage to Yokohama, Japan, by sea via Suez takes thirty-four days, and twenty-five days by the Canadian route. To Shanghai, China, the shortest duration of the voyage by the canal is twenty-eight days, and by way of Canada thirty-one; and to Hong Kong it is twenty-five and thirty-three days by the same respective routes. Allowing for the sea voyages from Port Arthur and Vladivostock, which will be the first termini of the trans-Siberian line, all the above-named points will be reached in far less time than by any of the existing routes. The cost of the journey will also be less.

The great continent of Asia is a land of promise as far as trade is concerned, and the war was timely in placing us in a position to get our share. The day is not far distant when railroads will open up Asia Minor, Persia, Burmah, China, etc., all great fields for human enterprise.

Have You Ever Had to Do with This Sort?

"GOOD morning, Mr. Hairspring—my! but isn't it hot? You have such a cool store that it's a comfort to come in off the street. And you have so many pretty things to look at, too, that it's quite an entertainment to one when they drop in. I tell my husband often and often that I *wish* he'd get out of his stuffy, old law office, and open a jewelry store, for the comfort it would be to *me* when I stop to see him. And then I know he would make *so* much more money, too—

"O yes, he would—you *know* he would, Mr. Hairspring! It is such a *nice* business, too—you are surrounded with beautiful things, and art is *so* refining that one's temper must constantly be benefited and sweetened by association with those lovely objects in gold and silver. Jewelers always wear a smile, I notice—and no wonder, when their minds are constantly operated on by the sense of beauty and the knowledge that they are getting rich. I should smile, too, if I were a man and the privilege was given me to be proprietor of a jewelry store.

"No, not one word, Mr. Hairspring, for I know what you are going to say: 'Every business has its drawbacks'—or something of that sort, wasn't it? Nonsense! This is such an *easy* business—just handing out lovely jewelry or watches across the counter to people who haven't the ability to resist their seductiveness, and taking a whole lot of money in exchange, with a big, *big* profit in the operation. O, I know! Now, there's my husband—sometimes it goes *days* before Judge Shopper takes in a fee, and then it may be only a hundred, or two hundred, dollars. I declare, it seems ridiculous that some men should work so hard in their offices, when by opening a jewelry store they could become rich without trying! It seems—What a lovely ring! What is the price?

"Two hundred and fifty dollars! O, Mr. Hairspring, you're joking, surely! Why, I saw one down at Upp & Doing's, with *quite* as big a diamond in it, for a hundred and forty-nine dollars and ninety-nine cents. You are really *much* too high, indeed. I'm a pretty good judge of diamonds, and I *know* their's was bigger—and finer, too, I am quite sure. I want to get a ring for my married daughter, at Christmas, but really, *really* I shall have to go to Upp & Doing, I fear.

"Show me watches, suitable for my daughter—that one in the corner; no, I like *that* one better—or this one with the face showing. No, I don't fancy any of these—let me see the one yonder. Are these fifteen all you have? O, *that's* a beauty! but it is too big. 'Smallest made, with American works'? Why, Mrs. Powderpuff has one *much* smaller, and the works are American. Are you sure you are acquainted with all the different sizes made in this country? I must have one only *half* that size—and my husband says he won't have a foreign-made watch in the house again, after his trouble with the silver watch which I gave the cook last Christmas. O yes, I am quite certain that I can get it at the other store. *So* sorry you don't have it, as it is a bother to go down town again.

"These chains have gone out of fashion, haven't they? O yes, they *have*, Mr. Hairspring—I saw it so stated in a fashion paper; and of course the editor knows, for it is his *business* to know these things.

"By the way, my watch does no better since you repaired it than before. Of course, *you* didn't repair it, or it would be in perfect order, of course; and I can understand how it is impossible for you to stand over your workman and sell goods at the

same time; but it is certainly aggravating to have one's watch returned from the jeweler not improved. I am afraid I spoke my feelings on the subject pretty plainly the other day, to the lot of women who attended a little afternoon tea at my house. Really, Mr. Hairspring, you should discharge your watchmaker, or you will lose your reputation among all the best people here.

"Certainly,—I should be *glad* to have you 'look at it'—here it is. You see, it is'nt going—just as it wasn't going when I sent it to you.

"What's that? '*The watch is not wound*'? Surely, Mr. Hairspring, you are mistaken! *Isn't* it, though, indeed? Why, how stupid of me, to be sure! Well, I shan't tell this to any of my friends, or they would never cease joking me about it. *You* won't tell on me, will you, Mr. Hairspring?

"Goodness! I must be going—I've spent a whole hour here. Sorry you do not have the watch I want—and if you can come down a hundred dollars on that ring I'll buy of you instead of Upp & Doing. No? Well, *good* morning, Mr. Hairspring."

AND THEN, DID YOU HAVE THIS SORT OF SOLILOQUY?

Good morning, and drat you for an unmitigated nuisance! That fussy, old woman, with her unceasing rattle, has just spoiled a good hour of my morning, and started a "mad" in me that will likely last until sundown. "Jewelers always wear a smile", do they? My face lied to my feelings, just now, if *mine* smiled! "One's temper sweetened by association with beautiful things," indeed! Yes, perhaps—if aggravating old chatterboxes don't intrude into one's sweetening meditations.

If ever I "become rich without trying," it certainly won't be old Mrs. Shopper's fault; for that gray-haired humbug hasn't bought fifty dollar's worth of me in the seven years I have known her, and Upp & Doing get all her substantial favors. I get her *compliments*, and her flattery; but I have never discovered a way to pay bills with that sort of currency. Now, as to that diamond ring—

O, it is just a little *too* maddening to hear an ignoramus glibly discoursing as to differences in values of which they know nothing! I know all about that ring which my neighbor is offering for \$149.99—had it in my hand before deciding in favor of the finer stone when Oppendorfer showed me the two. Upp & Doing's is a big, spread stone, about three shades off of white, and with a veritable snowstorm of flaws in it. But the old lady will buy it, and plume herself on her "bargain"—and Hairspring's inefficiencies will be "discussed" again, when the next "afternoon tea" assembles!

Am I "acquainted with all the different sizes of watches made in America"? I begin to think I don't know *anything* about the business that I have followed for nearly half a century, and that exclusive knowledge in watch matters is possessed by old Mrs. Shopper and her kind—whose store of information is augmented by Mrs. Powderpuff's "they say," and the dictum of the editor of the *Journal of Fashion*!

And *she* "will not tell her friends" for fear of their "joking" her, that she brought back a repaired watch with sundry reproaches, when the fault was that she had forgotten to wind it—and she appeals to me not to tell on her; and meanwhile, her gossip to the folks at the afternoon tea

will go uncontradicted, and the whole crowd will put me down as incompetent to fix their watches. I declare, it is enough to drive a man to drink!

NOW, WOULDN'T THIS HAVE BEEN THE PROFITABLE LINE OF THOUGHT?

Well, I'm in business *for business*. Mrs. Shopper is a freak, of course; but even freaks, of Mrs. Shopper's kind, have money to spend in jewelry stores, and I must put up with her aggravations to win her trade. I must take warning that she "speaks plainly" at afternoon teas and other such feminine gatherings, and make her talkativeness *valuable*, instead of hurtful, to me. Her good will must be cultivated, for her trade and influence go with her prejudices. Upp & Doing have evidently been studying Mrs. Shopper, and the purchase of the showy, flawed diamond was a slick bid for her trade. That man Upp is a diplomat. He is an adroit flatterer, and Mrs. Shopper smiles benignly as he praises her taste, her fashion paper, her "knowledge" of diamonds and watches, the cleverness of her husband, the beauty of her daughter, and the infallible authority of Mrs. Powderpuff—and he sells her the big diamond when he has hypnotized her into a beatific state of mind over the sense of her own perfections. Well, it pays to pocket one's feelings and shelve one's pride, evidently. Now, look out, Upp & Doing! for I've learned a lesson to-day, and there's "another Richmond in the field." I propose to take a hand in the conquest of Mrs. Shopper—and that unreasonably-positive, dead-sure know-it-all can know more than I do about my business, as often as she calls, without denial from *me*. And I know a certain pattern of diamond brooch, big as a silver dollar and ugly as a mud fence, but showy as a brass band, that I can make her buy, I *think*. So—"Please send on memorandum," etc.

Short Talks to Clerks.

I.

Don't Blab.

A GOSSIPY clerk can do more harm in an evening than his employer can mend in a year. One of the things most dreaded by a merchant is a too-talkative underling. It does not help the offence to explain that the young men "meant well"; there isn't much comfort, even, in the fact that the slip was made because of over-zeal for the master's interests, or pride in the store. A raw clerk is not the best judge of what should be shouted from the front door of the business; and he is wisest who says least, remembering that the merchant is, or should be, himself competent to do all the advertising, or to depute some one to do it for him. There are times when the tongues of clerks, even of office-boys, can be profitably employed outside the store, in their master's behalf; as, for instance, when there is a notable arrival of new goods, or a line offered at a bargain; for the personal word spoken to a hearer is generally more compelling on the attention than the printed advertisement. But until the clerk is "well broken in," and can be trusted to exercise the tact of the successful salesman, the *times* and *manner* of these out-of-store speakings should be dictated by the employer.

But the injunction, "Don't blab," is specially directed to the clerk whose gossipy nature might lead him to tell of the inside workings of

(Continued on page 762.)



HAVE YOU SEEN IT?
THE "PRISCILLA" THIMBLE

STERLING SILVER

PAT. MAY 31 98
No 134



Simons, Bro. & Co.

SILVERSMITHS THIMBLE MAKERS
AND MANUFACTURING JEWELERS

NEW YORK PHILADELPHIA CHICAGO



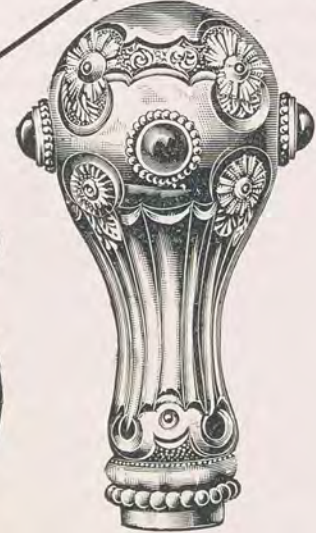
DESIGN PATENTED.

387 W
800 W
HAIR BRUSH
8 1/4 IN. LONG
9

OUR
W
TOILET WARE
PATTERN



No. 1457



No. 1455



No. 1475



No. 1477



No. 1466



No. 1468

JUST A GLIMPSE OF WHAT WE ARE MAKING IN
GILDED AND JEWELLED UMBRELLA HANDLES—
STERLING SILVER
WRITE FOR ILLUSTRATED SHEET



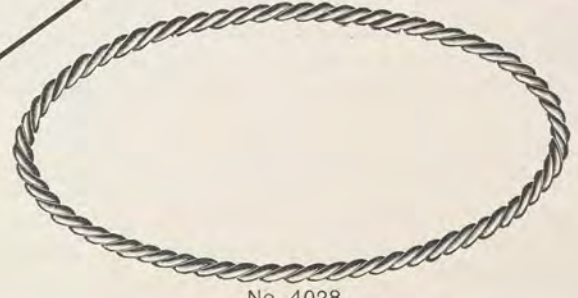
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4003/1

NETHERSOLE BRACELETS

ALL SIZES—CHASED AND PLAIN



No. 4028

SOME OF OUR PRODUCTIONS

the store—the cost of goods, the personal habits of the merchant, the laxity of store method, the profit on a special line, the dullness of trade, the score of little things which would affect the respect of the public or prejudice the prosperity of the merchant. The employment of a clerk given to blabbing, could work immense mischief and possibly irretrievable disaster. It is quite conceivable that the clerk's whole duty was summed up by that crusty old merchant of London, who said to the young man entering his employ, "Be 'straight' with me, don't fool your time away, *keep your ears and eyes open and your mouth shut*, and look around to suggest improvements."

The words in italics are the meat on which a clerk grows. Let him observe, for of observation comes knowledge; and if he opens his mouth, let it be to his employer. Did you ever hear the story of the new clerk who was advanced by big jumps over much older clerks, became the millionaire-employer's private secretary and eventually his heir? He applied for a position, without credentials of any kind; was asked at once, "Where does A—— (his previous employer) buy his linens that are so successful in this market?" and answered, promptly, "You must ask Mr. A——, sir; I am not yet engaged by you, sir." He was faithful; he didn't blab, when to withhold the answer might cost him the chances of securing a position; and the millionaire was wanting a clerk whom he could rely on under temptation.

There are sharp fellows who want to know your employer's cost-mark; who want to know how the sales of his watches, or silverware, or the amount of his repairing, compare with this month a year ago; or whether it is true, as reported, that he goes out during business hours, to take a drink; or what are the habits of the night-watchman; or how much Mrs. Smith paid for the bracelet. *Don't blab*; don't tell these things to your brother, or to your best girl. Keep your mouth shut, and eyes and ears wide open; and remember that even the position of office-boy is a trust. In proportion as you recognize the obligations of a trust and the responsibilities of service, you fit yourself for the higher responsibilities which come to those that deserve.

Open Answers to Correspondents.

IN the great stack of letters that pour daily into THE KEYSTONE office there is wide variety of theme. A large proportion goes to the Subscription Department; a goodly number are answered by the specialists in charge of "Workshop Notes" and "Optical Department"; still others convey merely the praise and thanks of gratified readers; while others make specific inquiries outside of the technical field. Some of these bear upon problems of merchandizing; some on other matters pertinent to the business; many strike the same keynote. Such as can be answered openly, to the general interest of readers, are "pigeon-holed" for opportunity to reply through these columns; and with this explanation for the delay in answer, the editor empties the pigeon-hole and "takes his pen in hand to let you know," etc.

1. *What color is best to use in the material that covers the floor of my window?*

2. *My front faces south, and next spring I shall put up an awning to keep the sun off of my window. Noticing the improving effect of a rose-tinted lamp-shade on the articles that lie under it, I have in mind to put up a red awning. Do you recommend it?*

1. It depends upon the kind of goods you want to show. The office of the drapery or floor-

covering is to heighten the effect of the display of goods—you do not care to call attention to the floor—or curtain—stuff, as you are not selling dry goods. Therefore you should employ such color as will best bring out the goods themselves; and *contrasts* of color in the goods and the background throw the goods into "relief," and are thus most effective. For instance, you should not put silver on a white ground, or ebony goods on dark, but the opposite in each instance. Gold or plated jewelry looks best on black, dark green, dark blue, or maroon; cut glass is effective on white, because of its transparency and reflections. In selecting any other than one of the neutral colors (white and black) be guided by the reflection from a high wall opposite—don't put orange on your window-floor if the sun is reflected into your window from a yellow building across the street, etc.

2. No. You cannot get a rose-pink, in an awning, that will not quickly fade; besides, sunlight and artificial light have not the same result in shining through red. Nothing is so effective as plain white, in window-shading awnings. The light coming through it suits *all* window-displays, as even rose-pink would not. The only value in a red awning would be in the advertising feature of showing the location of your store conspicuously.

A fussy old gentleman left his watch with me to be cleaned, to be called for in three days. By accident, the balance-wheel fell from my hand and was crushed by my foot. As it was an old fourteen-size Waltham I had to try several places before getting another balance, and it was eight days before I could return the watch to its owner. I thought I would suffer more in the old gentleman's estimation from the charge of awkwardness or carelessness than from slowness; so I put him off on his three successive calls for his watch, without mentioning the accident. But I am told he is telling everybody that I "take forever" to do my work, and he is hurting me. Did I make a mistake?

You certainly *did*. An accident is possible to anybody, and the customer could only have felt a temporary irritation at the delay by reason of your accident if you had told him of it frankly, with proper apology and regrets. The delay would then have seemed *necessary*; but as you did *not* explain, the delay was *inexcusable* to him. It generally pays to be frank; it is *always* profitable to be *honest*.

I am not able to make my cash discounts, in consequence of having so much of my capital tied up in my residence property; but I am afraid to put a mortgage on the property, to raise the necessary cash that will enable me to make my discounts, for fear of the effect it will have upon my credit. Please advise.

Your problem is this: which is most hurtful to a merchant's credit—to let his bills run due, or overdue, before payment, and possess unincumbered property, or to discount all his bills promptly, and have the record show a mortgage against his real estate?

The first, assuredly. Credit is largely based on the *progress* the buyer is making; and availing himself of the cash discount is the best evidence of this progress. Put a mortgage on your residence, then write your creditors, or the houses of whom you buy, *why you have done so*; in nine cases out of ten you will stand better with them than before, when your checks come to them in ten days, less the discount, instead of in four months for the net total of bill, because they know that your profits on your business are increasing, and that you are daily growing stronger despite the mortgage; for you are making over 18 per cent. on the money got from the mortgage, if you borrow at 6 per cent. per annum, and pay at 6 per cent. ten days. No

merchant has any business to own "unincumbered" property, if to preserve that fetish of credit he must sacrifice the substantial profits of the cash discount. He deceives himself, into the bargain, on his actual credit-standing.

I have been an apprentice for a year and a half, can do nearly all ordinary work, but would not undertake the better class of jobs. My employer takes pains with me, and he is a fine workman. I have a chance to buy out an established store. It is a good opening, but my employer thinks I should have more bench experience, and have some further training in the business end of the store. Don't you think I might venture the undertaking?

No, we agree with your employer. It isn't always that you can have the opportunity to work under "a fine workman" who "takes pains" with you; and the *other* opportunity will come again, when you are properly equipped for it. He seems a level-headed employer, too, in recommending you to get experience behind the counter, as well as behind the bench; and you would do well to follow his counsel.

I am in competition with a particularly mean cuss, whose well-worded advertisements are mainly hits at some of my personal peculiarities, and are intended to make a laughing-stock of me in my community. He does not mention me by name, but no one can be in doubt as to the subject of his innuendoes and scornful flings. I have reason to believe that his dirty work is bearing fruit, and that I am being laughed at—with the result that I shall lose trade where I have lost dignified opinion. I am almost resolved to "carry the war into Africa" and do as he is doing, for I can show him up in great shape if I determine to do so. He "failed" before coming here, and the swindled creditors never got a cent; he was mixed up in a scandal affecting another man's wife; his personal habits are simply vile. Wouldn't it be advisable for me to "go for" him in the same way that he is attacking me, and so relieve myself of the intolerable strain of suppression?

We note two facts in this correspondent's letter: first, it is his "personal peculiarities" that are made fun of—probably a big nose, or a way of walking, or the habit of stammering, or eccentricity in dress, or fantastic religious or political notions, or some such matter—and *not* his stock of merchandise, or his prices, or his moral worth; second, the reason for the reciprocating attack is to "relieve the intolerable strain" of hearing one's self unfairly attacked without replying—the question of *business* is not the avowed primary motive.

Our advice to this correspondent will serve as well for "F. A. B." and "Victim," who write in a similar strain. DON'T! Let the other fellow go ahead and "do you dirt"—and *you* make "no (public) moan;" for he is the goose that is laying your golden egg. As long as your stock, your prices, your methods and morals can not be made the subject of a justifiable sneer, no *real* hurt can come to you from advertised scorn of your personal peculiarities. The great majority of the community will quickly sympathize with you, and resent the base abuse; your competitor will be "hoist by his own petard." One soils his own fingers in throwing mud.

Dignified silence is the best answer to outrage of one's personal dignities by a competitor in trade. Sometimes, of course, when the outrage is carried to a point that just escapes the law of libel and yet is vitriolic in its burn and sting, it is almost beyond human endurance; but if our correspondent will summon a heroic philosophy to his aid, and courageously endure the calumination, he will come out the winner in the end, and his competitor will be driven from the community by the outraged sense of public decency.

(TO BE CONTINUED.)

Kansas City and the Great Southwest.

Business in all circles—we except none—is extremely good in Kansas City. Jobbers are all looking forward to what is bound to be a record breaker. Bank clearances continue to increase; buildings are still going up; rents are stiff; desirable residence property hard to find, and hotels all report excellent business. One fine, new hotel at Eleventh and Baltimore is about completed. Our fall festivities open up October 1st for a week, and great crowds undoubtedly will be in attendance. The great Port Arthur route is working hard to get Southern merchants interested in this market, and are running cheap excursions from all points on their line in the South. This line now having one train a day in Fort Smith, Kansas City jobbers expect to do more business in that particular territory than heretofore. A large number of Fort Smith merchants (at this writing) are the guests of our Commercial Club, and are being dined and wined. As an indication of how other commercial centers look upon us here, a well-known traveler for a representative Eastern house, and there is no one better able to give an unbiased opinion than this class of men, told me wherever he traveled that business men all talked Kansas City, in the East as well as in the West. With very few exceptions merchants can buy in this market as cheaply as farther East.

Despite the fact that the farmers of Kansas have raised the largest wheat crop in the history of the State, with the exception of probably the year 1892, comparatively little wheat is being marketed by producers. There is pretty good evidence that they have money to meet current expenses and pay their small debts. A good deal of the wheat is being stored for higher prices. About the only ones selling are those who had a bad crop last year. Those who had a crop last year paid most of their obligations, and are not obliged to sell their grain for unsatisfactory prices. A bulletin, giving the conditions of growing crops in Kansas on the last day of July, together with estimates by their correspondents of the yield of wheat, as ascertained by township assessors, was issued on the 6th of August by the State Board of Agriculture. The figures represent the best judgment of more than a thousand observant men on the ground in as many communities. The men making these reports are growers, threshers and millers, who are familiar with the subject and who were instructed to make safe, conservative estimates. It is believed that the figures given out will not vary much from actual conditions. The yield of winter wheat is placed at 60,570,656 bushels, which is the largest yield, with one exception (1892), ever grown. The yield is figured at 13.51 bushels to the acre. Wet weather, extreme heat, resulting in rust and fallen grain, cut down the yield considerably from what it would have been with favorable conditions. The spring wheat is figured at 1,380,291 bushels, at 11¾ bushels to the acre.

Men who ought to know, say that the implement trade is a correct barometer of the condition of a State devoted to agriculture; that the implement trade is the first to feel the stimulus of good times among the farmers, and, likewise, the first to feel the deadening effect of poor crops. Judged by this standard, the State of Kansas has had, and is having, the most prosperous year in its entire existence, for never has the implement trade of Kansas City approached the wonderful business which has been done this season. The *Kansas City Journal* reports that business was never better, and is our authority for the above conclusions.

A negro, confined in the hold over, where he had been for two days for stealing two diamond lockets from Cady & Olmstead's store, was taken before the chief of police. "You have another diamond locket and we want it," said the chief. "No, 'deed, I haven't! 'deed I haven't!" said the negro, who was somewhat frightened. While trying to explain that he did not have the diamond, one of the chief's assistants struck the negro a quick blow in the back, and to their surprise the jewel dropped out of the negro's mouth. He is charged with grand larceny.

H. N. Snow, of Meyer Jewelry Co., is in Chicago on business and pleasure.

C. L. Merry and wife were in attendance at Omaha Exposition for several days last month and report an excellent time and wonderful show.

J. A. Wilson returned recently from a visit to Omaha.

W. Lewis met with a severe accident by falling off his wheel last week. It will be several weeks before he is able to be about.

Harry Manifold, son of A. Manifold, the well-known jeweler at Beloit, Kan., leaves the first of the month for a year's course at Peoria Horological School.

J. R. Mercer was called to New York last month on account of the sickness of his mother.

While W. F. Kirkpatrick, of St. Joe, was in New York last month, the lock in one of his burglar-proof safes stuck for some hours; local talent was unable to open it. An expert was sent from here who opened it in about an hour.

M. A. Mead, of M. A. Mead & Co., Chicago, was in our city last month on business connected with his firm.

J. A. Limbach, representing Foster, Bro. & Co., Providence, R. I., was calling on the jobbers last month.

C. E. Russell is holding an auction with auctioneer Charles Manor in charge.

H. W. Overstake, formerly located at Cuba, Kan., has moved to Hanover, Kan.

W. C. Kern, of Pawnee City, Neb., has been taking in the Exposition at Omaha.

W. Davidson, watchmaker for C. E. Wardin, Topeka, Kan., is in the city taking lessons in engraving.

N. L. Brush, Fort Morgan, Colo., has returned home. Mr. Brush, besides being an up-to-date jeweler, is engaged in the cattle business, and always spends considerable time at his ranch during the summer.

P. A. Broderson, formerly at Douglass, Kan., has moved from that town and opened up a new store in Pittsburg, Kan.

A. Manifold, Beloit, Kan., was in town last month, and while here made arrangements to bring his band (which Kansas is justly proud of) here to take part in the festivities during October.

Two young men connected with the jewelry business here, who enlisted last spring, Roy Warner, of Meyer Jewelry Co., and Mr. Regnier, formerly with Cady & Olmstead, returned with their regiment, and are glad to be at home again.

Don Dix, with C. A. Kiger & Co., recently spent a few days in Omaha.

Miss Gertrude DuShong, for a number of years in charge of the stationery department at Cady & Olmstead's, died last month.

C. H. Harsch, of Harsch Bros., returned recently from a visit to his mother at Zanesville, Ohio.

S. L. Scott, with M. F. Barger & Co., Chicago, was calling on the retail trade here last month.

C. H. Seiler, Galena, Kan., is remodeling his store and adding new fixtures.

J. J. Stott, one of the enterprising jewelers of Paola, Kan., was in the city last month buying goods.

Our jovial and good-natured friend, jeweler I. N. Collins, of Cherokee, Kan., was in the city last month, and, besides buying goods in that line, made large purchases of ammunition which he expects to use on a hunting trip in the Indian Territory.

Martin, Copeland & Co.'s representative was robbed while here last month of a telescope containing solid gold chains and rings. The police finally run the thief down and recovered all the goods.

W. E. Heald, of San Angelo, Texas, passed through the city last month on a visit to his father, jeweler Daniel Heald, of Burlington Junction, Mo.

T. C. Helt, formerly located at Beaumont, Texas, has closed out and removed to Purcell, Ind. Ter.

G. Fagin and wife, Lathrop, Mo., were visitors in our city last month.

H. C. Schultz, Hays City, Kan., is laid up with a sick spell. We hope to hear of his being out soon.

Otto Burkland, Osawatomie, Kan., paid his regular monthly visit to this city, spending a few days.

N. R. Heath, formerly watchmaker for Scott Taylor, Oswego, Kan., but now in business at Winfield, Iowa, recently passed through the city on his way home with his bride.

M. W. J. Holt, Stillwater, Okla. Ter., has returned home from an extended trip in Indianapolis and Chicago.

A. Calhoun, Shawnee, Okla. Ter., paid us a short visit on his way home from the Omaha Exposition, where he had been for the ten days previous.

Herbert McDougall, Pinceton, Mo., came in on an excursion last month and spent a few days in the city.

We had a very pleasant but short visit from the very amiable G. Rushmer, head of the Rushmer Jewelry Co., Pueblo, Colo., last month. Mr. Rushmer was on his way home from a trip to New York, where he combined business with a little pleasure.

Frank A. True, of Purcell, Ind. Ter., is about to move into a new brick store being put up for him. He will have new fixtures throughout, and it will be the swellest store in the Territory.

Abe Reach, traveler for F. H. Noble & Co., Chicago, was in the city last month calling on the trade, and left for Omaha.

Louis Meyer, head of the Meyer Jewelry Company, will soon leave for the East. On account of the wonderful increase in their business, Mr. Meyer finds it necessary to enlarge their plant, and will buy more machinery of the newest and latest pattern, which will make his shop one of the finest in the West.

Emil Ludwig, formerly of Lexington, Mo., is in charge of the St. Louis Optical Co.'s store at Wichita.

W. T. Brown, of Sterling, Kan., is just recovering from a six weeks' spell of typhoid fever.

Mr. Lewis, of Hoisington, Kan., has left for a trip to his old home in England. He has been away twenty-two years and will make quite a long visit.

Rich. Miller and wife, of McPherson, Kan., will leave the first of October for a trip to his wife's home in Pennsylvania.

B. H. Beatte, Sterling, Kan., is in Oklahoma, looking for a location to open a new store.

Charles Hartman, watchmaker for Frank Six, Wellington, Kan., spent several days visiting his old home in Wichita, Kan., the past month.

William Slimm, Wilson, Kan., one of the rising and popular jewelers of Kansas, reports business as being good and looks forward to an immense fall trade. Mr. Slimm is one of those jewelers who never complain, come what may, and is always forging forward.

Mr. Fisher, formerly of Holstein, Iowa, has accepted a position with J. B. Hampton, Colby, Kan., where he has charge of the jewelry department.

Henry Baier, of Salina, Kan., recently returned from a bicycle trip through Southern Kansas.

Mr. Ekblad, of Ekblad, Eberhardt & Goodholm, Lindsborg, Kan., who has been at the sanitarium, Battle Creek, Mich., is expected home shortly, much improved in health.

Mr. Turck, jeweler and watchmaker for P. Doherty, Ellinwood, Kan., is again back to work after a six weeks' siege of sickness.

James Henton, of Henton & Bassett, Anthony, Kan., and wife are visiting relatives in Hamilton, Mo.

T. W. Roe, Pratt, Kan., recently spent a few days in St. Joe, visiting his sister from the East.

A. Gluck, of Dodge City, Kan., recently purchased the opera house and five stores in that city from the Concordia Loan and Trust Company.

J. M. Trester, Ardmore, Ind. Ter., is taking a much needed rest, and is recuperating in Colorado.

W. Hudson, of Winfield, Kan., who has been in Colorado for his health for some time past, is expected home soon.

A. L. Laport, who opened up a new store at Newkirk, Okla. Ter., reports prospects very flattering and is much elated over his new location.

Earl Underwood, one of the Arkansas City, Kan., jewelers, is in New York on business.

Ambrose Melluish, of Ottawa, Kan., was in the city a few days last month making purchases.

Walter Sperling, of Seneca, Kan., was in town recently on his return home from a visit to his mother at Warrensburg, Mo.

Mr. Fink, of Klein & Fink, Fort Smith, Ark., accompanied the business men's excursion from that place last month and also made large purchases while in the city.

C. N. Sheldon, representing C. L. Merry Optical Co. in Kansas and Colorado, is home for a few days rest. Mr. Sheldon had excellent business.

Among the jewelers who made purchases of stock in this city last month we noticed the following: Alex. Marks, Lawrence, Kan.; George Young, Kearney, Mo.; W. W. Whiteside, Liberty, Mo.; O. Halstod, Pleasant Hill, Mo.; C. G. Morrison, Olathe, Kan.; W. Woolard, Olathe, Kan.; G. Burkland, Osage City, Kan.; E. Freeman, Paola, Kan.; M. C. Rosenfield, Leavenworth, Kan.; J. W. Schmandt, Holden, Mo.; L. Hoffman, Leavenworth, Kan.; Mr. Haupt of Haupt Bros., Peabody, Kan.

Avoid Falling Into Ruts.

There is nothing that so quickly saps the energy and enterprise of a business as a rigid adherence to old forms and methods. These are the days of progression, and every business man should try to keep up with the procession to the best of his ability. Likewise it pays. People recognize the wide-awake merchant and patronize him, and leave his slow-going, foggy competitor to enjoy the soothing solitude and silence of his back-number establishment, while they go elsewhere to buy their goods.

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JUERGENS & ANDERSEN. Co.

92. TO 98. STATE. ST.

STEWART BUILDING.

CHICAGO.

3RD. FLOOR.

News from the Northwest.

The State Fair, midway between St. Paul and Minneapolis, brought the usual crowds, and naturally business in the Twin Cities was better than usual, especially so with the jobbers, as outside dealers have learned that low rates to and from home are easily made up by taking a week's vacation from business, seeing what there is on the market and comparing notes. Jobbers, of course, expect customers in at such times, and have everything as convenient as possible to show goods quickly, and will do their best to make an impression on a customer, and nine times out of ten the customer gets the greater benefit. This is as it should be, and the steady increase of visiting jewelers each year shows they appreciate it. We hope next year to have a list twice the size of this year's. Everything is ready for a big fall trade, and it will come. Jobbers reports show the best season for years, and the retailer is meeting his bills nicely, which proves he is doing business.

O. H. Arosin, St. Paul's popular jeweler, spent part of last month in New York, where his strong resemblance to hero Hobson made him a very strong attraction, especially to the gentler sex. Luckily he was not accompanied by his wife, and withstood the onslaught successfully. At the same time he admits the kiss of a New York girl is different from a stage kiss.

C. W. Heidbrink, St. Paul, is now with Schuneman & Evans at the repair bench.

Nick Rustad, Inkster, N. Dak., passed through the Twin Cities last month on his way to Southern Minnesota, where he spent a ten days' vacation.

Harry P. Turner, Rush City, Minn., has quit business there, and now has charge of the repair department for M. Shapira & Son, St. Paul.

Fred Willman, Stillwater, Minn., spent ten days with his family camping "in the woods" last month.

G. W. Ellis has started in business at Stewartville, Minn.

T. Hummell, of A. L. Haman & Co., St. Paul, has returned from a four months' visit in Europe.

H. Backer & Co., Mayville, N. Dak., have moved to Portland.

George Sliden, Vernon Center, Minn., has sold out to John McMichael.

N. P. Nord, Milnor, N. Dak., is now located at New Paynesville, Minn.

The store of Nic. Fettes, Ashton, Iowa, was entered by burglars, August 22d, who secured about \$200 worth of goods. A later report says: "Robber captured and goods recovered."

Charles Odell has moved from Appleton to Madison, Minnesota.

Irwin Allen, for the past eight years with J. H. Renier, Glencoe, Minn., is now with F. D. Day & Co., Duluth, Minn.

A. Hiltveg, Faribault, Minn., is the latest acquisition to the jewelers there.

Charles C. Staacke, St. Peter, Minn., attended the annual meeting of the Minnesota Croquet Association at Minneapolis last month. His son, John, is the champion croquet player of Minnesota in his class. C. C. is also a top-notch player, and was elected vice-president of the association.

George L. Lull, formerly at Claremont, Minn., is now at Howard Lake, Minn., where he succeeds Ernst Schmidt.

Burglars entered the store of L. S. Williamson, Minneapolis, Minn., September 2nd. Loss, about \$200.

Estella Ripman is again at her desk with Fred. Scott Stillwater, Minn., after an absence of three months.

T. J. Thompson, Amery, Wis., is now located at Cameron, Wis.

Luke R. Keating, of D. Marx & Son, St. Paul, visited his Western Wisconsin trade last month. Luke reports the trip his record-breaker.

Walter Townsley, the watchmaker, of Company G, Third Infantry, United States Regulars, who were through the Santiago campaign, returned to Fort Snelling, Minn., with his regiment, and at once laid in a new supply of tools. He says it was a hot trip, and the "boys'" watches are all out of order and he must be prepared to fix them up again. He is too modest to say much of his doings on the trip, but his comrades say he is as brave a soldier as there is in the regiment.

Mrs. M. Seewald has removed from Eureka to Harvey, S. Dak.

John H. Renier, Glencoe, Minn., has his new store almost ready for occupancy.

A. Lagerstrom, who left Cannon Falls, Minn., six years ago, has returned and again opened a jewelry store there.

A recent decision in the Hennepin County, Minn., court holds that a watchmaker's safe is a necessity and exempt from seizure, and does not have to be turned over to an assignee.

George W. Dillon, formerly at Northwood, Iowa, is now in charge of the jewelry department for Love Bros., Lime Springs, Iowa.

M. B. Cohen, Minneapolis, Minn., has returned from a visit to the Omaha Exposition.

Emil Huhner, lately with William Plackner, Arlington, Minn., is now with F. R. Levy, Stillwater, Minn.

C. F. Sischo, of Sischo & Beard, St. Paul, has returned from a five weeks' trip through the Iron Range in Northern Minnesota and Wisconsin.

The Fillmore County, Minn., bank closed its doors last month. The interesting part of this to the jewelry trade is that the last vestige of the D. C. Greenleaf estate, an old-time jeweler at St. Paul, Minn., whose daughter is the wife of the bank's president, who had charge of the estate, is lost, and the widow left practically penniless in her old age, seventy-two years. She has the sympathy of all jewelers who knew her late husband, whose estate at the time of his death was valued at \$150,000.

F. J. Salfinger, Minneapolis, has moved from 618 Nicollet Avenue to 42 Palace Block.

D. Marx & Son, St. Paul, have themselves in good shape for their fall trade, new goods arriving all the time. They report the best business they have ever had and more coming. Push is bound to win.

H. W. Wood has begun business at 147 South Wabasha Street, St. Paul, Minn.

George H. Rentz, of Rentz Bros., Minneapolis, has returned from a vacation trip to his old home at Newport, Ky., taking in the Knights of Pythias convention at Indianapolis on the way.

George Bockman, Springfield, Minn., was married, August 30th. He is building a new home; says every bird must have a cage. "Here is to your continued good luck."

The engagement of Miss Eva Marx, daughter of D. Marx, St. Paul, Minn., to Benj. Wolfe, Detroit, Mich., was announced last month.

E. B. Meyrowitz, St. Paul, has made his optical parlor more conspicuous by several bright new signs in front of it.

N. G. Whitney, Gray Eagle, Minn., passed through the Twin Cities last month, on his way to Chicago, where he will spend a short vacation visiting his daughter.

Harry F. Legg, Minneapolis, and Louis Pavian, St. Paul, two ex-jewelers, have filed a petition in bankruptcy to liquidate their old affairs.

Taylor Bros., Sidney, Iowa, succeed Winn. J. Taylor.

E. E. Finch, Minneapolis, spent a few days at River Falls, Wis., last month.

Wm. Kuhn, St. Paul, will remove, October 1st, from 220 to 274 East Seventh Street.

Lewis Finklestein, St. Paul, Minn., is sending out his "bargain circular." Any jeweler not receiving a copy should drop him a postal card, as it is worth his perusal.

J. J. Truax is a new jeweler at Sauk Centre, Minn.

Martin B. Johnson, Carver, Minn., has moved to Madelia, Minn.

The State Fair, at Hamline, Minn., and incidentally the low excursion rates, brought an extraordinary amount of trade visitors to Twin City jobbers. We will have to apologize to those whose names slipped by us in the rush, as they came thick and fast. The following reached our memorandum tablet: J. F. Smith, Hastings, Minn.; John Pohl, St. Cloud, Minn.; L. M. Winter, New Richmond, Wis.; M. A. Bratrud, Crookston, Minn.; Martin B. Johnson, Carver, Minn.; C. B. Collins, Groton, S. Dak.; A. L. Mealy, Delano, Minn.; Edw. Moore, Hudson, Wis.; A. Hiltveg, Faribault, Minn.; A. Alfsen, Zumbrota, Minn.; Wm. Krohn, Annandale, Minn.; Fred. Giehler, Norwood, Minn.; C. A. Sherdahl, Montevideo, Minn.; S. C. Cone, Windom, Minn.; H. A. Tamborino, Le Sueur Center, Minn.; C. G. Reim, New Ulm, Minn.; A. E. Sawyer, Faribault, Minn.; J. D. Schroeder, Mountain Lake, Minn.; Wm. Plackner, Arlington, Minn.; Chas. J. Mealy, Howard Lake, Minn.; Jno. C. Marx, Shakopee, Minn.; John A. Larson, Mineota, Minn.; J. E. Hames, Arlington, Minn.; E. L. Overjorde, Hector, Minn.; Mrs. John Saxine, Prescott, Wis.; C. L. Eckberg, Red Wing, Minn.; Mr. Hastings, of Hastings Bros., Winona, Minn.; H. B. Lund, Morris, Minn.; Emil F. Winder, St. James, Minn.; E. E. Church, Clear Lake, Wis.; Fred. Willman, Stillwater, Minn.; Paul Parel, Clear Lake, Wis.; M. E. Starr, New Richmond, Wis.; Theo. Schaal, Hastings, Minn.; Will. C. Kayser, Marshall, Minn.; Nick Rustad, Inkster, N. Dak.; Chas. C.

Staacke, St. Peter, Minn.; S. C. Hone, Goodhue, Minn.; Irwin Allen, Glencoe, Minn.; Harry P. Turner, Rush City, Minn.; L. Schaefer, Shakopee, Minn.; L. D. Peet, Preston, Minn.; F. Shapira, Little Falls, Minn.; L. N. Keyes, Hammond, Wis.; Emil Huhner, Stillwater, Minn.; E. C. Bennett, Zumbrota, Minn.; G. Olson, Abercrombie, N. Dak.; D. Elmquist, Litchfield, Minn.; Peter Miller, Perham, Minn.; Geo. J. Spielman, Shakopee, Minn.; L. Diacon, Chaska, Minn.; Wm. Lenz, Osakis, Minn.; T. W. Kibbee, Drayton, N. Dak.; John B. Erd, Duluth, Minn.; J. Anderson, Mora, Minn.; E. E. Basset, Wahpeton, N. Dak.; Casper E. Wohlfart, Cannon Falls, Minn.; Henry Caesar, Washburn, Wis.; J. L. Walker, Monticello, Minn.; Mr. Crane, Lake City, Minn.; C. B. Thurston, Montgomery, Minn.; B. Peterson, Montevideo, Minn.; C. E. Davidson, Grantsberg, Wis.; M. Lambert, Augusta, Wis.; Fred. H. Eichmeier, North Branch, Minn.; A. M. Harper, Renville, Minn.; E. M. Schwenke, New Richland, Minn.; F. R. Levy, Stillwater, Minn.; Hubert P. Marx, Shakopee, Minn.

"Enclosed please find check for one dollar. I feel sure that you could get along without my dollar, but I do not know or see how I could get along in the watch and jewelry business successfully without The Keystone. I would not miss a single number of it. It is worth ten times the cost."—C. E. Sites, jeweler, Chambersburg, Pa.

Clerk Was Married.

She was as sweet a little woman as ever wore a tailor-made suit and jaunty hat that made every fellow who passed her straighten his tie and look his prettiest. She walked into the telegraph office and timidly inquired of the clerk: "Can I send a telegram to my husband here?"

"Yes'm," responded the hollow-eyed functionary, brightening up a little and handing her a blank, with a pen and ink.

"I guess it will go all right if I put the street number, won't it?" she asked again.

"Yes'm," laconically replied the clerk, with a sad, anticipatory smile.

She frowned a little while collecting her thoughts, and then wrote:

DEAR CHARLIE.—You don't know how much I miss you while away from home, though auntie is very kind, and we have been shopping all afternoon. I have bought some of the loveliest Swiss to go over my green dress, and three pairs of French kid gloves, because they were very cheap, but I know you won't care, will you, dearest? I think of you always and wish you were here with me to see the cute baby carriages and cradles and table chairs for little Mary. I was tempted to buy all three of them, but only took the carriage. Be sure to scald bottle every meal and that the milk is fresh before it is warmed for the baby. Bless her little heart! She is her mama's darling dear, so she is, and when she cries it may be a pin sticking her and not the colic at all, remember. Give her a drop of camphor on a nice big lump of sugar if that cough returns, and two drops of peppermint or paregoric in sugar and water in a teaspoon if she has a cramp in her poor little stomach. The key to the cake box is under the corner of the mat in the front hall, and if the icing sticks to the knife butter it, and don't give the baby any, besides, be sure to crumble the crackers well in her gruel. Annie wants me to stay all week, but I don't feel satisfied away from you and baby so long, dearest, and will come home Wednesday. It seems to me like a year since I saw you, love, though it was only yesterday evening; so now you see how much I love you and cannot bear to be away from you at all. Oh, if you should die, or anything should happen while I am away! On thinking it over, I shall come home Tuesday on the first morning train, this being Monday night. Tell the girl to warm up the roast from Sunday, or else cut it down real thin, with chili sauce to eat over it, and to see that the bread does not get musty in the pantry, and to keep the ants out of the sugar box above all. Kiss baby for mama, and I send a hundred for yourself. From your loving little wife,

SUSIE BROWN.

Gathering together the piles of sheets filled with the message, she handed them to the clerk. He read the telegram, while she stood there and blushed.

"How much will it be?" she asked shyly.

"Twenty-five cents, madam. You see, we can shorten it by leaving out a few of the unnecessary words, and save you money."

"Oh, thank you," she said, beaming; "but be sure not to leave out any necessary words," and away she went, as happy as a lark.

The operator picked up the blank and hurriedly dashed off:

"CHARLES BROWN.—Will be home Tuesday morning by first train.

SUSIE BROWN."

He was a married man himself.

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New Rich Patterns in

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Write for our New Cut-Glass Catalogue, No. 91.

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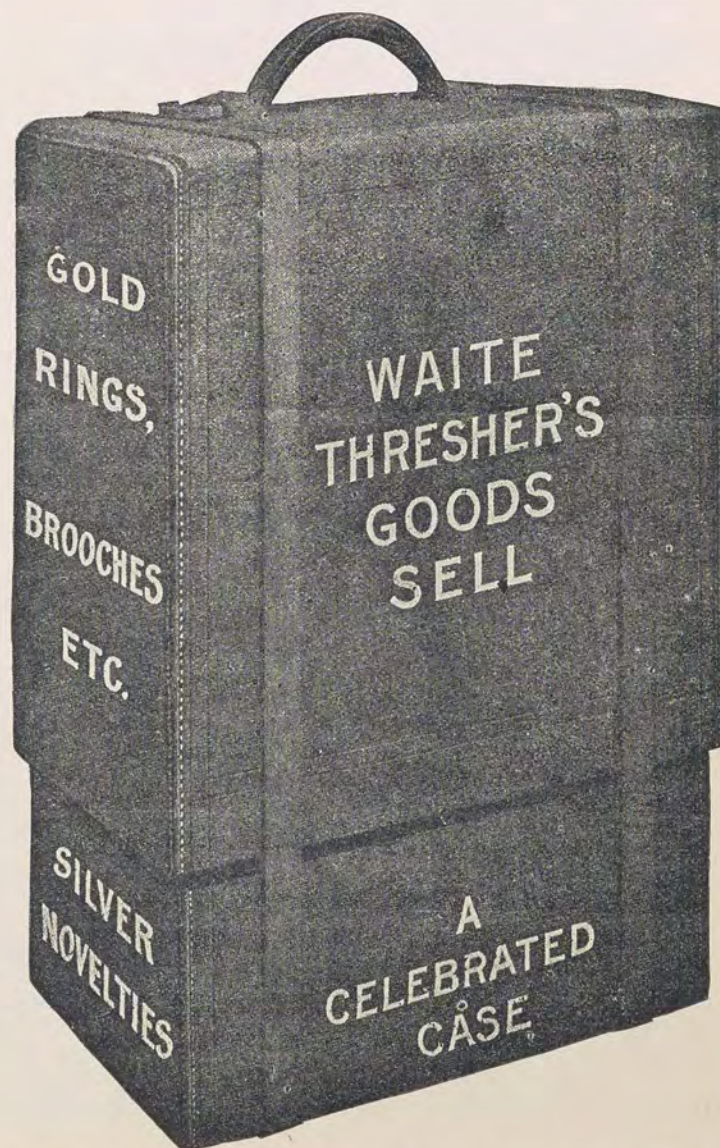
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OUR NEW LINE is now in the stock of all leading Jobbers. Ask to see it.



UNITED STATES GOVERNMENT BUILDING.

Omaha Letter.

HERE is, perhaps, no jobbing center in the United States where general trade is in a livelier condition than at Omaha. Jobbers in all lines say that so far this is the best year they have ever experienced, and that the volume of the fall trade is much greater than they have ever anticipated. This is particularly true of the agricultural implement trade, which is undoubtedly the best barometer of trade conditions here in the West. During the spring season trade was so far in excess of the estimates previously made that none of the wholesale houses in this line were able to get goods enough. Profiting by that experience, they made requisitions upon the factories for fall stocks in such quantities as in their opinion would amply supply the wants of the Nebraska dealers, but to-day they find themselves in as bad condition as in the spring. The feeling out in the country is also the best it has ever been. The good crops of last year, followed by a good yield of small grains much larger than last season and with a good average corn crop assured, have put the farmers on their feet and enabled them to pay off much of the indebtedness that has been weighing them down in previous years. This improved condition of affairs is enabling farmers to live better, and consequently our jobbers in all lines are having an immense trade and are breaking all previous records. Traveling men that go out through Nebraska, return with glowing accounts of the crops and the general good feeling existing among both country merchants and consumers. No one can dispute the fact that Omaha and its tributary territory is in better condition, and its prospects brighter, than ever before. Not only is the jobbing trade thriving, but retail dealers are enjoying a fine trade. One jeweler remarked to the writer recently that he did a third more business in September than he did in the same month last year, and other merchants are doing equally as well. Some of this improvement, of course, comes from the large number of strangers in the city attracted here by the Exposition, but dealers tell us that their regular patrons are coming to the front in good shape.

Farmers have about finished their threshing, and a fair estimate can now be made of the wheat crop. Generally the yield is good, and in some localities much above the average. It is grading well. As there were many more acres than in any previous year, the aggregate number of bushels will be at least one-third larger than the State ever produced before. The general average of the corn is good. In some isolated spots it was injured by drought, but late rains have insured in the worse fields a good half crop. The general outlook for Nebraska is good, indeed. This "great American desert," this "drought-stricken Nebraska," is as fruitful as a garden—a land of plenty. Encouraged by the splendid results of their labor during this year, Nebraska farmers are preparing for next year with hopefulness, and with stimulated energy will enlarge fields.

Our great Exposition is growing in popularity and attractiveness, as it is a surprise to all who visit it. It is advertising itself. The delegations who come representing the various States all go home loud in its praises, and send their neighbors to see the big show. The railroads are now doing about the right thing as to rates, and an attendance of one million paid admissions is expected for October. Had the railroads made rates satisfactory three or four months ago, the paid admissions up to date undoubtedly would have been double what they have been. Now that the railways are doing their part in a measure, crowds will come pouring in from every corner of the country. The Exposition surely deserves the patronage of the whole people. Those who have not seen it have no idea of its magnitude, and all who have seen it agree that it surpasses anything of its kind that has gone before it, except the "World's Fair," at Chicago, and even that is surpassed by some of its features, notably its electric display.

The streets of Omaha are showing the effects of the multitude of visitors that is now coming to the Exposition. The thoroughfares are crowded all of the time, and the daily attendance at the Exposition is on the increase.

During the past month this section has been visited with the most generous rains of the season. They were much needed, and have placed the soil of this State in excellent condition for the seeding of fall wheat. Trade has already felt the good effects, and there seems to be no reason to think that there will not be a very prosperous season for the fall trade in Nebraska.

Special days are coming thick and fast at the Exposition from now on, and the accessions to the temporary population of Omaha during this month will be notable. Nebraska's October is the finest in the world, and the thousands of people who have deferred coming to the Exposition until the weather got cooler will now take advantage of their opportunity and will be here in large numbers. The railroad rates, even from a great distance, promise to be most liberal for the remainder of the time that the Exposition gates are to be opened to the public, and will be doubtless generally availed of. There is a decided interest being taken in the peace jubilee, that will be the feature of the coming month, and an immense crowd will be attracted. The Ak-Sar-Ben festivities will be on a grander scale than has ever before been attempted, likewise, and will be worth coming hundreds of miles to see.

The event which will be of more than local importance this month, is the Peace Jubilee, to be held at the Trans-Mississippi Exposition the first week in October. Hon. Edward Rosewater, chief of the Bureau of Publicity and Promotion, has just returned from Washington, where he had several interviews with the President and members of the Cabinet, and secured their unqualified promise to be present on that occasion. Invitations have also been extended to the members of Congress and to the chief officers of the navy. President McKinley made an extended tour of the West during a political campaign several years ago and naturally takes much interest in the Trans-Mississippi region, and very readily consented to aid the proposed celebration of the return of peace by his presence in Omaha. He will also see to it that prominent officers in the navy and army are granted leaves of absence that will admit of their presence also. While the programme has not been entirely arranged, it is proposed to have a soldiers' day and a sailors' day with appropriate spectacular exhibits. The lagoon or lake in the centre of the grounds is to be utilized for a naval display, which will include among other features a representation of the sinking of the Merrimac in the harbor entrance of Santiago. This Peace Jubilee will afford a rare opportunity of coming in contact with the foremost men in the country, and cannot help but attract people here from all over the country. The Exposition is already an assured financial success, and promises to strip even the fondest dreams of its promoters. It will be a few days until the total attendance will have passed the two million mark, as the show is growing in popularity every day. It no longer takes a special attraction to bring over twenty thousand people to the grounds in one day, and as the most important events are yet to come, some immense crowds may be expected.

The preparations for the Ak-Sar-Ben festivities which occur this year October 3d to 8th, are going forward rapidly, in fact, are now about complete. Two magnificent parades will be given; one the beautiful Ak-Sar-Ben proper, and the other an electrical display of wonderful grandeur. These festivities will be on a much grander scale than ever before.

Country dealers are in town in numbers. They are embracing the opportunity to make fall purchases and see the fair at the same time.

Resistless Force of Perseverance.

Johnson says, "All the performances of human art, at which we look with praise and wonder, are instances of the resistless force of perseverance." It is by this that the quarry becomes a pyramid, and that distant countries are united with canals. If a man was to compare the effect of a single stroke of the pickaxe or of one impression of the spade with the general design and last result he would be overwhelmed by the sense of their disproportion. Yet those petty operations, incessantly continued, in time surmount the greatest difficulties; mountains are leveled and oceans bounded, by the slender force of human beings.



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SMALL
FULL SIZE



THE No 1000 TOILET WARE Pattern

is made in a complete set including every piece found in the category of toilet ware.

• • • This pattern is carried in stock, and dealers when ordering will not be subject to the delay which they frequently experience when ordering goods of a new pattern. • • •
• • • Send for illustrated catalogue and price list of this line. • • •

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• 120 SUTTER ST. • SAN FRANCISCO •

Pittsburg and Vicinity.

It may be truly said that a godsend has come to Pittsburg and the surrounding towns. All of the mills and manufactories are running double time, and what with a higher market and larger profits, and men employed regularly, no wonder business is better and collections easier. The general report from the jobbers has been, "We have no reason to complain. If business continues to increase, as it has during the past month, since the season has opened, we will be swamped and will have to take on additional help." The retailers are also feeling jubilant at the approach of the Triennial Conclave, which will bring to the Smoky City 50,000 people at least, four-fifths of whom will be people who have money to spend, and who will not forget the jewelers in their desire to take with them remembrances of the good times they had as our guests.

The retailers are busily engaged in refitting, repapering and repainting their stores, besides putting in new fixtures, etc. The Eastern manufacturers have not overlooked this chance of making some large sales, as there were at least twenty silverware displays in the show rooms of the local hotels during the past week.

John M. Roberts has installed in his store a complete electric plant of 500 lamps capacity. It is his intention to use the power plant to furnish all of his light, and also to run the machinery in his shop.

W. E. Weniger, for many years a jeweler of Uniontown and Connellsville, Pa., has opened a new store on Franktown Avenue, East End.

Since the first of the month all the traveling men for the local jobbers have gone out "on the road." W. J. Johnston has gone through the North of this State; Geo. West, of West, White & Hartman, is in Ohio; Jack Allison, for Goddard, Hill & Co., has gone to Maryland and West Virginia, and Wm. Roseman, of Grafner Bros., is in Ohio.

Rodney Pierce is traveling through West Virginia on a six weeks' trip. He reports business in a flourishing condition.

At the local exposition held here, Heeren Bros. & Co. had a fine display of tools and supplies, also a display of Regina music boxes, for which they are the sole agents here. The Chessman Optical Co., Ltd., and W. E. Stieren had exhibits of optical goods.

Many of the local jewelers have gone East to make purchases, and also to take a vacation while so near the sea. Henry Barrett, J. P. Steinman, E. R. Hill, Sol. Cerf and Charles Wattles, have been sojourning in the East.

Dawson Adams, for many years with E. P. Roberts & Sons, of Fifth Avenue, has gone into business for himself. For the present he has taken desk room at 443 Smithfield Street.

J. A. Bobbs, of Scottdale, Pa., has returned to this place to reopen a new store, after having been located at Confluence for several years.

Announcement has been made of the approaching marriage of P. C. Yester, a prominent McKeesport jeweler, to Miss Flora Hyde, of Hazelwood, Pa. The wedding will take place next month in the Holy Trinity Church, Pittsburg, and will be an elaborate one. Mr. Yester and his bride will tour the Eastern cities for a wedding trip. They will reside in McKeesport on their return.

A. Pollock, formerly employed as watchmaker by Adam Fisher, of Greensburg, Pa., is now with N. S. Neiman, of McKeesport, Pa.

Thieves made a successful entry into the store of S. P. Stern, of McKeesport, Pa., and stole valuables amounting to fifty dollars. Owing to some noise, they were frightened away before securing any more plunder. It is believed that one of the robbers was seriously cut by broken glass, as blood stains could be traced from the store along the alleyway in the rear, and for quite a distance along the street.

R. Siedle & Sons have remodeled the interior of their store, besides repainting the front and making some changes in their show windows.

Edward Gilliam, one of Allegheny's oldest watchmakers, died recently. He was born at Cookstown, Ireland, on May 24, 1813, and came to this country at the age of nineteen. In 1832 he came to Pittsburg, where he has made his home almost ever since. When the gold fever broke out in California, in 1849, he was among the first to go. He was in the jewelry business for many years on Federal Street, but for the past five years he has not been actively engaged, owing to his having become an invalid.

The following out-of-town buyers were in the city: William Hunt, Uniontown, Pa.; Geo. V. Brady, Frank Hayes and A. A. Poole, Washington, Pa.; L. Furtwangler, Greensburg, Pa.; John Brenner, Youngstown, Ohio; F. Laban, Toronto, Ohio; E. Kennerdell, Tarentum, Pa.; Charles Loughman, McKee's Rocks, Pa.; L. Schmidt, Braddock, Pa.; J. S. McKean, Charleroi, Pa.; N. Neiman, McKeesport, Pa.; H. B. Cubbison, New Castle, Pa.; Harvey Wallace, Smith's Ferry, Pa.

How to Photograph a Window.

Few photographers have any ideas on the subject of photographing show windows, and seem to think if they set up the camera and take the picture they have done all that is possible. The thick French plates used in most windows are almost mirrors in reflecting powers, and so nearly all photographs of them include the buildings or objects upon the opposite side of the street. There is only one way to avoid this: Make a cloth screen of black cambric, sufficiently large to shut off all reflection when raised before the window. Fasten the two upper corners to poles, and when about to take the picture have two men or boys raise the screen just back of the camera. All reflections will be avoided and a clear picture result. As it is not probable many photographers will prepare such a screen, we advise trimmers to have one made and keep in readiness for occasions when they want their windows photographed. Flash-light pictures will not avoid reflections.

—The Show Window.



Columbus Letter.

September has been an interesting month to the citizens of Columbus and Central Ohio, from the fact that many of the soldiers living in this vicinity have arrived home. A number of volunteer regiments have returned, and the members are at home on furloughs. Last Friday afternoon the Seventeenth Infantry, U. S., which stood the galling fire at El Caney several days and nights, was given a grand reception by Columbus citizens. That day was one of joy and sadness, for in the afternoon General Joseph T. Haskell, who led the regiment on that memorable occasion, died suddenly at his home at the barracks of apoplexy, superinduced by wounds received in the battle and by the excitement incident to the return of his men. All the business houses and many private dwellings were handsomely draped in honor of the return of the soldiers, but the flags were soon at half mast and the bunting mixed with crape when the news of the general's death spread over the city. The jewelers all did their part in according the heroes a welcome, and their stores showed the stars and stripes. Business was suspended, and many merchants locked their doors for two hours, and both clerks and proprietors took part in the demonstration.

Business the past month in the jewelry line has been very good, many dealers claiming that it was from 50 to 100 per cent. better than for the same time last year. July and August were also good months, considering the fact that this is the dull season of the year. All business men are looking for a lively winter, and conditions would indicate that they have good grounds for their belief. Crops have been good and have commanded a fair price; shops and factories have been running, and the laboring people in general have had much more steady employment than usual. Money seems to be plentiful and people are showing a willingness to spend it such as has not been seen for years past. All interviews with the trade elicit expressions of satisfaction with present business conditions and sanguine hope as to the holiday returns, which are expected to exceed those for many years past, if not any previous year.

Albert H. Bonnet, the wholesale dealer, and his brother Frank F. Bonnet, prominent retail jewelry merchant, with their families, spent several weeks at Indian River, Mich., this fall. All returned some time ago in much better spirits and ready to begin the season's business with a will.

The optical trade in Columbus has been exceptionally good this season. Opticians have been busy and have realized fairly good prices for their work. They are still talking of a State organization, but as yet have not made a move to form a local society. This would be the first and one of the most important steps toward the desired end.

D. L. Auld, manufacturer, was in New York on business the latter part of August.

Major Young, of Mt. Vernon, said to be the oldest jeweler in the State, was in Columbus on business early in September.

A handsome room is being prepared for J. Goodman & Son, at the corner of State and High Streets, where they will move some time in October. A complete new set of mahogany fixtures, made by the Taylor Mantel Co., will be installed; a horseshoe-shaped counter, with wall cases made from special designs, will be the main features. The room will have three large show windows, two on High and one on State; the floor will be of marble, and the interior will be finished in latest designs. All the old stock of goods will be closed out, an entirely new stock having been purchased by Mr. Goodman, who recently returned from the East. The style of the firm will be changed to Goodman Bros., but the composition will be practically the same for the present, as under the old name.

Wm. T. Oberer, of Haines & Oberer, was in New York, purchasing new goods, early in September.

H. J. Heimberger's store on South High Street has been graced with a handsome new front.

C. E. Radebaugh has moved his store to 579 North High Street, a few doors north of his former location, where he has better facilities.

W. G. Harrington, of Harrington & Nonnemacher, has been in New York purchasing goods and visiting his brother-in-law, Jacob Egbert, of Gorham Manufacturing Company.

H. B. Judd opened a store and repair shop at 586 East Long Street some time ago and has found it a very desirable location.

Bancroft Bros.' store had a narrow escape from fire Tuesday morning, September 15th. An ugly blaze started in one of the upper stories of the block which they occupy, and it took some hard work to stay its progress. They were damaged to the extent of \$200 by water. Fully insured.

The Bonibrake stock at Westerville, which was involved in the receivership case of John P. Sweet against Hiram McKnight, was sold out by the receiver, Thomas J. Hartley.

Theodore Weiland, 1016 Mt. Vernon Avenue, has a flourishing repair and optical business. He is pleased with the prospects for the future.

Captain R. E. Burdick, of Troop A., O. V. C., has resigned. The captain is a member of the Bowler & Burdick Co., Cleveland, and since there is no opportunity for service, he wants to get back to business.

Harry Elliot, with E. M. Blauvelt, was painfully injured a few days ago by an explosion of a can of benzine he was using in his work.

Fritzie Dhein, who was sent to the penitentiary for robbing a traveling salesman of the H. Keck Manufacturing Co. of \$20,000 worth of diamonds, at Dayton, has been released, having served four years. He was sent up for seven, but was allowed three years good time for his excellent behavior while a prisoner. He is considered an expert diamond thief.

H. Bixby, a well-known Ironton, Ohio, jeweler, was in Columbus on business September 20th.

D. L. Auld is having dies made and preparing for the holiday business.

Quite an improvement in business was noticed during the State Fair, which occurred the latter part of August and first of September. The jewelers made no displays, but visitors to the city left considerable cash behind them. This is considered a good indication of the financial condition of the country people.

"Enclosed herewith please find one dollar, for which please renew my subscription to The Keystone. Its monthly visits are very welcome to me, and its many features, so interesting to the trade in general, prove very interesting to me."—A. H. Kent, jeweler, Mt. Clemens, Mich.

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GEO. B. BARRETT & CO.

Importers and Wholesale Dealers in

LOOSE **DIAMONDS** MOUNTED

Watches, Jewelry, Chains, Silverware, Clocks, Etc.
Watchmakers' Tools and Materials.

HEADQUARTERS FOR EVERYTHING NEEDED BY THE JEWELRY TRADE.

347 FIFTH AVENUE,
PITTSBURGH, PA.

Come and See Us.



Sole Owners and
Manufacturers of

WAVE CREST WARE.

Write for this, sure, a most beautiful work of art, our 1898 Catalogue. Will be mailed on application. Illustrating the WAVE CREST WARE, the most attractive and best selling line of Wedding and Christmas goods on the market. Our line is doubled this year, comprising **Glove, Jewel, Puff and Handkerchief Boxes, Call Bells, Ferneries, Sugar and Cream Sets, Vases, Bric-a-Brac, Etc.** Also a number of small, catchy and quick-selling novelties made in artistically decorated opal, handsomely mounted with rich gold-plated trimmings.

THE C. F. MONROE CO.

Manufacturers of Wedding and Holiday Novelties,

NEW YORK SALESROOMS,
38 MURRAY STREET.

Main Office and Factory, **MERIDEN, CONN.**



Ash Tray 172-Dv.



Jewel Box 241-Av.



Fernery 213-Hv.



Vase 162-Ew.

Among the Trade.

The trade are invited to send us reliable items of news for this department.

Alabama.

H. J. Ramsey, of Dadeville, has moved into more desirable quarters.

J. J. Sullivan, of Bessemer, has been on a trip North and East, combining business with pleasure.

Bascom Dowling, has removed from Ozark to Eufaula.

Alaska.

H. D. Kirmse, Skagway, has moved his jewelry store to more commodious quarters and has increased his stock.

Joseph Schell, formerly in charge of Ike Feil's jewelry department, Grass Valley, Cal., is now in the jewelry business at Douglas Island, this territory.

Arkansas.

The firm of Hailey & Hurst, of Jonesboro, has been dissolved. R. C. Hailey will continue the business alone.

C. B. Cox has sold out his jewelry business in Knobel.

California.

F. J. Mund, formerly of Aspen, Colo., has opened a store in Riverside.

Lissner & Co., Los Angeles, are closing out their big stock by auction. Briggs & Dodd are the officiating auctioneers.

O. M. Campbell, Petaluma, will re-engage in the jewelry business about October 1st.

Colorado.

L. Kabis, formerly of Colorado Springs, is now in business at 929 Sixteenth Street, Denver.

F. O'Neill, Denver, has removed his store from Arapahoe Street to Sixteenth Street, between Walton and California Streets.

Robert M. Price, of the Lewis Jewelers' Supply Company, Denver, spent his vacation last month at the Trans-Mississippi Exposition in Omaha.

L. W. Keil & Co., of Rocky Ford, in a recent fire which destroyed most of the business houses of that town, suffered a loss of \$500. They had no insurance.

M. V. Thompson, Grand Junction, has just moved into fine new quarters.

Connecticut.

F. W. Story, of Middletown, has moved into a new store in the McDonough House Block.

Charles Silverthau, of S. Silverthau's Sons, New Haven, left, September 1st, to attend the Omaha Exposition, Omaha, Nebr.

Parker, Wood & Co., dealers in bicycles and jewelry, of Stamford, have dissolved partnership.

A. G. West has succeeded R. N. Johnquest, of Waterbury.

J. Spencer & Co., Norwalk, have opened an attractive jewelry store at 96 Washington St., South Norwalk. Frank Lauder, recently admitted to the firm, will have charge of the store.

Florida.

G. B. Haines has moved into his fine new jewelry store, corner Third Street and Sixth Avenue, St. Petersburg.

A. L. Thayer has opened a jewelry store at St. Petersburg.

George F. Barker, Miami, has moved to Jacksonville.

S. G. Lewis, of Lake City, has opened a repair shop in the Post Office Building, in New Smyrna.

W. J. Dombrowsky, of the Southern Loan and Jewelry Company, of Tampa, has greatly improved his store.

Georgia.

G. B. Rich, of Waynesboro, has moved into better quarters.

S. E. Theus, of Theus Brothers, Savannah, was appointed a member of the Park Tree Commission of that city.

Illinois.

Schneider & Cooke, have opened a store at Highland Park.

Fred Robey, of Danville, has moved into better quarters.

James Wyandt has begun business as a repairer in Stratburg.

C. W. Cassingham has purchased the jewelry and drug business of C. V. Heeb & Co., of Arcola.

Chas. A. Tappe, Bloomington, writes us deploring the injury to the trade being worked in his district by the catalogue nuisance.

A. E. Gray, of La Harpe, has moved into handsomer quarters.

Indiana.

J. C. Horton, of Fort Wayne, has moved into new quarters at 58 East Main Street.

A Richmond paper recently contained an interesting description of the handsome jewelry store in that place of Spencer & Co., with a well-deserved eulogy of Mr. Spencer's business and mechanical capability.

Iowa.

Henry Frese has opened a jewelry store at McGregor. Wm. Hellberg has opened a store in Marshalltown.

S. T. Waldron, of Glidden, contemplates erecting a new building for his business.

J. C. Morris, formerly located in Ft. Atkinson, is now located in Calma.

In the show window at A. R. Knight's jewelry store, Dubuque, was recently exhibited a tray of gold nuggets brought direct from Dawson City, Alaska.

H. Kirkpatrick has opened his new store in Le Mars.

A. F. Staufenheil, Dubuque, has opened new quarters in that city. He was recently appointed local watch inspector for I. C. R. R., C. G. W. and C. M. and St. Paul Railroads.

Eugene Walker has purchased the jewelry department of Bailey & Son, Mt. Sterling, and will take charge of the business the first of October.

The Hattenback Bros. Jewelry Co., Sioux City, have filed articles of incorporation with the Secretary of State. Their capital is \$10,000, and the brothers, Joseph, Aaron and Mitchell, are the incorporators and officers.

Cochran & Son is the title of a new firm who have succeeded to the jewelry business of M. H. Cochran, Morning Sun.

Kansas.

W. H. Webster has sold his business in Nebo and has moved to Topeka.

L. Hoffman, Leavenworth, recently remodeled the interior of his store.

E. B. Van Ness, of Mound City, returned, last month, from an extended Eastern trip.

Amos Plank, Hutchinson, has greatly improved his store.

Kentucky.

Philip Levy, of Henderson, has purchased the good will of C. W. Collie, of Monganfield, and will conduct the business as a branch of his Henderson store.

A. J. Clark, formerly of Lexington, this State, is now in the employ of William Abel, of Dayton, Tenn., as a watchmaker.

R. C. Suthpen, of Hartford, has moved into better quarters in the Ohio County Bank Building.

Seng Brothers, of 450 East Market Street, Louisville, made an attractive window dressing out of a collection of relics of the Spanish-American war sent them by a member of the First Kentucky Regiment of Volunteers.

L. E. Lewis has removed from Ronceverte, W. Va., to Mt. Sterling, this State.

Mr. and Mrs. Leonard Huber, Louisville, announced the engagement of their daughter, Etta C., to Mr. Truman Leonard McGill, of Selma, Ala., formerly of Louisville. Miss Huber is the eldest daughter of the well-known jeweler, Leonard Huber. Mr. McGill is son of D. F. McGill, a Main Street merchant, and is the general secretary of Selma's Young Men's Christian Association. THE KEYSTONE extends congratulations to the happy couple.

Louisiana.

The Gordon Jewelry Company, of Shreveport, has redecorated and improved its store.

Maryland.

The Castelberg Jewelry Co., Baltimore, is now in its new store on North Eutaw Street. The new quarters are very handsome. On the second floor is the optical department, in charge of Harry E. Bemis, a graduate of the Chicago Ophthalmic College, while the manufacturing department occupies the third floor.

Jacob Gminder, one of the best known silversmiths in Baltimore, died last month. For years he was engaged in the silver plating and regalia manufacturing business at 14 South Calvert Street.

(Continued on page 774.)

THE LAUREL OF LEADERSHIP

in watch cases for this season has been awarded by universal consent of the trade to

The Biltmore Style

of JAS. BOSS 14 K. Cases

Never before has there been such unanimity of opinion and fervor of eulogy. Note the constructive details:



The backs of this case are flat, but the edge is so made as to avoid a thick appearance. In fact, it is as thin a filled case as has ever been made.

- { Next to the center is a narrow convex band of beautiful, fine, short cut work.
- { Then comes a plain, flat, bright band.
- { Then a fine, straight knurl.
- { Inside of this knurl the back is perfectly flat.

This triumph of modeling has simply charmed the trade. The eye at once perceives in its graceful proportions that peculiar artfulness and finesse which distinguishes genius from mere skill-creative art, and originality from mere imitative talent.

The Biltmore can now be had in 16 size, both Htg. and O. F., for either Elgin or Waltham, and in O size, Htg., with a variety of engravings. The P. P. and E. T. styles are especially attractive for fine trade.

When ordering be sure and mention the name of the style—the Biltmore.

KEYSTONE WATCH CASE CO.

19th & Brown Streets,
Philadelphia, Pa.

SILVER PLATE

AS GOOD AS
CAN BE MADE

HAS BEEN CONTINUOUSLY
AND SUCCESSFULLY
MANUFACTURED BY US
FOR HALF A CENTURY
AND HAS NEVER FAILED
TO GIVE PERFECT
SATISFACTION.

OUR LINE OF BRIGHT
BURNISHED, FLUTED
HOLLOW-WARE, AND
1847 ROGERS BROS.
FLAT WARE, WAS NEVER
BEFORE AS COMPLETE.
ILLUSTRATIONS ON
APPLICATION.

IF YOU HANDLE OUR
GOODS YOU ARE ENTITLED
TO HELP IN ADVERTISING
THEM. SEND FOR
PARTICULARS.

**MERIDEN
BRITANNIA
COMPANY,
MERIDEN, CONN.**



"Silver Plate that Wears"

MADE AND
GUARANTEED BY



CHICAGO,
147 STATE ST.

MERIDEN, CONNECTICUT.

SALESROOMS:
NEW YORK,
208 FIFTH AVE. (Madison Sq.),
1128-1130 BROADWAY.

FACTORIES:

SAN FRANCISCO,
134 SUTTER ST.

HAMILTON, ONTARIO, CANADA.

PROSPERITY AND COLUMBUS WATCHES

go hand in hand, and both will make you happy. You can not be prosperous unless you handle the **COLUMBUS MOVEMENTS**. We are making more Watches than ever, they are positively the best on earth.

Our "**TIME KING**" and **NOS. 1 AND 2**, are especially adapted for **RAILROAD** services. Every movement guaranteed. Our line is complete.

THE NEW COLUMBUS WATCH CO., Columbus, Ohio

Among the Trade.

(Continued from page 772.)

Maryland.

William J. Miller recently completed improvements at his establishment, 28 East Baltimore Street, Baltimore. The store now ranks among the handsomest jewelry stores in Baltimore. One large show window occupies nearly the whole front of the building and the counters of the store have been placed in the center of the room.

Massachusetts.

J. C. Wood, of Sherburne Falls, recently improved and beautified his store.

J. J. Halpin has opened a repair shop in Peabody.

Arthur D. Wilbur has opened a store in Weymouth.

H. Smith, a graduate of the Waltham Horological School, has opened a store in Holyoke.

Frank Preston, lately of Laconia, N. H., has purchased a store in Jamaica Plain, this State.

C. W. Deans, of Spencer, won the first window display prize for cities of less than 15,000 population offered by the Eastman Kodak Company, of Rochester, N. Y.

Safford & Lunt, of Newburyport, have dissolved partnership, Mr. Safford withdrawing.

Foster & Co., Boston, a new retail jewelry firm, will begin business October 1st, on West Street, corner of Mason Street. Mr. Foster was formerly with Bigelow, Kennard & Co.

Michigan.

A. H. Kent, Mt. Clemens, is now located in a new store built expressly for his business. It is handsomely furnished in oak and is one of the prettiest little stores in that section.

A. E. Palmer, of Owosso, now occupies a new store, which was built especially for his business.

W. R. Austin, of Port Huron, has moved into better quarters on Huron Avenue.

Fred S. Palmer, son of L. E. Palmer, Rochester, has opened a store at Orion.

L. B. Thompson has opened a jewelry store at Athens.

A. V. Loomis has removed from Holland, this State, to Washington, D. C.

Minnesota.

L. B. Rush, of Edgington, has opened a repair shop in Ulen.

L. Griswold has opened a store in Rush City.

G. Blyberg has opened a store in Austin.

Frank J. Salfinger has removed his store from 618 Nicollet Avenue, Minneapolis, to 42 Palace Block.

R. C. Kruschke and his brother Louis, who were in business in Dawson City, British North America, have returned to their home in Duluth.

The Egan Jewelry Co., St. Paul, are now located in their new store, at the corner of Sixth and St. Peter Streets. The new home of the firm is in the heart of the city, on one of the principal thoroughfares, opposite the Post Office and Custom House.

G. W. Ellis has opened a jewelry store at Stewartville.

J. E. Reid, Rochester, has enlarged and improved his store.

Mississippi.

H. C. Price, Wesson, has opened up a first-class jewelry business.

Missouri.

George Towlnsy has commenced business in Pierce City.

C. B. Duncan has opened a repair shop in Shelbina.

Jasper & Fishback is the title of a new jewelry firm in Oronogo.

O. Lind has moved from Argyle, Iowa, to Revere, this State.

Montana.

Forrester & Frizelle, of Billings, have closed out the confectionery business which they conducted in addition to their jewelry store.

Nebraska.

Ketone Brothers have opened a store in Du Boise.

The Adler Loan Co. have succeeded to the jewelry and pawnbroking business of S. A. Adler, Omaha.

Articles of incorporation were filed last month with the Secretary of State of Nebraska by the Omaha Watch Repairing, Engraving and Optical Institute, the capital stock being \$5000, and the incorporators Dr. A. B. Tarbox and R. A. Gordon.

New Hampshire.

Paul Harvey, Portsmouth, has moved into a store in the Philbrick Block.

New Jersey.

Warren S. Lewis, jeweler and optician, of Bridgeton, died recently.

Horace H. Thoman, formerly with Frank Lingg, 52 North Eleventh Street, Philadelphia, Pa., has started in business for himself at 210 South Broad Street, Woodbury, this State.

New York.

S. Reymann has opened a store at 9 South Fourth Avenue, Mount Vernon.

C. H. Sanford has opened a watch repairing business at Fishkill Landing.

Sylvester Tripp, Millerton, has installed an acetylene gas plant for lighting his store.

Carl Palmer, formerly with Volk & Wieland, has begun business for himself as a repairer for the trade at 199 Pearl Street, Buffalo.

James Zilioux, Buffalo, has moved from 257 Broadway to 271 Broadway.

V. Gentner, Jr., Buffalo, formerly of 540 Broadway, has opened a repair shop at 18 Eagle Street.

C. E. Eager, Syracuse, has handsomely decorated in light blue tints the walls and ceiling of his store.

A. Allard has begun business in New Woodstock.

M. J. Roseman will start in business October 1st, in Mount Morris.

Nicholas G. Smith has begun business in Dunkirk.

John A. Stapf, of Dunkirk, has moved from 128 Central Avenue to 230 Central Avenue.

Fred C. Parshall, formerly with A. D. Norton, of Gloversville, this State, has entered the employ of the J. W. Tuttle Jewelry Company, of Pittsburg, Pa.

S. J. Manuel, of the North Side, Binghamton, has greatly improved his store.

Samuel C. Tappin, Troy, has made extensive improvements and changes in his store.

Louis Manson, of Syracuse, has purchased the stock of jewelry and bicycles of Arthur Sweet, Ithaca.

W. G. Mead, Cortland, has moved into his new store at 41 Main Street.

Hebert E. Carner has purchased the business of and succeeded F. A. Russell, Frankfort.

North Dakota.

Louis Hanson has removed his business from River Falls, Wis., to Devil's Lake, this State.

Fred. Strauss, of Bismarck, has returned from the East, where he purchased fixtures for his new store.

J. S. Porter has opened a store in La Moure.

Chas. G. Bade has opened a store in Wahpeton.

Ohio.

E. E. Kah, of Sidney, has remodeled and beautified his store.

John Manning, lately of Staunton, Va., has opened a store in Plain City, this State.

P. N. Dayton sold out his business in Cleveland to accept the management of the jewelry department of the Madison Mercantile Co., Madison.

A. Vernon, of Pleasantville, has moved into better quarters in the Masonic Building.

A recent voluminous illustrated edition of the Portsmouth *Blade* contained write-ups with photos. of stores and proprietors of C. H. Harris, Dan. White and Ph. Zoellner, of that place. All are prosperous and enterprising jewelers with handsome stores.

W. E. Cawood, of Toledo, has moved from 427 Summit Street to 524 Madison Street.

George U. Roulet, of Roulet & Co., of Toledo, has been appointed city auditor, and E. J. Esch is managing the firm's business.

J. D. Rowland, after recreating and recuperating for several months, has returned to Van Wert, where he has resumed business with a fine new stock.

The store of Platt & Davis, Plainfield, was burglarized recently and money and jewelry, amounting to \$250, were taken. Two suspects were arrested next day at Newcomerstown and part of the goods found on their persons identified.

Oklahoma.

W. L. Peck, formerly with J. D. Gallagher, of Knobnoster, Mo., will open a new store in Nardin.

(Continued on page 776.)

A TWIN BEAUTY

to the **Biltmore** style, described on page 772, is

The Blenheim Style

of JAS. BOSS 14 K. Case

The **Biltmore** and **Blenheim** are "two of a kind" in every respect—unprecedented beauty of shape, remarkable grace of outline and striking decorative richness. Here are the details of the **Blenheim**:



The special feature of this case is the shape of the back. It is a happy compromise between round and flat.

{ Next to the center is a fine, straight knurl, put on edge-wise.

{ Then comes a plain, flat, bright band.

{ Then a fine, straight knurl.

{ Inside of this knurl the backs are slightly oval.

This is one of the thinnest and closest fitted cases that has ever been made.

The impress of genius is so evident in the **Blenheim** as in the **Biltmore** that both will be the center of attraction in any assortment of watch cases. They glory in comparison.

The **Blenheim** can now be had in all sizes, both Htg. and O. F., jointed, with a great variety of engravings. The P. P. and E. T. styles are especially attractive for fine trade.

When ordering be sure and mention the name of the style—the **Blenheim**.

KEYSTONE WATCH CASE CO.

19th & Brown Streets,
Philadelphia, Pa.

To be had for the asking

(If you have not received it)

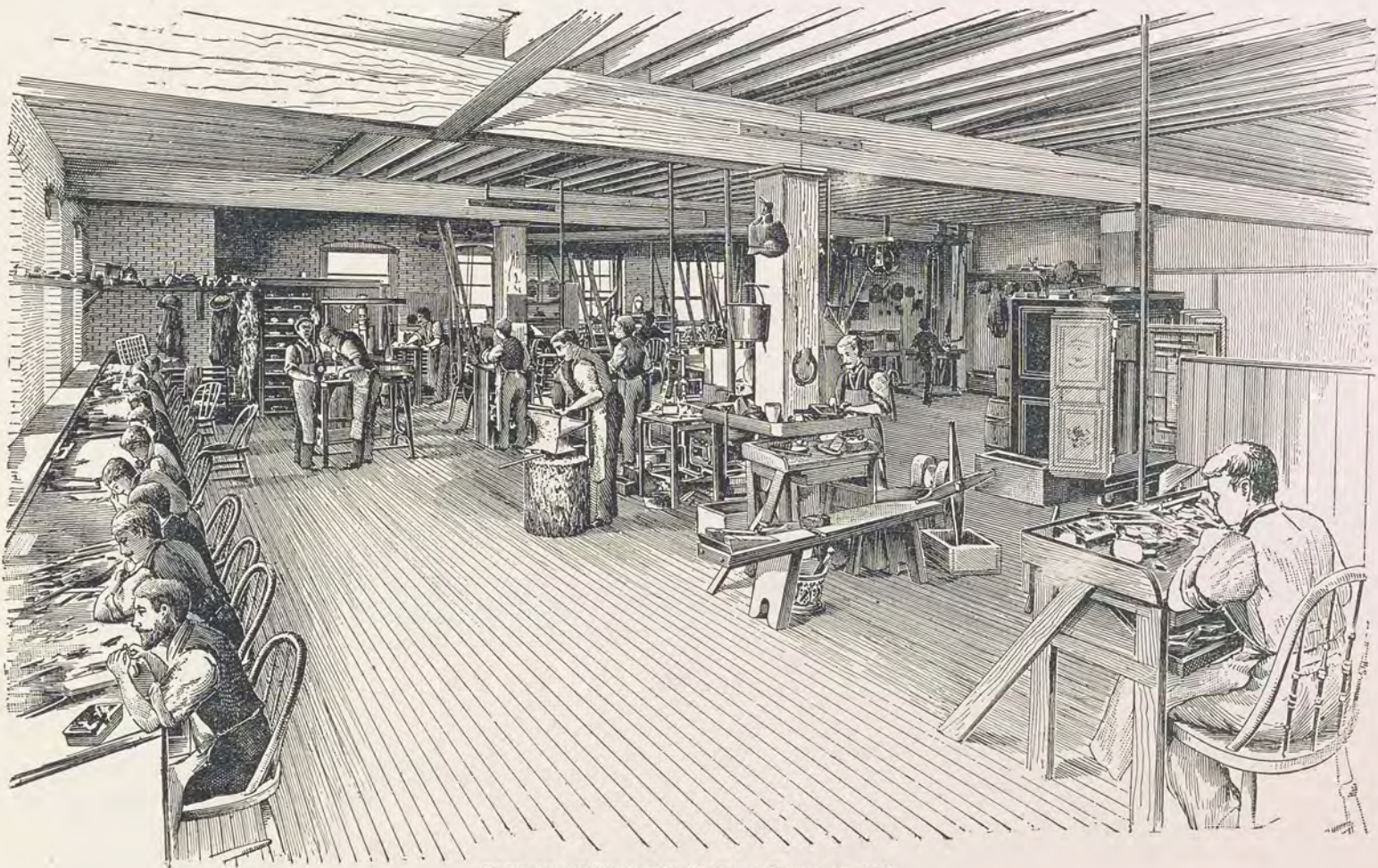
Our 1898 '99 Catalogue

Over 400 rings illustrated, each to be had in about six different stones and combinations, representing in all over

2500 Varieties of Set Rings

*We cannot create business for you by magic,
but
if new and tasty designs will help your RING trade,
we can be of some assistance.*

*Do you care to see the result?
Drop us a postal. We will do the rest!*



SECTIONAL VIEW OF OUR FACTORY, BROOKLYN, N. Y.

THIS IS WHERE WE MAKE THEM.

LOUIS KAUFMAN & CO.

ESTABLISHED 1885.

Offices: { 54 Maiden Lane, } New York.
 { Fahys Building, }

RING MAKERS

Among the Trade.

(Continued from page 774.)

Pennsylvania.

Smith Pearce has opened a store in the McFarland Building, Saltsburg.

Harry R. German, Reading, has removed from 805 Franklin Street to more commodious quarters at 244a North Ninth Street.

Charles Fry, Jr., sold his business in Jamestown, and returned to Greenville, where he is in the employ of Jeweler Damon.

Max Loeb, with S. Loeb, Erie, was in New York last month, purchasing goods.

Clark & Engle, of 24 South Main Street, Wilkesbarre, have greatly improved their store.

Wallace W. Horton, who gave up business at Matawan, N. J., on account of ill health, will open a jewelry store at Ulster, this State.

F. O. Horting, of New Bloomfield, will move his business to Reedsville.

B. C. Holt, of McKeesport, has removed his repair shop into larger quarters.

A. A. Case, of Athens, is now in handsomer quarters in the Kinney Block.

E. L. Egolf, of Harrisburg, has purchased the business of Edward H. Froelich, of that city.

J. W. Dunlap, Greenville, recently purchased new fixtures for his store.

A bicycle record, with very few equals, has just been made by P. J. Manson, jeweler, of Jeannette, this State, who has returned from Philadelphia, Atlantic City, New York, West Point and other places of interest in the East. The entire distance was made on a bicycle made by himself and which has been ridden for four years. He arrived quite fresh after his long and trying journey.

South Carolina.

We are informed that a desirable place for a watchmaker and jeweler is Clinton, this State. It has 3000 inhabitants.

Texas.

Studer & Bingham, Waco, have dissolved.

Washington.

A new jewelry store has been opened at Ballard, by H. L. Bancroft, formerly with Lewis Hensel, Seattle.

Fred. Larne, of Tacoma Avenue, Tacoma, has greatly increased his stock.

J. G. Grainger, of Republic, has reconstructed the front of his store.

M. A. Goldman, lately of California, will open a new jewelry store in Walla Walla.

Fred. A. Kneipp, formerly of Everett, has moved to Snohomish, where he will open a jewelry business.

West Virginia.

John League has purchased the business of Joseph Messman, of Martinsburg.

Richeldaffer & Bloomfield have succeeded to the business of F. C. Fleming, Fairmount.

The business of T. H. B. Lemley, Ravenswood, has been incorporated as the Lemley Jewelry Co.

W. R. McLanahan, Woodstock, recently visited Pittsburgh, Pa., on a goods-purchasing expedition.

Wisconsin.

John Wilson, of Winona, Minn., has opened a store in the Grossman Block, Chippewa Falls, this State.

A. W. Thacher last month purchased goods in New York City for a new retail store, which he will open about October 1st, in Milwaukee.

L. H. Deeny has become the manager of the store of C. B. Morse, of Chippewa Falls.

George Knebel has opened a jewelry store in Belmont.

W. M. Baldwin has opened a new jewelry store in Hilbert.

Can't Be Matched.

KINGSVILLE, OHIO, Sept. 16, 1898.

"THE KEYSTONE has a winning way
In asking fellows a dollar to pay,
To keep their names from being scratched
From off the list that isn't matched
By any other publication
That is issued in our nation.
So here's that dollar."

A. P. ROOT, Jeweler.

Providence and Attleboro.

Local manufacturers express satisfaction with the situation. A good holiday trade is now assured, and a post-holiday continuation of same is looked forward to with confidence. In fact, the belief is general that we have entered on a period of indefinite prosperity, and acting on this belief the manufacturers are turning out a voluminous product of unusual fine quality, with a wealth of new and attractive designs. A good business, with no present or prospective depressing factor, is the happy situation at present.

Ackerman & Maher will occupy a new jewelry factory being built in South Attleboro. Herman Ackerman, of the new firm, served ten years as foreman for the Watson & Newell Co.

Col. Everett S. Horton, of Attleboro, attended the national encampment of the Grand Army of the Republic, held in Cincinnati, Ohio, last month.

An addition is being built to the ell of the south building of the E. I. Richards estate at North Attleboro. This extension will give more space to Cheever, Tweedy & Co., and J. P. Bonnet.

J. J. White has moved from 25 Calender Street to 78 Friendship Street.

G. E. & G. H. Brown, a North Attleboro jewelry firm, have moved their plant to Providence. They now occupy part of J. W. Grant & Co.'s shop at 25 Calender Street.

Colvin & Sullaway is the name of a new firm engaged in manufacturing seamless balls, dumb bells and other jewelers' findings for manufacturers' use only. Mr. Sullaway was for twenty-three years connected with George H. Fuller & Son, of Pawtucket, and since then was foreman of the finding manufactory of D. A. White & Co., of Attleboro.

G. K. Webster, North Attleboro, has moved his machinery into his new factory.

J. G. Cheever, North Attleboro, has been appointed trustee of the estate of A. W. Reed.

The Attleboro Agricultural Fair, held some weeks ago, was, for the first time in several years, a financial success.

William H. Thurber, of the Tilden-Thurber Co., Providence, was a member of the regatta committee which conducted so successfully the recent Bristol yacht races.

Lester I. Mathewson, one of the most popular and best known of the young business men of Pawtucket, R. I., died last month. He was for many years the New York salesman for the jewelry firm of T. I. Smith & Co., of North Attleboro, which position he left to become a partner in the firm of J. N. Polsey & Co., box manufacturers, of Pawtucket, which firm he was with at the time of his death.

Isaac B. Allen, a pioneer jeweler of the Attleboros, and one of the oldest residents of North Attleboro, committed suicide last month by hanging himself. He was seventy-eight years old and in failing health.

Private William Lyons, Company B, Massachusetts Ninth, who died recently at Camp Wikoff, was a jeweler in the employ of the W. H. Wilmarth Co., Attleboro, when the war broke out.

Capt. Herbert A. Clark, of Horton, Angell & Co., Attleboro, who held the position of quartermaster on the staff of the Massachusetts Fifth Volunteers, resigned that post last month.

D. Whitford, Providence, manufacturer of jewelers' trimmings, has removed to 182 Dorrance Street, in the shop with R. D. Horton & Co.

The Attleboro Young Men's Christian Association, at the annual meeting, elected W. E. Sanford, H. T. Regnell, M. A. Cole and E. I. Quarnstrom directors.

Henry Gorman, a pioneer manufacturing jeweler of Providence, who retired from business about twenty years ago, died at his summer home, at Oakland Beach, last month.

Frederick H. Mooney has purchased the jewelry business of D. R. Bowes, formerly of Bowes & Crandall, at 113 Point Street, Providence.

Ira G. Whittier has removed his jewelry store from the Conrad Building to new quarters at 339 Westminster Street, Providence.

John F. Gavitt, foreman of the mechanical department of B. A. Ballou & Co.'s jewelry establishment in Providence, recently completed his 25th year of service as foreman, and the firm commemorated the occasion by presenting him with a check for \$500 and a beautiful gold watch and chain. The watch bore a suitable inscription, an expressive portion of which was the word "faithful."

Bates & Bacon, Attleboro, have installed their plant in their new factory, which will soon be in operation. Regnell, Bigney & Co. will be located in the same building.

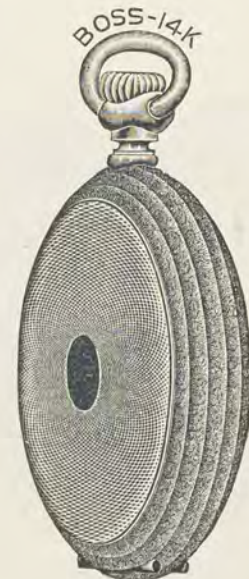
STRIKING RICHNESS OF EFFECT

is a potent salemaking feature of the beautiful new

Cliveden Style

of JAS. BOSS 14 K. Case

The short cut work on the edge makes such a striking contrast with the polished, engine-turned or engraved surfaces that the effect is rich and impressive in the extreme.



A 9481
Htg., \$22.00
O. F., jointed, \$20.00

Prices according to Keystone Key.

The actual case is much thinner than this cut indicates.

The cases can be had with a variety of pretty centers.

The edge of the back consists of two pretty rolls of short cut work, giving a handsome and novel effect.

The backs are flat and make a brilliant setting in the short cut border.

This case has a stylishness that rivals the richest solid gold cases.

There is that of the antique, modernized, in the ornamentation of the **Cliveden** that appeals to the connoisseur, and at once catches the eye of the cultured.

The **Cliveden** can as yet be had only in 16 size Elgin and Waltham, Htg. and O. F., jointed only.

KEYSTONE WATCH CASE CO.

19th & Brown Streets,
Philadelphia, Pa.

K & E



U. S. CRUISER "OLYMPIA."

K & E



"OUR COAST DEFENDERS."

Something New and Up to Date—A PATRIOTIC NESTED BOX FOR JEWELERS' USE.

Your customer will not throw it away, but will keep it, not only on account of its artistic beauty, but as a souvenir of the gallant and heroic services these beautiful ships performed in defending the Nation's honor, and guaranteeing her forever a position "second to none" among the countries of the world.

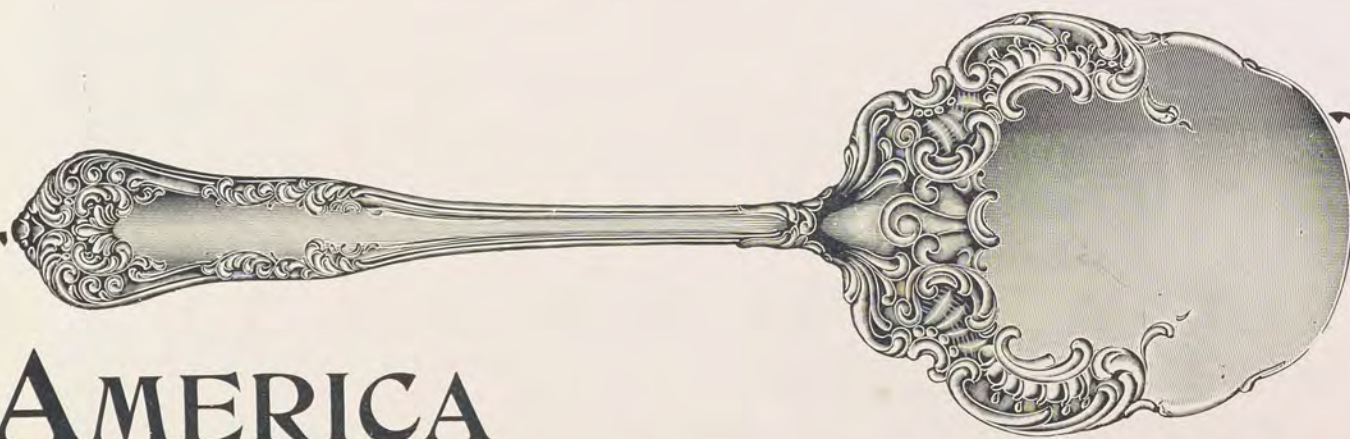
These boxes are made in the three largest sizes of the regular nest, of the best quality white enameled paper, with telescope covers, labels lithographed in eight colors, assorted, Battleships "The Brooklyn," "The New York" and "The Olympia."

The placing of these goods on the market entailed great expense, and necessitated the purchasing of a very large quantity, so as to make a price within the reach of all.

Price, per gross, assorted, \$3.00 net cash, including business card printed on each cover.
Order NOW; don't let your competitor get the best of you.

Remember, we are headquarters for Velvet, Plush and Paper Jewelry Boxes; send for our price-list before placing your orders.

KING & EISELE, JEWELERS' SUPPLIES, Buffalo, N. Y.



AMERICA takes the lead.



OUR NEW PATTERN, THE "AMERICA," IS ALREADY A CHAMPION. THE PATTERN IS MODEST YET RICH IN EFFECT. WE'RE HEARING GOOD WORDS FOR IT FROM ALL SIDES. —AND REMEMBER IT'S THE ROGERS "ANCHOR" BRAND.

Factories:
Hartford, Conn.
Wallingford, Conn.
Norwich, Conn.
Taunton, Mass.

New York Office:
149 Church Street.

Philadelphia Office:
506 Commerce Street.



MADE ONLY BY US.

**WM. ROGERS
MFG. CO.**

HARTFORD, CONN.

Clocks.

CXXX.

The Latest Form of Gravity Escapement Clocks.



THE later lines of construction of precision clocks with the gravity escapement have a tendency toward a larger and heavier movement. The clock we shall describe has two plates of brass $\frac{5}{32}$ " thick and $6\frac{1}{2}$ " by 10 " in extent. These plates are held apart by four pillars 2.3 " between the shoulders and $\frac{1}{16}$ " in diameter. These pillars are held in place by large flat-headed brass screws placed outside of the plates. The hands which indicate the time are placed on separate arbors, one above the other, as has long been held to be the proper arrangement with astronomical clocks. This arrangement, however, will not prevent any who prefer employing the usual form of dial; even a sweep seconds can readily be arranged. We would, however, advise any of our readers who anticipate constructing such a clock, to retain the form shown in preference to a sweep seconds, which style seems to rather pertain to cheap regulators.

How to Locate the Train

We first draw the central line $z z$, and at 4.5 " from the bottom establish the point x , which represents the position of the center wheel. At $\frac{1}{2}$ " from the lower edge and also from the side edges, we establish the points $y y'$, which locate the positions of the lower pillars. These holes are $\frac{5}{16}$ " in diameter. The position of the great wheel at w is located by drawing the horizontal line v at $3\frac{3}{8}$ " distance from the lower edge of the plate A and then sweeping the arc $u u$ from x as a center, with the dividers set at 2.4 ". Where the arc u intersects the line v is located the center of the main wheel.

The distance 2.4 " represents the combined radii of the pitch circles of the main wheel and center pinion. The pitch and outside diameters of all wheels and pinions will be given in a separate table. At 2.76 " from the point x we locate the point s , which represents the center of the arbor on which the second-hand is placed. The third wheel is located at t ; to determine its position we take 1.64 " in the dividers and, from x as a center, sweep the arc $t' t'$. With our dividers set at 1.54 ", and from s as a center, we sweep the arc $s' s'$. At the intersection of the arcs t and s is located the center of the third or intermediate wheel.

The two upper pillars are situated at $r r'$. To locate these, at 1.55 " from the top edge of the plate A , draw the line $r r'$, and at 1.25 " from the vertical edges of said plate A we center for the pillar holes $r r'$, such holes being the same size ($\frac{5}{16}$) as those at $y y'$. The pillars for clocks of this kind are best made entirely free of all ornamentation, as shown at Fig. 2, where B represents the body of the pillar and $C C$ the large brass

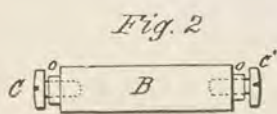


Fig. 2

screws, which should have heads $\frac{1}{2}$ " in diameter. The necks of the pillars should be a little short, say $\frac{1}{80}$ " less than the thickness of the plates, in order that the screw-heads will draw the plates firm to the shoulders of the pillars.

We will now consider the back plate, which is nearly identical with the front one, except that at p we locate the center of the four-legged escape-wheel arbor.

The inner end of the escape-wheel arbor has a pivot which runs in a cock, shown in dotted outline at E , Fig. 3, said figure being a view of the back plate D with the front plate A removed. At Fig. 4 we show a side view of Fig. 3, as if seen in the direction of the arrow $f l$. In this view we again show the cock E , and also the pinion m of the four-legged escape wheel. On the back

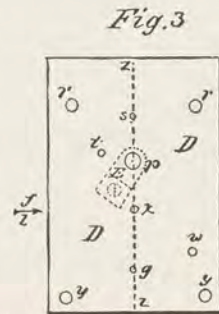


Fig. 3

a bridge, shown at G , said bridge being supported by two pillars 1.1 " long, shown at $F F'$. This bridge is 1 " wide, 6 " long, by $\frac{1}{8}$ " thick, and at the center supports the back pivot of the arbor of the four-legged escape wheel.

The bridge G is attached to the pillars $F F'$ by screws, which are countersunk in G , so as to be only flush with the back surface of said bar. Above the bar G , on the plate D , are placed two more pillars, precisely like F in length and size, one of which is shown at N , Fig. 4, and both at $N N$, Fig. 5. On the pillars $N N$ is placed a bridge, as shown at the dotted outline I , Fig. 5. The bridge I is $2\frac{1}{4}$ " long, $\frac{5}{8}$ " wide, $\frac{1}{8}$ " thick, and is attached to the pillars $N N$ by countersunk screws. The bridge I serves as a support for the arbors on which pendant levers are suspended, which give impulse to the pendulum. All the pillars we have just described are attached at the inner end to the plate D with countersunk screws. We have shown no support for the pendulum, as this is suspended from a cock

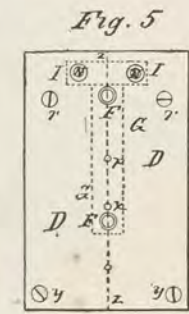


Fig. 5

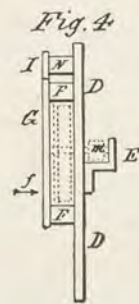


Fig. 4

attached to a heavy iron L-shaped bracket, to be subsequently described.

This clock has no motion work, as the hour and minute wheels are sometimes called. The hour hand is attached to the arbor of a wheel located at g , Fig. 1. On this arbor is placed a wheel which engages an extra wheel on the main-wheel arbor, said wheel being placed back of the main wheel. The train of wheels employed is similar to the one described for the Graham escapement, except they are of larger diameter and have a greater number of teeth. The pinions all have sixteen teeth or leaves. In our next article we shall give the sizes of the several wheels, with their diameters and number of teeth.

[Measurements relating to depths are subject to slight corrections in subsequent articles.—ED.]

A Treatise on Bicycle Repairing.

Such has been the success of the book entitled "Bicycle Repairing," by S. D. V. Burr, and published by David Williams Co., 232-238 William Street, New York, that a fourth edition, revised and enlarged, has just been issued. The book now contains over 200 pages, copiously illustrated, and embodies all up-to-date improvements in bicycles. The methods of repair described are very practical, being such as have been tried and found successful. The volume is the result of experience rather than theory, and will be found invaluable by all bicycle repairers. A copy of the book can be had from THE KEYSTONE office on receipt of the publisher's price, one dollar.

"Fully Insured."

Fires are frequent and inevitable incidents or accidents in a big city, and though they cannot always be avoided, yet there is a way for the business man to protect himself against resulting pecuniary damage. We mean, of course, by his keeping up a full insurance on his stock, and building, too, if he chance to be the owner of it. When a fire does take place what a comfort there is in the sound of those two little words, "fully insured!" And yet how often do we find the victim either with no insurance at all or with only a partial one. Some there are who can afford to be reckless or negligent in the matter of insurance. A merchant of wealth, whose capital in his business amounts to no more than a tithe of his fortune, can carry his own insurance, and there are many who lay aside a certain sum per annum for this purpose and make money by the operation if no fire occurs. If it does, and his building and stock go up in smoke, he can rebuild, restock and go ahead again, without enough regret to prevent him repeating the risk. But all merchants are not so well fixed. Many a one has his all upon his shelves, and this is usually the one who never insures, or, if he has done so, lets it expire, and neglects it until too late to renew it. If any of our readers have been negligent in this matter they should look to it while there is yet time. Not to-morrow, but to-day—to-morrow may be too late. If your insurance policy be dead, resurrect it, for to be without a live policy is the worst sort of policy.

A Novel Business Card.

Copyright applied for.

A NEW PUZZLE.

DIRECTIONS.

Cut out the accompanying figures and place one on each spot in the star; arrange so that the sum of each group of three will be equal.

There are two solutions to this puzzle, but while you are solving it, remember that I keep a complete line of

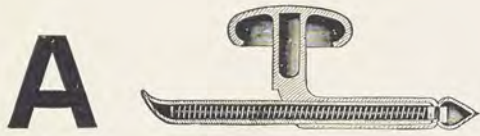
**WATCHES,
CLOCKS,
JEWELRY AND
OPTICAL GOODS**

of the best quality. Your eyes examined free, also your watches.

**F. M. BARNEY,
JEWELER AND OPTICIAN,
Elmcreek, Neb.**

A RESTLESS DETERMINATION to overcome every objection to the spring-back stud has kept us THINKING, and the result of our thought is the production of a NEW SPRING-BACK STUD that fills absolutely every requirement of a shirt stud, thus placing us far in advance of the position we have always held as THE LEADING MANUFACTURERS OF SPRING-BACK STUDS.

DEALERS AND THEIR CUSTOMERS will be quick to see the advantages of our improvements. It's as plain as A, B, C.



A—By placing spring inside of pin or piston (not outside as all others are made) we can make pin twice the usual length and more rigid because of larger diameter.



B—By placing post in center of back makes our stud suitable for any style shirt with either button holes, eyelet holes or a combination of the two without annoyance of working out or fear of loss.



C—By pointing pin at one end and rounding the other end makes stud easy to insert, and gives flush joint when drawing piston, adding support where greatest strength is necessary.

IN SHORT—AS A STEM WIND WATCH IS SUPERIOR TO A KEY WIND SO IS THE NEW LARTER STUD SUPERIOR TO ANY OTHER STUD MADE.

WE WILL PROTECT OURSELVES AND THE DEALERS WHO USE THESE STUDS FROM COMPETITION BY LETTERS-PATENT FOR WHICH WE HAVE APPLIED.

MADE IN 14 K. GOLD IN ONE HUNDRED AND SIXTY DIFFERENT DESIRABLE PATTERNS AND SIZES.

LARTER, ELCOX & CO., 21 AND 23 Maiden Lane, New York.

AZURE TURQUOISES

DO NOT CHANGE COLOR



EVERY AZURE TURQUOISE IS GUARANTEED

and has this ○ trade mark engraved on the back. None genuine without the ring ○ on the reverse side.

Azure turquoises can be procured from any first-class dealer in gems.

If your dealer does not keep them, write to the AZURE MINING CO., 172 Broadway, New York, and they will tell you where to get them.



J. O'NEILL, N.Y.

NATIVE DRILLING TURQUOISES.

The limited supply and great demand for fine turquoises would have placed these gems among the most costly of the precious stones were it not for the fact that turquoises have rarely retained their beautiful color. An experience of seven years has demonstrated that among the products of various turquoise mines, Persian, Egyptian and American, the stones of the Azure Mines have been unique. None of the "Azure" stones has changed color, and it is as safe for a jeweler to sell a turquoise from the Azure Mining Company as it would be to sell a ruby or an emerald. To protect the trade against fraud and to emphasize our "guarantee," we mark every "Azure" turquoise by engraving a ring or circle on the back of the stone. None is genuine without this ring, which is a trade-mark registered in the United States and Europe.



"O wad some power the giftie gie us
To see our ads. as ither see 'em;
It wad frae mony a blunder frae us
And foolish notion."

NO business can succeed without advertising. Advertising is not necessarily printed words in a paper, the distribution of circulars or booklets, the painting of signs or the posting of bills.

Personality, store cleanliness, excellence of service, superior goods, lowness of price, word of mouth; all are methods of publicity that we do not usually include under the synonym of advertising. The best newspaper advertising may fail of permanent success, unless the man and his methods, the store, the goods and the prices back of that advertising are right. Much money is doubtless spent in advertising that only goes to balance bad store management and methods, or personal unpopularity. These are usually the advertisers who assert that "advertising doesn't pay." They never place the responsibility for failure where it belongs, but always call in a third party for blame, like the mysterious sleeping partner of the money lender who always finds the money.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★

As there are times when most men can talk fluently and sometimes brilliantly, so again there are periods when one is unable to express one's self verbally with any degree of lucidness. During these depressed moments the sensible man will appreciate that old adage, "Silence is golden," and remain quiet.

It would be better for many advertisers if they would but follow this rule of the wise man, and never attempt to write an ad. until the "spirit moves them," or never use it until they know it's right.

Here are two illustrations of this failing; this stepping from the excellent to the ineffective in advertising.

The ad. opposite and that shown below were used by the same advertiser. The first ad., in the main, is a plain, natural talk, just such talk as we imagine the optician would use in his store to make a sale, which embodies the kind of advertising that proves most effective in the weekly papers of the smaller towns. The following week the same optician forgot to talk business, endeavored to produce something exceedingly good and catchy, and instead brought forth the following:

WANTED!

**A PAIR OF GLASSES FOR
THE EYES OF THE LAW.**

Smith, the graduate optician, cannot supply them, although I can fit any human eye that needs spectacles. Have done it for hundreds. Can do it for you too.




This sort of work is not confined to country advertising by any means, but is frequent in the cities, and here proves quite expensive for advertisers.

We have in mind a jeweler in a large city who uses a two-inch space in the leading local daily. This space, used judiciously, would pay big returns. In the main it is used properly;—most of this jeweler's advertising being excellent. Here is a sample of his general style:

ALL WE KNOW ABOUT DIAMONDS

The fruit of years of experience and hard study—is embodied in this magnificent stock of ours. All we know is at your service, too. We haven't any trade secrets. We tell you the exact facts about everything you care to ask about and guarantee the weight of every stone we sell.

JOHN BROWN, Importer of
Diamonds,
95 Main Street.

Like many, otherwise good advertisers, this jeweler occasionally strays from the path of excellence. Here is an ad. recently used by him:

.. Wanted .. 1000 White Cats.

Each cat to have printed on each of its sides the following in black letters:

**BUY DIAMONDS OF
JOHN BROWN, IMPORTER,
95 MAIN STREET.**

Imagine how strongly such an ad. as this would appeal to the fine city trade to which he caters. If a good ad. can do any one positive good, upon the same hypothesis a poor ad. can do positive harm. We all have the acquaintance of some dignified, brilliant man, whose learning and mental attainments we greatly admire and respect. Let us meet this man to-day; he converses learnedly, and discourses upon some timely topic in a manner that greatly impresses us as we part. To-morrow we meet him again; he approaches us in an erratic manner, offers to wager that he can stand on his head longer, or shoot more cats in a given time than any man on earth; pours out a string of disconnected talk and conducts himself generally in an erratic and surprising manner. The result is that we immediately lose all confidence in that man; the good opinion his former talk and actions have created are at once swept away by these strange actions. We may meet him the third day and find him the same courteous, intelligent, dignified, sensible gentleman as before, but it doesn't restore him to the position he formerly held in our confidence and esteem. Thus, as one action may ruin a man's character or impair his reputation, so one bad ad. may ruin the effect of all that follow, or all that go before.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★

We have in mind a Missouri jeweler who is fortunate in having two good county papers, both of which take an interest in their advertisers' welfare, and endeavor to give them good display and value received for their advertising expenditures—something the majority of country papers fail to do. Below is an ad. used by this jeweler. In the original the printer has endeavored to give extra good display and overdid the thing. The little cut is almost obliterated by a heavy black border around the entire ad., a border having no connection with the subject; and is further nullified by a smaller border around the entire cut. The cut and the head lines are so far separated that they convey no connection to the mind of the reader. Never allow your printer to make a puzzle of your ad. A few enigma solvers may enjoy it, but to attract the public it must be plain, connected, easily read and readily comprehended. The primary purpose of a cut is to attract attention, and nothing should be used in connection with it that will have a tendency to divert or divide the reader's attention, unless it be something that will carry his mind along the same trend of thought. This ad. should be set with a light face border, or no border, as shown here.

The ring forms an important link in the lives of lovers and sweethearts. Ring selling forms one of the most important features of my business. It is growing bigger and better every day. The reasons—faultless gems, superior settings and lowness of prices.



*Cupid's
Round
The
Ring*

J. W. JONES, JEWELER.

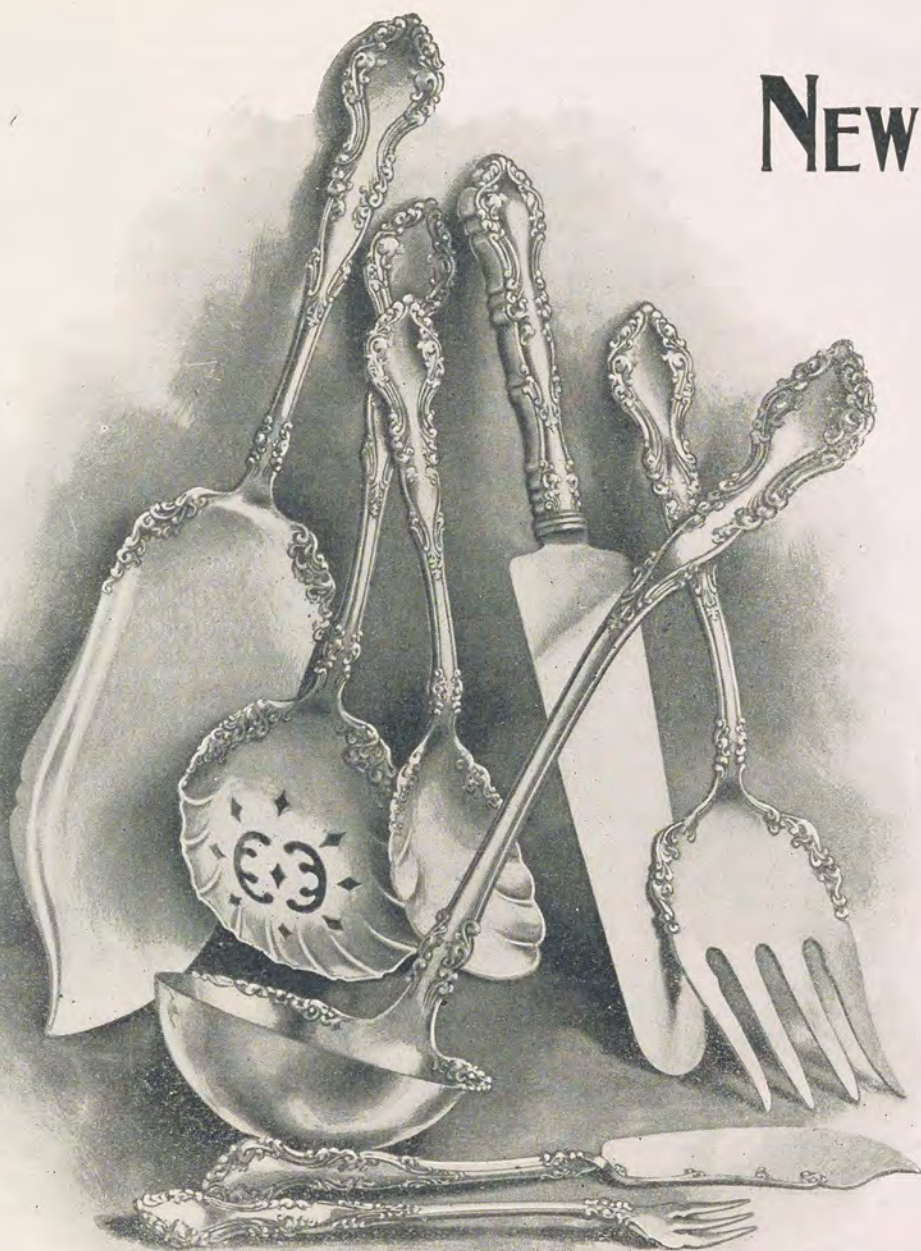
★ ★ ★ ★ ★ ★ ★ ★ ★ ★

Position is an important element in all successful newspaper advertising. People "skim" dailies, therefore an ad. to be most effective must stand forth and force business acquaintance. Users of large newspaper space, such as our great departmental or general stores, need not worry about position, but opticians and jewelers who use limited space, especially in dailies, will do well to insist on good position if they wish maximum returns from their advertising expenditures. In weeklies, position isn't so important. Here one is advertising for country trade principally, and country people read about everything in the local paper, from Lydia Pinkham to editorials. This is an excellent reason why copy for country papers should be more carefully prepared, if anything, than for dailies. The rural element not only read, but they believe and have faith—almost as much in the family paper as they have in the family physician. If they see it in the "hum paper" they argue that it must be true, and they don't discriminate very closely between advertisements and news items.

Beware of Outside Ventures.

Diversified interests means division of time, of capital, of energies; versatility is an admirable trait, but is not as conducive to that substantiality and solidity resulting from intelligent efforts confined to narrower channels. Branch stores are too often a source of annoyance and loss. Outside enterprises are unjustifiable, unless your situation is such as to cause no impairment of capital in your regular business.

THE NEW CENTURY



ROGERS & BROTHER, OF WATERBURY, CONN.,

take pleasure in announcing the introduction of the "NEW CENTURY," feeling assured that the graceful beauty of the design, the excellence of the workmanship, together with the well-known high quality of the old and reliable

STAR ★ BRAND, ★ ROGERS & BRO., A. 1,

will favorably commend it to the trade. A full line of this pattern is now ready for delivery. The prices are the same as other similar patterns.

16 CORTLANDT ST., NEW YORK.



New York Letter.

Trade is steadily improving, there being a material increase last month both in the number of orders received and their average bulk, and also in the number of visiting buyers. It is now certain that this improvement will continue at an accelerated rate, and a voluminous and profitable holiday trade would seem to be assured. The buyers' excursions induced large numbers of retail merchants to visit this city, where they made extensive purchases. These excursions have proved such a success that they will probably become an annual feature. The hotels report an unprecedented number of out-of-town buyers in the city during the past month.

To J. Morley Campbell, an employee of Tiffany & Co., who joined the 71st Regiment and was engaged in the three days' battle around Santiago, his brother employees recently presented a beautiful little gold enameled badge in the form of the Union shield, surmounted by a laurel wreath enclosing the number "71," which is held to the red, white and blue hanging ribbon by a finely modeled and chased eagle. On the pin-bar is inserted in blue enamel, "3d Battalion, Co. B., U. S. V." On the back is the following inscription: "J. Morley Campbell, from his fellow-employees at Tiffany & Co.'s, in recognition of his patriotism and valor."

A richly jeweled sword to cost \$1000 is to be presented to Rear-Admiral Winfield Scott Schley by his fellow members of the Royal Arcanum in New York State.

The first case under the old New York silver stamping law to be tried by a jury came up last month in the Court of General Sessions in this city, and resulted in an acquittal. The defendant, Chas. K. Duschnes, was charged with selling rings marked "sterling" that were not .925 pure silver. They assayed respectively .223, .256 and .250. The evidence for the prosecution was very plain, but the jury, nevertheless, brought in a verdict of acquittal, probably influenced by the fact that various points in dispute were covered by the amended law. A similar case against A. F. Jammes will be tried the first week in October.

The Empire Watch Company has opened an office at 65 Nassau Street.

A. & L. Shiman have engaged in business at 713 Broadway, as manufacturers of jewelry.

H. Moskowitz has opened an office at 65 Nassau Street, as a diamond and pearl-setter.

J. Rauch has engaged in business at 68 Nassau Street, as a refiner and dealer in old gold, silver and diamonds.

Rudolph Schweiger has engaged in business in the Lorsch Building, 37 and 39 Maiden Lane, as a diamond-setter.

At the regular September meeting of the directors of the New York Jewelers' Board of Trade the following firms were elected to membership: Ziruth & Moore, Newark, N. J.; Shafer & Douglas, New York, and George H. Cahoon & Co., Providence, R. I.

John W. Reddall & Co., of Newark, N. J., have opened an office in this city in the Hartford Building, on Union Square West, corner of Seventeenth Street.

A petition, similar to that so extensively signed in this city, has been as freely signed by the Chicago trade urging President McKinley to appoint J. B. Bowden, of J. B. Bowden & Co., an assistant commissioner to the Paris Exposition. A similar petition was freely signed by prominent members of the trade in Philadelphia, Attleboro, Baltimore and other cities.

At the annual meeting last month of the New York Credit Men's Association, O. G. Fessenden, of Hayden W. Wheeler & Co., was elected president.

J. J. Cohn, of 35 Maiden Lane, has issued a handsome lithographed sheet illustrating nine of his productions in leather with sterling silver and gold-plated mountings. The actual color of each article is shown, facilitating the work of selection.

A corporation entitled the Retail Jewelers' Purchasing Agency will begin business in the Jewelers' Exchange Building, at 12 and 14 Maiden Lane, about October 1st, under the management of James P. Ward, lately with the Wendell Manufacturing Company. One of the functions of the concern will be the purchase of goods for its members.

The prices of rough diamonds have advanced recently, and a further advance is predicted by the knowing ones. The advance is attributed by some to a short supply, and by others to the general improvement in the times. Which is correct is not certain, but it is suggestive that there has been a rapid decline in the price of the stock of the De Beers Consolidated Co., which controls the diamond product of the world. A recent issue of *Bradstreet's* said: "For many years past, shares of the De Beers consolidated diamond mines have ranked with the most active speculative securities in the London and Paris stock markets. Of late, however, there has been a marked depreciation in the value of the stock, the decline within a few weeks amounting to 15 to 25 per cent. in its price. There are suspicions, of course, that the decline is a piece of stock-jobbing manipulation, but on the other hand conditions in South Africa generally have been so unsettled that investments in that part of the world may have assumed once more a very dubious aspect. As the De Beers Co. has paid for some years past 40 per cent. to its stockholders, it would seem that something out of the ordinary would be needed to account for the marketing of large blocks of the stock in London, and the rapid decline in its price." Whatever the cause of the advance in the price of rough diamonds, the higher figures are better for the trade, and there need be little fear of scarcity.

Mr. Hardy, of Hardy & Hayes, Pittsburg, Pa., was among the visiting buyers last month. He made his headquarters with W. L. Sexton & Co., 41 Maiden Lane.

The old building at 15 John Street, which has been the home of jewelers for over half a century, has been razed to the ground. A new modern structure will be erected in its place.

I. Katz, who for the past six years has been engaged as a watchmaker in Maiden Lane, has started in business as a retail jeweler, with a store at 6 Maiden Lane and a Brooklyn store at 264 Court Street.

Samuel W. Saxton, president of the Jewelers' and Tradesmen's Company, of 253 Broadway, died last month in Boston, Mass. Mr. Saxton was well known and highly esteemed in the jewelry trade, and was at one time treasurer of the Jewelers' League.

Phil. Bluxom, one of the representatives of S. Goodman Co., New Haven, Conn., was a visitor to this city last month.

F. A. Averbeck, Clarksville, Tenn., has been in this city recently, buying his fall and holiday goods, making his headquarters with the firm of Averbeck & Averbeck, of which he was formerly a partner. Mr. Averbeck stated that business was fair in his locality, despite the fact that the tobacco crop in the neighborhood was not up to the expectation. This section of the country raises a heavy dark leaf, that is sold extensively to the governments of Italy, Spain and other Southern European countries. The tobacco is known as the Rejie brand, and the order of the Italian Government calls for 3000 hogsheads of it. Last year the shipment from this neighborhood was 390,000 hogsheads to European countries. The crops have been rather light for two years, owing to the scarcity of rain, and this shortage is the only thing that clouds the prospects for fine fall trade in that vicinity.

Louis Kaufman & Co., ring manufacturers, 54 Maiden Lane, are now sending a handsome catalogue to the trade. Any dealer can have one on application and mentioning this journal. It will be sent free of charge.

Miss C. Nash, for six years past bookkeeper for J. J. Donnelly, a plater, of this city, was married, August 28th, at the home of her parents, Jersey City Heights, to David Laman. Mr. Laman is connected with one of the downtown banking houses. The couple will make their home at East Orange, N. J. Mr. Donnelly regretted very much the necessity of having to part with Miss Nash, as she was an efficient and experienced clerk.

Leys, Trout & Co., manufacturers of silver novelties, announce that W. G. Andrews, who has recently represented them in the Southern States, is no longer in their employ in any capacity.

H. B. Peters made a tour of the State of Connecticut recently in the interest of his firm. Another expert watchmaker has been added to the staff, who will divide his time between filling material orders for watch parts and the watch repairing that the trade send the firm.

Benedict Bros. had on exhibition last month in the window of their jewelry store, Broadway and Cortlandt Street, a large clock taken from U. S. S. *Merrimac*, previous to the sinking of that boat at the mouth of Santiago harbor by Lieut. Hobson and his comrades.

At the meeting of the nominating committee of the New York Jewelers' Association, held last month, at the rooms 146 Broadway, the following members were nominated to be voted on at the annual meeting: For president, Frederick L. Larter, of Larter, Elcox & Co.; for vice-president, C. G. Alford, of C. G. Alford & Co.; for treasurer, Ludwig Nissen, of Ludwig Nissen & Co.; for directors, George W. Shiebler, of George W. Shiebler & Co.; Henry E. Ide, of H. C. Hardy & Co.; George W. Street, of Geo. O. Street & Sons; John T. Howard, of Howard & Cockshaw; James P. Snow, of Snow & Westcott; David C. Townsend, of Neresheimer & Co.; John N. Taylor, of Kremetz & Co.; William F. Dorflinger, of C. Dorflinger & Sons; Rud. C. Hahn, of Rud. C. Hahn; T. J. Haring, of Dominick & Hafi. The nominating committee consisted of Courtland E. Hastings, chairman; George C. White and William B. Kerr.

Rosenzweig Bros., wholesale importers and material dealers, 52 Maiden Lane, have recently received large invoices of the latest goods on the European market, of optical goods and watch material. Their European agent has recently sent them a large consignment of diamonds and colored precious stones, in which the firm deals largely.

"There is an old saying," says the *New York Sun*, "among diamond dealers that by the volume of the importation of precious stones from abroad the condition of business in this country may be correctly gauged. When times are good the demand for diamonds is large; when times are bad, diamonds, being a luxury, are in less demand and the importation of them declines. Just now there is a largely increased demand for diamonds, and if there be merit in the claim made in the saying quoted, this should be another indication of pervasive good times. The Treasury bulletin recently issued in Washington corroborates distinctly the claim of enlarged importations of diamonds. Here are the figures for two years, the two fiscal years ending July 1, of 1897 and 1898, of diamond importations into the United States: 1897, \$1,985,810; 1898, \$6,955,789. The increase of importations of diamonds is, however, not the only one in the line of 'decorative jewelry,' so to speak. The importations for the two years of other precious stones, rubies, sapphires, emeralds, pearls, opals, etc., are as follows in amount: 1897, \$1,573,788; 1898, \$3,440,076.

The two chief foreign ports from which diamonds are sent to this country are Amsterdam and Antwerp. From Great Britain a considerable amount of jewelry is exported to the United States, but much of it comes from England in transit, particularly from Switzerland, a country having few direct trade relations with the United States. In the fiscal year of 1894, following the depression caused by the financial disturbances of that year, the exports of jewelry to the United States fell off one-half in amount. The exportations of French jewelry fell off two-thirds and from Holland four-fifths, but the losses sustained in the amount of the exports have been more than covered this year, as the treasury figures show. The American port which practically gets all the jewelry, diamonds and precious stones sent into the United States is New York, the importations into other American ports being insignificant in amount, notwithstanding the fact that a considerable share of the country's jewelry business is done in New England, particularly in the city of Providence. The explanation of the matter is that New York is the market of supply for the whole country in jewelry and precious stones, though New York has only part of the trade in diamond and precious stone setting.

"The largest country of export of uncut diamonds to the United States is Holland, and England follows through the development of the diamond interests in Africa. In the importation of jewelry and precious stones other than diamonds, France leads and Holland follows. The variances in the amount of business done in diamonds and precious stones (a trade peculiarly susceptible to trade conditions) is shown in the case of Belgium. In 1894 its total exportations to the United States were to the value of \$74,000 in diamonds, jewelry and precious stones. The year before they were \$210,000, or three times as much. The year after they were \$500,000, or seven times greater."



Size, 14½ x 11 inches.

At the request of the Jobbing Trade we have had made the accompanying handsomely lithographed show card for effectively displaying a line of thimbles.

These cards can be obtained by applying to any leading jobber. If unable to obtain them from such as you are dealing with, communicate with us and we will furnish you with the name of one in your neighborhood that can supply your wants.

STERN BROS. & Co. Factory, 33-43 Gold St., **New York.**
Office, 68 Nassau St.,

CHICAGO, 149 State Street.

To Protect
Our Registered Trade-Mark

★ **H & H**

In view of the fact that certain parties have stooped to copy our trade-mark by stamping the letters **HH** on swivels attached to plated chains, thereby attempting to deceive the Trade, we desire herewith to publish the fact that our trade-mark is **★ H & H**, and that it is stamped not only on the swivel, but also on the last link of each chain. Any infringement of our rights in this connection will be prosecuted to the fullest extent of the law.

Any retailers in doubt as to reliable sources whence to obtain the genuine **★ H & H** Chains will be furnished by us, on application, with a list of jobbers that carry our line.

"Busiest Jewelry Plant in 45 States."

HAMILTON & HAMILTON, JR.

PROVIDENCE, R. I.

NEW YORK:
11 John Street.

CHICAGO:
131 Wabash Avenue.

SAN FRANCISCO:
Claus Spreckels Building.

LONDON OFFICE: 94 Hatton Garden.

St. Louis Letter.

The St. Louis jobbers are enjoying a very fair trade. Likewise our retail houses. Business with the latter is improving right along, and now that the season of our fall festivities is on, things will continue to improve with the retailers. The visiting buyers continue to arrive in satisfactory numbers and from all accounts are buying very well indeed. Our visiting buyers express themselves, one and all, as looking for a very good fall and holiday business. Good crops are certainly assured and there is nothing in sight at present to prevent a steady, satisfactory trade in general. Requirements are growing stronger as the season advances. All doubt as to business improvement during the remainder of the year has been removed. Retail merchants feel so secure in their position that they are already beginning to buy in excess of immediate needs. The tendency of prices is unquestionably toward a higher range. In fact, values have already stiffened perceptibly in some few lines. In addition to the pronounced betterment in general business conditions throughout the country, there is the bright prospect of desirable markets about to be opened in the West Indies and the far East which will materially assist in absorbing our enormous surplus in nearly every line of manufacture.

The great St. Louis Exposition opened September 14th, and will close October 20, 1898. The public will be admitted at 10 A. M., and the Exposition closes at 10.30 P. M. every day except Fair week, when the doors will open at 8 A. M. and close 10.30 P. M. Sousa's Band, which is without a rival, will give four grand concerts daily in the Grand Coliseum. The arena is being arranged as a palm garden, with tropical plants of nearly every variety, rustic seats, arbors, and other conveniences for the public, while the band stand will be erected in the center. There is no extra charge for admission. The crowds in attendance are already larger than any previous season.

The St. Louis fall festivities, which are now on, are of an unusually magnificent order this season, and as the country is in a prosperous condition and the railroads are making special rates, there already has been an immense influx of visitors, but we are expecting the real crowds during the first two weeks of October. They will be of the "bumper" order, too.

It pays to trade in St. Louis.

The number of jewelers who find it pays to buy their supplies in St. Louis increases every season.

The Southern and Western merchants have been coming to St. Louis to buy their fall goods in great shape the past two months. Large numbers have been here and they have been received with open arms.

A thousand merchants from Old Mexico are expected to visit St. Louis during the first week of October. The work of our Latin-American Club is destined to result in great benefit to St. Louis trade, and it deserves the hearty co-operation of all our business men.

The jewelry trade here are almost without exception in favor of retaining the Philippines. So are all our people. The peace commission will hardly risk the popular disfavor of the people by surrendering control of the islands.

The people are still fighting the express companies on the question of the stamp tax, and proceedings have been commenced in various states to decide who will pay the tax. The fight will be kept up until the United States Supreme Court decides who is the proper party to affix the stamp.

We see that by a recent enactment of the Massachusetts Legislature the trading stamp business has become illegal. This is right and we are glad to see it. So long as only one concern was engaged in it, the only stamp business was cordially welcomed by those merchants (one in each of a trade in a town) who became subscribers to the scheme. Soon, however, other concerns entered the field, each working along the same lines, with the result that nearly every merchant in each town gave trading stamps to their customers. Of course this placed all merchants on the same footing as before adopting the plan, with the exception that all were making from five to ten per cent. less profit than before. Now they welcome the new law, which restores their trade to a normal condition. The very men who first adopted the system were the first to discover its disadvantages and to disparage a continuance of the plan.

One has only to glance over the foreign papers—especially those published in England, Germany, Russia, France and Japan—to see how thoroughly Dewey and Schley succeeded in advertising the United States abroad. The growing greatness of this country has been so indelibly impressed upon the minds of foreigners that not even time can efface it. If Uncle Sam paid only \$150,000,000 for

war expenses, as estimated, he got the cheapest lot of advertising space that has ever been sold.

The war being ended, it behooves the American manufacturer to settle down peacefully and map out plans for an earnest attack upon our newly acquired possessions. The demand for goods in Cuba and Porto Rico is there. While the Government will aid the American manufacturers in the way of tariff, it can't do the business for them. He must take advantage of conditions and work for the introduction of his goods.

It seems like they have money to burn in Kansas. State bank examiner Breidenthal, at Topeka, declares that his office is flooded with letters from Kansas bankers complaining that their vaults are full of money, and that there is no opportunity for loaning it. He is advising the people who have big deposits in the banks to buy farm mortgages and notes of Eastern investors, and thus get the money into circulation. Recently a banker in a town of 400 inhabitants wrote to Mr. Breidenthal that his bank had \$100,000 in deposits, that he had only \$25,000 loaned out, and that cash and sight exchange amounted to \$82,000.

Comparatively little wheat is being marketed in St. Louis territory as yet, as producers are holding for better prices. This is pretty good evidence that there is no pressing need for money. Farmers wisely figure that a few stacks or a few bins of wheat, at present prices, is a better form of wealth than idle money in the bank, even if they find it necessary to hold the wheat a few months. What is true of Missouri and Kansas in this respect is also true of most of the other country in this territory.

Otto Steiner, of the Steiner Jewelry Co., retail, at 3621 North Broadway, attended the grand army national encampment at Cincinnati the early part of last month.

Geo. R. Stumpf, the Franklin Avenue retailer, spent the first week of last month doing the Omaha Exposition. George says it's a big show, a fine exposition, and well worth anybody's time to make the trip to see.

Morris Eisenstadt, of the Eisenstadt Co., expresses his views of the future by saying: "We are looking for a large late fall and holiday trade, and have prepared ourselves accordingly. Our early fall business has proved quite satisfactory, in fact better than we had anticipated. We are pleased with the prospects ahead of us."

John E. Walker, retail, 1141 Olive Street, will remove further up the same street near Thirteenth Street.

The Bauman-Massa Co., had all their traveling force out the past month. They report a good, fair business from the country trade keeping up well for this season of the year.

Geo. J. Allston, of Tuskaalosa, Ala., was a trade visitor here early in September.

Will Derleth, of East St. Louis, has recently removed to Centralia, Ill., where he has opened up in the jewelry business under the firm name of Derleth & Co.

Fred. V. Kennon, of the John T. Mauran Manufacturing Co., Providence, was here last month with his wide-awake smile and prophesying a good fall business in fine jewelry.

T. B. Ramey, of Tyler, Tex., was here on a purchasing trip last month.

Morris Bauman, of the L. Bauman Co., left town the middle of last month for an extended trip through the far West in the interests of his house.

E. D. Mathews, of Baldwin, Miss., was a trade visitor here recently.

J. L. Nichols, the well-known jeweler of Trenton, Mo., was a welcome trade visitor here recently.

Ed. Buder, of Buder Bros., Columbus, Miss., was married at his home town September 7th, and came direct to St. Louis with his bride. The young couple spent several days in town taking in the sights of the Missouri metropolis.

T. P. Richards, Jr., of Richards & Henninger, Columbia, Mo., was a buyer in the local market the early part of September.

S. Cook, of Cook Brothers, Helena, Ark., was a recent trade visitor in this market.

A. J. Wiperman, of Rock Springs, Wyoming, was a welcome trade visitor and liberal buyer in this market the early part of last month.

Miss Bertha F. Koch, for several years with Oskamp, Nolting & Co., Cincinnati, as saleslady and buyer, is now connected with the L. Bauman Co., in their sales department.

A new and important territory has just been opened up to St. Louis in the completion of the St. Louis and San Francisco Railroad to Oklahoma City. A grand, free street fair will be held at Oklahoma City, October 10th to 15th, to celebrate the completion of the branch road and a large

delegation of St. Louis merchants expect to attend. The new railroad runs from Sapulpa, I. T., to Oklahoma City, and gives St. Louis an air line to the latter place. It also considerably shortens the distance to Guthrie and Elreno. The St. Louis Traffic Bureau and the Merchants' Exchange made a hard fight to have the line built and were finally successful. Freight to Oklahoma City, Guthrie and Elreno heretofore had to be sent by way of Beaumont and Arkansas City, but the new line is nearly 200 miles shorter to these points. The opening of this road is of the utmost importance to St. Louis merchants, as it enables them to reach a large extent of territory from which they hitherto have been shut out. The territory is not only one of the most prosperous sections of the Southwest, but is also developing into one of the finest wheat growing districts in the country.

House trade continues good with the St. Louis Clock & Silverware Co., and their traveling salesmen are rounding-up some good orders out on the road. The distribution of the firm's Fall Bulletin last month has been the means of bringing them some nice business by mail. The dealers seem to have caught on to the fact that the Bulletin offers some particularly good bargains and trade catching new lines.

"Enclosed find one dollar for The Keystone. For a jeweler to be without The Keystone would be as a minister of the Gospel to be without the Bible."—R. J. Thierstein, jeweler, Winona, Minn.

Power of a Home-spent Dollar.

Just a little dollar on its mission sent, makes a lot of people glad each time the coin is spent. You pay it to the butcher for meat to give you strength, he pays it to the grocer from whom it goes at length, some pretty bit of cloth or lace his better half to buy, or helps to get her summer hat to make her rival sigh. The dry goods man sends on the coin to pay his market bill and though the coin is often spent it stays a dollar still, and every time 'tis spent at home, some act of good is done in booming local industries, ere setting of the sun. But if you take that shining coin and break the local chain, the chances are that from afar 'twill not return again. If once it passes out of town, the butcher and the baker, the grocer and the dry goods man, the cook, the undertaker, the carpenter, the carriage-wright, the blacksmith, everyone, will lose the chance to touch the coin ere setting of the sun. Just keep the little coin at home, just keep it moving well, and every time it changes hands somebody's goods 'twill sell. That single little dollar has thus a wondrous power to make somebody better a dozen times an hour. It pays the bill and wards off ill, and ne'er its power relaxes, to soothe the doctor, buy the coal, and pay for bread and taxes. —Ex.

How to Secure Customers and How To Keep Them.

The main desire of every storekeeper is to secure customers, for without these his store would be of little use. That being admitted, what, then, is the surest way to obtain his end? A knowledge of human nature will enable you to answer this question for yourself. The world at large wants to be well treated. All people expect, nay, they insist upon getting a little politeness with each and every purchase. As politeness is one of the cheapest things on the market there should be no serious objection to humoring the people in their expectation. Let them have it and all they want of it. But be careful; don't be over-lavish, for no man wants too much, even of a good thing. Again, a caller may ask for goods which you haven't on your shelves; and now comes your chance for a bit of politic courtesy. Even if what the caller asks for should be a little outside of your line show no miff, but in a pleasant manner tell him where the goods can be had, or, better still, offer to obtain them for him. Such a course may cause you a little inconvenience and no pecuniary profit, and your caller knows it; but the chances are a hundred to nothing that this little well-timed courtesy has secured you at least one customer. You have gone out of your way to accommodate him and he is not likely to forget it. Another method of securing and holding your customers is the avoidance of anything that savors of misrepresentation. Steer clear of that as you would of the "plague," for it is rather sure to plague the house that follows it. Fill your advertisements, if you like, with promises, but when your patrons come be prepared to carry out every promise to the letter. You thus establish their confidence, and that is half the battle, if not the whole of it.

Diamond-Set Cases

OUR LINE IS MOST COMPLETE. Our prices are low.
Our service the best.

WARRANTED 10 K., U. S. ASSAY.



A 81. 10 K. solid gold, 9 brilliant-cut rose diamonds, \$13.50.



A 82. 10 K. solid gold, 5 fine rose diamonds, \$13.50.



A 83. 10 K. solid gold, with 9 brilliant rose cut diamonds, \$13.50.



A 84. 10 K. solid gold, with 7 genuine rose cut diamonds and 2 rubies, \$13.50.



A 85. 5 brilliant rose diamonds, 13 rubies and 5 sapphires, \$18.50.

WARRANTED 14 K., U. S. ASSAY.



A 91. 14 K. solid gold, with 1 fine white brilliant, \$16.75.



A 92. 14 K. solid gold, with 8 fine white brilliants, \$30.00.



A 94. 14 K. solid gold, with 9 fine brilliant diamonds, \$35.00.



A 96. 14 K. solid gold, with 15 fine white diamonds, \$92.00.



A 98. 15 white brilliant cut diamonds, 21 extra oriental rubies, and 9 beautiful sapphires, \$55.00.

A 93. Same as A 92, with 5 brilliants, \$26.00.

A 95. Same as A 94, with 6 fine white brilliants, \$27.00.

A 97. Same as A 96, with 7 fine white brilliants, \$35.00.

We have Diamond-Set Cases from **\$12.50** up.



Diamonds

I'll be pleased at any time to send you an assortment of DIAMONDS on approval, from which to make selections. Choose those you want and keep them and return the balance. The assortment will be varied and choice. The prices will be under the market every time. WRITE FOR AN ASSORTMENT TO-DAY—ANY DAY.

We carry all makes of
Movements and Cases.

Orders for Keystone Cases illustrated in this issue, filled same day as received.

Wm. S. Rose & Co.

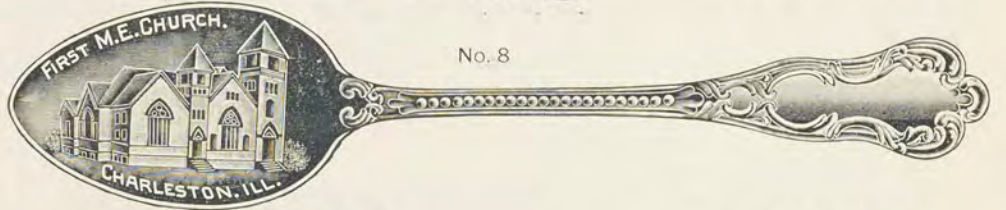
19 Maiden Lane, New York



No. 6



No. 7



No. 8

TERMS

3 per cent. 10 days; 30 days, net.

All goods shipped
F. O. B. Providence.

PRICE-LIST:

Plain Gold Bowls,	\$6.00 dozen.
Any Name Engraved in Gold Bowls,	7.50 "
Any Building Engraved in Gold Bowls,	10.00 "
Any Name Etched in Plain Bowls,	6.75 "
Any Building Etched in Plain Bowls,	10.00 "
Any Name Etched on Handles,	6.75 "
Any Buildings Etched in Bowls, with any name Etched on Handles,	12.00 "

STERLING SILVER.

$\frac{925}{1000}$ fine.

Portraits, Monuments, Boats, Landscapes,
Bridges and Special Designs,
all cost the same as Buildings.

Simmons & Paye, "The Souvenir House," 129 Eddy Street, Providence, R. I.

CLOCKS

Our Clock Department has been greatly enlarged, and is stocked with a complete line of the latest foreign and domestic novelties.



WHOLESALE JEWELERS

157 Jefferson Ave., Detroit, Michigan

Kansas City, Missouri.

30 PEOPLE IN OUR CASTE.
HERE TO STAY.

Kansas City, Missouri.

30 PEOPLE IN OUR CASTE.
HERE TO STAY.

MEYER JEWELRY CO.,
1016-1018 MAIN STREET,
MANUFACTURING JEWELERS,
WATCHMAKERS, ENGRAVERS
AND
DIAMOND SETTERS.
ALSO IMPORTERS OF DIAMONDS AND A COMPLETE
LINE OF JEWELERS' SUPPLIES.

Kansas City, Missouri.
30 PEOPLE IN OUR CASTE.
HERE TO STAY.

Kansas City, Missouri.

30 PEOPLE IN OUR CASTE.
HERE TO STAY.

Christmas is Coming

In order to display your FALL and CHRISTMAS goods to best advantage, you should use the SILENT SALESMAN cases. Place your order early. Don't wait until the season is half over.

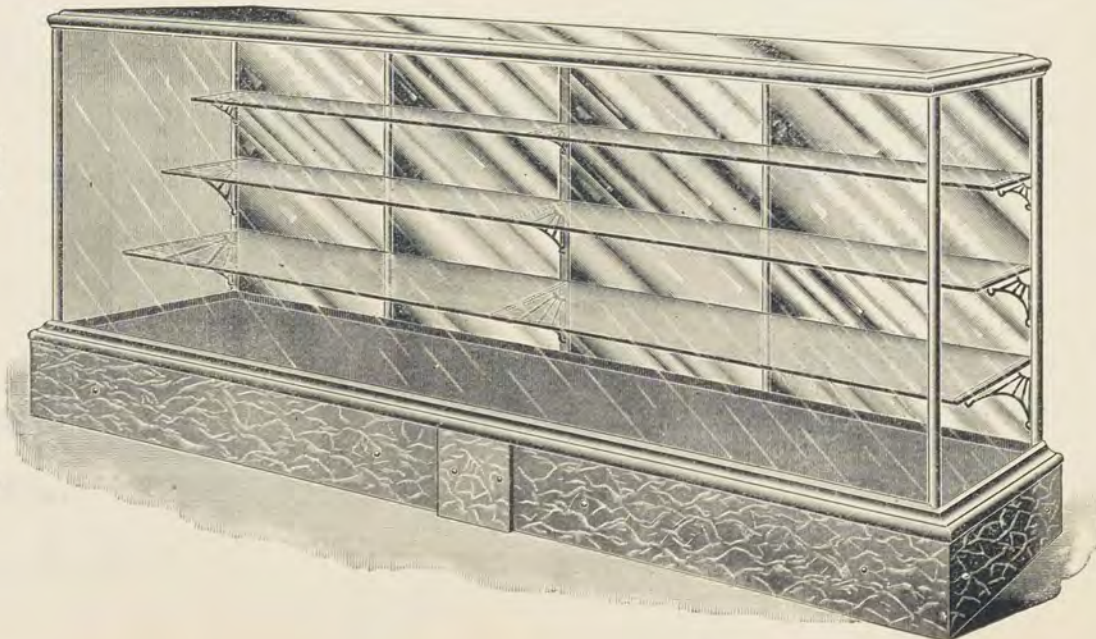
CATALOGUE AND PRICES SENT FREE.

John Phillips & Co., Ltd.,
Detroit, Mich.

Manufacturers of

The *Silent Salesman* Show Cases,
TRADE MARK

JEWELERS' FIXTURES, Etc.



NEW LINE

In addition to our regular Chain product, which includes all kinds of

Gents' and Ladies' Chains, Chain Bracelets, Etc.

Also

Locket and Seals

in gold and gold filled,
we have just finished a complete line of

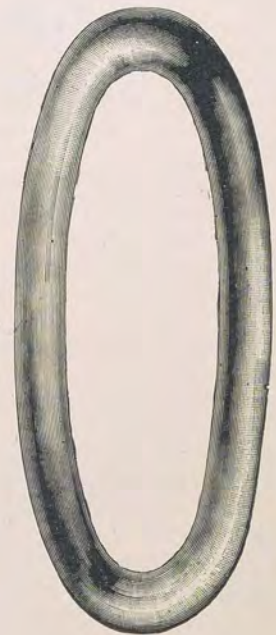


Ladies' Bangles or



Hoop Bracelets

made in sterling silver and gold filled,
in both the round and oval shapes.



FOR SALE BY ALL LEADING JOBBERS.

R. F. SIMMONS & CO.

New York Salesrooms,
41 AND 43 Maiden Lane.

Factory AND
Main Office, Attleboro, Mass.

Cleveland and Northern Ohio.

Trade is flourishing and there is every prospect that the fall business will exceed that of any previous year. There is a marked call for high-priced goods, especially diamonds. All the jobbers report a splendid business so far, and the travelers for the various houses are enthusiastic over the results of their first trips. In some parts of the country the immense crops of cereals tend to stimulate retail trade, but in this region, outside of grapes, cereals and fruits are minor factors in determining trade. Iron ore and its finished products are the great factors. Now at this time steel is booming, and as a result business is improving.

For several years past the Cleveland Chamber of Commerce have been instrumental in securing reduced railroad rates during August to stimulate trade and with good results for the wholesale houses. It is hoped that each year will see more and more of this, in order that this town may become more of a distributing center.

Captain R. E. Burdick has resigned his commission and in a few days will sail for Europe. A hurried trip to Amsterdam, Paris and Antwerp is projected. The captain gave as his reason for leaving the service his belief that his duty to country had been served, and now business should attract his attention.

Lieutenant Harvey Mansfield, with the Cowell & Hubbard Co., is now on a thirty-day furlough, after which his regiment will be mustered out.

Gilbert Sigler, of Sigler Bros. Co., has just returned from a trip up the lakes and looks much benefited by the outing.

C. A. Selzer, of C. A. Selzer & Co., fine china, silver and cut-glass dealers, has been in the East the past few weeks buying goods for the fall trade.

Harry L. Adams, manager of the stationery department of the Cowell & Hubbard Co., received a painful injury about the first of the month by falling down a stairway in the Colonial Arcade. Mr. Adams is now able to attend to business.

The Bowler & Burdick Co. have added a choice line of cut-glass to their stock.

H. L. De Zeng, patentee of the De Zeng refractometer, will be in this city the last of the month and will deliver a course of lectures at the Hollenden Hotel. These lectures will be given under the patronage of the Grant Whittlesey Optical Co., and all the trade are invited to hear Mr. De Zeng and inspect his instrument.

J. G. Krebs, watchmaker, has accepted a position with Chas. Stein, Ontario Street.

Ed. Sprosty, formerly with the Home Security Co., has entered into partnership with Mr. Babin under the firm name of Sprosty & Babin, corner Ontario and High Streets.

A. Romalia, who for the past six months has been engaged in rural pursuits, has returned to this city and is now at his old stand with Sigler Bros. Co. as watchmaker and engraver.

Adolph Nunvar, one of the soldier boys from our local stores, has returned and, as soon as mustered out, will resume his old position.

A large street thermometer has recently been erected by the Grant Whittlesey Optical Co. in front of their place of business.

J. H. Danforth, secretary and treasurer of the Cowell & Hubbard Co., was one of a genial party to go up the lakes about the first of the month.

L. A. Austin, Grandville, Ohio, has been appointed postmaster of his town by the President. Mr. Austin offers his jewelry business for sale.

Jas. Iredale, Port Clinton, Ohio, was in town last month, on his way home from Indianapolis, where he attended the Knights of Pythias convention. Mr. Iredale is a well-known knight in the order.

C. J. Duncan, Massillon, Ohio, was in town last month, combining business with a wedding tour. Mr. Duncan recently married a Miss Erma Gibbs, of Canton, Ohio. THE KEYSTONE extends congratulations.

Dan J. Murray, Akron, Ohio, spent part of last month at Cincinnati, attending the G. A. R. encampment.

J. A. Zang, Alliance, Ohio, was in the East last month, buying for the coming season.

G. F. Schmermund, Greenville, Ohio, was in New York last month, looking over the different lines in the jobbing houses.

L. J. Goddard, Ravenna, Ohio, is another jeweler who took advantage of the special railroad rates and inspected the Eastern stock.

J. O. McClintock, Chagrin Falls, has moved into a new store room, and, with some new fixtures, has a strictly up-to-date store.

Mr. Knight, with J. M. Martin, Crestline, Ohio, was a recent buyer in the jobbing houses.

E. H. Holter, Oberlin, Ohio, spent the past month at the seashore and other Eastern resorts. He returned much improved in health.

J. W. Helfrich, Carrollton, Ohio, was a buyer in our local markets last month.

Walter Deuble, Canton, Ohio, was in town recently. He reports everything moving along nicely in his town.

Other buyers were C. R. Bickford and Mrs. E. E. Critz, Elyria, Ohio; Davis & Ewing, Kent, Ohio; Will Fisher, Lorain, Ohio; Mr. Lowry, East Palestine, Ohio; Ed. Nolf, Wadsworth, Ohio; L. J. Gilger, Norwalk, Ohio.

"Please find enclosed one dollar, for my subscription to The Keystone for another year. I would not lose a copy for the price of subscription."—W. P. Myers, optician, Derry Depot, N. H.

Good Business Rules.

The president of the London Chamber of Commerce, says *Printers' Ink*, recommends these twelve maxims, which he has tested through years of business experience:

1. Have a definite aim.
2. Go straight for it.
3. Master all details.
4. Always know more than you are expected to know.
5. Remember that difficulties are only made to overcome.
6. That failures are stepping-stones to further effort.
7. Never put your hand out farther than you can draw it back.
8. At times be bold; always prudent.
9. The minority often beats the majority in the end.
10. Make good use of other men's brains.
11. Listen well; answer cautiously; decide promptly.
12. Preserve, by all means in your power, "a sound mind in a sound body."

Misrepresentation.

"No pleasure is comparable to the standing upon the vantage ground of truth." One of the many errors to which merchants are prone is that of misrepresentation, both in talking with customers in the store and in newspaper advertising. The habit is contracted so gradually that they are often unaware to what great lengths they finally go in making unwarrantedly exaggerated statements about qualities of goods and the cheapness in prices, much the same as when people are afflicted with some disease the victims do not know how far it has progressed until it is found incurable and has attacked the vital organs. Long continued misrepresentation ultimately acts upon the merchant's reputation as disease upon the body; a mercantile decay sets in, which it is found difficult to arrest, and its final stages may lead to consequences similar to that of physical dissolution. Disease may not always lead to death, however, if remedies are applied before serious symptoms appear; thus if a merchant is capable of sufficient self-analysis and understanding of the wrong he is doing both himself and his patrons by misrepresentation, he can stop and change his tactics, regain confidence which is lost and employ more business-like and straightforward methods.

The prevarication which does so much harm is usually begun in advertisements, as it is easier to be untruthful in writing than when speaking to some one who is watching facial expression in a way which is very apt to detect falsehood. But it is not very far from writing untruths to speaking them, and practice is as inclined to make perfection in this particular as in others. Of misrepresentation, too, the same thing may be said as of murder, that it "will out." People may be influenced to come to the store by means of erroneous statements, but no amount of persuasion will tempt them to buy if the goods are not what they were represented to be in the advertisement. What avail or advantage is it to a merchant to fill his store with a crowd of disappointed and exasperated people who likely enough buy but little more than the ordinary number obtained by legitimate means, when finally such methods arouse both suspicion and contempt and have the opposite effect from that intended? If a merchant wants to increase custom and conduct his sales with great eclat, let it be by honorable means. There are plenty of these to be found if mind and body are exerted to ascertain them.

FALL BULLETIN OF SOLID GOLD CASES



On page 674, of September KEYSTONE, we enumerated the great variety of weights and styles of KEYSTONE Solid Gold cases now ready for regular stock. These include everything in the solid gold case line that jewelers require for fall and holiday trade.

We are now on the threshold of the greatest solid gold selling season in years, and trade requirements in this line will be correspondingly great. Besides, the purchasing capability of the people is such that the best solid gold cases will be most in demand.

KEYSTONE Solid Gold means


14 K. GOLD THROUGHOUT, with such a liberality of material as makes a strong and firm as well as a rich-looking case.

HAND-MADE, and such perfection in constructive detail as only the skilled human hand, trained head and critical eye make possible.

HAND-ENGRAVED by the best procurable engraving talent.

AN ALL-AROUND SUPERIORITY in shape, ornamentation and finish—small crowns, springs, etc.—every minor detail that would emphasize elegance and round out the beauty of the case.

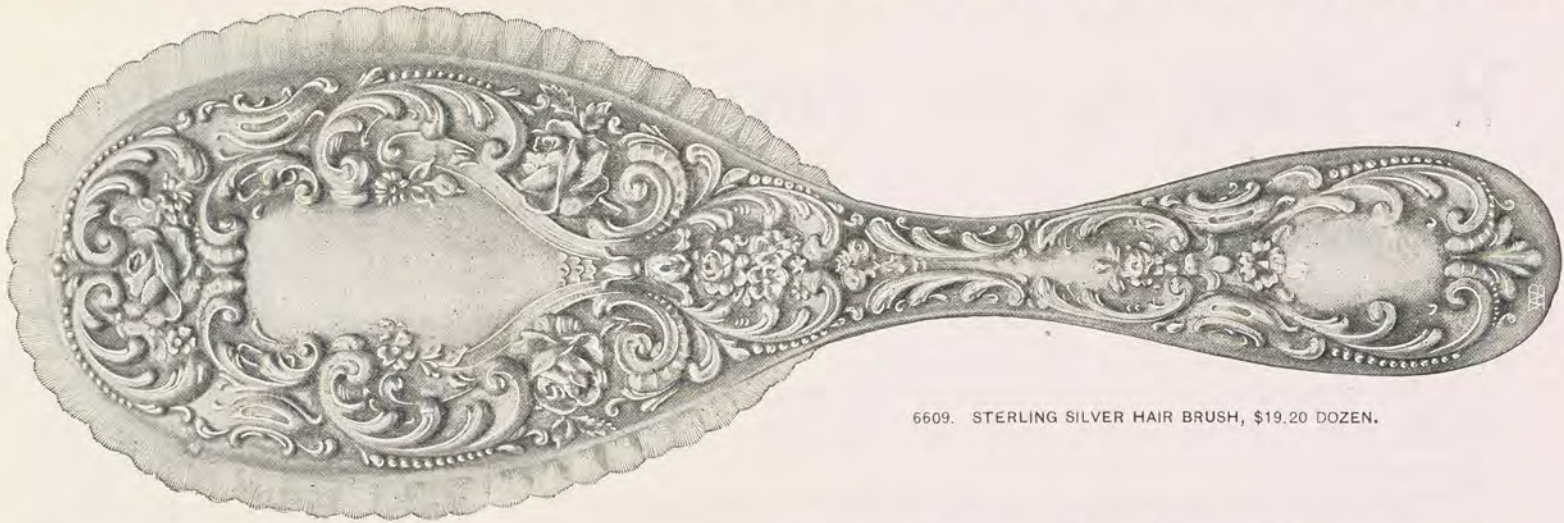
Beware of the bargain semblances of solid gold cases now on the market—flimsy, dentable things that will in a short time disgust the buyer and hurt the seller. Tie to the **KEYSTONE Solids**. They are as good for your reputation as your bank account.

Every **KEYSTONE Solid Gold** case has this trade-mark  stamped in it.

KEYSTONE WATCH CASE CO.

19th & Brown Streets,
Philadelphia, Pa.

COMPARE THESE PRICES AND SEND US YOUR ORDERS. ⁷⁸⁹



6609. STERLING SILVER HAIR BRUSH, \$19.20 DOZEN.



6408. STERLING SILVER COMB, \$4.80 DOZEN.



6475. STERLING SILVER MATCH BOX, \$9.60 DOZEN.

CROSS & BEGUELIN,

(A CORPORATION)

IMPORTERS OF DIAMONDS.

Manufacturers and Jobbers of Jewelry.

Headquarters for Sterling Silver Novelties.

Write for Illustrated Catalogue.

17 MAIDEN LANE, NEW YORK.



6610. STERLING SILVER KNIFE, \$3.20 DOZEN.

PRICES SUBJECT TO CASH DISCOUNT ONLY.

Rich American Cut Glass

OUR SPECIALTY:

VELVET-POLISHED GLASS

The lowest-priced Cut Glass for fine finished goods. Are second to none.

Our NEW PATTERNS are meeting with great success. Send for a \$50.00, \$75.00 or \$100.00 assortment.

We issue no Catalogue, as our goods are sold very close—direct from the maker to the seller.

Standard Cut Glass Co.

Manufacturers of
Rich American Cut Glass.

FACTORY AND SALESROOM,
545, 547 & 549 West Twenty-Second St., New York.

We Can Serve You Well

We can supply everything needed in a well-equipped jewelry store. We furnish complete stocks for new stores quickly and in a manner that makes the buyer a permanent customer. Every department of our unequaled establishment is now stocked with fresh new goods ready for immediate delivery. The **WATCH, JEWELRY** and **CLOCK** lines are specially strong both in novelties and staples.

We earnestly invite every Jeweler who may visit the Chicago market to call and inspect our large stock and splendid store. Take our word for it, you will not regret any time spent in looking us through.

We issue two catalogues—one for **Tools and Material** and one for **Watches, Diamonds, Jewelry, Silverware, Clocks and Novelties**. Our large and complete Material Catalogue was sent out to the trade last spring. If you have not received one as yet, write us and we will be pleased to send it to you.

Our new Jewelry Catalogue for the season of 1898-99—a large, handsome and complete Jewelers hand-book—will be sent out to the trade about October 20th. Should you not receive a copy of this valuable catalogue by October 28th, write us a request and we will be pleased to send it to you free of charge.

BENJ. ALLEN & Co.

The Silversmiths' Building,

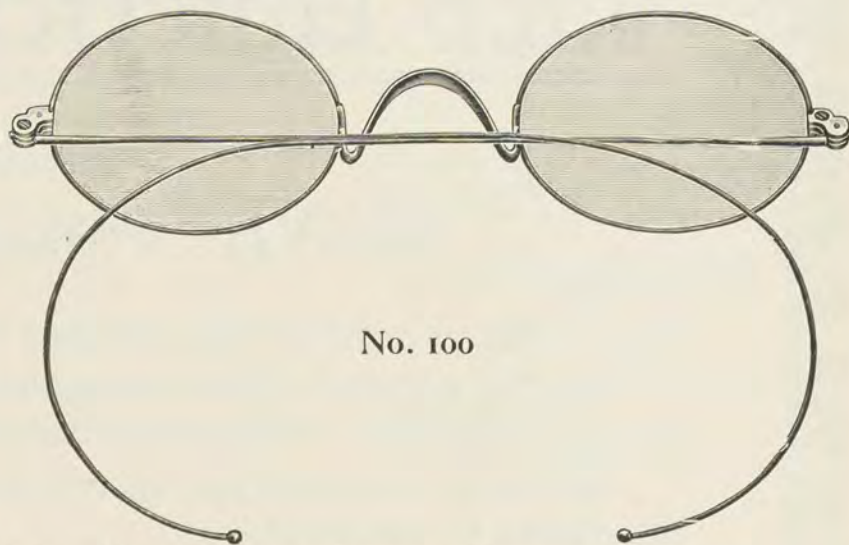
131-137 Wabash Ave., CHICAGO.

THE B. A. & CO. GOLD FILLED SPECTACLES

All Frames have the letter **A** stamped in bridge.



Fac-simile of Guarantee Tag that accompanies each Spectacle.



All have the Double Screw End Piece.

No. 100.	Gold Filled Frames,	Riding Bow,	per dozen,	\$12.00
" 101.	" " "	Straight Temple,	" " "	14.00
" 102.	" " "	Cable	" " "	18.00

Add \$2.00 Per Dozen if Lenses are Desired.

Prices Subject to Our Jewelry Catalogue Discounts.

SPECIAL ATTENTION GIVEN TO PRESCRIPTION WORK.

BENJ. ALLEN & Co.,

WHOLESALE JEWELERS AND OPTICIANS,

The Silversmiths' Building, 131 to 137 Wabash Ave., CHICAGO



WESTERN BUREAU OF THE KEYSTONE,
ROOM 311, COLUMBUS MEMORIAL BUILDING.

CHICAGO, September 24, 1898.

September is making a good record for herself in the jewelry trade. Many buyers, representing Western and Northwestern retail jewelry firms, have been here. Their presence has had a wholesome effect on the jobbing trade. The month will surely make a showing beyond the estimates that were made for it. The cause for it is the encouraging condition of the retail trade. Retail dealers from all sections unite in saying that the prospects hardly could be better. Road salesmen are having something like an old-time trade. It's about as a bright young traveler said to the writer the other day, when asked, "How's trade?" "Good," said he; "the jewelers are glad to see us now, and most of us boys are enjoying a good trade these times." The indications for a good fall and holiday business continue very promising, and it is conceded that we have entered upon an era of prosperity more substantial and permanent than we have witnessed for some time. Everybody who has observed the business conditions in the West predicts an era of great prosperity for this section, and undoubtedly there are the most valid reasons and evidence for this conclusion. Conditions in the Chicago market are most favorable for one of the biggest fall trades in her history. To date, the business done by the more staple lines, like dry goods and clothing, has been in excess of any previous year. The boom in the jewelry lines will surely come later on.

General Business Situation The situation in the iron and steel industry has been long considered a trade barometer, correctly indicating the condition of business. We have several times mentioned this fact. There is hardly any form of industry in which iron or steel is not necessary, and a demand for these materials is always argued to show a state of general business activity. The latest reports from the great iron and steel manufacturing centers indicate an enormous demand for finished products. The more prominent manufacturers are crowded with orders for months ahead, and business for delivery during the near-by months is being refused, because they are utterly unable to make any more deliveries than they already have under contract. Among orders being placed are some large ones for plates for shipbuilding and for rails for railroad use, while some large business in the way of iron pipes is being done, or the orders will shortly be placed. The demand for iron for building purposes is falling off with the close of the season, but this is more than made good in other directions.

The wheat market has been somewhat strengthened by a strong cash demand for wheat, both millers and exporters being free buyers. Wheat is coming forward freely, and the export movement, which has been small, is increasing. The latest foreign crop reports indicate a considerable deficit, but not sufficient to require all of the probable surplus in this country. The corn market has been weak and the movement light. The government crop report indicates an average condition ahead of last year, but

in three of the principal corn producing States—Kansas, Nebraska and Iowa—a serious falling off is shown from a month ago, due to too low temperature and too much rain. Reports from the South indicate a large yield of cotton, and with a restricted demand both home and abroad, prices have had a lower tendency, though quotations are nominally unchanged. The export movement for the past year, as the figures are finally compiled, shows the business done to have been enormous, and the increase in sales was so great as to care for the extra large yield of last year.

Business Revival One of the most remarkable features of the general business and industrial revival, which is unquestionably in progress throughout all parts of the country, may be found in the astonishing increase of railroad traffic within the past year. A goodly portion of this increase is due to the unusually large movement of grain to foreign markets; but entirely eliminating the grain business from the calculation, the remaining traffic, including shipments of merchandise, lumber and coal, etc., still shows an increase little short of the phenomenal. For instance, the East-bound freight traffic from Chicago for the six months last past footed up 2,122,449 tons, against 1,753,883 tons last year, and 1,872,000 tons in 1896. During the same period the grain traffic at Chicago largely exceeded all previous records. The receipts were 143,700 cars, or 53,000 more than in the same six months of 1897, and 34,000 and 65,000 cars more than in 1896 and 1895 respectively. Live stock also made a good, though not a striking, exhibit for the period in question, the figures being 136,000 cars received, against 133,000 cars in 1897. When it is remembered that the Chicago traffic is little, if at all, affected by the war movement, this showing may be accepted as extremely significant and satisfactory. Nothing more accurately reflects the business movements of the country than the traffic of railroads, and upon this basis there is every evidence of general business resumption and industrial activity.

Prosperity in the Northwest A Chicago banker recently returned from Northern Minnesota and North Dakota much impressed with prosperous aspect of the country. He said the farmers were well satisfied with their wheat crop, which was of good quality and of high yield, and that they seemed in no hurry to get it to market. As an indication of the change that has taken place, he was told that in localities where banks had been getting twelve per cent. for money, the farmers were loaning it among themselves at six per cent., presumably the proceeds of the sale of last year's crop. Purchases of farming implements are very general, and this is usually taken as an indication of improved conditions with the farming classes. Everywhere new harvesters and thrashing machines were seen and often trainloads of them. At Fargo the Pacific road has received over 400 carloads of new implements, and other roads have had large shipments from the manufacturing districts. The demand for land, which is another good sign, is sufficient in one section for the owner of 10,000 acres to make large sales at \$8.00 to \$10.00 an acre. At one point on the Northern Pacific road, between Jamestown and Devil's Lake, between 1300 and 1500 settlers have passed to take land in that district.

Wheat prices are low, but there is reason to believe better things can be looked for. The price of wheat is too low in relation to all conditions. If the American farmer can be induced to hold back shipments a little longer, there will be a satisfactory advance in price. The advance may come whether he holds shipments or not.

American Export Trade The custom house report for the past month shows a continuing increase in American exports and general trade conditions so flattering as to give especial encouragement to the efforts at enlargement of our foreign operations, which have been very generally undertaken by manufacturers and jobbers during the past year. Our export shipments of merchandise for the month of August aggregated \$84,608,774, a sum 4.7 per cent. larger than during the corresponding period a year ago; heavier, too, than in any preceding August for five years past, and what is perhaps the most encouraging feature of all, in view of the reduced grain export and prices of the month, a gain over July this year of over 16 per cent. For the eight months of the calendar year our exports aggregate \$778,074,025; \$136,000,000, or 21 per cent., larger than were those of last year (the heaviest previous calendar year total on record), 34 per cent. larger than those of 1896 and \$279,000,000, or 55 per cent., heavier than those of 1895, which marked the low-water point in exports of recent years. The immense balance trade in favor of this country, as a result of the exports heavily exceeding imports, is

shown by detailed figures in the report. For August there was an excess of exports of over \$35,000,000, against an excess in August last year of nearly \$41,000,000, and in August, 1896, of \$19,000,000.

Grain Crop Conditions The wheat crop of 1898 is not quite up to promise, according to the report of the *American Agriculturist*, in its issue of September 10th. The report says that in a few States it now appears the promise of wheat was not fulfilled in actual gain by what must seem like a large margin, while in a number of States the rates of yield was even greater than indicated on July 1st. But with full allowance for all disappointment, the fact remains that the crop this year is the largest on record. The reported rate of yield in winter wheat is 14.8 bushels, and in spring wheat 15.4 bushels. The final crop result will appear next month, but the *American Agriculturist* says it may not be amiss to note that if the present rate of yield indicated shall be maintained, the total production of winter wheat will be rather under 400,000,000 bushels, and spring wheat fully 300,000,000 bushels, subject to modification next month. The present report of the *American Agriculturist* on corn places the condition 85.4, as compared with 85.6 a month earlier. The change, which is slight, is a distinct disappointment, as it was generally believed the breaking of the drouth would advance the condition of the crop at least to an average showing for this date. Taking the surplus States of Ohio, Indiana, Illinois, Iowa, Missouri, Kansas and Nebraska, it appears the present condition in this crop is 78.9, as against 79.1 one month ago, and 80.0 a year ago. There is an unusually large percentage of healthy appearing stalks which are bearing no ears at all, and a larger proportion which have a single ear, and that short and approaching the nubbin condition. The effect of this will only be fully recognized when the crop is husked, and it is easily within the range of possibilities that the final report of rate of yield per acre will present some marked surprises. The condition of oats, when harvested, is placed at 78.4, or 2.2 lower than on August 1st, with the general quality not as good as last year. The same authority says the past month has brought further reduction in the promise of the potato crop, the breaking of the drouth not being followed by a recovery of condition.

Personal Mention.

According to the present programme, the National Peace Jubilee, to be held here October 18th and 19th, is to be a most imposing affair. The main features will be an open-air reception by President McKinley, assisted by other distinguished representatives of the government, and a reception by the returned soldiers. The celebration will wind up with a grand ball at the Auditorium. It will be well worth coming here to see, and an event long to be remembered.

Z. E. Chambers, the well-known Western traveler, has again entered the employ of B. F. Norris, Alister & Co., and has started out on an extended trip over his old territory in Illinois, Missouri and Iowa.

Secretary F. H. Smith, of the Geneva Optical Co., is back again after a thoroughly enjoyable two weeks' vacation spent among the wilds of Northern Wisconsin on a fishing excursion. Mr. Smith reports fair luck in capturing the gamey muscalonge, and a royal good time.

M. A. Lumbard, the Des Moines jobber, paid a hurried visit to Chicago last week.

W. H. Gleason, late of the firm of C. H. Knights & Co., has been appointed Western financial agent of the John Hancock Mutual Life Insurance Co., of Boston. Mr. Gleason will have charge of the company's investments throughout the West, which are just now of growing importance. His office is in the Hartford Building.

W. F. Smith, of Des Moines, Iowa, was in the city last week looking over the lines of Eastern manufacturers' agents for the purpose of purchasing a stock of goods for a jobbing business which he is just embarking in at Des Moines. Mr. Smith is well-known to the Iowa trade from his several years' connection with M. A. Lumbard, the widely-known wholesale jeweler of Des Moines.

L. E. Fay, the well and favorably known Eastern manufacturers' agent, for eight years the Western representative of the H. A. Kirby Co., and their predecessors Kirby, Mowrey & Co., is now handling the extensive gold jewelry line of D. Wilcox & Co., over the Western circuit, with headquarters in Chicago and office in Room 807, Columbus Memorial Building. L. B. Eaton, whom he succeeds, has retired entirely from the jewelry business and is now living in Los Angeles, Cal., where he is engaged in other business.

(Continued on page 795.)

LAPP & FLERSHEM

N. E. Cor. State & Adams Streets,

CHICAGO, ILL.

Wholesalers of Everything Needed by Jewelers

OUR 1898

"BUSIEST HOUSE IN AMERICA" CATALOGUE

contains a fine assortment of all kinds of goods from which to send us orders.

We illustrate only the Choicest Articles of the Best Values.

ORDERS FILLED FOR ANYTHING ADVERTISED AT THE LOWEST PRICES.

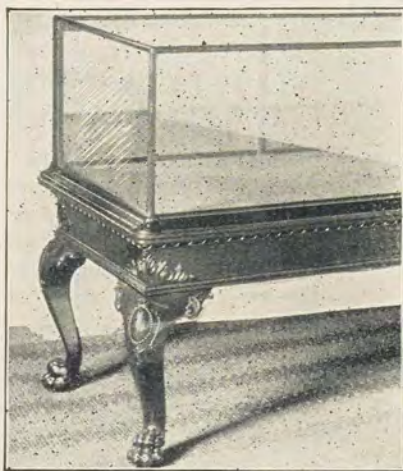
JEWELERS COMING TO CHICAGO ARE INVITED TO CALL.

Diamonds *Watches* *Jewelry* *Clocks* *Sterling Silver* *Silver Plate* *Cut Glass* *Fancy Goods* *Optical Goods* *Cameras* *Tools* *AND* *Materials*

THE PERFECTION SHOW CASE

FOR FINE JEWELRY TRADE.

WE CHALLENGE THE WORLD TO PRODUCE ITS EQUAL.



IF YOU ARE IN NEED OF SHOW CASES AND JEWELRY FURNITURE, WRITE US FOR FULL INFORMATION.

A. H. REVELL & Co.

431 to 437 Fifth Avenue, Chicago.

WRITE FOR OUR NEW No. 8 CATALOGUE.

Diamonds

We import them in the Rough.

Cut them in OUR OWN

Diamond Cutting Works.

It therefore takes very little reasoning in the mind of the retailer to see that we can furnish better values in this line than other houses.

Investigation will prove profitable to you.

Stein & Ellbogen Co.

Chicago, Ill.

*Wholesale Jewelers,
Diamond Importers and Cutters.*



The Jewelers' Opportunity

Every dealer should avail himself of the **SPECIAL EXCURSION RATES** secured by the great **CHICAGO PEACE JUBILEE**, which occurs on October 18th and 19th, and the October and November meetings of the **NATIONAL ASSOCIATION OF MERCHANTS AND TRAVELERS**. Tickets for the **PEACE JUBILEE** will be on sale at reduced rates either the 16th or 17th of October, and will be good for five to eight days. Dates for buying tickets to the October meeting of the **MERCHANTS' AND TRAVELERS' ASSOCIATION** are October 1st to October 7th; good returning October 5th to 15th; dates for buying tickets to the November meeting, October 29th to November 4th; good returning November 2d to 12th. Make a note of the dates for buying tickets and returning home. Any and every jeweler within Chicago's territory is entitled to the reduced rates on either of the above occasions. This is a splendid opportunity for you to visit the Western metropolis and look through our splendid Fall stock.

We will show you not only one of the

**Finest
Wholesale Jewelry
Establishments
In the Country,**

but an assortment of everything that is needed by the Retail Jeweler that is unsurpassed.

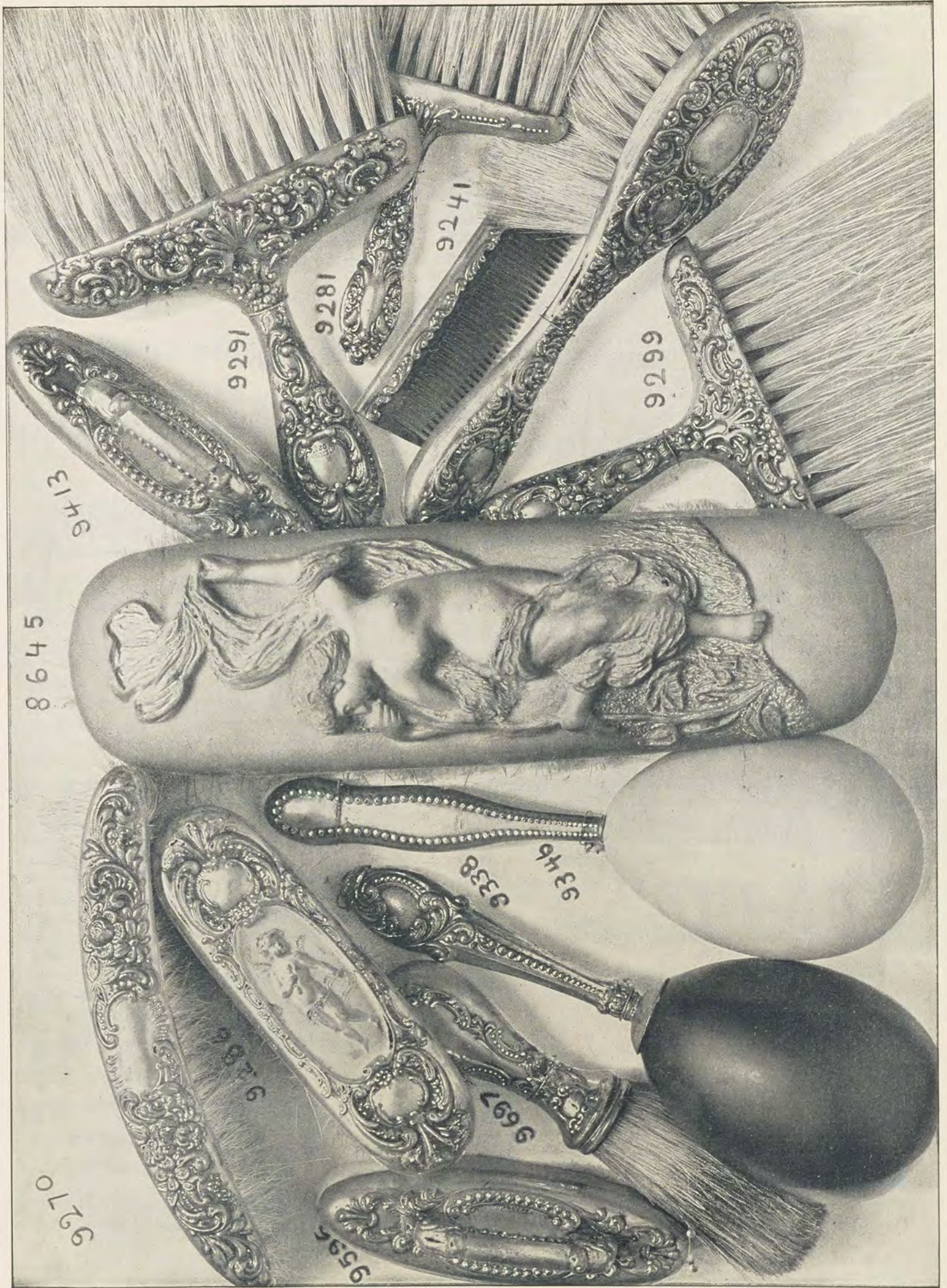
Drop in and see how welcome
we can make you.

C. H. KNIGHTS & CO.

DIAMOND MERCHANTS and WHOLESALE JEWELERS

Columbus Memorial Building

CHICAGO



A PAGE FROM OUR NEW CATALOGUE. Sterling Silver Articles.

9270. Hat Rim Brush,	\$.90	8645. Cloth Brush	\$4.50	9413. Nail Polisher,	\$.87
9286. Hat Brush,	.90	(Very deep die work)		9291. Hat Brush,	1.25
9595. Pumice,	.88	9338. Darnier,	.63	9281. " "	.50
9697. Shaving Brush,	.50	9346. " "	.38	9299. " "	.94
				9241. Baby Set.	1.73

Leys, Trout & Co.

Manufacturers,
Prescott Building, John St., NEW YORK.

Less 10 per cent. for cash.

Chicago Letter.

(Continued from page 791.)

S. H. Clausin, of S. H. Clausin & Co., jobbers, Minneapolis, was in town last week, calling on the trade.

S. L. Scott, Western traveler for M. F. Barger & Co., is just in from an extended trip over his territory. He reports that the way trade has opened is such that the fall prospects were never better.

Purdy Campbell, of the well-known South Chicago retail firm of Campbell & Co., is absent on a trip to Mexico, for the benefit of his health.

Bruce Bonney, well-known here from his former connection with the Gorham Company's Chicago office, at present manager of the large retail house of Shreve & Co., San Francisco, was in Chicago early in the month en route East.

A. L. Sercomb, Chicago manager for the Meriden Britannia Co., has been confined to his home the past week by illness. A week ago he suffered from a congestive chill and has been confined to his bed ever since. We are glad to say, however, that Mr. Sercomb is now much better, and expects to be at business in a few days.

M. A. Mead, of M. A. Mead & Co., is now on an extended Western trip combining business with pleasure. He will visit the leading points on the Pacific coast and the Rocky Mountain country before returning to Chicago.

Moses Schwab, of A. G. Schwab & Bro., the well-known jobbers of Cincinnati, spent a day in Chicago the early part of the month calling on his friends in the trade.

T. J. Woltz & Co., of Monticello, Ill., a well-known jewelry firm in this market, have recently moved into a new store. Returning travelers tell us that they now have one of the neatest establishments in the State.

Early in the present month, cards were received by the trade announcing the marriage of Mr. P. J. Burroughs, the widely-known Chicago jewelry auctioneer, to Miss Maud Thompson. The ceremony occurred August 30th, at the home of the bride's parents in Minneapolis, Minn., and was an elegant social affair. Ever since this happy event, congratulations have been showered on Mr. Burroughs by his numerous friends, all whom wish he and his bride all sorts of good luck. THE KEYSTONE joins with Mr. Burroughs' hosts of friends both in and out of the trade in wishing he and his bride a long and happy life.

"Trade conditions are all that could be desired," said A. C. Becken to-day, "and business responds favorably as the season advances. I have no complaint to make."

Schneider & Cooke are a new firm of jewelers and opticians at Highland Park, Ill. Mr. Cooke was formerly with F. A. Hardy & Co., and Mr. Schneider was formerly in the employ of Benj. Allen & Co.

George T. Bynner, manufacturers' agent, and S. J. Son, importer of diamonds, have moved their office from Room 601, Champlain Building, to Room 602, Columbus Memorial Building.

The engagement is announced of Mr. Will Juergens, of the Juergens & Andersen Co., to Miss Louise Heissler, of this city. Miss Heissler, who has, to a great extent, been educated abroad, is a linguist, a musician and a great traveler. She is the daughter of the head of the Heissler & Junge Co., and very popular in our best German circles. The many friends in the trade of Mr. Juergens will join with THE KEYSTONE in wishing he and his betrothed all possible happiness.

B. F. Simpson, Northwestern traveler for Otto Young & Co., recently returned from a visit to his old home in London, Canada, where he officiated as best man at a brother's wedding.

Gardner E. Richardson, a young optician well-known in the trade in Chicago, killed himself with a revolver at Telegraph Creek, on the Stikine River route to the Klondike on August 31st. He left for the Klondike. He had just completed a terrible trip from Ashcroft, B. C., in company with four other young men from Chicago, and the party had narrowly escaped starving to death on the latter part of the trip. He was exhausted from traveling without food and found that he had arrived at Telegraph Creek too late to go to the mines. A little additional discouragement in the losing of several horses decided him, and he carried out his idea of self-execution. Young Richardson was twenty-three years old and for several years previous to his leaving for the Klondike last March had been in the employ of F. A. Hardy & Co. Mr. Hardin, manager of this firm, speaks highly of him and says he was a bright and promising young man of excellent character. Richardson came to Chicago in 1893 from Battle Creek, Mich., and had a great many friends in this city who were shocked to hear of his untimely end.

Walter Wyatt, the well-known Peoria optician, was in town September 15th calling on the trade. Mr. Wyatt was here to take part in the organization of the opticians into a State society or league for mutual protection and improvement in their profession. Just how well Mr. Wyatt and his co-workers succeeded in their object, can be seen in the report of the meeting of the Illinois Optical Society, which will be found in the optical department of this issue. President Wyatt, for Mr. Wyatt was elected president of the Society, desires us to announce the next meeting of this Society for October 19th, at 10 A. M., in the rooms of the Chicago Jewelers' Association, 103 State Street, Chicago. Mr. Wyatt, as well as all the gentlemen who were here at the organization meeting, are anxious that the opticians of the State will turn out to this meeting. The date of the meeting is the second day of Chicago's National Peace Jubilee Celebration. The railroads will be granting reduced rates on these days, and there will doubtless be a large attendance. We wish to urge upon our optical readers throughout Illinois the importance of their taking a hand in this State organization and helping it along by their presence at this meeting.

Cards have been received at this office announcing the marriage of C. D. Strow, ophthalmic optician, Fort Dodge, Iowa, to Miss Belle Crane, of Wilmette, Ill., on Thursday, September 15, 1898.

Morris Berg, of Hyman, Berg & Co., retail, has recently returned from a vacation spent at Colorado Springs and Manitou.

Gossip Among the Trade.

J. M. & A. C. Johnston have moved from the ninth floor of the Masonic Temple to the new building at 84 Wabash Avenue, where they occupy the entire fourth floor. They now have their factory and salesroom all on the same floor, which is 165 feet in length, giving them about four times their former space. Their new quarters have a west front on Wabash Avenue, between Washington and Randolph Streets, extending clear through to the alley, where they have the splendid new Chicago Library Building for an outlook. The new business home is up to date in every particular, centrally located and a great improvement upon the firm's former quarters. The firm is to be congratulated upon the move.

The office and salesroom of Benj. Allen & Co. has recently been repainted and redecorated in handsome style, and now presents a more inviting look than ever.

Jensen Bros., of this city, have consolidated their store at 334 Milwaukee Avenue with their store at 1202 Milwaukee Avenue.

Lapp & Flershem will send out their new fall catalogue to the trade about November 1st. As usual, it will be a large, handsomely-printed, copiously illustrated book, and indispensable to the retail jeweler. All the latest fall novelties, including some new lines, as well as everything needed by the retail dealer, will be catalogued in the most attractive style at catching prices. It is furnished free to any jeweler in territory tributary to this market. If you are not in the habit of receiving this catalogue, write to the above firm and they will send it to you, express paid.

Goldsmith Bros., the refiners, have recently been awarded the sweeps of the U. S. Mint, at Philadelphia, over all bidders. They claim, and justly, too, that this proves that they are able to work sweeps in their new smelting works at a lower figure than any other smelting firm in the country.

The Waterbury Clock Co. removed to 151-153 Wabash Avenue the first of the present month. They occupy the second and fourth floors at this location. They had not more than gotten nicely located in their new business home when what threatened to be a disastrous fire, overtook them. The fire started in Mrs. Clark's cafe, on the ground floor, under them, on the night of September 10th, by the crossing of electric light wires. Quick and effective work by the fire department confined the flames and damage almost entirely to the first floor, the Waterbury Clock Co. escaping with only slight damage from smoke, which Manager Dodgshun informs us was less than \$200.

Edwin F. Leopold & Co., manufacturers of photo. novelties, have removed from the Champlain Building to Room 805, Columbus Memorial Building.

Benj. Allen & Co. will issue their new jewelry catalogue for the season of 1898-99 about October 20th. It will be larger, handsomer and more complete than ever; finely illustrated and beautifully printed. A larger edition than usual will be sent out, but should you not receive the book before October 28th, write for it to the above firm and they will cheerfully send it with charges prepaid.

Otto Young & Co.'s new fall catalogue for the season of 1898-99 will be out early in October. The work embraces about 600 pages, and will be a striking and handsome book, finely and extensively illustrated and larger than last year. Unquestionably the book will be accorded a distinguished place among the jewelry trade's handsomest catalogues. It will be found very complete, showing the extensive lines carried by this firm. It is too large to mail, but will be sent, express prepaid, to bona fide jewelers throughout the Chicago territory. Should you not receive this catalogue by October 15th, write the above firm a request for it.

Gordon & Morrison will issue their catalogue to the trade about October 15th. Mr. Geo. Gordon, of the firm, tells us that their new catalogue will be larger, handsomer, more complete than any of their previous issues. They will send the book to all jewelers in Chicago's territory.

The Sercomb & Sperry Co. have recently gotten out a unique and decided novelty in the shape of a jewel stand. It has a silver plated base, with a cover made from polished abalone shells, a noted product from California. Mr. Sperry procured the shells during his visit to the Pacific coast last spring, and conceived the idea of making the shells into jewel cases. They are mighty pretty, and must be seen to be appreciated.

The new fall catalogue of B. F. Norris, Alister & Co., will be issued to the trade early in October. It will be handsomely gotten up, finely illustrated and in every way a worthy representative of this wide-awake house. It will be much larger and more complete than their issue of last year. It will be sent, prepaid, to all jewelers in Chicago territory.

At a special conference of the representatives of the Adams, American and United States Express Cos., held here on September 2d, it was decided that the companies would from this date bear the expenses of the war tax instead of requiring the public to stamp consignments.

Out-of-Town Visitors.

The firm of Brunner Bros., Cleveland, Ohio, was represented in this market by Mr. Brunner.

Gorton Rushmer, of the Rushmer Jewelry Co., Pueblo, Colo., was in town for a few days the middle of the month. He was en route to Colorado from an Eastern trip.

D. D. Williams, of Emporia, Kans., was met in one of our wholesale offices last week. Mr. Williams was combining pleasure with his business of purchasing late novelties for the fall trade, and was accompanied by Mrs. Williams.

Dr. Martin E. Tabor, of Arnold & Tabor, oculists, Dallas, Texas, was a recent buyer in this market.

Al. Henry, the well-known Rockford jeweler, was a welcome visitor here recently.

L. C. Smith, of the Smith Jewelry House, Oskaloosa, Iowa, has been in Chicago recently for several weeks, pursuing a post-graduate course in optics.

D. C. Minton, of the Minton Jewelry Co., El Reno, Okla., was in the city the early part of the month on a purchasing trip. He was a pleasant caller at KEYSTONE headquarters. In reply to the inquiry, "How is trade in your country?" He said that the territory of Oklahoma had produced the finest crops this season since it was settled. That her farmers had raised more corn, more wheat, more cotton, and more of everything else grown there than ever before. That last year's fine crops and the splendid prices they brought, had put most of their farmers out of debt, so that they were not sacrificing their crops as would be expected in a new country. Mr. Minton thought their outlook fine for fall and holiday trade.

E. C. Robinson, of Fowler, Ind., was a recent buyer in this market.

H. C. Simonds, of Coldwater, Mich., was buying goods in this market last week.

S. A. D. Kestler, of Lander, Wyoming, was a liberal buyer in Chicago last week. Mr. Kestler's town is 150 miles from a railroad. He says they have not suffered from hard times very much in the past few years, and that business has been good with them right along. Prospects for the fall and winter trade are excellent in Wyoming—never were better.

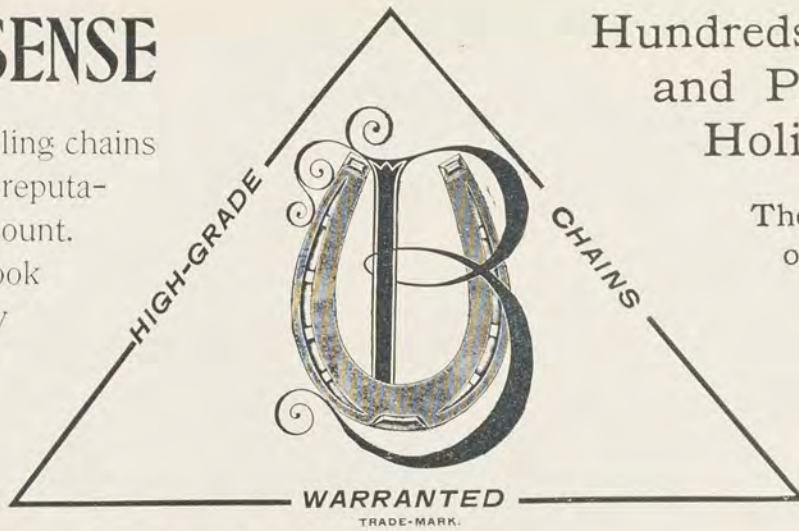
Arthur Rovelstad, of Rovelstad Bros., the well-known Elgin jewelers, was recently seen among our wholesalers buying goods.

Among the best-known Western jewelers in Chicago last week, was Mr. Henry Plumb, of Des Moines. Mr. Plumb was accompanied by his young son, who was en route to Philadelphia, where he enters a four years' college course at the University of Pennsylvania.

(Continued on page 796 c.)

SOUND CHAIN-SENSE

tells you that in buying and selling chains you should keep in view your reputation as well as your bank account. Our chains add to both—they look well, sell well, wear well. They excel in style, finish, richness of appearance, originality of design and finesse of workmanship.



Hundreds of NEW STYLES and PATTERNS for the Holiday trade.

These Chains solve the question of swift and profitable chain-selling.

SOLD BY ALL LEADING JOBBERS.

S. O. BIGNEY & CO., Makers of HIGH-GRADE CHAINS, Providence, R. I.

Imported

Porcelain Clocks

with American and French eight-day Movements.

5000 IN STOCK TO CLOSE OUT



AT REDUCED PRICES

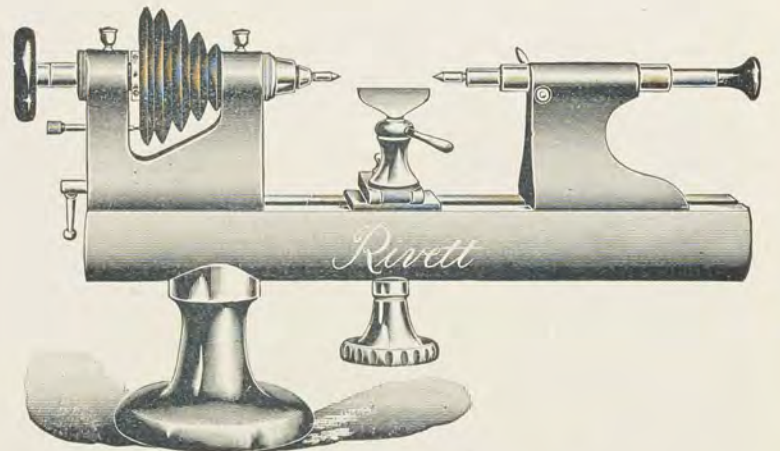
\$3.00 each and upwards.

Import samples of BRIC-A-BRAC, CHINA and BRONZES, Etc.,
AT LESS THAN IMPORT RATES.

LEVY & DREYFUS CO.,

41 Barclay Street, New York.

Art, Pottery, Clocks, Statuary, Opera Glasses, Optical Goods, Etc.



THE RIVETT 1898 LATHE

IS THE STANDARD OF THE WORLD.

Some dealers will warrant any lathe, the same as they will warrant any watch; but all the guarantees in the world will not make good either a poor lathe or a poor watch.

Don't be deceived!

If any dealer tells you he does not handle it, find out **WHY.**

Send direct for Catalogue.

Study your own interests and investigate.

More money invested in manufacturing the

RIVETT LATHE than any other watchmaker's lathe.

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



SWEEPINGS OUR SPECIALTY.

L. LELONG & BROTHER,
GOLD AND SILVER REFINERS, ASSAYERS AND
Sweep Smelters.

BULLION SOLICITED.

SMELTING FOR THE TRADE.

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

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

ENTIRELY SATISFACTORY

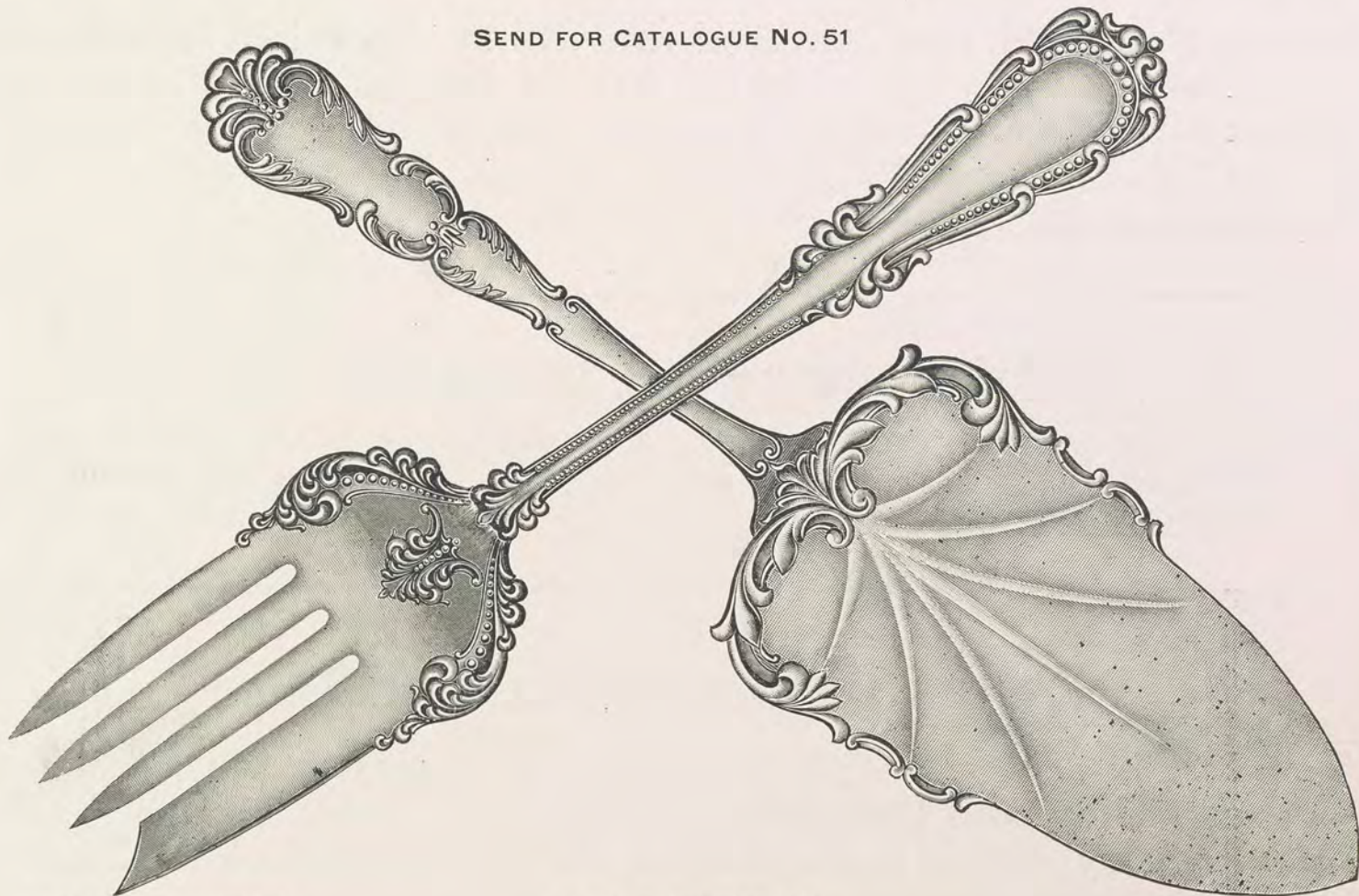
is the verdict now, as it has been for many years, for the famous

C. ROGERS & BROS. A1.

brand of Spoons, Forks and Knives.

The distinct merit of this brand, possessed by no other, is the result of years of experience in making plated ware of the highest grade, and the satisfaction this ware has always given by its long-wearing qualities.

SEND FOR CATALOGUE NO. 51



MILTON COLD MEAT SERVER

MANUFACTURED BY

REGENT CAKE SERVER

C. ROGERS & BROS.

MAIN OFFICE AND FACTORY MERIDEN, CONN.

131 Wabash Ave., CHICAGO

MALTBY-HENLEY CO., 20 Warren St., NEW YORK.

CEPHAS B. ROGERS — GILBERT ROGERS — WILBUR F. ROGERS
The Only

LIVING ROGERS BROTHERS

Manufacturing Silver-Plated Ware.

+ ADDITION----- ADD TO YOUR STOCK,
 - SUBTRACTION----- BY TAKING FROM OURS.
 X MULTIPLICATION----- QUADRUPLE YOUR SALES
 ÷ DIVISION----- IN DIVIDING^{AND} YOUR PROFITS
 $\frac{2}{3} \times \frac{1}{3}$ FRACTIONS----- KEEP TWO THIRDS IN YOUR BUSINESS
 AND PUT ONE THIRD IN HOUSE AND LOT

BUYING YOUR WATCHES
 FROM US
 THESE RESULTS WILL FOLLOW
 WITH MATHEMATICAL
 PRECISION.

WE MAKE NO CHARGE FOR THESE
 SUGGESTIONS

OF TWO THINGS YOU MAY BE SURE,

That we have no money to expend in talking about goods that lack merit, and that when we make prices we know the value is there.

OUR CREDENTIALS will bear the strongest search light.

Eleven thousand, one hundred and thirty days since we opened up for business, and never closed a day, except holidays and Sundays. If that means anything, it means that you can find us, and still more, that you can rely on us for straightforward dealing.

No prices in this announcement.

Ask us for "Watch Information."

OUR BOOKLET NOW READY. It is concise and to the point, and will be sent you at once. Prices and descriptions in it. You will find it more than valuable.

ANOTHER INCIDENT IN OUR BUSINESS.

A purchase of high-grade sterling silver novelties, made especially for the fine retail trade—**Fifteen Thousand Dollars'** worth, and more. We have them on exhibition in the room recently devoted to the Kent & Stanley Co. stock. They are to be sold quickly and at much less than the manufacturers' cost.

Cannot send any of them out on memorandum, but to our friends who propose visiting New York in the near future, would suggest an early call before buying goods of similar nature.

Continue to



C. G. ALFORD & Co.,

195 & 197 Broadway,

New York.

The information in September KEYSTONE worth remembering.

Chicago News.

(Continued from page 795.)

H. W. Nunnemaker, one of the pioneer jewelers of Western Kansas, for over twenty years located at Ellsworth, took advantage of the Merchants' and Travelers' Association rates to visit this market. Mr. Nunnemaker was in town several days last week, and was feeling good over the fine prospects in his country for an old-time fall business.

C. F. Baldwin, of Barian Springs, Mich., bought goods in this market last week.

H. L. Hausman, of Hamilton, N. D., was in this market last week making his fall purchases.

Jesse Converse, of Larimie, Wyoming, was in Chicago this week en route to Pittsburg, to attend the Knight Templars' conclave.

Max Pepperman, of Greenville, Miss., has been in Chicago this week looking over the market for late fall novelties.

N. R. Merchison, of Rawlins, Wyoming, was in this market recently, making purchases for the fall trade. Mr. Merchison was a liberal buyer and spoke most encouragingly of trade conditions in the Rocky Mountain country.

S. F. Ricker & Son, of Emporia, Kans., were represented in this market recently by Mr. S. F. Ricker, who was making a selection of the latest fall novelties for the home store. He was a liberal buyer.

Phillip Jacoby, of Kalispell, Montana, spent a week in the Chicago market the early part of the month. Mr. Jacoby said their country was prosperous, and that he had enjoyed a good trade right along. Prospects for late fall and the holiday trade were bright, and that he was buying accordingly.

Ben Martin, of Logansport, Ind., was a recent buyer in this market.

D. B. Holton, of Genoa Junction, Wis., was in the city recently, on a purchasing trip.

L. W. Otto, of Crawfordsville, Ind., was seen in this market recently, on the lookout for the latest fall novelties.

Karl Lehman, jeweler and optician, Natchez, Miss., was a buyer in this market last week. This was Mr. Lehman's first visit to Chicago. He expressed himself as most agreeably surprised with the magnitude of the Western metropolis as a jewelry market and distributing center in general, and hoped to be a more frequent visitor here in the future.

Orr L. Keith, of West Branch, Iowa, was in town last week making his fall purchases.

A. H. Richards, of El Paso, Tex., spent some days in the Chicago market recently, searching for the latest novelties.

Mrs. G. N. Ruby, wife of Jeweler Ruby, of Yorkville, Ill., was a trade caller in this market last week.

M. H. Reid, of Perry, Iowa, was in Chicago last week, buying goods.

H. M. Knowles, of Humboldt, Iowa, was one of the throng of buyers brought in by the Merchants' and Travelers' Association last week.

J. R. Mercer, widely known as one of Kansas City's most prosperous retailers, was in town this week, making liberal purchases for the fall trade. Mr. Mercer said he could not see how things could be much brighter than they were in his section of the West, and that they were anticipating a splendid fall and winter business. He believes that Kansas City is right on the eve of a most prosperous future and that her trade conditions never were better.

C. A. Huck, brother of Jeweler M. M. Huck, Schuyler, Nebr., was a trade caller in Chicago recently.

John Braun, of Two Rivers, Wis., who also runs a branch store at Antigo, same State, was in the city several days last week, on a purchasing trip. Mr. Braun was met in one of our wholesale offices and said that the outlook for fall trade in his section was excellent, and that he was buying accordingly.

Miss Sophia Brunner, of the Brunner Bros. Co., Cleveland, Ohio, was a recent trade caller in this market.

Julius Liebenow, the well-known jeweler of Green Bay, Wis., was in Chicago several days last week on a purchasing trip.

G. Scherzinger, the pioneer jeweler of Fon du Lac, Wis., was a welcome visitor among the trade last week. Mr. Scherzinger is one of the veterans of the trade in the Northwest and is well known here. He was en route to Omaha, where he expected to spend a week looking over their big Exposition.

C. C. Moore, of Shelby, Mich., was buying goods in this market last week.

M. M. Huck, of Schuyler, Nebr., was in town recently, making his fall purchases.

W. S. Still, of Delevan, Ill., was a buyer in this market last week.

F. H. Shearer, Bay City's well-known young jeweler, was a welcome buyer in this market last week.

Geo. Hay, of Attica, Ind., was in the city last week on a business trip.

A. C. Parsons, of Vinton, Iowa, was a recent buyer in this market.

A. A. Burbank, of Rochelle, Ill., was here on a purchasing trip recently.

O. R. Ryan, of Reedsburg, Wis., was in the city recently.

B. Ray Emmons, optician, Perry, Iowa, was in the city the early part of the month on his wedding trip.

Aug. Bruder, of Fort Wayne, Ind., was a welcome visitor in this market the early part of the month.

Mr. Lamphere, of the Wilbur-Lamphere Co., Galesburg, Ill., was a buyer here recently.

Mr. Heffron, of Merrick, Walsh & Phelps, St. Louis, was a trade caller in Chicago recently.

E. A. Buder, of Cario, Ill., was in the city the early part of the month on a purchasing trip.

L. J. Baker, of Muskogee, Ind. Ter., was in Chicago recently on a business trip. Mr. Baker was a congenial caller at KEYSTONE headquarters during his stay in town. He reports the fall trade as starting in well with excellent prospects for the fall and holiday trade.

R. N. Clark, of Clark, Giddings & Co., Sterling, Ill., was in the city September 15th. Mr. Clark has charge of the optical department of the above firm and is an enthusiast in anything optical. He attended the meeting for the organization of the Illinois Optical Society and took an active part in it.

Albert E. Wuesteman, optician and jeweler, Champaign, Ill., was in town September 15th, assisting in the organization of the Illinois Optical Society. Mr. Wuesteman takes a warm interest in the State organization of opticians and thinks it a matter of vital interest to the profession that a strong and useful association be put on its feet right away.

Richard O'Neil, of O'Neil & Gardiner, Lincoln, Nebr., was in Chicago the early part of the month en route home from the meeting of the Grand Lodge of Knights of Pythias which convened at Indianapolis. Mr. O'Neil was a most congenial caller at KEYSTONE headquarters, and remarked as regards business that Nebraska was strictly in it this year; that prospects never had been better for a prosperous fall and holiday trade.

J. H. Robertson, jeweler and optician, Morrison, Ill., was in Chicago, September 15th, taking a hand in the organization of the Illinois Optical Society. Mr. Robertson believes that optics is a good side line for the jeweler, and is making this branch of his business a special study.

August H. Stecher, of Milwaukee, was met in one of our wholesale offices recently. Mr. Stecher said that there was a considerable improvement already noted in trade circles in Milwaukee, and that the prospects for still greater improvement were bright.

W. T. Hixson, of Geo. W. Hickox & Hixson, El Paso, Texas, spent a fortnight in Chicago visiting friends and looking through the market. Mr. Hixson said things had brightened up greatly in the Southwest, and that they were anticipating a fine business this fall.

Keep Accounts Collected.

An old and successful merchant, in speaking of keeping accounts collected, says: "I have made it an invariable rule to present my accounts regularly every month, and while I was doing a strictly retail business I made it a point to secure a promise of payment at a certain date, or at least a checking up of the account. This obviated much trouble in collecting the bill later on, and was worth all the time taken. If, however, a bill had been running for six months, without any plausible excuse for non-payment, I turned it over to a reliable attorney or agency for collection. I found that this process cost me less and brought quicker returns than my own collectors could make me when the bills had been long due, as the debtors seemed very often to have become accustomed to standing off a man to whose visits they were hardened. In this way I kept my books cleaned up, and during a series of years I figured that the net saving to me was fully 5 per cent. on my gross business. This, of itself, was a good profit, and I have never hesitated to recommend the same course to my young friends when starting in trade for themselves."

A Thimble Display Card.

The importance of effective display in selling goods is now fully realized by the trade; hence thimble sellers will be pleased to learn that Stern Bros. & Co., New York, have devised a beautiful lithographed card, anchor-shaped, for the effective display of thimbles. The card stands where placed, and rows of thimbles can be shown all over its surface. When bedecked with thimbles, the card makes a most attractive and effective display. These cards can be procured from any jobber.

A peculiarly unlucky accident befell S. L. Hagy, Pataskala, Ohio, last month, when his stock of tools, material, spectacles, clocks and his regulator, valued in all at \$500, were destroyed by fire. Mr. Hagy's insurance policy ran out the day of the fire, and he called at the office of the insurance agent to renew it. The latter was out, and Mr. Hagy returned to the store and placed the insurance money in a drawer. Five dollars of it that was in silver was found after the fire in a fused mass. His stock of watches, card goods in trays, chains, charms, etc., in the safe were saved. This shows the importance of ordering a renewal of the insurance several days previous to the expiration of the old policy.

The C. F. Monroe Co., Meriden, Conn., manufacturers of the celebrated "wave crest" ware, have issued a catalogue and price-list of their wedding and holiday novelties in this ware. The catalogue is a work of art from cover to cover, the cover design itself being one of the most beautiful that has ever come under our observation. The wave crest idea is worked by the artist into a picture of great loveliness and originality, as appropriate as it is excellent. The catalogue is copiously illustrated with well-executed half-tone cuts of the great variety of wave crest ware suited for wedding and holiday gifts, the cuts being printed on high-grade enameled paper. The compilation makes an ideal catalogue and furnishes numerous profitable hints and ideas to buyers of holiday stock.

The supersession of the skilled hand by the all but animate machine is well exemplified in the improved Eaton-Engle engraving machine, the wonderful efficiency of which in the delicate art of engraving is well known. As engraving is one of the most profitable functions of the jeweler, the Eaton-Engle machine, which enables all to engrave, is correspondingly valuable to the trade. A sample of engraving done by the machine and a catalogue will be sent free on request by the manufacturers, Eaton & Glover, 111 Nassau Street, New York City, to all mentioning THE KEYSTONE.

Don't Overbuy.

This is a serious evil for several reasons. In your anxiety to reduce the stock you push the new goods because they sell more readily, you are apt to be more free in extending credit, and, if the season is at all unfavorable, you find yourselves compelled to ask your principal creditors for larger bank accommodations than your circumstances warrant. One can err the other way by being too conservative in not carrying the necessary stock to meet the requirements of his trade. To carry a large stock for the impression it makes is fallacious. A tasteful display can make a small, well-selected stock appear quite as imposing to the untrained eye. In a word, it is well to guard against reckless buying or ultra conservatism.

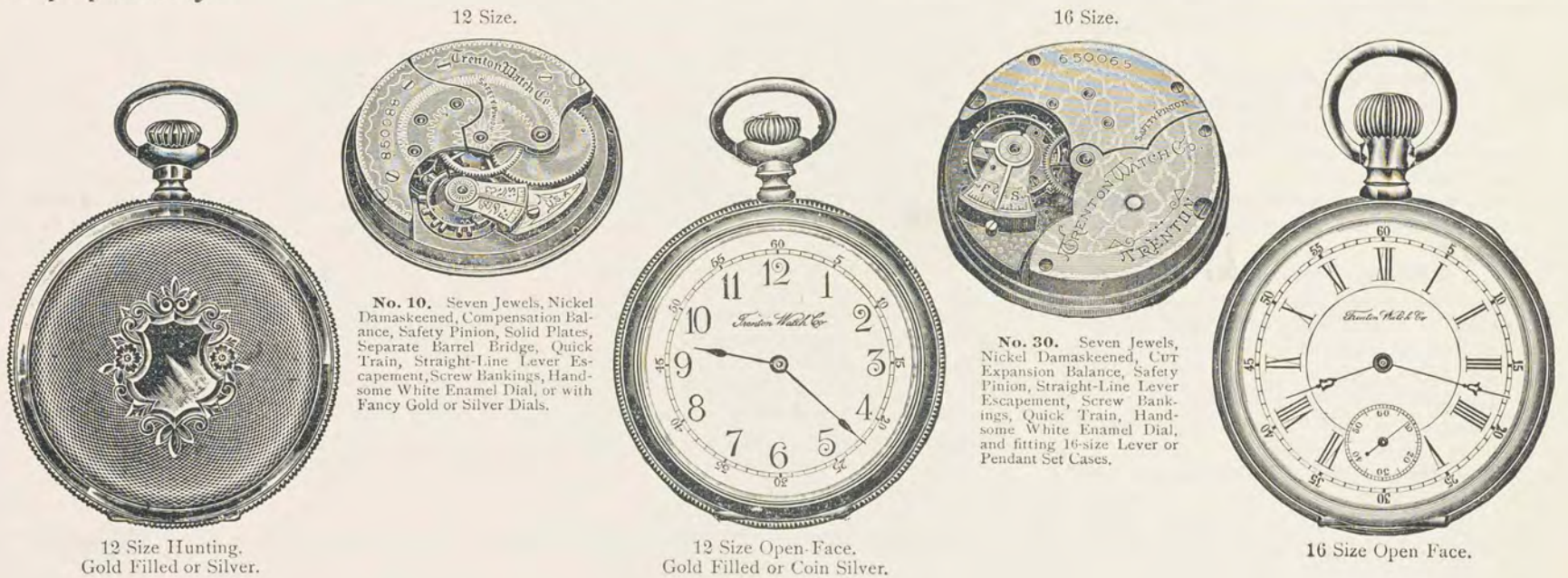
The Jewelers' League.

The regular monthly meeting of the executive committee of the Jewelers' League was held on Friday, September 6th. There were present vice-presidents Greason, Beacham and Bardel, chairman Van Deventer, Messrs. Karsch, Lissauer, Fessenden and L. Stevens, Jr., secretary. Minutes of the previous meeting were read and approved. Four requests for change of beneficiary were received, and, upon motion, granted, and the following applicants were admitted to membership: Section A—W. S. Hamrick, New York City, recommended by O. M. Hamrick and W. O. Shufelt; Herman Brunn, San Francisco, Cal., recommended by A. Eisenberg and M. Munson; H. Wetherhorn, Savannah, Ga., recommended by T. J. Sheftall and Richard Roe. At the monthly meeting, held on August 5th, the following applicant was admitted to membership: Section A—C. F. Lauterbach, Petersburg, Va., recommended by M. Lissauer and C. Steiner. The next meeting will be held October 7th, at the rooms of the League, in New York City.

THE WAR IS OVER!

Business will soon be booming. Investigate the merits of the reliable TRENTON Watch Movements and Complete Watches.

Owing to high merit, combined with moderate price, they are continually increasing in popularity.



We make other movements also—you should see a sample line.

Write for Revised Price-List—
it will interest you.

Ask your Jobber for TRENTONS.

TRENTON WATCH CO.

TRENTON, N. J.

America's Leading Auctioneer



P. J. BURROUGHS,

103 State Street, Chicago.

I HAVE YET A FEW DAYS OPEN FOR THE FALL SEASON. IF INTERESTED, WRITE.



5340. PHOTO. FRAME.

SEND FOR
NEW
CATALOGUE.



LEATHER WATCH BRACELETS.



C. F. RUMPP & SONS,
Fine Leather Goods,

Fifth and Cherry Streets, PHILADELPHIA.
NEW YORK SALESROOM, 621 Broadway.

SPECIAL
LINES
FOR
JEWELERS.



JEWEL BOXES.

High-Grade Goods at Low Prices.

Our celebrated

“REGENT BRAND”

of specialties are still in great demand, and our guarantee to refund money in any case of dissatisfaction is unquestionable. Send us your orders and try them.



This handsome solid oak Cabinet FREE with your first order for One Gross of “Regent” Mainsprings. 60 Metal Top Vials, \$1.50 extra.

“REGENT BRAND”

	Per Gross.	Per Doz.
“ Mainsprings for American Watches, \$10.50,	\$10.50,	\$1.00
“ “ “ Swiss “ “	10.50,	1.00
“ Balance Staffs for American Watches, 7.50,	7.50,	.75
“ Balance Jewels “ “	7.50,	.75
“ Roller Jewels “ “	1.50,	.15
“ H and M Hands “ “	2.00,	.20
“ Second Hands “ “	1.00,	.10
“ Gilt Hat-Pin Stems, for Military Buttons, .	.25	.25
“ Silver-Plate “ “	.25	.25
“ Rolled-Plate Dumb-Bell Button Backs, .	.75	.75
“ Roman-Plate “ “	.85	.85
“ Solid Silver “ “	1.00	1.00
“ Aluminum Screwdrivers, set of five, per set,	35 cts.	35 cts.
“ Grooved Ring Gauges, each,	75 cts.	75 cts.

All of the above prices subject to 6 per cent. off for cash.

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Pocket Price-List of **TOOLS and MATERIAL.**
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Send for **ANYTHING** and **EVERYTHING** in the Watch or Jewelry line.

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Watches, Diamonds, Jewelry, Silver-Plated Ware, Etc.,

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RINGS

STAMPED

W. L. & CO.



1011



1015

Look Like Gold,
Sound Like Gold,
Wear Like Gold,
and Stand a Gold Acid Test.
Good as Gold.

COLLAR BUTTONS stamped W. L. & Co., 1,
Retail 25 Cents, Warranted 5 Years.

COLLAR BUTTONS stamped W. L. & Co., 2,
Retail 15 Cents, Warranted 2 Years.

COLLAR BUTTONS stamped W. L. & Co., 3,
Retail 10 Cents, Warranted 1 Year.

Sample card of twenty-four styles of each quality with numbers, sent on application, so you can order what you desire.

WM. LOEB & CO.

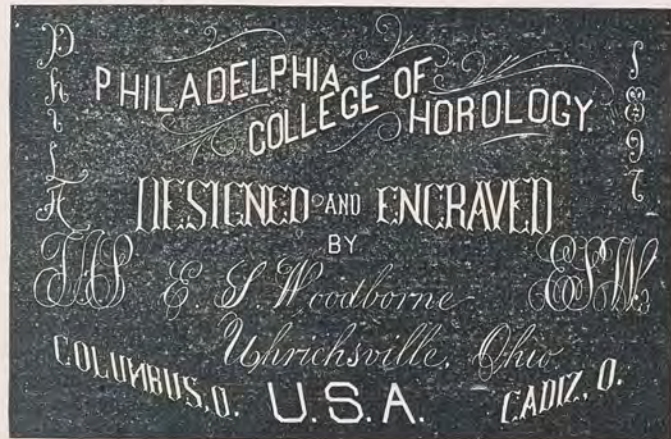
PROVIDENCE, R. I.

Makers of

Rings and Collar Buttons.

Can you stand a raise in your Salary?

We can put you in a position to command a good salary by taking a course at the Philadelphia College of Horology.



Mr. F. W. SCHULER.
DEAR SIR: Previous to my entrance to the Philadelphia College of Horology I had no knowledge of designing or engraving. The above specimen was designed and engraved by me after a combined course of designing, engraving and watchmaking of three weeks only. I am much pleased with the instruction and benefit I have received, and will cheerfully recommend the school to any one contemplating a course in watchmaking and engraving.
Respectfully,
E. S. WOODBORNE, Uhrichsville, Ohio.

WE TEACH Watchmaking, Engraving, Jewelry Work and Optics in a thorough, practical manner.

We will guarantee you success.

OUR MOTTO: We have few equals and positively no superiors.

Write for our new prospectus just issued.

The Philadelphia College of Horology,

F. W. SCHULER, Principal,

1213 Filbert Street, PHILADELPHIA.

San Francisco Letter.

It is pleasing to note the activity and general bustle among the jobbers here on the slope. It is a sign of the "good times" so long predicted, and that they are here is evidenced by the duplication of orders going forth in every mail to Eastern manufacturers. All the "boys" are out hustling and all report good sales, the news from the North being exceptionally encouraging. Indeed, from all over the State and adjacent country covered by California jobbers comes news of heavy purchasing, and the temper of the heads of the houses is correspondingly good, while the spirits of the "festive drummer" are at high-water mark, the dull times and bad business of the past being forgotten and forgiven. May they never return. That the California jeweler is not narrow-minded, nor interested only in "shop talk," has been more than proven in the past by the interest he has taken in all public matters and everything that was to the benefit of the land of his birth or adoption and the good of the citizens in general thereof, but never more so than by the enthusiasm displayed all over the State at the quite terse little "deed of gift" printed below:

1010 CALIFORNIA STREET,
SAN FRANCISCO, September 13, 1898.

To the Regents of the University of California:

GENTLEMEN—I hereby tender to you the following property: The Flood residence and tract of about 540 acres, near Menlo Park, California; one-half interest in about 2400 acres of marsh land, adjacent to the residence tract, and four-fifths of the capital stock of the Bear Creek Water Company, which supplies water to Menlo Park and vicinity. The only conditions I desire to accompany this gift are, that the residence and reasonable area about it, including the present ornamental grounds, shall be kept in good order for the period of fifty years, and that the net income from the property and its proceeds shall be devoted to some branch of commercial education.

Yours very respectfully,

CORA JANE FLOOD.

As we have intimated above, this little item of intelligence has attracted more attention from California jewelers than all the other news of the day combined. Throughout the State one is asked questions continually in reference to the character and value of this gift, and wonderment is expressed as to the uses to which the regents of the University will put it. On the latter point it is safe to say that the regents, many of whom have never seen the property and none of whom ever contemplated it in the light of one day belonging to their beloved University, are just about as much in the dark as is the public. That they will do well with it, goes without saying. Regarding the value of the gift, it is hard to form even an estimate. At the present time it is doubtless worth at least two millions of dollars. In the course of time, and in the hands of wise managers, its value will be many times greater. As to the character of the property decided, it must be really seen to be appreciated. Who in all California has failed to hear of beautiful Menlo Park, the home of many of our wealthiest citizens, situated about thirty miles out of San Francisco, five miles from Palo Alto, the seat of Stanford University, that other princely gift of one of California's most generous sons, sheltered from the ocean by a high range of hills to the westward, and entirely exempt from fog. It possesses a delightful climate and lies in a region of almost perpetual sunshine. Having the finest of soils and an abundance of good water, vegetation flourishes with almost tropical luxuriance; tall palms vie with the native oaks in their magnificence, and the banana trees shelter their purple clusters under great emerald banners; grapes and all deciduous fruits ripen here in all their perfection, and rare plants and shrubs of every description luxuriantly bloom. Chief among the many homes in this garden spot of nature's loveliness is the "Flood mansion," designed by Augustus J. Lavir, an architect of national fame, who in his day designed our own San Francisco City Hall, the famous New York State House at Albany, and the Canadian House of Parliament at Ottawa. This great Flood mansion is designed after the ever-beautiful Louis Quatorze style, with modern Italian modifications, and is a structure of exceeding grace and loveliness, rising from a wilderness of tropical fruit, shrubs and flowers. It is said the cost of the building alone was upwards of half a million dollars. It is built entirely of wood on a stone foundation, and is three stories in height, the two lower stories being very lofty, the spacious rooms having inlaid floors, richly carved woodwork and panelled ceilings, frescoed by some of the most celebrated fresco artists of the day. It is sumptuously furnished, the appointments being for the most part specially designed for it and only the richest of materials employed. The library is

stocked with well-chosen books, and many valuable bronzes and statuettes are scattered through the house.

Of the tract of close on to six hundred acres surrounding the house, a small portion, and by no means the least interesting, have been left in their own natural state, magnificent old oaks rising to an immense height out of their tangle of vines and underbrush absolutely impenetrable to the curiosity seeker or tourist—indeed to any one without the assistance of axe or Cuban machette. A still greater area presents a park-like appearance, the grounds beneath the spreading branches of the oaks having been cleared, but no further effort or labor spent on cultivating it, so that in this one season of drought it is parching beneath the rays of the summer sun. Cultivation of an elaborate and expensive nature has been applied to an area consisting of between 100 and 200 acres immediately adjoining the mansion, and here is exhibited in all its richness of detail the consummate skill of the landscape gardener, great, generous expanse of lawns, broad drives, ivy-draped trees, imposing bronze fountains, rare semi-tropical growths, and immense bronze urns half veiled by the lavish growth of choice plants rooted in them. So dense is the miniature forest, covering considerable of an area, that the original home, occupied by the late Mr. and Mrs. Flood when they first bought the place, a charming cottage of some size, is hidden away in a labyrinth maze of walks and roads, so that one who has upon several occasions visited it declares he would not undertake to relocate it in half a day's search. A highly productive orchard and vineyard are included in the tract. There are many other improvements on the place of an important nature. The private stables are palatial in proportions and character. There is an immense gas plant, so large indeed that the late Mr. Flood at one time contemplated furnishing the whole of Menlo Park with illuminating gas, and could easily have done so. There are extensive dairy buildings, including the old slating buildings, still in good preservation and a part of the earlier history of the locality, having been the birthplace of a well-known San Francisco priest. This part of the demesne includes rich pastures and hay lands. At the eastern end of the grounds, and adjoining the marsh land, there is an artificial lake, covering an area of some eight acres, with wooded islands rising from it. This lake is supplied with fresh water by means of five flowing artesian wells, which, through the generosity of the owner, likewise serve as an increase to the regular supply of the town in this season of drought.

Here then is a poor picture of one of the loveliest spots in all this broad land, and which, through the great generosity of a noble woman, in the hands of wise men and in the keeping of that great University, will serve to do more good than the hoarded wealth of millionaires all over the world will ever do. "All honor to Cora Jane Flood."

It is with considerable regret that we announce the illness of genial M. Schussler, of M. Schussler & Co., who has been confined to his home for some time. Just now, when so many of his friends from all over the State are in San Francisco, it is exceptionally hard luck for Mr. Schussler to be laid up ill, for while it is needless to say that every one is sure of courteous treatment, plenty to wait on them and a good reception from the boys in the office, as well as from the junior partner of this busy house, yet they like to meet the head of the firm, and it is always his pleasure to meet them. All his many friends, both in and out of 'Frisco, want to see him around again, and he has the best wishes of all for a speedy recovery.

George C. Wilkins, of Red Bluff, Cal., who we are sorry to announce was burned out in the \$80,000 fire that visited that town some time ago (making it for the time being a very "red bluff" indeed), was in 'Frisco buying tools and materials to commence all over again with; everything he had was destroyed, but fortunately was insured, so we are advised, in full. It takes more than a fire to down this man's courage, and he has the warmest congratulations and well wishes of his many friends for success in his new venture.

H. Ernsting, a well-known former Cincinnati, now with the well-known firm of Flassig & Ernsting, of San Diego, was in 'Frisco last week buying goods.

Robert M. Haas, with Chas. Haas & Son, Stockton, has just returned from a particularly enjoyable trip to Capicola, Cal. Refreshed and revigorated by his summer outing, he is all the more ready for the fall and winter campaign, now opening up.

C. B. Caldwell, of Caldwell & Thorne, Waitsburg, Wash., who has been here at the Pasidio for some time with the volunteers from that State, has been ordered to Manila, so we are advised. Mr. Caldwell enjoys the rank of lieutenant in one of the companies of that crack regiment, and wher-

ever his command may be, or whatever duty they may be ordered in, it is safe to say he will give a good account of himself.

Genial, warm-hearted Charles Hadenfeldt, of the old and well-known firm of San Francisco jobbers, Rothschild & Hadenfeldt, has returned home from his annual trip East, and mighty glad to get home too, he says. After a fellow experiences a few days of July or August weather, as they have it served up in New York City, he is willing to go back West on the first train, and is mighty homesick for a breath of 'Frisco's trade winds, even if it does roll in several banks of fog and rare Scotch mist. He would sooner wear a light overcoat and be comfortable at home than no coat at all and miserably, swelteringly hot and uncomfortable away. Who can blame him?

James Montgomery, of Montgomery Bros., Los Angeles, Cal., is East, buying up lots of pretty things for his new store, which he will move into on his return. It is situated in that most desirable business locality, Third and Spring Streets, and is fitted up in first-class shape.

Charles Weinschenk, of that well-known and reliable firm of Armer & Weinschenk, has just returned from a most successful Southern trip. There is no one visiting the trade on the Pacific slope better known or better liked than Charley Weinschenk, and it is safe to say, because true, that no one deserves his popularity more than he does.

H. J. Whitley, of Los Angeles, Cal., has, without a doubt, one of the handsomest stores in the State, or out of the State either, with its tiled floor, handsome oak furniture and beautifully frescoed ceiling. It must be a pleasure for any one to buy goods there, and while ordinary goods would look well, the particularly beautiful stock he has shows to the best advantage by blending with the well-appointed surroundings, and is a treat indeed to look at.

W. H. Scribner, the well-known jeweler of Bakersfield, Cal., is going to build, so it is said, a \$75,000 opera house. Further description will be given later on of this handsome edifice, which will be a credit not only to Mr. Scribner's good taste, but to the architecture of that growing town as well.

F. J. Mund, formerly of Colorado, has opened a fine new store in Riverside, Cal., where he will no doubt make a very successful business for himself. He deserves it, too.

Will H. Tregia has taken a position with Peter Johnson, of Angels Camp, Cal.

H. C. Warner, of Fresno, Cal., has, after the fashion set by so many of our leading jewelers, moved into a handsome new store. Larger business, ever increasing, need of more room, from old store into a larger and more modern one, so it is with our aggressive jewelers of this great Commonwealth of California. It must be in the air they breathe, or the climate, or something.

We are pleased to congratulate James A. Sorensen, the popular Sixth Street jeweler, upon the arrival at his home of a fine bouncing boy, heir to his fame and fortune, and we know our well wishes will be echoed by his many warm friends in the trade.

E. W. Wright, of Bakersfield, Cal., has lately added to his big business and fine stock of jewelry a particularly choice line of stationery. Whatever Mr. Wright does he does well, so that it is safe to say that no one in Bakersfield will, in the future, have any excuse for not doing their correspondence on the "latest" style of stationery.

Both of A. I. Hall & Son's travelers are "out," one North, the other South, and from the business they are doing dull times are a thing of the past; and why not, with the enticing stock they have with them to show the trade it would have to be dull, indeed, if they didn't do a good business.

M. A. Goldman, formerly of Bakersfield, Cal., has moved to Walla Walla, Wash., where he has opened a fine new store. May success go with you and perch upon your banner, Mr. Goldman.

We also have to announce that M. Barborka, recently of Cloverdale, Cal., has deserted his friends in that fair town by moving to Santa Cruz, Cal., where it is safe to say he will make many new friends, besides retaining those old ones left behind him, whose best wishes he is taking with him.

Everybody knows and likes A. F. Lowenthal, popularly known as "O Size Lowenthal," who represents the particularly well-known firm of A. Judis, and his host of friends all over the State will be glad to know that he is having a good trip, is in the best of health and will return to "old 'Frisco" the latter part of September.

Charles Graebe, of San Jose, Cal., recently returned from a trip to the East, and brought with him a charming bride, who has our best wishes and those of his many friends, while our congratulations go out to Mr. Graebe, as do those of the host who know and like him.

E. Berman, of Los Angeles, Cal., who committed suicide last month, was one of the old-time jewelers of the slope and a man well liked by all who knew him. There is no doubt expressed but that he committed the act while out of his mind for the time being.

A. Judis took a flying business trip of a few days only. It seemed like old times for him to be on the road again. We all find fault at one time or another with traveling—those of us who have done it—but it has its pleasant side, boys, and when we graduate, as some of us do, there is much to look back on.

There were quite a number of well-known out-of-town jewelers in San Francisco during September, the great majority of whom looked for good business from now on. Among many others were: G. Reber, of Angels Camp, Cal.; F. W. Carter, Santa Rosa, Cal.; C. Briedmeyer, Guyma, Mexico; D. Hyman, Sacramento, Cal.; J. H. Langhorst, of Jackson, Cal.; Wm. Marshall, of San Luis Obispo, Cal.; and Mr. Seeligsohn, of Seeligsohn Sons, Tucson, Ariz.

To the Trade

"There is Nothing
Like Leather."

We have made special efforts in the manufacture of leather goods for the Wedding and Holiday seasons, and our stock is unusually interesting and complete, comprising many beautiful and artistic novelties, in addition to our regular stock of

**POCKETBOOKS, CARD CASES,
CHATELAINES AND TRAVELING BAGS**
(the latter with complete equipment),
PRAYER BOOKS, HYMNALS, ETC.

Our goods are manufactured from genuine leathers, and comprise, in addition to our regular stock, complete lines made from such rare skins as those of the Sea Lion, the Tapir and the Texas Steer, all of the finest grain and color, and mounted with silver or gold trimmings, including the new Indian mountings in silver-gilt, set with pearls and precious stones. We also desire to call attention to our line of Silk Sashes, with plain or richly ornamented buckles, decorated with precious stones.



NEW YORK,
23 Maiden Lane.

Broadway and
19th Street,

Gorham Mfg. Co.

... SILVERSMITHS ...

New York.

BRANCHES:
CHICAGO,
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WORKS: PROVIDENCE, R. I. AND NEW YORK.



Crescent High Grade Bracelet.

Satisfaction Guaranteed by Maker or New Bracelet Furnished.

In order to

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customer of ours,
we offer a **bracelet**,
that *must* and *will* give
satisfactory wear.

Price, per dozen on pad,
\$15.00.

10 per cent. discount for cash,
6 per cent. 10 days,
5 per cent. 30 days.

Full line of Blackinton's
bracelets and
chains.

Jules Ascheim,

41 Maiden Lane,

New York.

Cincinnati Letter.

The volume of business transacted by our jobbers the past month has been quite satisfactory. Judging from all reports, it is considerably in advance of the corresponding period of last year. Visiting buyers have been much more numerous than usual and seem to be in the best of humor. Salesmen who cover the various States in the central section of the country claim that the farmers never were in a better condition. The crops never were more bountiful nor prospects brighter for the dealers in the medium-sized and smaller cities.

The big Grand Army of the Republic Encampment brought to the city 200,000 visitors the first week in September. Now that the immense crowd has gone, our merchants are figuring the amount of money, above the usual business, which was spent here during encampment week. The figures vary: some place the figure at \$1,000,000, others in excess of this sum; but the most general estimate is about \$200,000 a day for five days of the week, making an even \$1,000,000. It is figured that the influx of visitors doubled the retail business and increased the wholesale about one-fourth. While the jewelry and allied trades came in for their share of the increased business, the more staple lines, like dry goods and clothing, came in for the greatest share. To entertain the strangers cost the city, that is the business interests, about \$75,000, but the return in trade amply repaid them for the investment. The encampment brought a large number of buyers to the market, and there was not a house that didn't have its hands full waiting on trade. On Thursday, the day of the big civic and industrial parade, the wholesale houses had to remain open to accommodate their trade. Taken as a whole, the week was the biggest in point of sales that the market has had for years. Buyers who formerly traded here, but drifted to other marts, were in the city and bought liberally. The benefit derived by the business men of the city from the encampment is incalculable. There were an abundance of opening stocks sold here within the last week, the number exceeding fifteen, distributing in various parts of the country, but principally South.

A large number of jewelers have visited this market the past month who will bear substantial testimony to the fact that it pays to buy their supplies in Cincinnati.

George Greyer, of Anderson, Ind., was a welcome trade visitor in Cincinnati during encampment week.

Chris. Hewig, of Evansville, Ind., was among the interested and good-natured throng of visitors here during encampment week.

E. Weber, of Wauseon, Ohio, was in town last month on a business trip.

J. H. McCracken, of Washington, Ind., was a trade visitor here recently.

The ending of the war has opened up to the manufacturers of the West and South a new and immense field of trade in the West Indies that they will not be slow to take advantage of. This fall and winter will see a great rush of American capital to these islands; business will be done on American principles, and American goods will be in great demand. The population of the islands will be increased by foreigners of all nationalities, and business will expand and increase in rapid strides. This field seems to be especially good for Cincinnati manufacturers and jobbers. Our city is in a position to supply a good share of the goods used in these new fields, and our merchants and manufacturers should make the most of these opportunities. They will.

A. Lehne, of Mechanicsburg, Ohio, was buying goods in this market last month.

R. Hullebrand, of Nashville, Tenn., was a welcome trade visitor here last month.

J. D. Smith, the veteran jeweler of Union City, Ind., was among the throng of trade visitors encampment week.

W. L. Coppersmith, of Frankfort, Ky., was here encampment week.

G. Judd Williams, of Urbana, Ohio, was a recent buyer in this market.

There is some talk among the retail trade of injecting new life into the Ohio Retail Jewelers' Association by calling a meeting of the officers and members either this fall or early in the spring. The association has become quite inactive, and some of the members in Cincinnati have expressed the desire of bringing it to the front again.

F. H. Pardon, of Owensboro, Ky., visited Cincinnati early in last month on a purchasing trip.

Charles Cook, Sr., formerly a retailer, of Fifth and Smith Streets, has opened a new store at 532 Race street. Charles Cook, Jr., his son, is associated with him as an expert optician.

E. & J. Swigart have recently brightened up and improved the looks of their store by painting the walls and refitting their office with new furniture.

Jeweler James E. Gift, of Corinth, Miss., was in town the early part of September, making purchases for the fall trade.

G. W. Meyer, of Chattanooga, Tenn., a frequent and welcome visitor in this market, was here last month.

J. W. Mather, of Parkersburg, W. Va., was met by THE KEYSTONE representative in the office of one of our manufacturing jewelry firms during encampment week. Mr. Mather remarked that business was encouraging in his section and that they were anticipating a prosperous fall and holiday trade this season. Mr. Mather is a mighty pleasant gentleman to greet and always meets with a hearty welcome when he visits Cincinnati.

William Shibley, the pioneer jeweler of Wooster, Ohio, was among the big throng of trade visitors during the Grand Army Encampment.

The well-known jewelry firm of Kruckemeyer & Conn, Evansville, Ind., was represented in Cincinnati during encampment week by Benj. Kruckemeyer.

A. K. Lyon, of Lexington, Ky., was among the host of trade callers here during the encampment.

The Queen City Watch Case Co. has increased the working force in its manufacturing department.

The Merchants' and Manufacturers' Association of Cincinnati has been doing good work the present season in so far as the season has opened up. The association has brought a great many buyers into Cincinnati, and the jewelers who are members of the association express themselves as very well pleased with the results.

The Grand Army Encampment week brought a large number of the jewelry contingent to town. Among the many trade callers were the following: N. Tanning, Walton, Ky.; J. H. Kreke, Huntingdon, Ind.; W. P. Stevenson, Frankfort, Ky.; C. Eveslage, Ripley, Ohio; C. E. Keever, Fountain City, Ind.; G. W. Keifner, Loogootee, Ind.; R. H. Dille, Cambridge, Ohio; N. Leist, New Albany, Ind.; A. K. Lyon, Lexington, Ky.; J. Worrell, Washington C. H., Ohio; Frank Sharp, Newport, Ind.; G. W. Meyer, Chattanooga, Tenn.; C. F. Mages, New Carlisle, Ohio; W. H. Reid, Parkersburg, W. Va.; Max Glenn, Morristown, Tenn.; J. M. Glenn, Morristown, Tenn.; R. R. Lusk, Utica, Ohio; C. Meise, Tippecanoe City, Ohio; J. T. Esley, Leipsic, Ohio; John Telbert, Frankfort, Ky.; L. M. Ensley, Troy, Ohio; Louis McCarthey, Maysville, Ky.; Frank Hornung, Brookville, Ind.; E. F. Starks, Newport, Ind.; Chas. Seiglitz, Vevay, Ind.; J. W. Mather, Parkersburg, W. Va.; W. J. Burkhardt, Dayton, Ohio; Chas. Crites, London, Ohio; John Embrey, Richmond, Ohio; W. S. Finley, Nashville, Tenn.; John Meyer, Elwood, Ind.; J. C. Carson, Greensburg, Ky.; G. W. Gause, Willshire, Ohio; L. C. Deefenbach, Lewisburg, Ohio; H. C. Dickinson, Richmond, Ind.; E. M. Scoville, Pioneer, Ohio; Duncanson Brothers, Lynchburg, Ohio; E. M. Bras, New Boston, Ill.; A. Hassfurther, Jeffersonville, Ind.; J. A. Slonecker, Scioto, Ohio; J. D. Ward, Rising Sun, Ind.; M. Kaelin, Jr., Nelsonville, Ind.; J. W. Sparks, Sabina, Ohio; M. R. Pauly, Mason, Ohio; A. Clooney, Napierville, Ky.; D. P. Armer, Richmond, Ky.; Herman A. Rohs, Cynthia, Ky.; J. E. Smith, Lockland, Ohio; E. E. Mosiman, Bluffton, Ind.; D. A. Lamb, Wilmington, Ohio; E. Lehne, Mechanicsburg, Ohio; W. C. Ward, Manchester, Ky.; Jas. E. Gift, Corinth, Miss.; Emil Weber, Wauseon, Ohio; C. G. Boerner, Vevay, Ind.; Wm. Haseltine, Kokomo, Ind.; E. Judd Williams, Urbana, Ohio; J. D. Smith, Union City, Ind.; R. Huellebrand, Nashville, Tenn.; M. T. Graham, Fort Smith, Ark.; J. H. McCracken, Washington, Ind.; J. S. Dorman, Winfield, Tenn.; C. K. Weaver, Miamisburg, Ohio; C. Heistermann, Germantown, Ohio; J. E. Van Hoy, of Van Hoy & Hill, Campbellsville, Ky.; Thos. Watson, Dayton, Ohio; A. H. Beer, Versailles, Ind.; C. D. Tillson, Greensburg, Ind.; J. E. McCreighs, West Union, Ohio; Mr. Bressler, Tusculumbia, Ala.; P. Boerstler, Batesville, Ind.; J. W. Jones, Mt. Sterling, Ky.; M. Cook, Winchester, Ind.; Frank Balzer, Blue Ash, Ohio; Ed. Mehmert, Olney, Ill.; Frank Jeager, Richmond, Ky.; Daniel J. Murray, Akron, Ohio; G. J. Downs, Augusta, Ky.; C. C. Fried, Springfield, Ohio; C. D. Young, Delaware, Ohio; H. C. Bostwick, Newark, Ohio; M. Kaelin, Jr., Nelsonville, Ohio; C. Warner and B. Warner, Bluffton, Ind.; W. S. Weaver, Knightstown, Ind.; Chas. L. Hull, Gallipolis, Ohio; Wm. Leive, Aurora, Ind.; J. W. Barnes, Mt. Sterling, Ky.; H. A. Posner, D. G. Moore and Alexander White, Ft. Wayne; Drummond & Co., Denver, Colo.; Harris & Co., Memphis, Tenn.; Carter & Slaughter, Maysfield, Ky.; S. E. Olsen & Co., Memphis, Ky.; John Elwell, Memphis, Tenn.; Henry Aurbach, Topeka, Kans.

Henry Guettle, Kansas City, Mo.; S. M. Noble, Kentland, Ind.; Ed. De Voss & Son, Wilmington, Ohio; Abe Boiarsky, Charleston, W. Va.; J. M. Deckol, Charleston, Ill.; J. C. Thompson, Lancaster, Ky.; G. J. Daum, Augusta, Ky.; A. Cerf, New Albany, Ind.; A. J. Galloway, Sellersburg, Ind.; C. C. Hughs, Utica, Ohio; K. Baker, Ripley, Ohio; Lee Kahn, Greenville, Ohio; W. C. Carroll, Lebanon, Ky.; C. M. Hill, Dayton, Ohio; A. H. Hill, Dayton, Ohio; G. W. Spessard, Miamisburg, Ohio; D. Goodin, McKinney, Tex.; R. W. Mitchell, Greenup, Ky.; J. W. Thompson, Danville, Ind.; Geo. Shotwell, Butler, Ky.; H. W. McKee, Cumberland, Ohio; H. Risinger, Lawrenceburg, Ind.; P. Boerstler, Batesville, Ind.; J. S. Wall, Gallipolis, Ohio; J. W. Ebersbaker, Bethlehem, Ky.; Dr. J. H. McCassey, Dayton, Ohio; G. T. Baughman, Larue, Ohio; C. Geffinger, Harrodsburg, Ky.; E. N. Scoville, Pioneer, Ohio; E. E. Kennedy, Bellefontaine, Ohio; H. G. Litton & Co., Somerset, Ky.; W. N. Rigdon.

Philadelphia Notes.

Local business is improving, with the prospect of an excellent holiday trade. The monster industries of the city—shipbuilding, locomotive building, textile, etc.—are in a prosperous condition, and an abundance of spendable cash is in sight for the gift-buying season. School opening brought the recreation-seeking population back to town, and their advent, as well as the drop in the temperature, helped to invigorate trade. The summer lethargy has entirely disappeared and a seasonable fall briskness is everywhere evident. Hopes are high and the possibility of disappointment is not even considered.

C. F. Rumpp & Sons, manufacturers of fine leather goods, will have ready for distribution about October 1st a new forty-page illustrated catalogue, with an original imitation leather cover. All the cuts are half-tones, and the whole is a triumph of the printer's art. The contents are especially interesting on the threshold of the holiday season.

The contractors who have taken upon themselves the task of placing in position the huge clock that will, on and after January 1, 1899, tell time for all Philadelphia from its elevated point of vantage on the City Hall tower, are making rapid progress with their work, and already many indications are visible from the streets, which tell pedestrians that the four dials are rapidly assuming shape. The metal framework for the dials is now in place, and four twenty-three foot dials will soon be up and ready to have the hands fitted to them.

Paul Schless, of 2222 North Front Street, with a view to a material extension of his business, has leased the large building at 138 North Eighth Street, where he will open, on or about October 1st, with a greatly increased stock. A feature of his new store will be a spacious optical department, fitted with all the latest eye-testing appliances.

G. Lanz, Norristown, Pa., requests us to warn the trade against a man who is selling revolving machines for window decorations. He warrants the machines to run for eighteen or twenty hours, but they run for not more than two-and-a-half or three hours. It is said to be his custom to deliver the machines just as he is leaving town. He claims to represent the Monitor Rotary Stand Co., Rochester, N. Y., but letters written to that address by Mr. Lanz elicited no response. The salesman is about five feet eight inches tall, dark complected, with dark mustache, and weighs about 160 pounds.

H. Murray & Sons, retailers, have moved from Eleventh Street, below Chestnut Street, into larger quarters at 1111 Market Street.

The Philadelphia Jewelers' Club has secured new quarters on the second floor of the building at 1225 Chestnut Street, and will move thereto about November 1st. Meanwhile extensive alterations will be made and the quarters elaborately and elegantly fitted up with a pool and billiard room, card room, assembly room, reading room and cafe. The new location is right in the center of the business section, and admirably suited for club purposes.

Walter H. Podesta, of Walter H. Podesta & Co., opticians, recently returned from Europe.

The new clock recently erected in front of the new store of H. Muhr's Sons, will help regulate the time for the hurrying crowds on Chestnut Street. The clock stands twelve feet high, and has four dials, which are illuminated at night.

It is expected that the new year will find the big clock telling the time to Philadelphians from its elevated perch. The fact that no bell will announce the hours or halves is a regrettable departure from established custom, but the reasons for it are solid.



RETAIL JEWELERS (HERE IS MONEY FOR YOU.)

796 i

We are manufacturers of **SOLID GOLD JEWELRY.**

Estimates Furnished.

Goods Shipped Promptly.

WRITE FOR OUR REPAIR PRICE-LIST.

GEO. K. HARRINGTON & CO., 131-137 Wabash Ave., Chicago, Silversmiths' Building.

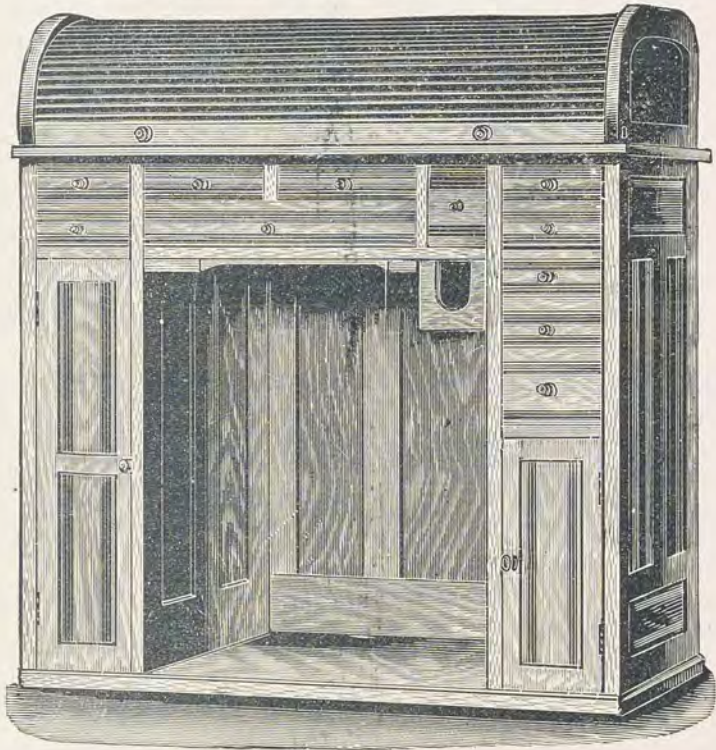


Special Offer for October

TO INTRODUCE US.

This Solid Antique Oak Roll-Top Work Bench, guaranteed the best bench on the market, only **\$13.50**, cash with order, F. O. B. cars.

MONEY REFUNDED IF NOT BETTER THAN ANY OTHER.



OUR SPECIALTIES:

Perfection Mainsprings.
Genuine Material.
Prompt service.
Orders filled from any Catalogue.
Try us for mail orders.

SISCHO & BEARD

Jewelers' Supply House,
ST. PAUL, MINN.

Photo-Miniatures on Watch Dials and Caps.

(THE NEVER-PEEL-OFF KIND.)

PRICE,
\$1.00
NET.

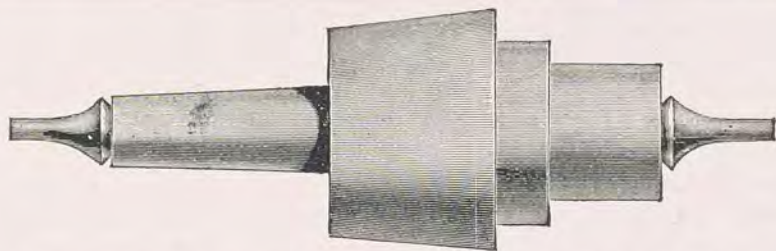


PRICE,
\$1.00
NET.

24-HOUR SERVICE.

EMBOSSED SHOW-CARD FREE TO JEWELERS.

The Elmore Co., 115 Dearborn St., Chicago.



Genuine American Delhi Material Co.'s Balance Staffs and Jewels, for all makes of American Watches, at \$1.25 per dozen.

Waltham, . . . 18, 16, 6, 0 sizes.
Elgin, . . . 18, 16, 6, 0 "
Hampden, . . . 18, 16, 6 "
Columbus, . . . 18, 16, 6 "
Illinois, . . . 18, 16, 6 "

These STAFFS and JEWELS are superior to any in the market for the money.

We also have a very fine Mainspring for all makes of American Watches, warranted against breakage or setting in the barrel, at **75 cents** per dozen. Tool or Material orders filled from any catalogue, and a cash discount allowed. Our stock is complete. Send trial order.

ROSENZWEIG BROS.,

SUCCESSORS TO DELHI MATERIAL CO.,

WATCHES, DIAMONDS AND JEWELRY.

52 Maiden Lane, NEW YORK.

Write us for prices on Optical Goods.



No. 8377.
SECOND CORPS.



No. 8407.
THIRD CORPS.



No. 1626.
RED CROSS.

Sterling Enameled Army Corps Badges.

Official designs adopted by War Department for the Army of 1898.

WE ALSO MAKE THEM FOR SEVERAL OTHER CORPS.

WRITE FOR PRICES.



No. 8380.



No. 8405.
FIFTH ARMY CORPS.



No. 8395.

CHAS. M. ROBBINS,

Manufacturer,

Attleboro,
Mass.

WHILE THEY LAST

Solid Gold Rope Lorgnettes

SOLDERED LINKS.

ROMAN OR POLISH.

48 INCHES LONG.

\$7.00 NET CASH.

L. W. RUBENSTEIN,

54 MAIDEN LANE,

NEW YORK.



OUR OWN

DESIGN

MATCH BOXES,
\$6.00 Dozen.

Silver-Plated and Oxidized

Send to us for our 1898 Catalogue of Watches, Diamonds, Jewelry, Silverware, Cut Glass, Clocks, etc.

J. T. SCOTT & CO., 4 Maiden Lane, New York.



The Proposed Silverware Combination.

Denial has been made to the statement that the proposed solidation in one company, as described on page 757, of the silver-plated ware manufacturing interests of the United States and Canada had reached the point of collapse. The announcement is made that, on the contrary, negotiations looking toward a consummation of the proposed combination of interests are still pending.

Within the last few weeks Wallingford, the home of the large interests of the R. Wallace & Sons Manufacturing Company, Simpson, Hall, Miller & Co., and the Watrous Manufacturing Company, has become the important center about which the negotiations in the proposed combination have revolved. The key to the whole situation is now in the hands of the officials of R. Wallace & Sons, and it should be added that the heads of this concern are not antagonistic to a combination of silverware manufacturing concerns. On the contrary, this firm looks with favor upon some such alliance, provided it can be negotiated upon equitable and business-like terms.

The part which Wallace & Sons has played in the suggested deal is interesting. Some time ago the New York banking firm of Thomas & Post, of Wall Street, approached and made a proposition to all the following silver-plated ware manufacturing concerns: Meriden Britannia Company, Meriden Silver Plate Company, C. Rogers & Brothers, Wilcox Silver Plate Company, Meriden; Simpson, Hall, Miller & Co., Simpson Nickel Company, Watrous Manufacturing Company, R. Wallace & Sons, Wallingford; Barbour Silver Company, William Rogers Manufacturing Company, Rogers Cutlery Company, Hartford; Middletown Plate Company, Middletown, Conn.; Manhattan Silver Plate Company, Lyons, N. Y.; Holmes & Edwards Company, Bridgeport; Rogers & Hamilton Company, Waterbury; William A. Rogers, New York; Norwich Cutlery Company, Norwich; Standard Silver Company, Toronto; Homan Silver Plate Company, Cincinnati; West Silver Company, Taunton, Mass.

The bankers announced themselves as the financiers of the International Silver Company with preferred stock of \$15,000,000 and common stock of \$15,000,000. Particularly prominent in the movement have been O. R. Thomas, of the Manhattan Silver Plate Company, of Lyons, N. Y., and George C. Edwards, of the Bridgeport firm of Holmes & Edwards.

The bankers caused to be made expert examinations of the condition of these firms, and ultimately made propositions for the purchase of controlling interests in them.

Preliminary agreements were offered for signatures and out of the twenty-two firms named above all signed these agreements except R. Wallace & Sons. Several of the larger concerns, however, attached their signatures conditionally upon the entrance of all of the companies in the list. Accordingly, at an early stage of the negotiations, the eyes of all interested were turned upon Wallace & Sons. The syndicate made to this Wallingford concern a proposition, which was rejected, and the negotiations proceeded.

At the outset, Wallace & Sons announced their disinclination to enter what might be called a blind pool. In other words this concern took the advanced position that by delivering to the new company all of their assets they entered the market as purchasers to just as great an extent

as the bankers, and they demanded that the figures be made known at which the other concerns went in and that the assets and liabilities of all concerns be laid open.

According to the plan, the new company was to assume all the indebtedness of all the concerns, and Wallace & Sons, agreeing to that, insisted that it immediately become expedient from the standpoint of good business that the indebtedness of all be made known, and that all the pages of the proposed transaction be open, so that purchases and sales might be made on a pro rata basis.

This occasioned a hitch, because at the inception of the negotiations nearly all of the firms delivered their statements to the heads of the syndicate after extracting pledges that the statements should be held in confidence. Wallace & Sons finally peremptorily refused to sign agreements unless their demands that the basis of sales and the terms of sales were complied with.

The promoters admitted the fairness of the proposition, but announced their inability to comply because of pledges made by them which forbade the disclosure of the conditions of the various firms. Accordingly, Wallace & Sons formally announced that they had no proposition to make or consider. Meanwhile several of the other larger firms interested, all of which had made their entrance conditional upon the signing of all, stood at the back of Wallace & Sons and encouraged them in insisting upon the disclosures which had been demanded. Whether Wallace & Sons demand will be complied with is not known at this writing, but it is stated that even if the proposed combination on its present basis collapses, it is probable that new plans will be formulated and that a combination on a new basis will result. At all events, it is uniformly conceded that sooner or later some such combination will develop.

Pleasing the Public.

The only way to attract the people is to please them; the only way to keep their custom is to continue pleasing them and anticipate their pleasures.

You want to "keep tab," as it were, on what they require, to constantly endeavor to find out their wants and supply them promptly. This can be done promptly through your salespeople. If goods be asked for that you haven't in stock, offer to get them. Get the address of the would-be purchasers, notify them when you have the goods, and let that be quickly. All that is trouble, but it is the kind of trouble that pays and builds up a solid, permanent trade.

I have always claimed that the private reputation earned by a firm's enterprise was more stable than the public one earned by advertising. Shoppers are mostly women, and it is one of woman's most glorious privileges to talk, and she never fails to avail herself of that privilege. Please the woman and you have secured the family trade, besides recommending you to her friends. Displease her, and you have not only made an enemy of her but of her friends also.

You will never please the public by being lax or unattractive in your advertising. The people have come to be great and discerning critics in this respect. They criticize your ads., your matter and your methods much more than you think. Nothing stale, weak or silly, by way of argument, will "go down" with them. And you must not merely please them in words, but in practice. Promise nothing you are not prepared to perform when they visit your store.

—Printers' Ink.

Hot Shot.

Missiles that Probably do not Fly Wide of the Mark.

Make a clerk believe that you expect much of him, but no more than he is capable of performing, and nine times out of ten he will "fill the bill." Let him feel that you have no use for him, and he will prove a failure. Trust your employees and you will raise the standard of their efficiency. If there are any you cannot place confidence in make a change; 'twill be better for all.

The clever young man who is careful not to do more work than he is paid for, and the shrewd old merchant who "can hire all the help I want for one-half what I am paying you, sir" are very near akin. They are birds of a feather, but their ambition does not roost high.

Learn to labor and to wait. To the energetic merchant the first is easy; the last is often more than hard. Work for all the business there is to be had, but don't grow tired or impatient if the spring rush is delayed. Impatience is an enemy to real progress. The drivers of a locomotive with a full head of steam and an empty sand box, can get no grip, and fly around without moving the machine.

Advice to Out-of-town Merchants.

The New York Merchants' Association recently issued a little booklet for out-of-town merchants, the following extract from which will repay perusal:

The most expensive thing in the world is running in a rut.

In business, running in a rut is trying to sell old things to people who want new things—offering last year's goods to people who want this year's.

Running in a rut comes from staying at home. The cure is going to market.

If you stay at home you dry up; if you go to market you freshen up. To dry up is to lose your customers to other merchants who do not run in ruts. To freshen up is to gain new customers by new attractions.

Buyers are attracted by new things, and will pay handsomely for novelty and the "latest style." These do not originate in your own home, but in the great trade centers. You get them if you go to market; you do not get them if you stay at home.

If you go to market and your competitors do not, your townspeople know it. You show the best stock, and they know it. They know that you have been to the source, and you set the fashion and get the trade, because you are not in a rut.

If you show city styles your customers are pleased and stay with you; if not, they wander away to big cities, or buy through catalogues or mail orders. You do not find the new styles and the profit-winners if you stay in a rut.

The good things do not get into the ruts. Fresh ideas are worth money in business. You will get lots of new ideas by going to market and seeing other successful retail houses. See how they do things, and what you will see will show you ways to "freshen up" your business.

By going to market you get tips on styles, learn what is most popular and salable, gather hints on attractive displays and useful store methods. But better, select more attractive goods and choicer variety, make a better show in your store when you return, and "freshen up" in every way.

It is not underselling your competitors on the same goods that makes money. Competition on prices only hurts; competition on novelty and variety pays. Going to market equips you for paying competition; staying at home binds you to losing competition.

Don't save pennies and waste dollars; don't save \$50 in traveling expenses and pay 10 per cent. more for your goods.



We Address

Those Jewelers who have, as yet, not established business relations with us, confident of the fact that the experience of a connection of this sort will prove valuable and be mutually profitable and satisfactory. We are distributors of American and foreign **WATCHES, DIAMONDS** and Precious Stones, and Makers of Fine Jewelry and Special Order Work, and Repairers to the Trade. Our new fall lines are by far the best and most complete we have ever shown. We shall be pleased to have you call and inspect for yourself, and if you cannot visit us, give us a trial on your mail orders.

EISENSTADT MFG. CO.

Holland Building, **ST. LOUIS**

JUDICIOUS ADVERTISING

is a sure road to success.

New York, October 1, 1898.

DEAR SIR:

Our new Illustrated Catalogue, printed especially for **one wide-awake** Jeweler in each city, will soon be ready for distribution. Do you want this book for Holiday Trade? Must have your order before October 10th, as we shall print only one edition. It will contain twice the number of pages this year. Plates are photo. engravings 6 x 9 inches. **Only your name will appear in the book.**

1000 cost	\$25.00
500 cost	15.00

Send for our circular telling how to secure 500 or 1000 free of charge. We want your holiday business. Our lines are cheaper and more attractive than ever before.

Yours very truly,

AVERBECK & AVERBECK,

Manufacturers Gold Rings and Jewelry, Silver Novelties,

16 & 18 Maiden Lane, New York.

Retail prices in Catalogue are just double the wholesale price.

Our large, regular Illustrated Catalogue will be ready October 10th. Are you on our list?

"Seek no further.
Seeing is believing."

A large percentage of the Jewelers handle the "OMEGA" Watches.

Why? Because they know it is the Best Watch made for the money.

Why? Because they can make a fair profit on the "OMEGA," as they are sold only to Legitimate Jewelers.

Why? Because every movement is warranted a fine timepiece.

We want ALL the up-to-date Jewelers to handle the "OMEGA." Your stock is not complete without them.

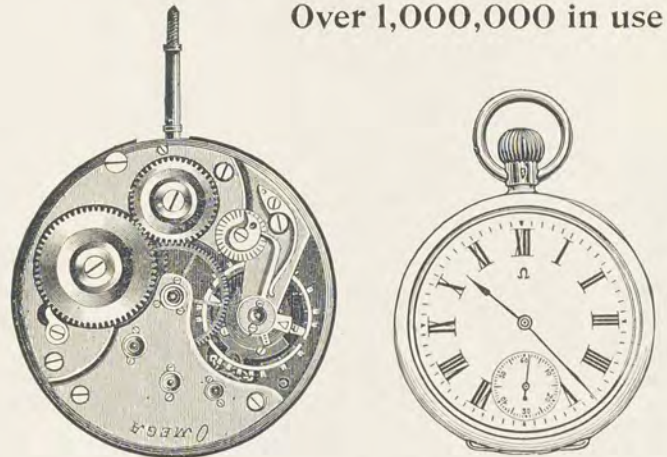
Send for Price-List.

EDMOND E. ROBERT,
3 Maiden Lane, NEW YORK.
CROSS & BEGUELIN,
17 Maiden Lane, NEW YORK.

SOLE
SELLING
AGENTS

Omega Watches

Over 1,000,000 in use



The "Omega" are pendant-set, fit O and 16 size Waltham cases, and are made in 5 different grades as follows:

- 7 Jewels, Expansion Balance, Double Roller, Nickelized.
- 15 Jewels, Expansion Balance, Double Roller, Nickelized.
- 15 Jewels, Expansion Balance, Double Roller, Nickel, Pat. Reg.
- 17 Jewels, Expansion Balance, Double Roller, Nickel, Pat. Reg., adjusted.
- 17 Jewels, Expansion Balance, Double Roller, Nickel, adjusted to 5 positions.

WARRANTED FINE TIMEPIECES.

ALL PARTS INTERCHANGEABLE.

Above made to order with dealer's name if desired.

W. P. HAMLIN, *Jewelry and Art Auctioneer,*

28 State Street, Rochester, N. Y.



TESTIMONIALS

MR. W. P. HAMLIN. RUTLAND, Vt., September 25, 1897.
DEAR SIR:—Please accept our thanks for the way in which you have conducted our sale. We are pleased with your work, and can cheerfully recommend you to any one thinking of having a sale. Do not hesitate to refer to us at any time.
Yours respectfully, HASCALL & BROWN.

I have had W. P. Hamlin conducting an auction for fourteen days. He has sold about \$9,000 worth of goods, making me more profit than I had made in six months. He is a hustler.
W. E. FOYE.

I consider Mr. W. P. Hamlin, America's greatest auctioneer. I speak from my personal observation and experience with auctioneers. He has just closed a fifteen days' sale for me, selling over \$20,000 worth of stock and realizing for me a handsome profit over all expenses. If you want a successful salesman, employ him.
R. J. HENSON.

REFERENCES

PICKERING & QUINTARD, Wholesale Jewelers, 11 John Street, N. Y.	W. M. TIMBLIN, Olean, N. Y.
PHILIP PRESENT, Wholesale Jeweler, Rochester, N. Y.	N. HIGHFIELD, Hampton, Va.
VAN BERG SILVER PLATE CO., Rochester, N. Y.	ELSHEIMER & SON, Niagara Falls, N. Y.
G. M. KELLER, Lock Haven, Pa.	R. C. HITCHLER, Nanticoke, Pa.
AMSDEN BROS., Bankers, Rochester, N. Y.	J. W. JOHNSON, Wholesale Jeweler, 22 John Street, N. Y.
M. C. THOMAS, Waverly, N. Y.	E. BUNDY, Huntington, W. Va.
M. STONERT, Fair Haven, Vt.	M. ROSENBLUM, Wholesale Jeweler, 320 Granite Building, Rochester, N. Y.
G. W. MILLER, Weatherly, Pa.	VALENTINE & CO., Dunkirk, N. Y.
S. D. SCHENCK, Binghamton, N. Y.	H. H. WEBB, Lancaster, Pa.
CYRUS N. GIBBS, Framingham, Mass.	BAIRD & CO., Babylon, N. Y.
M. KNOWLTON, Cazenovia, N. Y.	R. R. DAVISON, Ansonia, Conn.
DAVID PRESENT, Geneva, N. Y.	P. J. MCCONNELL, Hancock, N. Y.
	CHAS. H. SCHILLER, Utica, N. Y.

Tales of My Grandfather

"DOWN AMONG THE INJUNS."

MY grandfather was a miller of the old school, a class fast disappearing. In his day, the trades of miller and millwright were nearly always one and inseparable. Then the millwright would take the raw material and convert it into a mill. Now there are large millfurnishing establishments that manufacture nearly everything required in a mill, and all the millwright has to do is to set up the machinery in a proper manner. There was, of course, a difference in mechanics in those days, as now.

My grandfather was an ingenious workman. If he could have been stationed by a rushing river, in the midst of a forest, with no other tools than a jackknife and an axe, and told to build a mill, in less than a year there would have been a very creditable mill for those days, ready for business. He had very little schooling, but a great deal of that very essential attribute, even at the present time, commonly known as "horse sense." He rarely went astray in his calculations.

My ancestor was an inveterate smoker and chewer of tobacco, and the harder he worked, and the more perplexed he became, the more he chewed and smoked. And all through his life, I verily believe, one could have trailed him as they do elephants and lions in Africa, by his "spoor."

As for smoking, when he had his pipe lit and drawing well, especially in the evening, I could liken it to nothing but an engine under a full head of steam, pulling a heavy train up a stiff grade. The fire in the bowl of the pipe was the headlight, and he would blow smoke from both nostrils simultaneously and alternately, and I believe from his ears, but I am not entirely sure about this last feature of the performance. However, it made a lasting impression upon my youthful mind.



They had an expectorating contest once in a town where he was at work, and he easily beat all his competitors. The contest was held on the

town common, the contestans sitting on stools upon which they slowly revolved, each one trying to see how large a circle he could describe. My grandfather, it is reported on good authority, outdistanced all

competitors by making a well-defined circle, thirty feet in diameter, and when the circus

came, a month or two later, there was the ring all marked out for them. You see, the tobacco juice killed the grass. And it is a fact well known to the older residents of the town, that it was used for that purpose, and was long known by the name of "Bill Smiley's Ring"—my grandfather's name.

My grandfather was a very strong man, and those who knew him in his prime, say it was no uncommon thing for him to carry a full sack of wheat on each shoulder up three flights of stairs, and keep it up all day, and then go to a ball, and dance all night. Of course, he had to have help in shouldering the sacks, or he never could have done it.

His wanderings from first to last took him in nearly every part of the world. And a history of his adventures by "field and flood" would make a large volume. When a boy, it was a great treat for me to hear him relate the story of his life. Some of the incidents I have remembered, and will endeavor to give them, using as far as possible his style of language and narrative. Among them was the one

Down Among the Injuns.

"In the year 18—, Annie Domino, bein' out of a job, I wuz looking over a paper one day when I run across an advertisement which went on to say that a miller an' millrite wuz wanted to go to Fort S—, in the Injun Territory, an' oversee the bieldin' of a mill that the government wuz going to bield there, an' afterwards run it. As I had started out to see the world, I thought here would be a good chance to git over a right smart stretch of it, pervidin', of course, I could git the job. I wuz then in Illinois, I rote at once fer the place, an' was lucky enough to git it. The masheenery had already bin shipped, an' would probably be there by the time I wuz. I hed orders to hire two good millrites to go an' help me, so I hired my old chum, Ike Brown, an' another feller. The raleroads wuz only a runnin' part way, an' we hed to make the balance of the distance in stages. Well, we got thare all O K, an' found the lumber and masheenery ready fer us, an' we pulled off our coats and pitched into her.

"It was goin' ter be a small mill, jest big enough ter grind meal and flour fer four or five hundred Injuns an' the sogers at the fort, an' the agent an' his help. I hed never seen but one or two Injuns before, but hed red a good deal about the noble red man, an' hed formed a very favorable opinion of him. We hed not been thare long, before



we changed our minds somewhat. As soon as we begun work, the Injuns moved their camp as near the mill site as the agent would 'low them, an' at once formed the hull tribe into an investigating committee. They run across mighty curus people in my day, but them Injuns beat anything I ever saw.

"We dasen't leave our tools layin' round, but kept them locked up in our chists. They carried off every nail an' screw they could pick up, an' anything else they could hide under their blankets, an' all the time lookin' as innocent as lam's. Well, to make a long story

short, in about three months we hed the mill bilt, an' the day set to start her. The day came, an' with it the hull tribe of Injuns. The old chief, young bucks, squaws, papposes, and a whole passel of dogs and ponies. We had expected they would bother us most to death, but we also counted on havin' a hull pile of fun with 'em. We came mighty near making Injun meal out of some of 'em, but nothin' very serous happened.

"The elevators that carried up the wheat and corn excited thair curiosity the most. They would stan' an' watch the little cups a goin' up all the time, an' never seein them come back was too much for even an Injun. They would squat down an' watch the cups as far as they could see 'em, an' then try an' see where they cum from. They put me in mind of a picter I once saw of a lot of old bears 'round a telegraf pole, a listenin' to the hummin' a thinkin' it wuz beez.

"One day the old chief got most too clos', an' got the end of his noze fast between the edge of one of the cups an' the top-edge of the door. Then thare was a war dance in good earnest. I hed to go behind a pile of flour, where I nearly bust myself a laffin', an' Ike Brown, who was a runnin' the engin', I thought he would hev convulsions. We got the old feller loos', but he hed a strawberry mark on his noze that would stay with him fer awhile. Thare wuz an Injun in the tribe by the name of Young-Man-Afeared-Of-His-Hosses, an' after that the old chief wuz known all over the territory as Old-Man-Afeared-Of-His-Noze. That skairt 'em out fer awhile, but thair curiosity got the best of 'em, an' they began to throw in tracers in the shape of nails and screws, an' blocks of wood in the elevators, an' not seein' them come 'round they begun to look elsewhere for them. In the meantime, it kept me busy pickin' things out of the hoppers, an' a watchin' them.

"One day I wuz busy at work, when all of a sudden thare came several loud reports—bang! bang! bang! I wuz given such a start that I jumped into the flour chist, an' pulled down the lid, my first thought bein' that the Injuns had gone on the warpath, an' wuz about to clean us out. Ike had jest gone up on the water tank to see how the water wuz, an' I guess he thot the same thing, fer blame me if he didn't jump in the tank.



"After a little bit, ahearin' no more noise, I raised the lid a little and peeked out. Not an Injun wuz in site. Emboldened by not seein' 'em, I got out of the chist, an' jest then came another bang in the direction of the corn buhr, followed by a big cloud of dust.

"This time, I hed an inklin' of what the trouble wuz, an' goin' up to the stone, an' a lookin' in the hopper, I soon see what made the bangs. You see, the ornery cusses, from not havin' anything else handy fer blame me if he didn't jump in the tank.

"About this time, Ike's head popped up over the edge of the tank, an' seein' me all rite, an' no Injuns in site, he crawled out. I tell you it wuz as good as a theater. Ike looked like a drowned rat, an' I looked like an errin' speerit, doomed to walk the airth. I guess the Injuns wuz as badly skairt as we wuz, fer we didn't see hide nor hair of 'em for nearly a month.

"But the cappin' climax wuz to come. The engin' an' biler wuz another thing that wuz too much fer thair nerves, an' evry time Ike tried the steam, or let her pop off, they would tumble over one another to get out of the way. Ike uster let her blow off just ter see them scamper. Thare wuz no whistle came with the outfit. I guess Uncle Sam thot the Injuns would not want anything to call 'em in the mornin', or tell 'em when dinner wuz

ready, an' they didn't need anything to tell them when to knock off from work, fer thay never worked.

"I knowed where I could git an' old steambote whistle fer little or nothin', and Ike an' I, we chucked in an' sent an' got it unbeknownst to anybody at the fort. My, but she was a whopper, three feet long, and as big 'round as a nail keg. We were a-feared we couldn't raise steam enuff to blow her. We set her up on the sly an' connected her with the biler. Ev'ry once in awhile the government gives out rations to the Injuns, mostly beef an' flour, an' on ration day all the Injuns in the agency are on hand. The beef is on foot, an' the Injun picks out the steer he wants an' shoots it, while his squaw skins an' cuts it up. I want ter say right here, that thare is mighty little goes to waste with an Injun; he's worse nor a Chineyman. A coyote would turn away from what an Injun would eat.

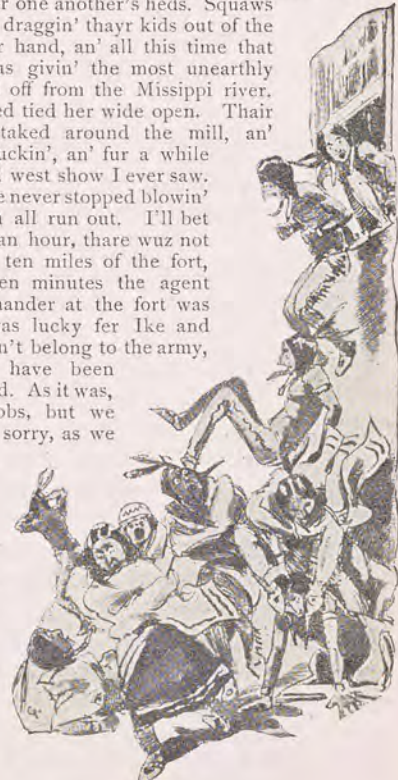
"But as fer flour, which they did not know the good qualities of, it was the other way. The most of 'em would cut the string on the sack of flour and dump the flour on the ground and walk off with the sack.

"Well, of course, the Injuns came to the mill and swarmed all over it like beez, an' we could hardly get 'round the mill without steppin' on a pappoose now and then, and dodgin' here and thare. Ike an' I hed planned to spring our surprise on 'em on this day, an' we hed things all fixed fer it. Ike crammed the wood inter the furnas and hed a roarin' fire. The pinter on the steam-gage went around once and begin to go round ag'in, an' when she registered 197 lbs, Ike wuz afeared to give her eny more. Ike give me the wink, an' threw his hull wate on the rope that started the whistle.

"Gosh, a' mighty! if Gabriel hed a blown his horn rite here, he couldn't have started a bigger hullabaloo amongst them Injuns. Before the whistle blowed, the Injuns were all over the mill. When I looked 'round there wuz Injuns a jumpin' out of the top winders, an' a fallin' down stairs over one another's heds. Squaws a hollerin', an' draggin' thair kids out of the mill by a leg or hand, an' all this time that old whistle was givin' the most unearthly yell ever heard off from the Mississippi river. Yer see, Ike hed tied her wide open. Thair poneys were staked around the mill, an' they begun a buckin', an' fur a while it beat any wild west show I ever saw.

"That old whistle never stopped blowin' until the steam all run out. I'll bet that inside of an hour, thare wuz not a Injun within ten miles of the fort, but in about ten minutes the agent and the commander at the fort was down, an' it was lucky fer Ike and me that we didn't belong to the army, or we would have been court-marshall'd. As it was, we lost our jobs, but we were not very sorry, as we were gettin' tired of it. I herd afterwards that it wuz a hull month before the agent could get the Injuns back onto the reservation."

—Robert Emmet Church, in the Northwestern Miller.



How Her Papa Said Grace.

The minister was dining at the home of his chief parishioner, and, as is customary on such occasions, said grace. The loquacious and observant little daughter of the host noticed the unusual length of the prayer, and remarked that it was much longer than her papa's grace.

"And how does papa say grace?" queried the agreeable pastor.

"Well," replied the little one, "sometimes he just says 'Good God, what a supper!'"

One on the Watchmaker.

"This watch—" began the man.

"Yes," interrupted the watchmaker, seizing it and rapidly opening it. "I see; it wants thorough cleaning, and—"

"Why," roared the man, "that's the new watch my wife bought here yesterday, and I want to exchange it for a larger size."

"Oh—ah—um—oh—yes. Certainly, sir," mumbled the watchmaker.

The First Mate—"How clear and bright it is in the west." The Second Mate—"Why not? The captain has been sweeping the horizon with his glass."

—Indianapolis Journal.

Items of Interest.

H. H. Cook has opened a store at 514 Main Street, Middletown, Conn.

W. Eggerman, of Aurora, Ill., spent his summer vacation at Geneva Lake.

Glouskin & Fox is the name of a new firm who have opened up in New Haven, Conn.

George Schleuder, of Vernon Center, Minn., has sold out to J. McMichael.

Martin C. Weyer, of Faribault, Minn., recently returned from a purchasing trip to Chicago.

J. F. Crandell, formerly located at Le Roy, Minn., is opening up a new store at Sherburn.

J. Hiliker, of Wells, Minn., recently returned from a pleasure trip to the Omaha Exposition.

J. C. Woleflee, of Peoria, Ill., was on a buying trip, in August, to New York and the Eastern States.

The Chilton Jewelry Co., of Boonville, Mo., has added new fixtures and otherwise improved its store.

H. M. Norton, Corry, Pa., will make his usual four or five weeks' trip to the mountains to hunt deer.

W. E. Fenstermacher, formerly of Solomon City, Kans., has opened a new store in Beloit, same State.

E. J. Niewohner, of Columbus, Nebr., has recently returned from a visit among friends in the East.

The firm of Bleur Bros., Rock Island, Ill., has been dissolved, Fred. Bleur succeeding to the business.

H. P. Marx, Shakopee, Minn., had a successful auction sale last month, Auctioneer John H. Raven officiating.

J. Brush, of Bridgeport, Conn., is anticipating a good holiday business, and is making preparations accordingly.

Jeweler E. L. Eckberg, of Red Wing, Minn., is the proud father of a fine boy, born the first week in September.

C. C. Thoma, Battle Creek, Mich., has enlarged, refurnished and redecored his store, which is now very attractive.

George W. True, of Clark & True, Middletown, Conn., is home after a three weeks' hunting and fishing trip in the Maine woods.

Jeweler C. W. Bollinger, of Oskaloosa, Iowa, put in a good part of the heated term camping at Riverside Park, near Oskaloosa.

E. W. Trask and M. E. Plain, of the firm of Trask & Plain, Aurora, Ill., spent the summer at their summer home at Twin Lakes, Wis.

Charles Camm, son of E. I. Camm, of Monmouth, Ill., a member of the Sixth Regiment, Company I, is at present in Porto Rico with the army.

B. Schmidt, formerly in the employ of Jeweler A. R. Coates, at Mankato, Minn., is now in the employ of J. McMichael, at Vernon Center.

J. M. Pollard, of Mexico, Mo., has refitted and repapered his store, making it one of the most complete jewelry establishments in Northeastern Missouri.

R. D. Worrell, of Mexico, Mo., has refitted and rearranged his store, enlarging it and brightening it until it is hardly recognizable as the same room.

J. E. Carmichael, of the firm of Ankeny & Carmichael, Corning, Iowa, has recently returned from an Eastern trip, wherein he combined business and pleasure.

The stock of Cutting & Willson, of Winona, Minn., has been removed to Chippewa Falls, Wis. The business will be carried on by Mr. Willson, of the old firm, Mr. Cutting having embarked in the optical business out West.

Wm. Robinson, of Robinson & Son, Springfield, Mass., is happy over the arrival at his home of a bright and vigorous boy. THE KEYSTONE extends congratulations.

S. E. Smith, of the Smith Jewelry Co., Oskaloosa, Iowa, spent the month of August in Chicago, pursuing a post-graduate course in optics at the Chicago Ophthalmic College.

J. Reiner, of Glencoe, Minn., is about moving into a new store. This move is made necessary on account of the needs of the business, and has been in contemplation for some time.

J. C. Morris, formerly of Fort Atkinson, Iowa, is now located at Calmer, where he is already doing business. Mr. Morris expresses himself as well pleased with his new location.

E. F. Harrington & Co., of Sheldon, Iowa, have recently moved into a new store. Travelers tell us that it is one of the neatest jewelry establishments in that part of the State.

N. C. Adlon, of Oskaloosa, Iowa, has moved into new quarters, and now occupies the building where his father, J. B. Adlon, one of the old-time jewelers of Iowa, did business for years.

M. E. Schmidt, of the Gmelich & Huber Jewelry Co., Boonville, Mo., has, since July, been at the St. Clair Lake and River resorts. Mrs. Schmidt has been in poor health for some time.

John Luckenback, a successful jeweler of Green Bay, Wis., is selling his stock at auction and will, temporarily at least, retire from the trade. He and his wife will spend the winter in California.

O. W. Maynard, New Wilmington, Pa., was presented by his wife, on September 22d, with a ten-and-a-half pound watchmaker, to the hysterical delight of fortunate papa. THE KEYSTONE extends envy and congratulations.

L. E. Sasse, druggist-jeweler, of De Smet, S. Dak., has sold out his business to the Northwestern Drug, Jewelry and Land Co., who will continue the business at the old stand, adding new fixtures and otherwise improving their store.

Jeweler George H. Donbarg, of Wells, Minn., met with a serious accident some little time ago. He was so unfortunate as to break one of his legs. However, at last accounts he had so far recovered as to be about his business again.

The 1898 edition of the "Jobbers' Handbook," published yearly by *The Manufacturing Jeweler*, Providence, R. I., is now ready for distribution. It contains a complete list of manufacturing jewelers and kindred trades, methodically arranged, and is a useful work of reference. The price is one dollar.

James A. Coddling, of the Coddling & Heilborn Co., North Attleboro, Mass., is out on a trip through New England, and reports business good. David L. How, Western representative of the same firm, is sending like reports from the Northwest, accompanied by corroborative testimony in the shape of liberal orders.

The Canadian Horological Institute, Toronto, Canada, announces the beginning of its present school year the best on record, which is convincing proof that the efficiency of the staff, methods of instruction and general thoroughness of the Institute are meeting with just appreciation. The fame of this school is now co-extensive with the continent.

The New York *Tribune*, of September 4th, contained a biographical sketch with portrait of Frederick Kanter, jeweler, whose store is under the Morton House, Broadway and Fourteenth Street. Mr. Kanter is Grand Master of the Grand Council of Royal and Select Masters of the State of New York, and is notable for his researches in Masonic lore.

Sidney Wienshenk, traveler for Hirschfeld & Co., San Francisco, Cal., is expected home the latter part of September, after a most successful trip North, amongst whose jewelers he has many true and tried friends.

Julius King Optical Co. have recently made a number of improvements in their Chicago branch, including a new telephone service and new wareroom show-cases. An increasing trade has also demanded an addition to the force in their workshops and lens-grinding department.

A telegram from Secretary Hannis, of the Nebraska Retail Jewelers' Association, announces that the annual meeting of the association will not be held on October 11, as intended. Whether this includes a postponement of the meeting for optical organization, mentioned elsewhere in this issue, we are not informed, but no doubt such is the case.

Lace-pins, made up in the shape of small turtles, frogs and alligators, are one of the latest fancies. Among the manufacturers who are making this new line is the Attleboro Manufacturing Company, Attleboro, Mass., who are making these lace-pins in sterling silver, mounted with a variety of stones. The goods are made up to sell at popular prices.

"Watch Information," is the name of a booklet just issued by C. G. Alford & Co., 195 and 197 Broadway, New York. This booklet is a little gold mine of information for the watch seller, and a perusal of it will profit him much, so much that he cannot well afford to be without a copy. The firm will send the booklet free to any jeweler mentioning THE KEYSTONE.

W. Lewis Eikenberry, who is connected with the biological laboratory of Mt. Morris College, Mt. Morris, Ill., informs us that it was he who took the photograph of the tornado which was illustrated in our last issue. The fact that Mr. Eikenberry was not given credit for the original photograph in the write-up was due to a misunderstanding. The picture was an excellent and novel piece of photographic work.

In our Philadelphia correspondence, on page 796 1/2, is a warning to the trade about a revolving stand being offered for sale, which is a fraud in that it will not run by any means as long as is claimed for it. Another complaint has reached us from J. W. Sanders, of James Sanders' Sons, Schenectady, N. Y., similar in tenor to that in our Philadelphia letter. In this case the person the agent claimed to represent existed, but knew nothing of the salesman or the stands.

R. Wallace & Sons Manufacturing Co., Wallingford, Conn., have issued a handsome, illustrated catalogue of their beautiful No. 1000 toilet ware in sterling silver. The illustrations are full size and perfect in execution. The No. 1000 ware is made in a complete set of over fifty pieces, including brushes, combs, mirrors, manicure pieces and the many other articles which are found in the category of toilet ware, and the catalogue will be a useful work of reference for the trade.

Jeweler George H. Clark, Daytona, Fla., has been a visitor to Philadelphia and New York during the past two weeks, making purchases for the winter season. Mr. Clark is one of the pioneer and leading jewelers of Florida, and conducts one of the finest jewelry stores in the State. He deals largely in stationery and china, in connection with his other lines. Regarding business, he said the war has affected trade in his locality in the past few months, but looks forward to a fair season during the winter months.

L. E. Hesla, jeweler, of Yankton, S. D., who has decided to quit the business for other pursuits, is offering a splendid opening for some one who wants to step into a good, reputable business. He carries a nice up-to-date stock, and we understand he will not offer his business for sale later than November 15th. If not sold then, he will stock up and remain for the holiday harvest. Jewelers looking for location will do well to investigate this. *



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We have on hand a number of Chronometers, by various good makers, not new, which have been in service for purposes of navigation, and are excellent instruments. They have been put in perfect repair, and will give satisfactory results as to performance. We will sell these Chronometers at low prices, either for cash, or on accommodating terms to suit special cases, or will hire them at moderate rates and allow the hire to apply on purchase.

SEND FOR CIRCULAR GIVING PRICES AND TERMS.

14 K. Gold Shell Seamless
Filled Rings

BEST ON EARTH.

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14 K. Gold Shell Seamless
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ARE THE BEST SELLERS,

and will wear better than any cheap gold ring.

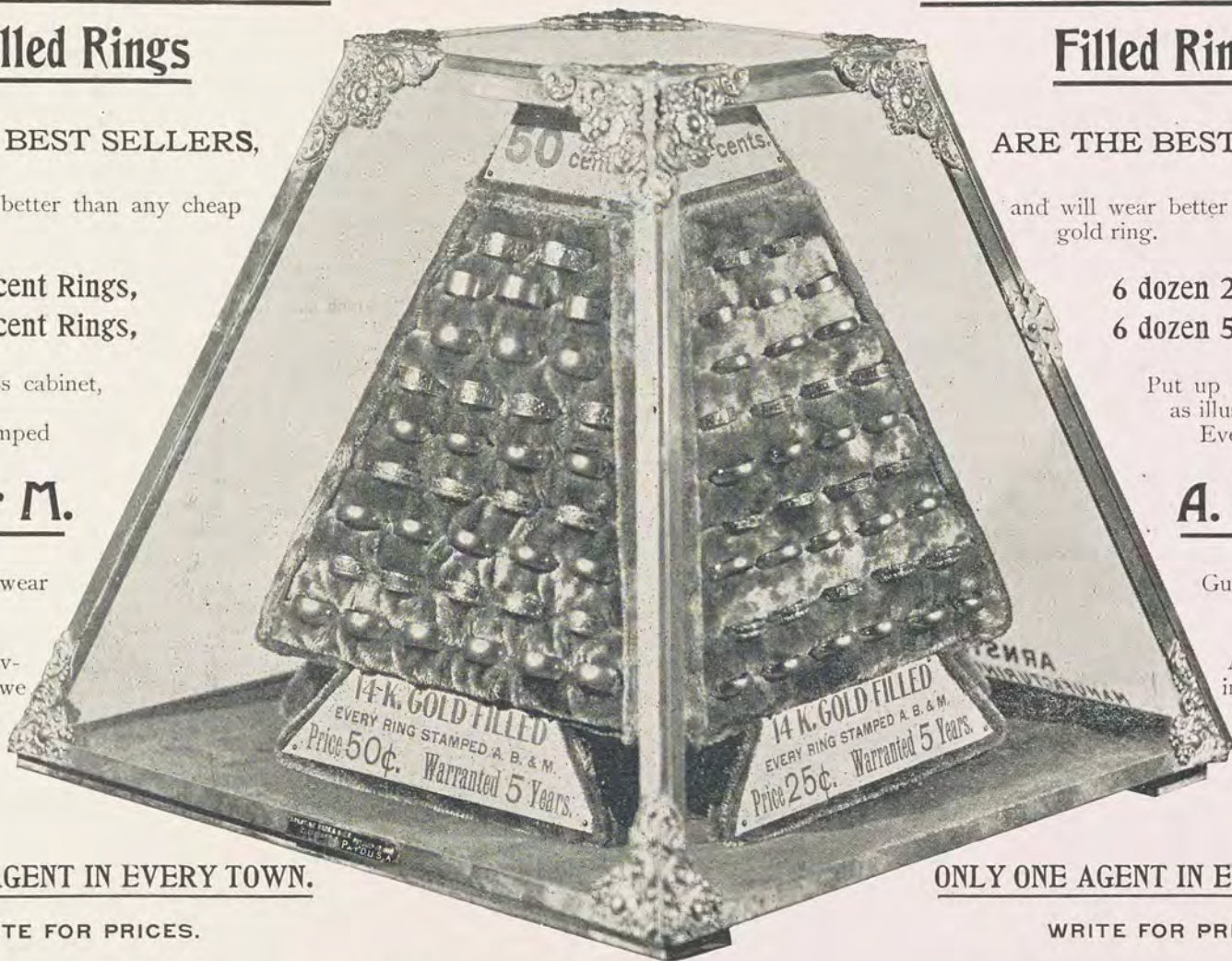
6 dozen 25-cent Rings,
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Put up in glass cabinet,
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Every ring stamped

A. B. & M.

Guaranteed to wear
5 years.

Any ring not giving
satisfaction we
will exchange
same for a
new one.



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ONLY ONE AGENT IN EVERY TOWN.

WRITE FOR PRICES.

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14 in. Footed Punch Bowl



"Climax" Bowl
Made in 7, 8, 9 and 10 in. sizes



"Crescent" Nappy
Made in 7, 8, 9 and 10 in. sizes



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Made in 1/2 pts., pts. and qts.

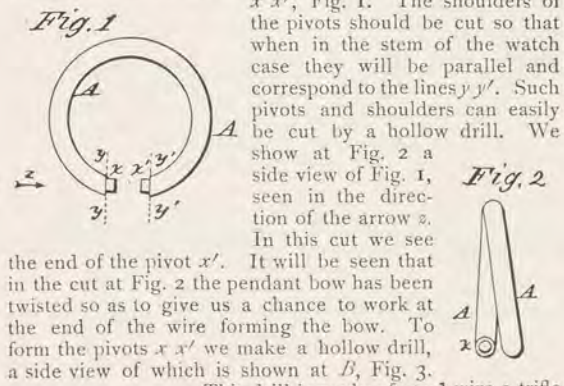
Workshop Notes.

Subscribers wishing inquiries answered in this department must send name and address—not for publication, but as an evidence of good faith. No attention will be paid to anonymous communications. Questions will be answered in the order in which they are received.

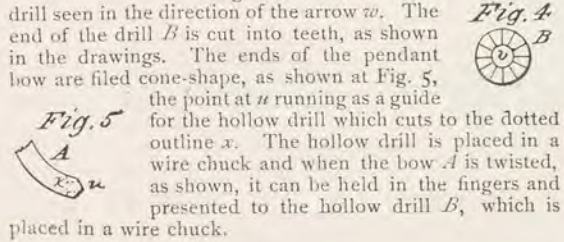
"Ink for Glass."—(1) *How can black ink be made which will not run when used on glass?*—Dissolve shellac in alcohol to a very thin consistency and mix it with lampblack. Write with an ordinary pen. Lampblack made by holding a tin dish of water over a kerosene lamp, collecting soot forming from the smoke, is a better black than you can readily buy.

(2) *How can ordinary newspaper cuts be transferred to glass?*—Varnish glass with mastic varnish and let the varnish dry until tacky, that is, sticky. Place a stick of caustic potash in alcohol and let it remain for twenty-four hours. Wet the cut in this and blot it off with blotting paper, place the printed surface next the varnished surface and rub the back of the paper first with the finger and then with a bone or ivory burnish to press the ink of the cut into contact with the varnished surface. Let the varnish further dry for several days. Now, with fine glass paper—a paper much like sandpaper, but finer—grind away the paper on which the cut was printed. For the final finish the ends of the finger and pumice stone powder will remove every fibre of the paper. Give the glass another coat of mastic varnish and the slide is ready for the lantern as soon as dry.

"Berry."—*What is the quickest and most practical way to put in and tighten an antique pendant bow?*—The plan which would naturally suggest itself would be to work on the lines followed by the maker of the case, but in some instances we could well desire a better method than seems to have been adopted. About the most practical plan seems to be to pivot the end of the bow as shown at $x x'$, Fig. 1. The shoulders of the pivots should be cut so that when in the stem of the watch case they will be parallel and correspond to the lines $y y'$. Such pivots and shoulders can easily be cut by a hollow drill. We show at Fig. 2 a side view of Fig. 1, seen in the direction of the arrow z . In this cut we see the end of the pivot x' . It will be seen that in the cut at Fig. 2 the pendant bow has been twisted so as to give us a chance to work at the end of the wire forming the bow. To form the pivots $x x'$ we make a hollow drill, a side view of which is shown at B , Fig. 3.



This drill is made of steel wire a trifle longer than the wire of which the bow is formed, and the hole drilled in the end is of the same size as the pivots x . We show at Fig. 4 a magnified end view of the drill seen in the direction of the arrow w . The end of the drill B is cut into teeth, as shown in the drawings. The ends of the pendant bow are filed cone-shape, as shown at Fig. 5, the point at u running as a guide for the hollow drill which cuts to the dotted outline x . The hollow drill is placed in a wire chuck and when the bow A is twisted, as shown, it can be held in the fingers and presented to the hollow drill B , which is placed in a wire chuck.



"Fee."—(1) *Has a "resilient" spring any advantages over the ordinary kind? If so, what are they?*—The resilient mainspring has the outer end bent to a reverse curve, and, of course, when placed in the barrel, has a greater tension on the outer end of the spring. Many workmen claim that this extra tension is at the wrong end of the spring and should be at the inner end. Read next answer.

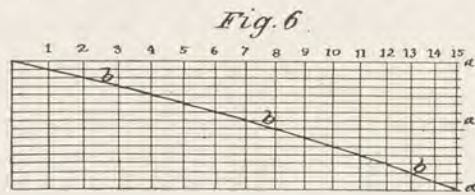
(2) *What is the most common reason for a watch not having a full motion, and the remedy?*—This is a pretty broad question, and might be likened to inquiring of a doctor what is the matter with a man when he is sick. There are dozens of reasons for a poor motion which could be attributed to the watch not being in complete order; but the one we call attention to is one which will cause a poor motion and still the watch be in perfect order, except the mainspring has lost its "vim." In cleaning a watch, when we take the mainspring out of the barrel and lay it on the bench and the open coils do not exceed five diameters of the barrel, we can rest assured that that spring is unfit for the work it has to perform, and in five cases out of six the watch will have a poor motion. Now, the only remedy—the only plan to pursue—is to put in a new mainspring. Under the circumstances we hardly feel like contributing a new spring. If the workman tells his customer the precise facts of the case, nine times out of ten the customer will think it a covert piece of robbery. We know a workman who keeps an American roller with a chipped jewel pin especially for showing to such customers, and the fifty cents or one dollar charged for a new jewel pin pays for a new mainspring. How such a policy can be reconciled with a clear conscience we leave to more profound casuists than a man who has worked any length of time at watch repairing.

(3) *What is the best way to repair a filled or gold hunting case where the "lid" (front back) is worn so the catch spring will not hold?*—Usually the case can be under-

cut with an oval graver to make it hold, instructing the owner to push in on push bolt when he closes his watch. A neat job can be done by dovetailing in a piece of gold at the point of wear, inserting the piece from the inside, in order that the catch spring forces the piece tighter and tighter by its action. If properly fitted, the piece will stay. Should any doubts arise, drill and insert a small gold screw.

"Increase Twist."—(1) *Will you describe in your "Workshop Notes" the workings of a gasoline engine so that a good workman could build one. What diameter of cylinder would one need for half a horse power, and the approximate weight of such an engine?*—We have had a series of articles on explosive engines, which includes gas, gasoline and coal oil engines, under consideration for some time, but our expert informs us that the problem is a very difficult one, from the fact that no satisfactory explosive engine of less than two horse power has so far been produced. The weight of such engines is more in proportion to the power generated than a steam engine. Such engines have to be made heavy and strong to stand the shock of explosion, and the balance wheel made very heavy to equalize the motion.

(2) *Describe the rule by which the gunsmiths figure out the "gain twist" for rifles. I mean where the grooves start at the breech nearly parallel with the direction of the bore, and increases its pitch as it proceeds toward the muzzle. Is it a necessity that the groove should increase regularly so there will be no kinks in it?*—The principle on which the gain or increase twist is designed will be understood from inspection of the diagram at Fig. 6. We first



draw the parallel lines $a a$ as shown, we next decide on the ratio of increase, which is usually controlled very much by what the gunsmith imagines will give a "good spin" to the ball, because it has always been a matter of dispute among experts as to whether a rifle barrel rifled with gain twist shot any better than one with a plain twist or pitch. We will not discuss this matter, but proceed with our illustration. Suppose we draw twelve parallel lines, as shown, we next decide on the increase. Suppose we set our dividers at 1" and draw the first line at right angles to the lines a , as shown at 1; we then set the dividers at $\frac{1}{2}$ " and draw the next line 2; then set the dividers at $\frac{1}{4}$ ", and so on, the vertical lines closing together $d d'$ at every advance. We connect the intersections together, as shown at the line b , and we have a flat diagram of an increase twist groove. It will be seen that we can make the ratio to suit our fancy. In practical gunshop work there have been many devices for this purpose. For rifling, after a gun has bored out, a wood cylinder will serve as a guide for rifling as follows: Turn the wood cylinder, say, $\frac{3}{8}$ " in diameter, and two or three inches longer than the barrel to be rifled. Then space the surface off into the desired number of parallel lines like a ; then mark rings around the cylinder with dividers to represent spaces gradually diminishing in extent. Now, with a narrow chisel cut a groove connecting all the points of intersection. One groove in the wood cylinder can be made to guide for all the grooves cut in the rifle.

(3) *What should diamond dust, such as is used for broaching out jewel holes, be bought for?*—This will depend on the labor spent in preparing it; diamond powder, before it is floated off, should be purchased for about \$2.50 per carat.

(4) *Where can pure nickel be bought, and the price? Also German silver?*—Bullock & Crenshaw, 528 Arch St., Philadelphia, Pa. The price varies a little. We think you can procure German silver of Swoyer & Co., 17 North Seventh St., Philadelphia, Pa.

"Hog."—(1) *Will you please inform me how dies are made for producing bangles like the one having the Lord's Prayer engraved upon it?*—In making such objects as you mention several operations have to be gone through. First, a pair of dies are made which cut out the piece of metal. These dies are called male and female dies. One die has a hole completely through it, this is called the female die; the other die has a steel projection just the shape of the hole. These dies after hardening are placed in a powerful press and arranged so that one enters the other—the die with the hole in it being below. A strip of sheet metal placed between these dies, by action of the press, has a piece cut out of the form or shape of the hole, say, for illustration, eight-square or heart-shaped. Now for the lettering: A die blank of soft steel is engraved with the letters desired on the finished object which, in this instance, we will suppose to be an eight-square bangle with our Lord's Prayer engraved upon it. The engraved die is now hardened and another soft steel die pressed upon it with such force as to fill the engraved lines with soft steel precisely as if wax was employed. Presses for this kind of work are capable of exerting a pressure of 600 tons to the square inch. The die with the raised impression upon it is now hardened and placed in a press for stamping the face of the punched out blank.

(2) *How is lettering done on steel; also die-sinking?*—Lettering on steel is done with gravers of different shapes, precisely as any other metal. The steel is annealed very

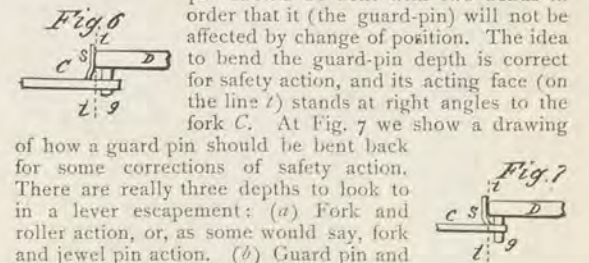
soft, and the letters slowly and carefully engraved, while the surface of the metal is kept slightly oiled. Some dies are cut in and others made in relief. We have briefly described above the two chief methods pertaining to die work, first dies which cut out blanks and dies which shape and emboss.

(3) *How is lithographing done—say of a building, portrait, etc?*—Originally, the process was performed by drawing with a wax crayon on a peculiar kind of stone which had the property of absorbing a great quantity of water. The stone was prepared with a grained surface by rubbing with a wood block and fine sand, leaving the surface of the stone like so-called ground glass. On this surface a drawing was made with the wax crayon above referred to. The stone was next wet with an abundance of water and then a leather inking roller charged with a very tenacious printer's ink was passed back and forth over the surface of the stone, the ink adhering to the stone where it was touched with the wax crayon—all other portions of the stone being saturated with water rejected the oily ink. Paper was now placed on the stone and pressure applied, when the ink would adhere to the paper, producing a very clean impression. Where letters and lines were desired, a pen was employed with an ink containing resinous matter in solution. Recently, zinc and aluminum plates have nearly superseded stone for the so-called lithographic printing process.

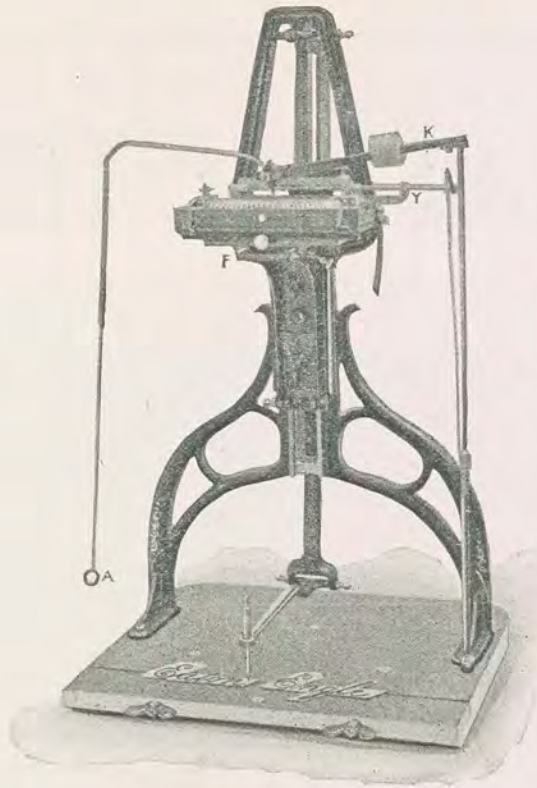
(4) *Where can I obtain a book treating on the above subjects?*—We know of none except some of the expensive encyclopedias.

(5) *How can I use a six-volt motor on a 110-volt direct current electric light line?*—The voltage of a motor in this case has but little to do with the question; the point to determine is how many amperes the wire on your motor will stand without heating. Usually, such motors will stand eight or ten amperes of current. Probably a rheostat of 400' of No. 14 iron wire would cut down the current to safety. The motor would then use as much current as eight or ten sixteen-candle lamps.

"Guard Pin."—(1) *Please pardon me for calling in question one point in your answer to "Guard Pin," in August Keystone. American lever escapements, defective in the manner described, have frequently come under my notice, and your methods of correcting them is the course I have pursued with success, with one exception, and that is, a shallow depth between the fork and jewel pin. You seek to remedy the trouble by setting the jewel pin "wider." How can the jewel pin have the slightest thing to do with the defects, when invariably the jewel pin is not near the fork at the time the guard pin butts against the roller and binds the balance until it is arrested; this stoppage always takes place after the balance has completed its forward arc and is returning, or has returned, some distance, but not far enough for the jewel pin to engage the fork, when the balance is arrested and held in this position. Please enlighten me how the setting of the jewel pin out would have the least possible thing to do with it. I admit that changing the roller for one of larger diameter would remedy the trouble, not because it brings the jewel pin farther out, but because the roller engages the guard pin sooner, which, in turn, insures the safe locking of the escape wheel tooth on the locking face of the pallet. Likewise, when it is preferable to elongate the lever to accomplish the same result, instead of either changing the roller or resetting the pallets, leaving the guard pin erect as it should be, and at right angles to the lever? It is not infrequently the case that the jewel pin is so wide set that it strikes the bottom of the slot in the fork and we are obliged to set it back, which is exactly opposite to the rule you have laid down as far as the jewel pin is concerned.—Our correspondent has taken exceptions to the text rather than the meaning of our instructions to "Guard Pin," page 651, August, 1898, KEYSTONE. If he will read our explanation (a) he will see that we distinctly say a "shallow depth between the fork and jewel-pin," and our correspondent commences to talk about a shallow depth between the roller (table) and guard-pin. He further assumes the guard pin should of necessity stand erect, as we gave his words above in italics. Now right here is where our friend gets deluded. We allow that if the watch is correctly made the guard-pin should stand perfectly at right angles to the lever, but if, as is often the case, the guard-pin stands too far back for secure safety action, we must remedy the defect, no matter what factory turned it. We speak of having to bend the guard pin forward to ensure safety action. We show at Fig. 6 how the guard-pin should be bent with two bends in order that it (the guard-pin) will not be affected by change of position. The idea to bend the guard-pin depth is correct for safety action, and its acting face (on the line z) stands at right angles to the fork C . At Fig. 7 we show a drawing of how a guard pin should be bent back for some corrections of safety action. There are really three depths to look to in a lever escapement: (a) Fork and roller action, or, as some would say, fork and jewel pin action. (b) Guard pin and table action. (c) Pallet action, which should be adjusted in unison with fork action. The safety action is one never called into use, except in case of accident. One word in relation to "elongating" or stretching a lever. This is something which should never be done in an American watch; in Swiss watches it is sometimes admissible, and then it is better to file away the old guard point and insert a pin, as in the American watch.*



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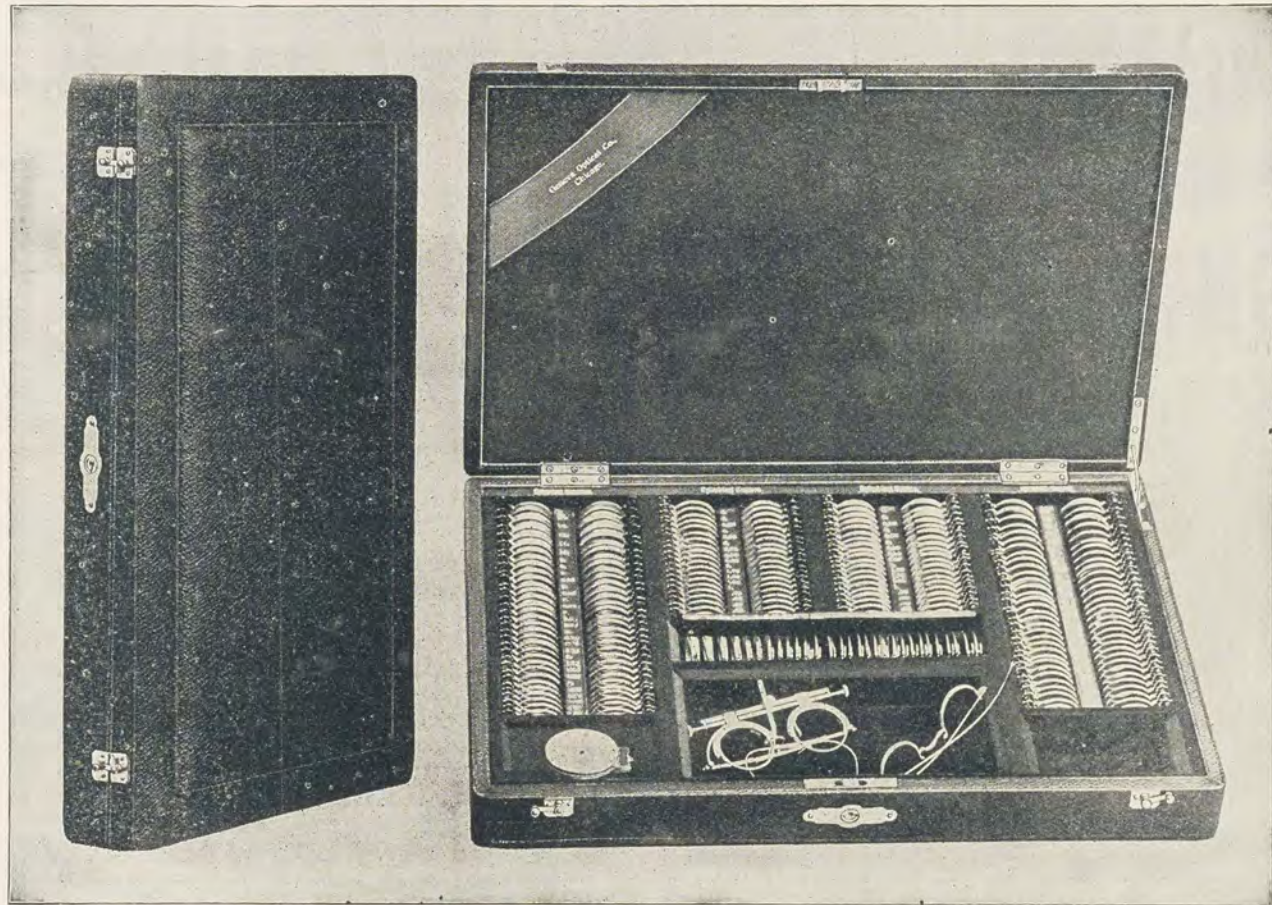
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OPTICAL DEPARTMENT

Reviews of Current American and European Ophthalmological Literature.

A Case of "Mathematically-Perfect Eyes."

Under this title Dr. G. M. Gould, in the "Annals of Ophthalmology," reports a very interesting case. The statements of this brilliant editor of *The Philadelphia Medical Journal* always deserve a great deal of attention, though sometimes they would appear to be too enthusiastic and to have to be taken *cum grano salis*. This author was consulted by a gentleman, fifty years of age, who complained of sub-conjunctival hemorrhages, occurring about every two weeks, and who had been treated by many prominent oculists and physicians, without relief. His eyes had been declared to be emmetropic, and one ophthalmologist especially—a man of large practice and scientific ability—had often declared that his was the only pair of "mathematically perfect eyes" he had ever seen. The doctor finally was able to demonstrate the following refractive error:

O. D. — .25 Cyl. ax. 90°
O. S. — .25 Cyl. ax. 180°

Rather reluctantly these glasses, with the proper spheres for the presbyopia, were prescribed as bifocals, but, in spite of the doctor's contrary advice, were worn in separate eye-glasses by the obstinate patient, first in great disgust but finally with great comfort; for the patient found that his conjunctival hemorrhages, except one very small one, never came back, and the glasses besides gave him so much relief that now he never is without them and even has had made heavy steel spectacles to wear in his bath. The author makes no attempt to explain how such a low astigmatism could produce so severe and unusual a result as these sub-conjunctival hemorrhages, but he is positively convinced that there was a causal connection.

From his case he draws the following conclusions, which we recommend to the careful perusal of our readers, though we would by no means agree to all of them:

1. The most important lesson that springs into view, one which every day, and in every journal, and in every other case-report, should be printed in double caps, is this: Although a patient has been examined by one or more good oculists, and glasses prescribed, or reported as not needed, the fact has no significance whatever. It does not prove that eye-strain does not exist, nor that it is not a source of any of the results that eye-strain may produce. This seems extreme and even revolutionistic, but it is literally true. In this case the proof of the pudding is not in the eating. There are a hundred qualifications needed to the bald statement that "glasses did not lessen the symptoms," or "the oculist reported the eye-examination was negative," or "eye-strain was ruled out by careful tests," etc., etc. I don't care a button for such an assertion; it is simply meaningless unless very many other considerations go with it. Do not for an instant think I make an exception of myself, or wish to cast any slur upon the work of others; that would be simply silly. What I mean, of course, is that in these infinitely delicate matters, in these calculations of infinitesimals, slight differences, inobvious personal equations, etc., may indeed occur, and be the reason of failure; but, beyond all this, there are numberless questions, *e. g.*, as to correctness of make and accuracy of adjustment of the glasses; as to methods of wear or non-use; as to habits and peculiarities of eye-work; as to length of disease; as to suddenness of consequent refraction-changes; as to the frequent impossibility of curing a result by curing its cause; as to complicating causes; as to intercurrent general diseases, etc., etc. Not only in the case reported, but in hundreds more, I have learned that my own errors, mistakes and blunders, as well as those of others, may show the fallacy of a single judgment; a multitude of provisos must be excluded and the subsequent history closely scanned in order to prove or to disprove the lumpish dictum, "glasses gave no relief." Facts are stupid and useless things without an intellect to

discriminate, marshal and use them. It takes more than a lot of rocks to make a lock or a breakwater.

2. A very slight or uncorrected error of refraction may be the cause of strange and serious reflexes and results, and this is especially true if it be unsymmetrical astigmatism, and still more surely if it is a low degree myopic astigmatism, in which there is no means of escape by blunting into amblyopia, or by shunting into heterophoria, and no possibility of a ciliary-muscle contraction overcoming the defect.

3. Low-grade myopic astigmatisms are hard to diagnose, and are in practice too commonly overlooked and neglected, although they must be as common relatively as hyperopic varieties.

4. It is only by the mydriatic, combined with infinite patience, delicacy and skill, that such astigmatisms are correctly diagnosed. Perfect visual acuity is no disproof of co-existing ametropia.

5. The mydriatic is more necessary in presbyopia than previously. All the text-books and teaching are wrong in this. Precisely when the compensatory mechanism is being narrowed by presbyopia, is then the greatest need of accuracy in the correction of the smallest degrees of anisometropia and astigmatism. Then, also, the vital powers are failing and the cataract age is nearing, so that precision in refraction is doubly and trebly imperative. Presbyopia is always relative, never absolute, particularly if proper glasses have not been worn during many previous years. Without a mydriatic there is no adequate estimate of errors of refraction, and between the ages of forty and fifty-five the estimate should be painstaking to the utmost degree, especially if any suspicious reflexes exist.

6. Absolute emmetropia, "a mathematically perfect pair of eyes," does not, I believe, exist. A perfect leaf has not been found, nor absolute symmetry in any organic thing. The report of perfect emmetropia is a confession of negligence and unskillfulness. I have made such reports myself and can, therefore, speak dogmatically. If such a diagnosis has been made without a mydriatic the negligence deserves a much harsher naming.

7. And even if there were such a mathematically perfect pair of eyes, I can easily imagine circumstances in which such eyes might be the cause of morbid results. As orthophoria is always a disease, so emmetropia, in a seamstress or in almost any hard pushed eye worker, in a neurasthenic, in a heterophoric, or in a presbyope, may functionally be a disease and require correction by glasses. Emmetropia is nature's unrealized ideal for the animal, savage and primitive man. A low-degree simple myopia, alike in both eyes, is the desideratum of the slave of civilization.

A Method of Determining Latent Heterophoria.

In the "Annals of Ophthalmology," Dr. E. G. Starr, of Buffalo, describes a method of detecting heterophoria which he has used for more than three years. This method rests on the assumption that the eye excluded from vision will take up that position behind the screen or closed lid which, anatomically and physiologically, is the easiest for it, and that this position allows us to judge of the greater or smaller difficulty of the act of binocular vision. The author describes his method as follows:

One eye is covered with a patch or blinder, and the form and make-up of this patch are of considerable importance. It must not press upon the eye, nor in any way impede its movements. The form which I have come to prefer is cut from medium weight cardboard and covered with black cloth. Its shape when cut from the card is shown in Fig. 1. The greatest length is between five and



FIG. 1.

six inches, and its width between three and four inches, depending upon the contour of the patient's face, etc. At *a* the card has a slit cut down from its upper edge extending half way across it. The cut edges are over-

lapped about one-half inch, as shown by dotted lines in the figure, and cemented with glue. The patch is thus made convex on one side. At the four points marked X, narrow tapes are fastened, which are long enough to pass around the head and be tied behind. It is better to cover the board with cloth first and cut the patch afterward. It should be trimmed to fit the nose closely, so that the covered eye cannot share in the vision of its fellow. It should extend well up on the forehead, so that the upward rotation of the eye is in no wise impeded.

Such a patch is placed over the eye at night upon retiring, and worn *continuously* until the examination is made the next morning. When examined, the eyes should be closed while the patch is removed and the trial frame with Maddox rod is adjusted. The light should be on a horizontal line with the eyes and care should be taken that the head be held in a normal, upright position. The usual precaution to neutralize any gross refractive error is, of course, to be observed. The direction of the visual axes is then noted and also whether their relative position varies as the position of the head is changed; *e. g.* whether the horizontal streak changes its position when the head is thrown far back, and when bent low, forward; as this may give a hint as to whether we have a hyperphoria or a hypophoria. The other eye is then treated in the same way.

The results show at once whether heterophoria exists, and they also show whether there exists a tendency of both visual lines upward or downward. For after excluding the right eye, a right hyperphoria of 3° may appear and after excluding the left eye, an equal left hyperphoria, showing a tendency of each eye toward upward rotation. As is apparent, all combinations may be shown.

It would seem that this method, if submitted to by the patient, ought to give us a reliable indication as to the position the unused eye would take up if it should lose its sight; but whether one ought to draw rigid conclusions from this observation as to the position of the eye under more physiological conditions, is a question that can be decided only by a greater experience.

Some Points on the Hygiene of Vision.

In the *New York Medical Journal* Dr. S. B. Allen describes two cases in which the asthenopic symptoms continued despite the correction of the refractive error and the absence of muscular inefficiencies. On inquiring, however, into the surroundings of these patients during their work, he found that they were doing clerical work in a small room with a very small window space, a great deal of dark-colored woodwork and dull gray walls, all conducing to the absorption of the small amount of light that came through the window.

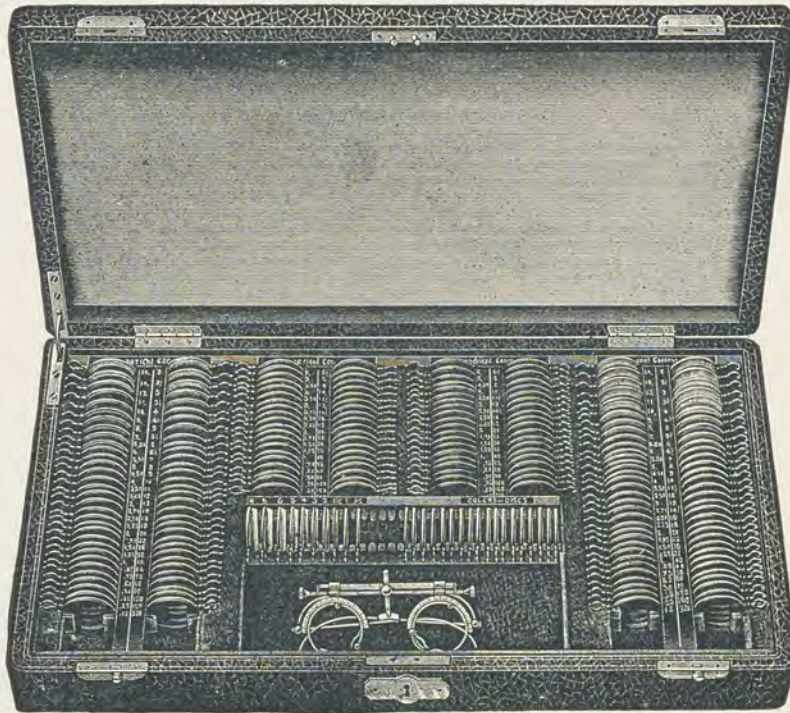
In connection with these cases the author then takes occasion to mention the frequent violation of three important laws of visual hygiene, to wit: The use of the eyes with incorrect and insufficient illumination; too prolonged use of the eyes; reading of bad print. With regard to sufficient and correct illumination, he justly states that such would be sufficient as would enable one to read Jaeger No. 1 in any part of the room. The light should come from the rear and over the left shoulder, and to have sufficient light, the window area should be at least one-fifth of the floor area. In an oblong room a greater window space would be required. Of artificial light, the incandescent electric light, with ground-glass globes, the author considers by far the best; at least a candle and one-half of illumination power to each cubic meter. With regard to the absorption of light by inappropriately colored woodwork or walls, a list is given, showing the proportion of light reflected from various substances, as compared with what falls upon their surfaces: Yellow, 40 per cent.; blue, 25 per cent.; dark brown, 13 per cent.; dark chocolate, 0.4 per cent.; white blotting paper, 82 per cent.; white cartridge paper, 80 per cent.; white tracing cloth, 35 per cent.; white tracing paper, 32 per cent.; ordinary fool's cap, 70 per cent.; newspaper, 50 to 70 per cent.; dark brown paper, 13 per cent.; clean planed deal, 45 to 50 per cent.; dirty planed deal, 30 per cent.; soiled yellow paneled wall paper, 20 per cent.

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- Tones the eyes.
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- Cures overworked eyes.
- Cures children's eyes.
- Cures inflamed eyes.
- Cures scales on eyelids.
- Cures itching and burning.
- Cures discharging eyes.
- Cures ulcers on eyes.
- Cures congested eyes.
- Cures blurring eyes.
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Among the Opticians.

— Walter Cramer, of Clarinda, Ia., is studying optics in Philadelphia.

— William L. Howland has begun business as an optician in Meriden, Conn.

— H. B. Judd, Columbus, Ohio, has opened an optician's office at 586 East Long Street.

— F. H. Smith, of Geneva Optical Co., Chicago, spent his vacation in the woods of Wisconsin.

— R. J. Flint, optician, of 810 Broadway, Toledo, Ohio, has opened another store at 603 Adams Street.

— E. T. Collins, Parishville, N. Y., recently graduated from the South Bend College of Optics, South Bend, Ind.

— H. L. King, of the King Optical Company, of Spokane, Wash., spent a short vacation at Sand Point, Idaho.

— F. S. Hall, Fitchburg, Mass., who has recently had his jewelry store there remodeled, will open an optical department.

— The New York Optical Co., Dobson & Stouffer, managers, have started business at 162 Yonge Street, Toronto, Canada.

— Miss Louise McClellan, optician, Altoona, Pa., has moved her optical parlors into the Christy Building where she has a finer location.

— E. Burt Van Vorst, with Chas. Bickelmann, Schenectady, N. Y., is taking an optical course at L. L. Ferguson's school in New York.

— Jos. Birkhart, Jr., Pittsburg, is taking a special course in optics and retinoscopy with the Rodney Pierce Optical Company, of that city.

— The store of the Syracuse Optical Co., Syracuse, N. Y., was burglarized some weeks ago, and goods valued at several hundred dollars taken.

— William E. Thurber, several years an associate of C. C. Babbitt, the optician, of Manchester, N. H., died last month. He was twenty-four years old.

— Leo Wormser, of the Julius King Optical Co., New York, has been receiving congratulations upon the arrival of a baby girl into the Wormser family.

— J. L. Moore, formerly of Altoona, Pa., is now located in Johnstown, Pa. Mr. Moore is an accomplished optician and member of the Pennsylvania Optical Society.

— C. L. Tower, formerly foreman of the factory of the Globe Optical Co., Boston, is now in the employ of Pinkham & Smith, opticians, at 288 Boylston Street, same city.

— Edward P. Leonard, in charge of the spectacle case department of the Globe Optical Company, Boston, has just returned from a pleasant vacation spent with friends in Ohio.

— The Anglo-American Optical Co., 94 Hatton Gardens, London, are agents in Great Britain, for the sale of "The Optician's Manual" and "The Keystone Record Book of Optometric Examinations." This is one of the leading optical concerns of Great Britain.

— W. G. Fay, the well-known optician of Springfield, Ohio, has published a twenty-page pamphlet on "Heterophoria," a copy of which he will send free to any optician. The pamphlet is interesting reading for all interested in the correction of the insufficiencies of the motor muscles.

— Lionel G. Amsden, of Cohen Bros., Toronto, Canada, gave a series of lectures on "Advanced Optics" to visiting opticians in the rooms of the Canadian Ophthalmic College, from September 5th to 9th. The science of practical optics was thoroughly covered and the working of the various optical instruments explained.

— C. A. Longstreth, the newly-elected secretary of the Pennsylvania Optical Society and member of the dioptrician grade of the society, is a well-known optician of Philadelphia. He graduated from Haverford College in 1876, and immediately entered the employ of the well-known firm of Queen & Co. He started a branch store for the firm at 403 Chestnut Street, in 1885, and moved same to Market Street in 1888. In 1894 he bought out the interest of Queen & Co., and started under his own name. He studied optics under Dr. Bucklin, in New York, in 1888, and took a course on skiascopy from Prof. Ferguson, in 1896. He is successful and highly esteemed in his profession.

A Visual Chart for Schools.

VISION CHART FOR SCHOOLS
PUBLISHED BY ALMER COE OPTICIAN 65 STATE ST CHICAGO

SNELLEN'S

CC	E	200
C	B C	100
LXX	N L D	70
L	R T P E	50
XL	E Z F B D	40
XXX	C T L G F O	30
XX	E O P Z F R D A	20
XV	R V T Z F H D B K O P N	15
X	N C A T G L P R V Z Y E	10

INSTRUCTIONS FOR THE EXAMINATION OF SCHOOL CHILDREN'S EYES AND EARS.
FOR USE OF PRINCIPALS, TEACHERS, ETC.

THESE INSTRUCTIONS ARE TO BE READ BY THE EXAMINER TO THE CHILDREN. THE CHILDREN SHOULD BE SEATED AT A DISTANCE OF 20 FEET FROM THE CHART. THE CHART SHOULD BE PLACED IN A GOOD LIGHT. THE CHILDREN SHOULD BE EXAMINED SEPARATELY. THE EXAMINER SHOULD HOLD A CARD OVER THE EYE WHILE THE OTHER IS BEING EXAMINED. DO NOT PRESS UPON THE COVERED EYE, AS THE PRESSURE MIGHT INDUCE AN INCORRECT EXAMINATION.

Have the pupil begin at the top of the test card and read aloud down as far as he can, first with one eye and then with the other.

If the pupil does not habitually suffer from inflamed lids or eyes, and can read a MAJORITY of the (XX) 20 test type with each eye, and does not, upon inquiry, complain of HABITUALLY tired and painful eyes and headache after study, his eyes may be considered satisfactory. But if he habitually suffers from inflamed lids or eyes, or can not read a MAJORITY of the XX (20) test type with BOTH eyes, or habitually complains of tired and painful eyes or headache after study, a card of information should be sent to the parent or guardian.

FACTS TO BE ASCERTAINED.

1. Does the pupil habitually suffer from inflamed lids or eyes?
2. Does the pupil fail to read a majority of the letters in the number XX (20) line of Snellen's test types, with either eye?
3. Do the eyes and head habitually grow weary and painful after study?
4. Is the pupil probably crossed-eyed?

If an affirmative answer is found to ANY of these propositions, the pupil should be given a card or letter of warning to be handed to the parent, apprising such parent of the advisability of professional attention to the child's eyes. The warning merely places the responsibility on the parent, as attention to it is not obligatory. As Dr. Allport's antipathy to opticians is as irremovable as a birthmark, he commends, in his instructions, the services of eye surgeons only. If an optician devised such a chart for use in his local schools, he would, of course, in his instructions to teachers, commend the less expensive and equally effective services of any competent optician, as almost in every case the defect is an easily corrected error of refraction. If disease of any kind, calling for medical aid, were present, the optician, of course, would so inform the child's parents, and pass the case to the family physician, but such cases would be rare. Dr. Allport, in his instructions, incorporates defective ears with defective eyes, but as ear defects are so manifest to child and parent, the interference of the teacher is not essential and would be doubtfully politic. A mother is not likely to take kindly to a notification that her boy's ear is "running" or foul-smelling. Such a defect must be already known to her, while the boy's eye defect would be invisible, and knowledge of it would be gratefully received. There is an idea in this chart, for the optician, but the accompanying instructions must not reflect on his calling.

An Artistic Catalogue.

The Julius King Optical Co. will issue, about October 15th, a catalogue of 200 pages, containing special features that will make it most desirable as a complete and comprehensive work and a standard optical catalogue of reference.



In adopting the photo-engraving process, of which the above cut is an illustration, an exact reproduction is obtained, so that an intelligent idea may be had of all goods described and illustrated. A novel feature will be the form of indexing, itemized, condensed and numerical, so that contents may be seen at a glance. The cover, designed by one of the leading artists of New York, is a work of art, and the catalogue throughout is arranged in an attractive and artistic style. Applications for the catalogue are now being received at the New York office, 2 Maiden Lane.

Frequently in our columns we have discussed the question of greater attention to the eyes of school children. Of course the one effective way to ensure attention is to impress on parents, boards of education and teachers the necessity for it. Many opticians are doing this through the medium of advertising and by signed letters in local papers giving statistics on the subject. Such a letter by an optician is reprinted in another column. It is now reasonably certain that the matter will be officially taken up by the schools in the near future, and much trade will accrue to the opticians as a result.

As bearing on this matter, it is worth while, as an object lesson to opticians, to call attention to a visual chart for schools, devised by Dr. Allport, of Chicago, by the aid of which teachers are enabled to recognize defective vision in pupils, and thus apprise parents of the advisability of professional attention to the eyes of their children when needed. The chart, as shown in our illustration, is based upon the standard types of Snellen. Dr. Allport's instructions, as printed under the test types, on the use of the visual chart, by teachers, are as follows:

Do not expose the card except when in use, as familiarity with its face leads children to learn the letters "by heart."

First-grade children need not be examined.

The examination should be made privately and singly, in a room apart from the general school session.

Ascertain if the pupil habitually suffers from inflamed lids or eyes.

Children already wearing glasses should be tested with such glasses properly adjusted on the face.

Place a card of Snellen's test types on the wall in a good light; do not allow the face of the card to be covered with glass.

The line marked XX (20) should be seen at 20 feet, therefore place the pupil 20 feet from the card.

Each eye should be examined separately.

Hold a card over the eye while the other is being examined. Do not press upon the covered eye, as the pressure might induce an incorrect examination.



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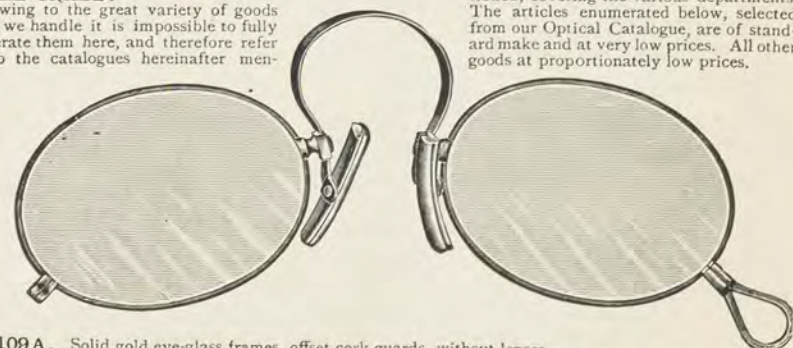
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The Optician's Manual.

A Hand-Book of Spectacle Adjusting for the Use of Jewelers and Opticians.

The first ten chapters of "The Optician's Manual," as published in THE KEYSTONE from May, 1890, to November, 1896, in the order mentioned hereunder, have been republished in book form with additional matter, illustrations and colored plates. A copy of the book will be sent, prepaid, from this office on receipt of \$2.00.

CHAPTER I.	—INTRODUCTORY REMARKS.
CHAPTER II.	—THE EYE ANATOMICALLY.
CHAPTER III.	—THE EYE OPTICALLY; OR, THE PHYSIOLOGY OF VISION.
CHAPTER IV.	—OPTICS.
CHAPTER V.	—LENSES.
CHAPTER VI.	—NUMBERING OF LENSES.
CHAPTER VII.	—THE USE AND VALUE OF GLASSES.
CHAPTER VIII.	—OUTFIT REQUIRED.
CHAPTER IX.	—METHOD OF EXAMINATION.
CHAPTER X.	—PRESBYOPIA.
CHAPTER XI.	—HYPERMETROPIA.

CHAPTER XII. (Continued.)

MYOPIA.

Any marked increase in the size and number of these spots may be regarded as evidence of morbid changes taking place in the vitreous humor, and if they become so bad as to seriously disturb vision, an examination by the ophthalmoscope will generally reveal turbidity in this humor. Sometimes there are such subjective symptoms as sparks, luminous chains, flashes of light, brightly illuminated white or colored rings, which often appear in the field of vision; they are more noticeable in darkness than in daylight and are, of course, very alarming to the sufferer. Their appearance is an indication that some serious condition is impending in the fundus of the eye, and which may result in amblyopia. Even after the onset of these unpleasant symptoms, if great care is exercised in the use of the eyes and all excesses and irregularities of habits are avoided, vision may be preserved in a fairly good condition for a long time.

The myopic eye is more liable to be attacked by disease of its internal structures than is the emmetropic eye: as choroiditis, which often leads on to hyalitis and inflammation of the vitreous, conditions which are serious and very much to be dreaded: hence the great importance of care in the use of such eyes, which require careful watching in order that complications may be early detected and receive skillful treatment.

DETERMINATION OF THE EXISTENCE OF MYOPIA.

The presence of myopia and its degree can be readily determined by the test letters of Snellen, which are hanging on the wall twenty feet away.

If the patient is able to read the No. 20 line there can be no myopia; if, however, he can not see the letters on this line, but can perhaps barely distinguish some of the larger lines, a weak convex lens is placed before the eyes; this at once blurs the vision and excludes hypermetropia. A convex lens is used as a matter of proper routine, even though the symptoms all indicate myopia, in order to escape the grievous error of mistaking hypermetropia for myopia, as has been frequently done, to the discredit of the optician and the suffering of the patient.

After this procedure the way is clear for the use of concave lenses; a weak one is first tried which instantly clears vision and enables more letters to be seen. A stronger one is used with the result of a still greater improvement; thus by a gradual increase in the power of the lenses the acuteness of vision is brought up to $\frac{20}{20}$ clearly and sharply. This proves the existence of myopia, and the number of the glasses will indicate the degree of the defect.

As soon as the vision is raised to $\frac{20}{20}$, the optician must stop, because then he has measured the grade of the myopia. In this defect it is a not uncommon thing for glasses to be prescribed very much stronger than are really necessary. If the patient is not old, and the power of accommodation unimpaired, an increase in the strength of the glasses will allow the distant type to be seen equally well or, perhaps, even a little better.

When a concave lens is placed before a myopic eye of greater strength than is necessary to neutralize the defect, the eye is rendered hypermetropic and the ciliary muscle is called into action to overcome the diminishing effect of

the minus lens, just as is the case in hypermetropia. This tension of the accommodation carries with it a contraction of the pupil (which in myopia is apt to be large), thus cutting of the peripheral rays and acting on the principle of the pin-hole disk, improves the distant vision. Hence there is a constant tendency for the glasses chosen in myopia to be stronger than are necessary, and such glasses at once begin to strain and irritate the eye.

This logically leads to the rule that is laid down in myopia, *that the very weakest glasses* with which the No. 20 line can be seen at twenty feet, are the proper ones to prescribe. In hypermetropia, it will be remembered, the strongest convex glasses which were accepted at twenty feet, were recommended; in myopia, the weakest concave glasses. The reason is the same in both cases: to assist the accommodation or at least to avoid overtaxing it. The stronger the convex glasses the more support given to the ciliary muscle; the weaker the concave glasses the less tax upon this muscle.

DIAGNOSIS OF MYOPIA.

The diagnosis of myopia is not usually a difficult matter. Distant vision is below the standard, and is at once raised to normal by the proper concave lenses. The impairment of distant vision by itself is not an evidence of myopia, because this may be present in a great many other conditions. But when this diminished acuteness of vision instantly yields to the proper concave lenses, the proof is positive that the case is one of myopia and nothing else. In cases of impaired vision from other causes, the application of concave lenses will produce little if any improvement.

In the chapter on hypermetropia great stress was laid on the importance of distinguishing that defect from myopia, and the reader was warned that impaired distant vision and holding objects close to the eyes, did not necessarily indicate myopia, but might occur in hypermetropia. The skilled and wide-awake optician will hardly fall into this error, and yet it has happened quite often among mere spectacle sellers, and thus tends to bring discredit upon opticians as a class.

In any case of impaired vision where it is desired to measure the refraction by trial lenses, *the invariable rule is to commence the test with convex lenses*, and if they are accepted at all, the case is regarded as one of hypermetropia and concave lenses must not be tried. Perchance the latter were placed before the eye, they would most likely be accepted also; then the case would be obscured and the optician in a quandary—convex and concave lenses both accepted, which is correct?

But if the rule just mentioned be adhered to, the case is kept free from any such doubt. Then, if convex lenses are absolutely rejected, it is proper to try concaves, and if the latter raise the vision to normal, myopia must be the defect that is present.

MYOPIA AND AMBLYOPIA.

The term amblyopia usually signifies *dimness of vision*, and as this is the one prominent symptom of myopia, there is some danger that the two conditions may be confounded. In both cases the acuteness of vision is impaired, and there is the tendency to bring small objects very close to the eyes in order to get the benefit of the magnified retinal images.

Strictly speaking, amblyopia is only a symptom; it is a term used to express the defective vision from which the patient suffers, which is not dependent upon an error of refraction, but is due to functional disturbance or disease of some part of the visual apparatus, either the retina, the optic nerve or the brain. It is possible that this condition may exist without any evidences of it visible to the ophthalmoscope, although we usually expect to find some atrophy of the optic nerve.

This is not the place to give a detailed description of amblyopia, but we will simply mention some of the forms in which it occurs: congenital or acquired, temporary or permanent, and symmetrical or non-symmetrical. *Amblyopia ex anopsia* is due to lack of use of eyes; *reflex amblyopia* to irritations in some other part of the body; *traumatic amblyopia* to injury; *uræmic amblyopia* to kidney disease; *tobacco and alcohol*

amblyopia to abuse of these agents; *hysterical amblyopia*, *night-blindness*, *day-blindness*, etc.

The one diagnostic feature of amblyopia by which the optician will be able to recognize it, is its inability to respond to any glass that may be placed before it, and the failure of the pin-hole disk to afford the slightest improvement in the acuteness of vision. By attention to these points myopia can always be readily distinguished from amblyopia.

NEAR VISION IS GOOD.

While in myopia the distant vision is very much impaired, at the same time the near vision is quite good, and the recognition of myopia is made possible by the existence of these two factors. If either one of them is missing it cannot be myopia; while if both are present there is little room for doubt.

There are very good reasons why close vision should be good in myopia. Such an eye by its refractive condition is adapted for near vision, the divergent rays of which are focussed without any accommodative effort, and hence reading, writing and sewing may be done without any tax on the ciliary muscle. Then, too, on account of the excess of refractive power which such an eye possesses, there is a slight magnification of the image formed on the retina, and hence small print and fine stitches in sewing which might be intolerable to other eyes, are quite possible to the myope.

On account of this sharpness of proximate vision, near-sighted persons consider themselves fitted for occupations requiring good vision for small objects close at hand, as engraving, watch-making, etc., but if the occasion presents itself they should be warned that myopic eyes are usually sick eyes, and if their defect is of high degree they should be advised against the choice of these trying occupations, and recommended to others that do not require such contiguous use of the eyes.

How often do we see persons bending over their desks when writing, with their eyes very close to the paper or sometimes looking obliquely at it. This, in many cases, is only a habit, and may occur with emmetropes or with those only slightly myopic; but habits once formed are hard to break, and gradually such changes take place in the eye that develop or increase the myopia, and the near-sight that was once a habit becomes a necessity.

If, at the commencement of these symptoms, the patient is advised of their serious tendency, and is instructed how to avoid the danger, by keeping the book at the proper distance, by holding the head erect and by frequently resting the eyes in looking for a few minutes at distant objects, the trouble can probably be nipped in the bud and the eye prevented from becoming myopic.

SO MANY PERSONS WEARING GLASSES.

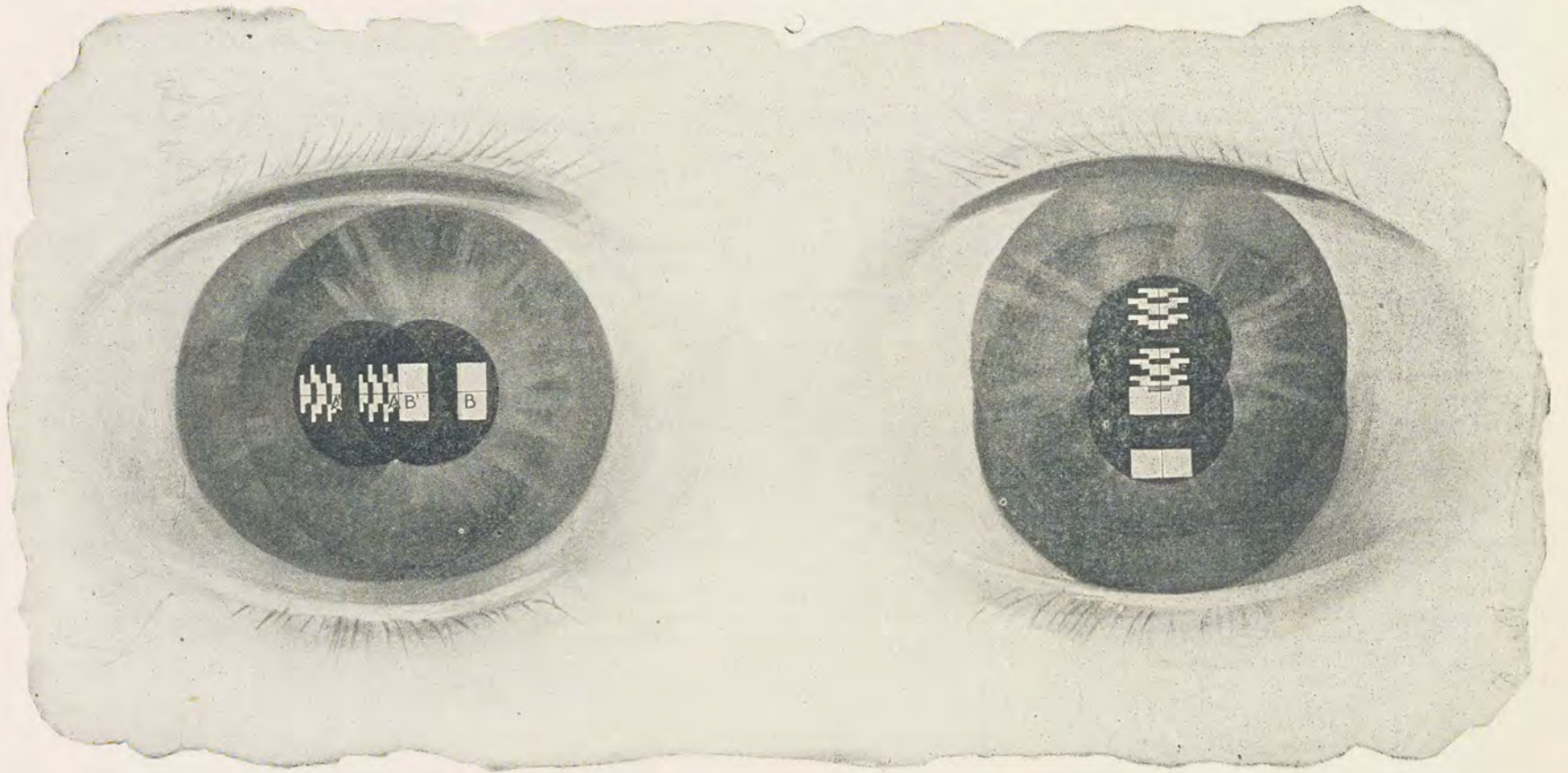
The middle-aged individual of to-day is astonished as he walks along the streets at the great number of persons wearing glasses, and he is particularly struck by the large proportion of spectacled children. He hears so many young people complaining of their eyes, that he involuntarily remarks that things must be different from the time when he was young, and that children didn't wear glasses then. There is no doubt that diseases of the eye are on the increase, and our present school system, with its increased demands upon the eyes and brains of children far beyond the capacity of their years, can be justly charged with a large part of the growing trouble.

The eye, like any other organ, or like any delicate instrument, may be abused, and the bad effects of such abuse are more noticeable during its growing period. The coats of the eye-ball do not reach their full firmness and power of resistance until about twenty years of age, the time when the rest of the body approaches maturity. Consequently before this age, and particularly between the ages of six and sixteen, during what may be called the school years, the eye is liable to injury from overwork. Thus is the causation of myopia in youth accounted for, and if ever "an ounce of prevention is worth a pound of cure," it is in the attention that should be given to the eyes of growing children.

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Optical Questions and Answers.

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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.

"T. J."—To transpose any double lens so as to combine a segment for bifocals to a periscope, what is the rule as to difference of Cx. and Cc. surfaces, so as to have curvature of segment to correspond?

When a convex segment is cemented on a compound lens in making bifocals, there can not be any transposition of the latter, else it would not be available for distant vision. The original lens that corrects the errors of refraction and is suitable for distant vision, can not be disturbed; the convex addition is simply added so that the sum of the two will just equal the lens that is necessary for the error of refraction and the presbyopia. Of course there must be a perfect adaptation between the convex surface of one lens and the concave surface of the other, in order that the segment may adhere and that there may be no air bubbles between.

"P. A. F."—On which side of a circle do you start to number degrees of a circle for cutting axis of cylinder lenses? Also which is the proper side to place same, in or out?

The graduations of the degrees of a circle commence at zero at the patient's left and proceed around the half circle to 180° at the patient's right. Looking at it from the optician's standpoint as he faces the patient, the zero commencement is at his right. Therefore, when a lens is taken in hand to be cut, if the optician looks at the posterior surface the zero is at the left; if at the anterior surface the zero is at the right. Now then the usual rule for placing lenses is to have the most convex surface anteriorly and the most concave surface posteriorly; or to have the spherical surface anteriorly and the cylindrical surface posteriorly, so as to secure the most convex or the spherical surface where it is noticeable.

"H. S. D."—What lens will a hyperope of 5.50 D. amplitude of accommodation 1.50 D. require? Wants to read at thirteen inches.

We could give a more definite answer to this question if we knew the age of the individual, but we will reason it out as best we can without this knowledge. If the patient is young, the correction of the hypermetropia will be all that is necessary: the addition of a +5.50 D. lens to the 1.50 D. of accommodation, will give the patient 7. D. of refractive power which is all that is necessary. But when the person reaches middle age, presbyopia begins to complicate the case and we would figure the result as follows: For prolonged use of the eyes in near vision only about two-thirds of the accommodation is available, and, therefore, in order to see at thirteen inches, the patient should possess an amplitude of 5. D. Now, he already has 1.50; hence he needs 3.50 D. more, which added to his hypermetropia would call for a lens of 9. D. (+3.50 D. added to +5.50 D. = 9. D.)

"P. H. S."—Boy, aged thirteen years; in good health. At age of eleven years had diphtheria, sick for three weeks, and has had poor vision since that time. Has been wearing +1.50 Sph. lenses, with which best can see is 20. I tried weaker lenses, down to +.50, and found he could still read 20 (with stronger lenses no better), and without glasses he could see and read 20. Tried for astigmatism, but no signs of that. I tried him for near point; best could see was largest type on test card, and at five to seven inches from face. Could read that with or without glasses, but could not make him see better. A case, as I think, of paralysis of accommodation. He has been wearing the +1.50 Diop. Sph. lenses two years constantly. Previous to his being sick, vision was good, or supposed to be by parents. He has been kept from school and not allowed to use his eyes much for past two years. I advised the use of weaker lenses, and told him to try to read and exercise his eyes for an hour or more each day. I also advised them to take the boy to a specialist, which they say they cannot do, as they haven't the means.

It is not uncommon to find paralysis of the ciliary muscle as one of the sequelae of diphtheria, but it would be very unusual for it to last for two years. But this is something more than paralysis of the accommodation, else the correcting lenses would raise the vision to normal; there is an amblyopic condition, an impairment of the function of the retina. In order to arrive at a proper understanding of the case, an ophthalmoscopic examination is necessary as the first step. If no disease is found, then an effort should be made to develop the sight by daily exercise of the eyes, gradually increasing from day to day. The case may be quite a serious one, and every effort should be made to get a skilled opinion.

"L. D. R."—Girl, aged seventeen years. Has had trouble with her eyes for four years. Came to me three months ago with less than 20% vision, and wearing —1.00 lenses, which she said had helped her eyes about three years ago, but were now useless. Stenopaic disk shows 20% vision at axis 165°. No improvement with any lens. At axis 75° less than 20%, but —3.00 brings to 20%. Without disk —3.50 Cyl. ax. 165° gives 20% vision, and astigmatic lines alike. One peculiarity is that lines III. to VIII. are the most distinct on clock dial. Examination of retina with plain mirror requires —1.00 lens to give clear fundus through correcting Cyl. Shadow test shows normal vision in one meridian and myopia in the other. She cannot see to read easily, or recognize people across the street.

This is a troublesome patient to fit and is likely to tax the skill of our correspondent. As we read the description of the case, it looks like myopic astigmatism, and yet we feel that our correspondent has scarcely got to the bottom of the case. The fact that the vision in the meridian at 165° is only 20% and cannot be improved by any lens, indicates the existence of some organic disease, either in the refracting media or in the recipient or conducting elements, and this is where an ophthalmoscope proves its value in locating the seat of trouble. The possibility of the presence of hypermetropia, or hypermetropic astigmatism, must not be overlooked, while the examination should be repeated at least three times on as many different days, making use of all the various tests for compound myopic and mixed astigmatism.

"W. G. D."—Single lady, aged thirty years. Acuteness of vision, R. and L. 20. Acuteness of vision, pin hole, R. and L. 20, with —3.25 S. gives 20 each eye. Patient has worn glasses for about seven years. First glasses worn were —1.00 S.; about three years later, —2.00 S. were prescribed; about three years later, —2.50, and now —3.25 gives the best vision. Patient has had neuralgia (as she calls it) for about ten years, and says it all seems to be in her eye-balls; has a feeling as if eye-ball would burst. When under this pain, says when she rolls the eye there seems to be a terrible strain on muscles; comes on about once a month and lasts for three days. Patient says she takes off her glasses whenever she has a chance.

In reading over the history of this case, the first thought that comes to us is that possibly this neuralgia is due to periodical attacks of glaucoma. The symptoms and diagnostic points of this disease have been fully described in the chapter on Presbyopia, of "The Optician's Manual," as it appeared on these pages. At any rate, the case can scarcely be one of simple myopia, in the face of this terrible pain, and because a myopia of 3.25 would lessen vision lower than 20. It might be hypermetropia with a spasm of accommodation, which makes it simulate myopia, or it might be astigmatism; and the most careful examinations should be made to determine these points, as the case is one that calls for skillful treatment.

"H. O. B."—Man about forty years of age, thrown from a wagon in runaway, right ear taken off and nerves completely laid bare on right side of face. Two weeks from time of accident, in looking around the yard or street, would see a lot of ragged, dirty little children all moving, when, in fact, there was not a child in sight anywhere. Frogs, etc., on a splasher at the washstand were jumping and moving all the time. What would you attribute it to? After two or three years he uses +1.75 with No. 6 prism, base out, for reading with R. E.

The moving children and jumping frogs are probably in the line of indirect vision, and may be due to some impairment of the retina outside of yellow spot, opacities in the vitreous humor, or interference with the nerve transmission to the brain. But indirect vision is not correctible by glasses, and hence its affections lie outside of the province of the optician.

We are more interested in the condition of direct vision, that is, the vision of the yellow spot as shown by our usual tests for the acuteness of vision. When this is impaired our correspondent should use every effort to raise it to normal, then attend to the accommodation, then to the muscular equilibrium, when he will have completed his whole duty.

"A. L. W."—Gentleman, aged forty years, machinist. Right eye was injured about three or four years ago by a piece of steel entering the ball outside of the pupil; was totally blind for two or three years. Now commences to see objects very dimly. With test as per prescription can see and recognize people across the street, 100 to 150 feet, but can not read on chart at 20 feet; best I can get. With 14 D. can read at 14 inches ordinary newspaper print. L. E., as per prescription, good, but eye is inflamed from using no glass. Would it be well for me to give him the combination? The bad eye shows no injury to the pupil or lens, but the trouble is near the retina, as determined by an M. D. in Cleveland. Have given 1.12 D. for work, L. E.

Usually, after an accident of this kind, in which the eye-ball is penetrated by a piece of steel, there is so much disorganization as a result of the injury and the subsequent inflammation, that the eye is useless for vision, and, in fact,

must often be enucleated. In this case, fortunately, there seems to be a slight return of vision, and it would be proper to foster and improve it as much as possible. This can best be accomplished by a daily exercise of the eye in reading with the indicated glass, commencing at a few minutes and gradually increasing the period from day to day. For general wear, however, this glass would probably be too strong and would interfere with the comfortable vision of the other eye. Hence the good eye must be fitted and an approximate glass given to the injured eye, such a pair to be used in the ordinary occupations of life.

"W. J. B."—Man, aged thirty-two years; watchmaker. Has had, for many months, sharp pains in forehead and in eyes; pain seems to be easier when out in the open air than when at work, as it is very bad at that time. Vision, = 20 both eyes. O. D. +0.50 does not dim vision much; does very little. O. S. +0.50 dims vision a great deal more than O. D., but vision is better without any lenses. P. P., 6½ inches. Tested eyes with Maddox rod. With the rod on right eye, horizontal bar of light is about 8 inches to the left of candle; 3° base in brings it in line with the rod on R. E. Vertical bar of light is about 6 inches from flame; 2° base down brings it in line. Do you think the pain is from his eyes, and can you suggest a remedy?

The acceptance of the weak convex lens in right eye would indicate a slight degree of hypermetropia, which is verified by the near point having receded half an inch farther away than normal. But this defect seems scarcely great enough to account for the symptoms, and hence we look to the muscular system, which is out of balance, both horizontally and vertically. It is reasonable to attribute the pains in the forehead to these muscular insufficiencies, and the logical remedy would be an adjustment of the indicated prisms, 2° base in over one eye, and 1° base down over the other eye, with the expectation that they would afford the desired relief.

"J. A. M."—Will you please tell me why there is no diplopia in the following case: Young man, twenty-three years old. Vision normal in both eyes; accommodation normal. Testing for muscle trouble, I find it takes 8° prism over right eye, base down, and 8° prism over left eye, base up, 16° prism in all to fuse the line of light and lamp flame. For three years has worn 2° base down and 2° up, but for the last year he has had constant headache. I gave him 4° base down over R. E. and 4° over left, base up, and it has given him great relief. He is never troubled with diplopia, with or without his glasses on. I cannot understand how a person with that amount of muscular trouble (vertical) does not see objects double. Did I give him too strong prism, or should I have given him a stronger one?

This is a very considerable amount of vertical insufficiency, and it would be a natural inference to look for diplopia as the result of it. But the normal instinct for single vision is strong, and by the expenditure of a large amount of nervous force the deficient muscles are stimulated to such a degree as to preserve binocular vision. This would not be possible in all cases, perhaps, because some persons do not possess sufficient nervous energy to be available for such purposes. The weakest possible prisms should be prescribed, and if 4° are the least that afford relief, they are the proper ones to order; hence our correspondent seems to have done the right thing.

"K. C. R."—Lady, about fifty-seven years of age, in general good health; has been wearing glasses for about fifteen years. The last pair was fitted by a prominent oculist. He gave her glasses for both eyes alike, as follows: R. E., +1. D. Cyl. ax. 180° ⊖ +2. Cyl. ax. 90°, added +2.50 in cemented bifocal. She came to me with her friend and complained that the glasses did not suit her; that when she looked at a distance she saw spots, and double sight. I examined her eyes and found that the right eye made 20 on a perf. bifocal, +2. Sph., and lower, +4.50 Sph. L. E. made +2. Sph. ⊖ —50. C. 180, and lower, 450 ⊖ —50. 180; that gave her satisfaction; but still she sometimes saw two objects at the time in the distance.

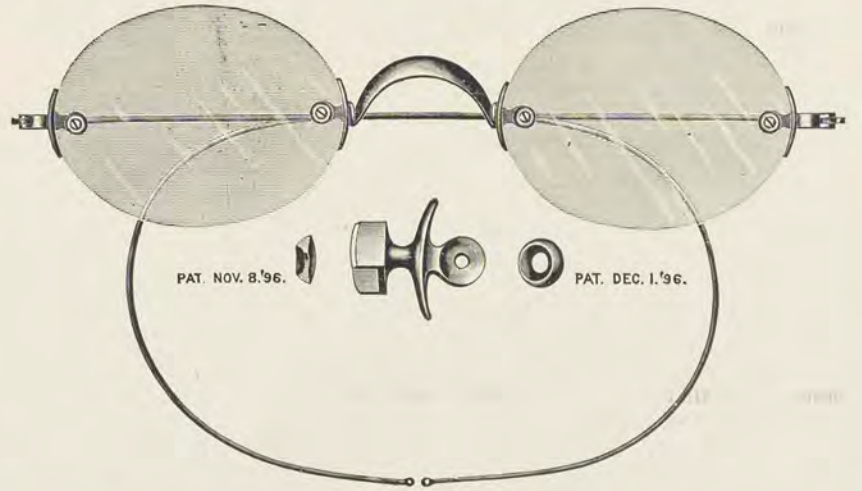
The test of the accuracy of any pair of glasses is usually their ability to raise the acuteness of vision to 20. In regard to the R. E., if a +2. Sph. affords the desired improvement in vision, it is to be preferred to the combination first mentioned. The left eye seems to be more complicated, but a careful examination several times repeated will probably indicate the correct formula. But the double vision of which the patient complains, may not be dependent upon the refractive error, but upon some muscular insufficiency. On this point we are not given any information; hence we would suggest to our correspondent that he investigate this feature of the case.

"Enclosed find one dollar for renewal of my subscription. Through neglect I have failed to renew my subscription to the 'light and life' of every jeweler and optician, and I hope I am not too late to receive the current issue of The Keystone, for I do not want to miss a single number. No optician can afford to be without it."—I. A. Stull, optician and jeweler, Thurmont, Md.

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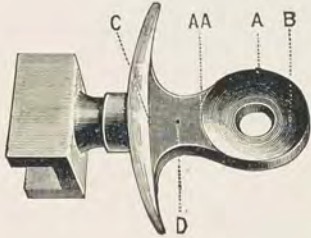
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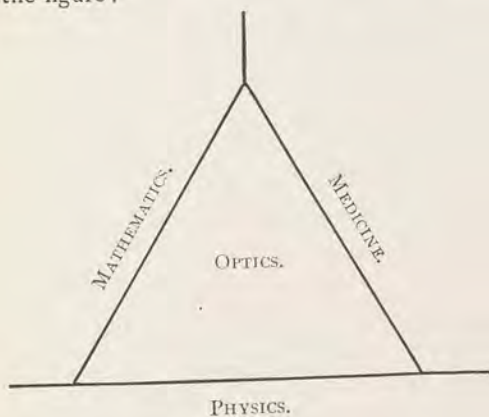
[SPECIAL CONTRIBUTION.]

During the discussion of the question of optical organization I have noticed that little has been said as to the professional qualifications for membership in such organizations, whether national, State or local. This question of qualification is quite as important a one as that of organization, in view of medical antagonism. There is only too manifest a purpose, in many States, to eliminate the optician from the field of his professional work, by confining the practice of optics to the optico-medical school of operators—that is, to the oculists—by making optics a department, as it were, in the practice of medicine, and thus surrounding it with all the legal restrictions that the practice of that profession is supported by. This purpose is revealed in many ways beside the actual attempt being made, for whenever our friend the oculist has an opportunity to express himself in public print he will go quite a bit out of his way—that is, out of the general trend of his discourse—to hang out his favorite mad-dog danger signal:

“BEWARE OF THE OPTICIAN!”

Of course such a display of bigotry on his part is not conducive to feelings of cordiality between the oculist and optician, nor is there any sense or justice in it. The latest specimen of this sort of compliment that has come under our notice appeared in the “Home Study” lessons of the *Chicago Record*. It was in a very indifferent article on the eye, by a Chicago physician, and probably the general indifference of the article was due, in a measure, to his anxiety to find a conspicuous place in it to display the favorite card: “If you have any eye trouble whatever be sure to ‘avoid the optician’ and invariably to ‘consult the oculist.’” It was hard to tell from the wording whether “avoiding the optician” or “consulting the oculist” was to make the patient whole again. But such expressions are of too frequent occurrence to excite comment. The people evidently set them down for what they are worth, which isn't much.

As a matter of fact, the science of optics and the science of medicine (especially anatomy and physiology) touch each other along a well-defined boundary line. So do the sciences of optics and physics, and optics is much more closely connected with the general science of physics than it is with the technical science of medicine. But the science of medicine is also closely associated with physics, for both optics and medicine are technical branches of the science of physics. But optics touches the mathematics quite as intimately as it does medicine, while medicine has a distant relation only to mathematics. We may represent this co-relation in the figure:



The best physician cannot become a thorough and scientific, practical and theoretical oculist in the optical sense—that is, a refractionist, with all of the other things implied by the term—who is not a good general mathematician, while the

mathematical quality or talent or training is unessential for the physician. Mathematics is not in the curriculum of the medical college; neither is general physics, nor are mathematics and physics included in the examination of the medical board. So your optician who stands on the triangle professes to have a knowledge of that special business. The physician is outside of it, but his profession borders it on one side. Faith fills in what is wanting in the professions or pretensions of both. Under these circumstances the physician may as well “go easy,” until the public has some better assurance that his medical degree reaches clear around this three-sided figure. He may, on the same principle, assume that it covers divinity, law, phonography, piano forte, dancing, etc., for all of these callings have an undoubted connection with the practice of medicine. We can't allow the physician to absorb all these lucra-

From Our Gallery of Optical Celebrities.



DR. PHOTINOS PANAS.

Dr. Photinos Panas was born in Cephalonia, one of the Ionian Islands, in 1832. He obtained his degree of M. D. at the School of Medicine, in Paris, in 1860, settled in Paris and was naturalized as a citizen. In 1863 he was made an associate professor and surgeon to the Central Bureau; later he was appointed ophthalmic surgeon to the Bicêtre Hospital, to the Lourcine, the Midi, and many other great hospitals of that metropolis. In 1879 he was appointed professor of ophthalmology. He has published many papers on subjects connected with his specialty in medical journals, and he is the author of a number of works that are well recognized in the profession.

tive professions and practices without a protest. We are afraid that it will lead to consequences similar to those that result from attempting to make a setting hen cover too much territory—that there will be a great destruction of eggs and a small production of chickens.

The optician must be familiar with the anatomy and physiology of the eye, and his knowledge must reach back some distance into general anatomy and physiology. The more it includes of pathology and therapeutics the better, although practice is outside of his field. The physician, on his part, may practice his art upon the eye, the stomach, the liver, the brain, or any of our complicated physiological machinery, but unless he is educated in optics also he isn't any more fit to practice upon the eye optically than the optician is to practice upon it therapeutically, or upon the stomach or intestines. But the physician may combine optics with his medical knowledge. If he does, what is there to show for it? Not his degree, certainly, for that

doesn't cover it. So may the optician be a profound student of medicine and have a comprehensive grasp of all the principles involved—be a better physician than the physician. Now, it is just as appropriate to take the optician's word as to his medical qualifications as to take the physician's word for his optical qualifications. One gentleman's word ought to be as good as another's. There is no difference in the system of correcting refractive errors as applied by the oculist and the optician. The oculist includes more, and, for that reason, is less of a specialist than the optician. The optician may be vastly more skillful and resourceful in his field than the oculist. The optician is sufficiently well informed not to encroach upon the oculist's field.

Now, an optician may be a graduate of an optical school over which competent men, both in optics and medicine, have charge. A course of instruction covering the entire ground that a competent optician ought to be instructed and trained in—not embracing the entire field of medicine, nor the entire field of physics, nor the entire field of mathematics, but the essential portions of each for the purpose in view—would give a better product than a medical school is capable of. Schools, like practitioners, that include everything, are proportionately thin in everything. The special school does a special work better than a general one, for the same reason that a specialist does better work in his specialty than a general practitioner, or ought to, if he knows his business. Nobody can know all things and do all things better than everybody else. No school can teach all sciences better and more thoroughly than all other schools. A special course that is attached to a university is no better because of such attachment, for its excellencies are inherent. The special school in optics is formative as yet, because the profession is formative, that is all. But the optical graduate of the present optical school will never have to unlearn as much as the medical graduate of the present medical school—that is certain.

“System of Diseases of the Eye.”

The third volume of the most comprehensive work on the eye ever compiled, entitled “System of Diseases of the Eye,” has been issued by the publishers, J. B. Lippincott Co., Philadelphia, Pa. This work, when complete, will be in four volumes, and, as told to our readers in reviews of Vols. I. and II., it embodies the researches of the most eminent American, British, Dutch, French, German and Spanish authorities, the enormous mass of information being carefully edited by William F. Norris, A. M., M. D., and Charles A. Oliver, A. M., M. D., of Philadelphia. The compilation covers the entire field of eye-ology in all its relations. The first volume comprises the embryology, anatomy and physiology of the eye, many of the chapters being very valuable to opticians, such as “The Dioptrics of the Eye,” “The Perception of Light,” “Binocular Vision,” etc. The second volume is specially devoted to matters optical—vision, accommodation, mydriatics and myotics, oblique illumination, the ophthalmoscope, retinoscope, ophthalmometer, phorometer, perimeter, etc., and optometry generally. In Vol. III., which is now ready, are considered all local diseases of the eye and of all its parts, glaucoma, wounds, injuries, operations, etc. This volume has nearly one thousand pages, and, like Vols. I. and II., is copiously illustrated with colored plates, photographs, diagrams, and cuts of all kinds pertinent to the subject treated. The fourth volume, which will soon be ready, will deal with the relationship between general disturbances and local expressions of such in the eye, and will contain much of great interest and value to the accomplished optician. The complete work will be invaluable to every practitioner and specialist. It will be a carefully edited compendium of the acquired knowledge of the world's greatest scientists in the pathology, surgery, histology, refraction and sympathetic relations of the eye. The price per volume is \$5.00, in cloth binding; in full sheep it is \$6.00, and in half Russia it is \$6.50. The publishers do not take orders for single volumes.

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—H. D. Buck, optician, Centralia, Ill.

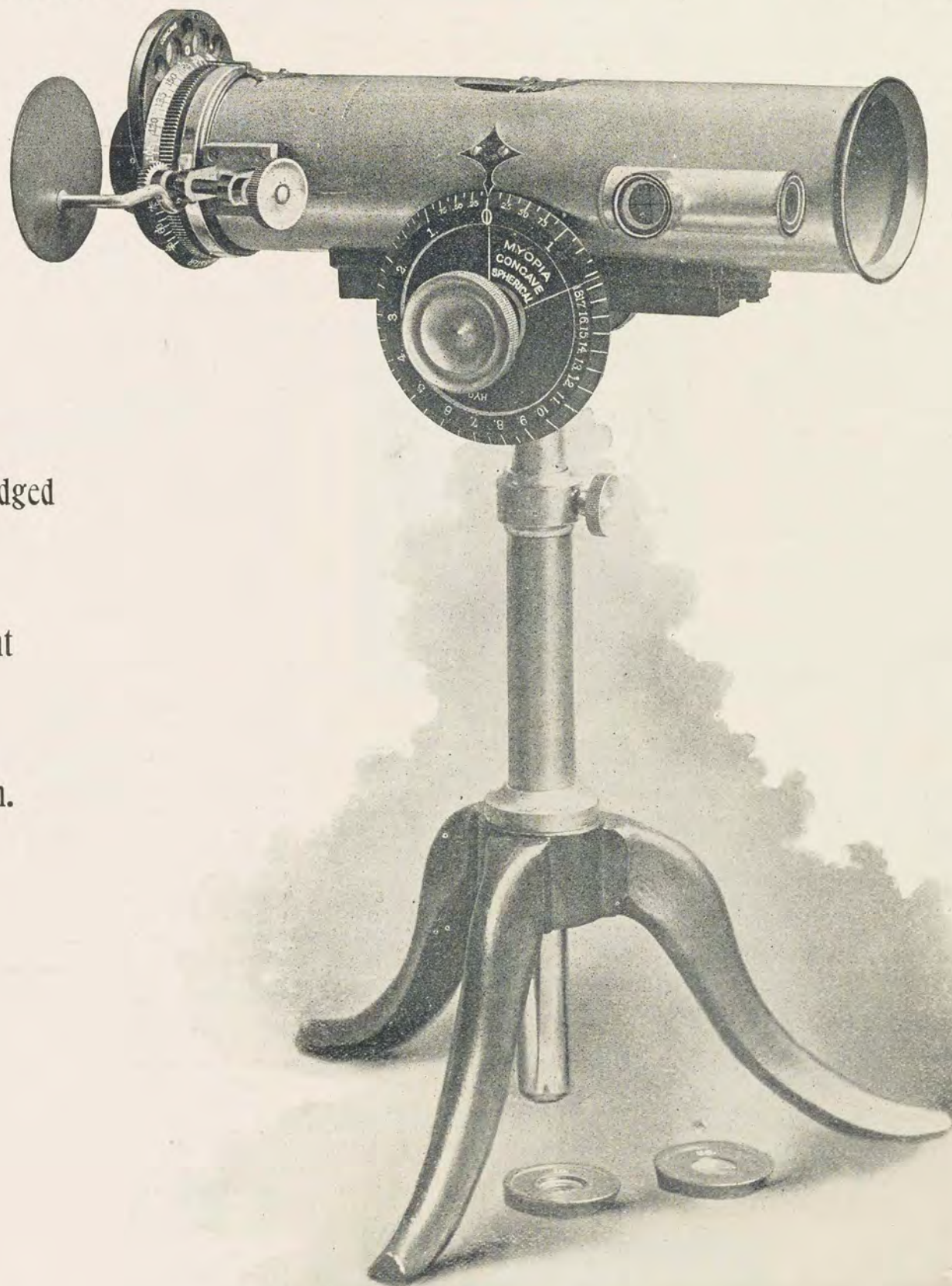
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The Illinois Optical Society is Successfully Organized.

In pursuance to the call published in the September issue of THE KEYSTONE for a meeting of the opticians of the State of Illinois, several well-known members of the profession from different parts of the State, together with a number of gentlemen connected with the different branches of the optical trade, assembled in Chicago, for the purpose of organization, Thursday morning, September 15th.

The meeting was held at the Palmer House, in Parlor O. The following gentlemen were present: J. H. Robertson, Morrison; Walter Wyatt, Peoria; R. N. Clark, Sterling; Albert E. Wuesteman, Champaign; Wm. C. Sommers, of Hyman, Berg & Co., Chicago; C. H. Pixley, Chicago; Dr. G. A. Rogers, Chicago; J. M. Johnston, Chicago; A. R. Chamberlin, Aurora; E. M. Stanton, of Keil & Hettich, Chicago; Loren L. Boyle, of THE KEYSTONE; Geo. H. Hazlitt, of *The American Jeweler*, and Dr. Edmund T. Allen, Chicago.

Thirty-five opticians, hailing from every part of Illinois, sent their regrets at not being able to attend, every one of whom, however, said organization was what was wanted and the movement had their full sympathy. They all expressed a desire to be placed on the roll of membership of the new society as among the charter members. The following are those included in the above list:

David A. McDaniel, Minok.
E. N. McPherron, Greenfield.
S. R. Quigley, Elmwood.
R. T. Roberts, La Harpe.
June Sallee, Litchfield.
C. E. Stewart, Minier.
W. J. Cheary, M. D., Eureka.
J. F. Wyatt, M. D., Eureka.
R. C. Augustine, Decatur.
A. F. Westlake, Peoria.
Grant Hood, Peoria.
Wm. Pinkley, Bushnell.
S. L. Pinkley, Bushnell.
J. M. Fox, Canton.
E. H. Burrige, M. D.,
Abingdon.
G. T. Davies, Peoria.
J. B. Ferguson, Princeville.
H. B. Conyers, Chillicothe.
G. G. Davis, Wyoming.
Robert Eisle, Wyoming.
Frank House, Galva.
J. C. F. Cummins, Brimfield.
Adam Deck, Hennepin.
F. Garthwait, Lewiston.
M. Hamilton, Minier.
Jno. A. Isch, Metamora.

H. I. Jones, Lostant.
G. R. Lowe, Farmington.
Philleo Bros., Alexis.
J. W. Mahaffy, Viola.
G. C. Pruitt, Peoria.
Cole & Tharp,
London Mills.
Geo Zuckenweiler, Pekin.
Jacob Enteneuer, Havana.

Mr. A. R. Chamberlin, of Aurora, called the meeting to order by nominating Walter Wyatt, Peoria's well known optician, for president pro tem. Mr. Chamberlin's suggestion was unanimously received by the meeting, and Mr. Wyatt took the chair. He thanked the gentlemen present for the honor conferred upon him. Upon taking the chair Mr. Wyatt said the next in order was the election of a secretary pro tem. of the meeting. Mr. Chamberlin, of Aurora, was nominated and unanimously elected. President Wyatt next stated the object of the meeting in a pleasing and earnest manner. He said:

"I believe the time is now ripe for a State organization here in Illinois among the opticians, and I believe the movement should be made broad enough to include the oculist, as well as all other departments of the optical trade. It does me good to see before me representatives of the different interests connected with the profession of optics—the professional optician, the oculist, the manufacturer and the jobber, and the trade journalist. I welcome you all with the most kindly feelings. I have noticed that some opticians are inclined to be at swords' points with our professional brother, the oculist. Personally, I do not harbor the least unkind feeling against the oculists. At my home town we get along pleasantly together, save occasionally I find my oculist friends criticising the advertising done by the opticians. This is the most natural thing for them to do, for here is where I think the optician gets a little the best of the oculist, and it is to be expected he would make a kick. However, I find this not a very serious difference, and I manage to live in peace and harmony with my neighbors—the oculists. This is as it should be, and I sincerely hope the day will soon come when the optician and the oculist will dwell together in peace and harmony everywhere. I am greatly encouraged over the gathering here to-day. I have long been an enthusiast on organization, and I believe that this meeting

is the beginning of a strong and healthy State organization—one that will be broad, liberal and thoroughly up to date, and one that will be of practical use to its members along educational, business and social lines. We should not only organize to protect ourselves, but the public as well. I hope to see not only a strong State organization here in Illinois before many months, but want to hear of local societies springing up in all parts of the State. Should there nothing more than a fraternal and brotherly feeling toward each other be developed, there will have been accomplished a great deal of good. I firmly believe that this association, which we are called to organize to-day, will be of great benefit to the retail optician, and if to the retail optician, it will certainly be to the wholesale optician. I also believe that by co-operation in our interests in all parts of the State, we can secure relief from the evils that menace us. Now, gentlemen, in order to make a success of this meeting, we must all pull together and become acquainted. While we may not be able to accomplish a great deal to-day, by getting an organization and meeting several times a year, we shall soon make our society in Illinois one of the strongest and best in the United States."

Before taking his chair again President Wyatt said he desired to hear from all present as to the objects of the meeting, the benefits to be derived from State and local organization, and the outlook for the success of a State society. The first gentleman called upon was Mr. Hazlitt, of Chicago. Mr. Hazlitt thanked the president for the

pathy with this movement. We are here to organize for mutual protection, assistance and encouragement. The tendency of the times is altogether towards organization. Organization is effective. It brings together a comparison of ideas that always results in development or gain where there is a desire to work for mutual good. I believe that great good can be accomplished by pulling together instead of pulling independently, and often in contrary directions. I like the broad, progressive spirit already exhibited here, and I am encouraged to believe that this movement is starting right. It certainly has my hearty wishes for its successful inauguration."

Loren Boyle, of THE KEYSTONE, was called upon, and said he was no speech maker, being simply on hand as a news-gatherer. However, he took pleasure in saying that the organization movement among the Illinois opticians had his hearty approval, and that he would be happy to help it along all he could, both through the journal he represented and personally.

W. C. Sommers, with Hyman, Berg & Co., Chicago, was next called upon. He said the ground had already been so well gone over that he could think of nothing further to offer. Still he thought that the present was the most opportune time for organization, and said that he was warmly in sympathy with the movement, and that he would do all in his power to push the splendid idea along.

Cheering and hearty remarks were made by Albert Wuesteman, of Champaign; R. N. Clark, of Sterling; J. H. Robertson, of Morrison, and Dr. G. E. Rogers, of Chicago, in a similar strain to those already given—one and all warmly favoring organization and prophesying large success for the movement.

A motion next prevailed that a committee of five be appointed by the chair to draft a constitution and by laws. President Wyatt appointed Mr. Robertson, Mr. Chamberlin, Mr. Johnston, Dr. Allen and Mr. Boyle.

A motion next prevailed that the list of persons above mentioned as being desirous of becoming charter members be elected as such.

The convention now adjourned to meet at 2 P. M., and lunch was partaken of in the meantime.

The convention convened again at 2 P. M. After some considerable discussion, it was moved and seconded that all applications for membership received before and at the next meeting—October 19th—be considered as charter members by paying the amount of annual dues, \$3.00, and that all charter members should not be expected to pay an initiation fee.

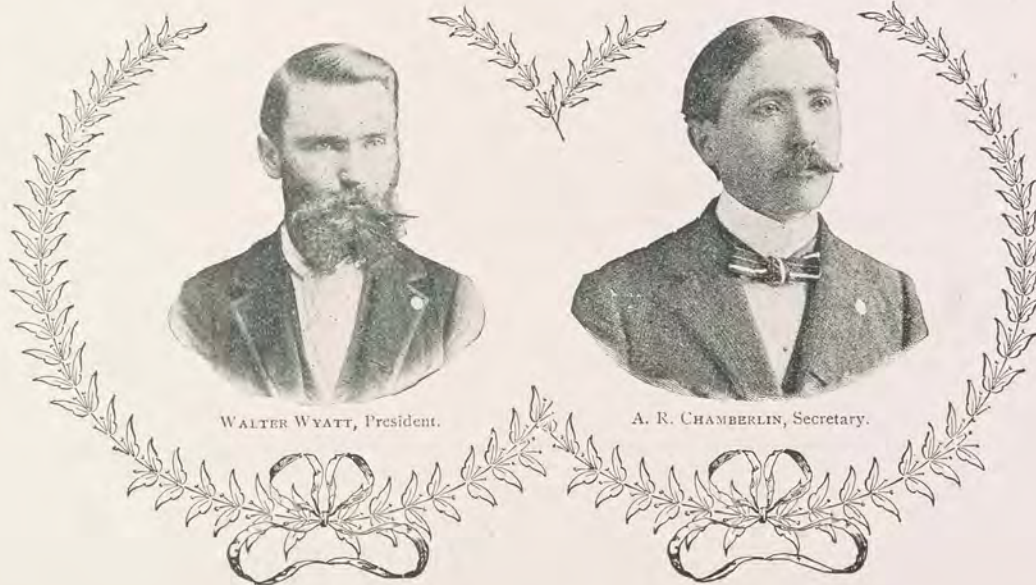
The election of officers to serve for the ensuing year was next taken up. The following were nominated and unanimously elected:

President—Walter Wyatt, Peoria.
First Vice-President—J. M. Johnston, Chicago.
Second Vice-President—Loren L. Boyle, Chicago.
Third Vice-President—Dr. Edmund T. Allen, Chicago.
Secretary—A. R. Chamberlin, Aurora.
Treasurer—J. H. Robertson, Morrison.
Board of Directors—Wm. C. Sommers, Chicago.
R. N. Clark, Sterling.
C. H. Pixley, Chicago.
Albert E. Wuesteman, Champaign
Geo. H. Hazlitt, Chicago.
Edward M. Stanton, Chicago.

The report of the committee on constitution and by-laws was asked for and submitted. Each section of each article was taken up separately, discussed and adopted.

After considerable discussion, a motion was carried that the next meeting should be held in Chicago during the Peace Jubilee week; the date, October 19th; the place, in the rooms of the Chicago Jewelers' Association, at 103 State Street, Columbus Memorial Building, seventh floor, at 10 A. M. There will doubtless be reduced rates on all roads running to Chicago that week, and a large attendance is expected.

A few minor matters were gone over and the organization meeting of the Illinois Optical Society, having completed its work, adjourned to meet as above.



WALTER WYATT, President.

A. R. CHAMBERLIN, Secretary.

honor of being the first to be called upon, and said that he believed the matter of calling this convention to organize a State association of opticians in Illinois as one of great importance to the profession; that he had long been a firm believer in organization, and wondered why the step had not been taken among the optical trade of this State long before this. He believed that the forming of this association would be profitable to all, and that it would be a success from the start.

Mr. C. H. Pixley, of F. A. Hardy & Co., Chicago, was next called upon, and said: "I feel proud to have the pleasure of being in attendance at this, the organizing of the Illinois Optical Society, and to see and feel that fraternal feeling of friendship and good-will that is exhibited one for the other; and if we do nothing else but get acquainted and have this kindly feeling go out from here in the heart of each member of the trade throughout the State, I shall feel that we have accomplished a great deal. Organization is the only way you will be able to cope with the various wrongs and regulate the many evils the retail optician has to contend with. That this can be done by united action there can be no doubt, and I honestly believe this is a move in the right direction. It certainly has my hearty sympathy."

Dr. Allen, of Chicago, was called upon, and said: "I like the plan of organization as put by our worthy president pro tem. The broad plan is best; that includes the M. D. as well as the refractionist, the wholesaler as well as the retailer, the author and writer as well as the teacher. Here all meet on common ground for mutual benefit. An organization with such broadness is bound to succeed, and I shall take pleasure in doing all I can to make it a success."

The president next called upon J. M. Johnston, of J. M. & A. C. Johnston, Chicago. Mr. Johnston said: "Organization is indispensable at this day and age. I am glad to see our trade so fully represented here to-day; every department seems to have representatives—even our friends, the trade journalists, are here. I am in full sym-

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Our success in this line has attracted the attention of others, with the result that one after another has taken it up until now individuals are advertising Correspondence Courses and colleges are sounding the same refrain, and we fear that Correspondence is being overworked.

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Fusion of Images.

ED. KEYSTONE.

The reviewer's criticism of Dr. Brewer's statement, that "Operative binocular vision is obtained only when the image is pictured upon identical points of the retina," etc., in August KEYSTONE, brings up important matters. I am not acquainted with Le Conte's writings, but accept the reviewer's statement of his position: "In ordinary binocular vision the images necessarily fall upon non-identical points of the two retinae, in order to produce a stereoscopic effect."

Dr. Brewer's statement is evidently not meant as a precise statement of the rule, as shown by his use of the word "identical" and of the singular forms of "image" and "retina." The reviewer corrects the latter, but not the former, for he employs the word "non-identical."* "Corresponding points of the images and of the retinae," is undoubtedly the proper expression. An image is simply an assemblage and display, upon a superficial field, of the foci of pencils of light from each point of the object. But, as the eyes present two such fields, there are two foci for each objective point—one upon each retina, being foci of pencils from the same point of the object. We thus have "corresponding" foci as well as "corresponding" points in the two retinal fields. Now the rule is that "corresponding foci" must fall upon "corresponding points" in the two retinae—that is to say, those points in the images having the same objective source are located upon corresponding points of the retinae.

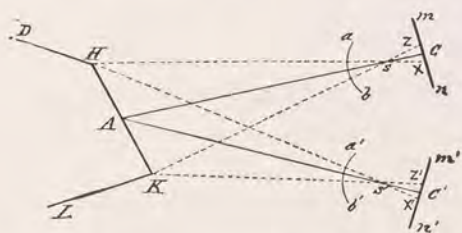
But the two images are not exactly alike, owing to the fact that the two eyes are differently located with reference to the object and receive entirely different pencils of light from each objective point. The right eye thus receives and focuses upon its retina small areas of the object that are not visible to the left eye, because that eye is inaccessible to pencils from quite that direction, and vice versa. But, nevertheless, the greater areas of the object will present points to whose pencils both eyes are accessible, and correspondence, if the rule is strict and mathematical, can only apply to these. But these send different pencils to the two eyes, varying to some extent in direction and obliquity, and if fusion requires that all of them should focus according to the rule we should be very greatly perplexed. It would seem to be impossible. If a cube is placed with one edge vertical in front of the eyes, so that the right eye sees a narrow area of the right-hand side and a broader area of the left-hand side, while the left eye is out of range of the right-hand side but faces an area of the left-hand side even broader than that presented to the right eye, there certainly can be no correspondence for the right-hand face of the cube, for its image appears in but one eye. For a similar reason the left-hand side occupies a broader area in the left eye than in the right.

Operative binocular vision depends upon the cognizance of similarity in the midst of differences or differences in the presence of similarity, as shown by the two images pictured upon the two retinae. We should be wrong to conclude from this that "correspondence" is unnecessary to produce fusion or true binocular vision; but we are forced to narrow the limits of correspondence. It cannot apply strictly even to the fields of the macula lutea; but within those fields there are evidently points or minute areas (one in each eye), even if they occupy no greater space than the space of half a dozen adjacent cones within the area of the fovea centrales, to which the rule applies absolutely. Upon these points there must be exact correspondence for a point in the object—that point upon which vision is centered. That this is the case appears more certain from the fact that the peripheral images, even for outer areas of the macula lutea, are less sharp than a central point of the object whose foci fall within the areas of the fovea centrales at least. We are conscious always of this "pointedness" of vision that enables us to fix a very minute area of the object with wonderful clearness, and when we do so fix such a point the areas around it seem to fade from sight. But we are also conscious of strain in this operation—the strain not of the ciliary, for the object may be easily within our accommodation, or located at such distance as to require no exercise of accommodation—but of the extra-ocular muscles in holding point to point, and preserving that nicety of balance between the opposite muscles that would be required for such accurate work.

*The reviewer considers the term "non-identical" very proper, for the haploscopic experiments of Helmholtz, Hering, Volkman and others, have conclusively demonstrated that even outside of the macula lutea there exists to each point in one retina another in the second retina, the simultaneous stimulation of which gives us the impression of one point in the outer world. Our correspondent seems to have overlooked these valuable researches.

Now, as this effort is required to hold the eyes to the point and preserve the balance, without it there is evidently a shifting or oscillation of the eyes, so that the "points of correspondence" come successively under different fields of the images and include, in these movements, a larger area of the object; and the movements are so rapid that, unconscious of them, areas of the images equal to a large part of the areas of the macula lutea become distinct and "correspondence" is established for them by successive fixation upon the "points of correspondence" rather than by the less distinct parts of the images that fall upon the macula lutea outside of these points. Operative binocular vision thus requires exact correspondence for the "points of correspondence," and not only permits but requires deviation from the rule for other areas of the macula lutea and for the retinae generally; though such deviation must be slight and in proportion to distance from the "points of correspondence." In viewing the near object, the sizes of the two images extend these peripheral areas of the images outward and limit the extent of the objective area, and increase thereby the deviation of points nearer the central objective point. That is, an area of the object one square foot in extent six meters from the eyes, is not only pictured upon smaller areas of the retinae than when it is at one meter distance, but covers a smaller range of those deviations required for binocular vision.

The one point in the object that is focused upon the "points of correspondence" must evidently be a point visible to both eyes—that is, it must provide a pencil of light for both, whose foci fall upon the "points of correspondence," as shown by the lines ac and $a'c'$ in the



figure, in which HK represents the area of the object, A the points fixed by the two eyes, $m n$ and $m' n'$ the two retinae, c and c' the "points of correspondence," $a b$ and $a' b'$ the two cornea, s and s' the two centers of retinal curvature, z and z' the foci of K , x and x' the foci of H , c and c' are the foci of A , the point of the object being most intently observed, and these foci fall upon the "points of correspondence" in the two eyes; but z and z' , although they are the foci of the point K , and x and x' , although they are the foci of H , do not fall upon corresponding points, although they are but a trifle out of the way. It is the correspondence of c and c' together with the difference of x and x' , z and z' , and all other pairs of foci outside of c and c' , that give at once fusion of the images on the one hand—that is, single vision—and the stereoscopic effects on the other, fusion being due to correspondence at c and c' , and the stereoscopic effects, or "perspective," being due to the differences at x and x' , z and z' and all other points save c and c' . Binocular vision is thus the sum of two concurrent retinal manifestations—absolute correspondence at the central points of vision, deviation at all other points in proportion to distance from such centers. Fusion proceeds from the former, perspective from the latter.

In the figure, the area DI would be imaged upon $m n$, but not on $m' n'$; the area KL on $m' n'$, but not on $m n$. "R."

Increase of Myopia or Near-sight in Schools.

Frank Edson Adams, Worcester, Mass., is showing a good example to his brother opticians by agitating in the local papers the question of attention to school children's eyes. A recent communication to the *Worcester Spy*, which could be used with advantage by Mr. Adam's brethren, is, in part, as follows:

To the Editor:—A paper read before the Medical Association, upon myopia, written by Dr. Dewling, of Cincinnati, presents facts and suggestions of great and general importance. An examination of the eyes of one thousand children in the schools of Cincinnati, to determine the percentage of myopia and the chief cause of the same, showed the facts as follows: Of the one thousand children, more than three hundred were found to be more or less near-sighted. Scarcely any of these were under nine years of age, and the percentage of myopia increased regularly from grade to grade. In the art school, the average of near-sighted pupils was 42 per cent. The highest percentage was found in classes where fine shading was done; the lowest where drawing and painting were from life. In the college of music the figures were higher still: 56 per cent. of the scholars were myopic.

The German schools were worst of all. In one school half the boys and three-fourths of the girls were near-sighted, and that at the early age of ten or twelve. The fatiguing character of the German letters is supposed to be the cause of this result.

Dr. Dowling's suggestions, briefly stated, are:

1. Bad light, bad ventilation, low sanitary conditions, low standard of general health.
2. School books should be printed in large type.
3. In reading and studying, the page should be held about one foot from the eyes.
4. Young people predisposed to myopia should not study by artificial light.
5. Shading and tinting should be discarded from the public schools.

This is but one of the many reports we have before us, showing that we can not be too careful in looking after the eyes of our children while in school and during the growing period of their lives, and substantiates the stand we have taken in previous articles, that it is imperative that some method of examination of eyes be introduced into all schools, that may serve to enlighten the parents as to the true condition of the sight of their children.

FRANK EDSON ADAMS.

"Optician" or What?

ED. KEYSTONE.

I notice a disposition on the part of some opticians to abandon their profession, or is it only the name "optician" they are ashamed of? They want to be called "ophthalmologists." Sincere pity is due any poor man who has to carry this euphonious but cumbersome and, to the laity, meaningless title about with him. Would it not be a good plan for the manufacturer of optical sets and cases to provide in the latter a compartment lined with pink silk velvet in which to keep this delicate piece of optical furniture? It might be provided with a special lock and key, to prevent its being stolen, and the compartment should be airtight, for it would certainly evaporate if exposed too freely to the air.

The word "optician" is a most respectable word. It means something to the laity as well as to the profession, if used with propriety. It has been abused, by being adopted by every spectacle seller, it is true, and our friend, the oculist, has endeavored to make it as opprobrious as possible, but the name survives and will survive all of these things. It should be made respectable by the loyalty and insistence of its qualified bearers. Abandoning it because disqualified people assume it and because oculists ridicule it, is deserting a friend in the breach, and confessing that there is a "cloud on the title." If the oculist ridicules "optician" you may be sure he will ridicule "ophthalmologist," in spite of all the Greek roots and Saxon suffixes it contains.

One of the most amusing effects of the effort to escape from the term "Opticians who Would be Oculists" is the adoption by some opticians of the title "oculist." That is, having been driven out of using the word "optician" by the ridicule of the oculist, instead of going off in some out-of-the-way place to die, as the oculist expects him to do, the optician has unceremoniously climbed into the warm nest of the oculist himself. Of course he has no moral right there, for usage should govern in such cases; but he has as good a legal right to call himself an oculist as anybody, and he has as good a moral right as a physician, who is uneducated in optics, to call himself by that name for the purpose of securing optical trade. Of the two, the physician is more culpable, for he is at least well enough acquainted with medical ethics to know his sin, whether the optician does or not. But medical ethics is a very elastic code. It stands lots of stretching if there is a chance to corral some good paying line of work.

If this process of absorption and assimilation by the medical profession continues there is no knowing where it will end. To the root "medicus" is attached, first, "oculus," and then "opticus," making the combination ocuto-optico-medicus. This has a suspicious phonetic resemblance to "octopus," and perhaps that is the eventual title to which the oculist aspires. The word "optician" should be our citadel. We should never desert it or give it over to the enemy, simply because he fires a few shots in our direction. Stand by your guns and drop a few 13-inch shells down upon him, to let him and the people know where you are. To desert a post because it is attacked—that is anything but courageous.

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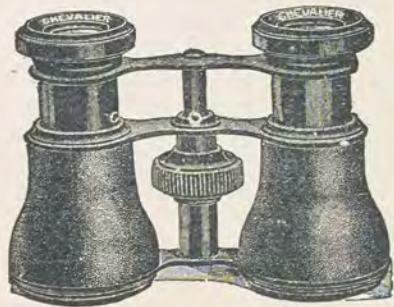
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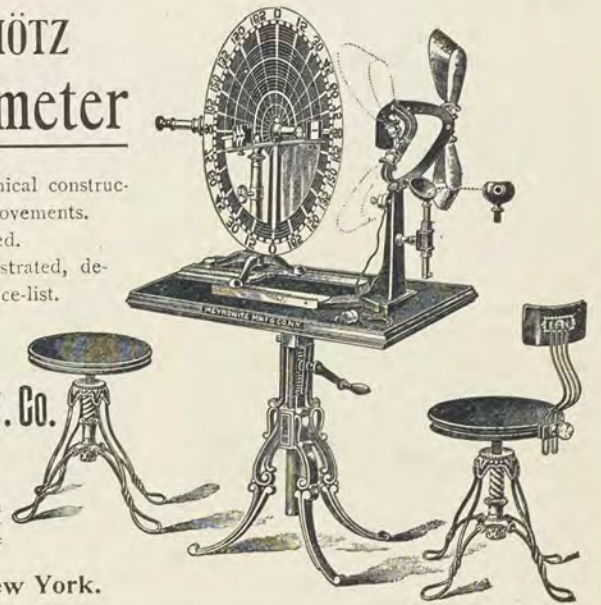
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W. E. HICKS, President, Lowell, Mass.
EDWIN P. WELLS, Treasurer, Boston, Mass.
W. R. DONOVAN, Secretary, 4 Province Court, Boston, Mass.
Meets third Tuesday of each month, except July and August, at Young's Hotel, Boston.

New York State Association of Opticians.

F. L. SWART, President, Auburn, N. Y.
C. B. HIBBARD, Treasurer, Pulaski, N. Y.
W. D. ORTEL, Secretary, 600 N. Salina St., Syracuse, N. Y.
Meets third Wednesday of each month at Yates' Hotel, Syracuse, N. Y.

New York State Optical Society.

A. J. CROSS, President, New York City.
F. L. SWART, Treasurer, Auburn, N. Y.
H. W. APPLETON, Secretary, 1361 Third Ave., N. Y. City.
Meets semi-annually.

Pennsylvania Optical Society.

A. MARTIN, President, Philadelphia, Pa.
T. E. LEACH, Treasurer, Philadelphia, Pa.
C. A. LONGSTRETH, Secretary, 228 Market St., Phila., Pa.

Indiana Optical Society.

JOHN WIMMER, President, Indianapolis, Ind.
I. M. ROWE, Treasurer, Indianapolis, Ind.
CHAS. CONNER, Secretary, 54 Mass. Ave., Indianapolis, Ind.

Michigan Optical Society.

F. D. FULLER, President, Grand Rapids, Mich.
C. WOLFE, Vice-President, Howard City, Mich.
E. EIMER, Sec. and Treas., 105 Western Ave., Muskegon, Mich.

Iowa Optical Society.

H. P. HOLMES, President, Des Moines, Iowa.
C. A. COLE, Vice-President, Winterset, Iowa.
J. C. CLARK, Secretary, Sioux City, Iowa.

Illinois Optical Society.

WALTER WYATT, President, Peoria, Ill.
J. H. ROBERTSON, Treasurer, Morrison, Ill.
A. R. CHAMBERLIN, Secretary, Aurora, Ill.

New York City Optical Society.

L. L. FERGUSON, President.
LEO LEWIS, Treasurer.
P. JERSCHKY, Rec. Sec., 43 Maiden Lane, New York City.
Meets second Wednesday of each month at Fifth Avenue Hotel.

Rochester Optical Society.

G. R. BAUSCH, President.
W. W. BISSELL, Treasurer.
R. E. SWERTING, Secretary, Chamber of Commerce Building, Rochester, N. Y.
Meets monthly.

Canadian Optical Society.

J. H. V. JURY, President, Bowmanville, Ontario.
FRANK ELLIS, Sec. and Treas., Toronto, Ontario.

Founding An Optical College.

THE trade members—and they are not a few—who have long desired the establishment of a distinctive optical college, under the auspices of a representative optical organization, will soon see a realization of their hopes if the plans of the New England Association of Opticians are carried out. At their meeting, held last month, the Association authorized their committee to charter and open a college to give a thorough course in optics. Their intention for the present is to hold the sessions in the evening, to afford an opportunity to the greatest number to avail themselves of the advantages of such a course. Arrangements will also be made to give instructions in certain branches, which would appeal to a great many opticians who wish to perfect themselves in special lines, such as the use of the skiascope, etc. Anyone interested in the success of the project can display it in a practical manner by subscribing to the stock of the proposed corporation that will be formed to conduct the enterprise. The value of shares have been placed at a nominal sum so as to be within the reach of all persons interested.

Projected Exhibit of Optical Goods.

IT is now apparent that the attempt being made by the projectors of a national association of opticians to organize a representative exhibit of the products of the various optical factories in the month of October will not be a success. The idea was all right, had it been possible to properly carry it out. But all the resources of the manufacturers at this time are taxed in filling orders, leaving no time to be given to the preparation of

products for exhibition purposes at this season. The proper time for such an exhibit is the late spring months, when the manufacturers have the time and disposition to display their latest productions and when they are seeking orders for the fall trade. From expressions that have come to us from the manufacturers we are convinced that under different auspices, with a reasonable guarantee of a representative gathering of jobbers and retailers to examine such a display, a successful and creditable exhibit could, and it is possible will be arranged to be held next spring.

New Optical Societies.

THE Illinois Optical Society is the latest addition to the State optical organizations now in existence, and the present month will furnish another in the Nebraska Optical Society, to be organized October 11th, in Omaha. The Illinois society is well worthy of the State, and promises to rank with the most useful and progressive of our optical organizations. The preliminary meeting for the formation of the society was as practical as it was enthusiastic. We note among the officers the name of a medical practitioner, and that oculists are invited to membership in the association. In this respect the Western organization advances beyond its Eastern prototypes, who have made no effort or provision for medical membership. Professional exclusiveness in the East is no doubt responsible for this, but the medico-optical harmony evinced in the Chicago organization is promising. The spirit of thoroughness characteristic of the breezy Western metropolis is much in evidence in the new optical society, and a career of achievement is before it.

A Nebraska Optical Society.

A Nebraska optical society will be organized in Omaha, on October 11th, on the occasion of the annual meeting of the Nebraska Retail Jewelers' Association. As this is the last month of the Exposition, a large attendance is assured.

Projected American Association of Opticians.

A meeting with a view to forming an American Association of Opticians is announced to take place in New York City, on October 10th, and to last several days. Meetings will be held in the Broadway Central Hotel. Reasonable rates have been secured and the management have donated, without charge, the use of a large assembly room in which to hold the meetings. A smaller room has also been secured for the display of optical goods, although the exhibit will not be as large as was hoped for.

New England Association of Opticians.

The first fall meeting of the New England Association of Opticians was held at Young's Hotel, Boston, September 20th. The principal business of the meeting were discussions of the optical college that the association proposed to establish and the scientific lectures to be given at the following meetings. On the first proposition, the committee having the matter in charge reported through Chairman Sanborn that they believed the object could be carried to a successful issue, and recommended that steps should be taken at once to charter and organize such a college as would give a thorough course of instruction in the science of optics and correction of errors of vision. The committee reported that nearly two hundred dollars had been subscribed to stock, the par value of which has been placed at five dollars a share; also, that a number of pupils were already assured. On motion, the committee were given authority to go ahead and start the school, and the committee was enlarged by the appointment of Messrs. Brown, Michael, Blackinton and Eastman.

As to lectures for the monthly meetings of the association, it was decided to have these given voluntarily by members, instead of engaging an outsider, as was done last year. The course of subjects as finally arranged is as follows: October meeting, "Hyperopia," by Charles

D. Tucker; November, "The Use of Atropine," by A. G. McKenzie and George H. Brown; December, "Myopia," by W. E. Hicks; January, "The Optometer," by W. R. Donovan; February, "Astigmatism," by B. S. Palmer, and "The Ophthalmometer," by W. L. Thomas; March, "Muscles," by John W. Sanborn; April, "The Ophthalmoscope," by Hermann L. Klein; May, "Skiascopy," by E. M. Parks; June, subject not selected, lecturer, George H. Barron. It was the unanimous feeling of those present that from such a course of lectures, with the practical discussion following each paper by the members present, more practical benefit and instruction would be acquired than by listening to a set course of talks by a paid lecturer not specially interested in the association's work and aims.

Applications for membership were received from J. P. Farrington, Kingston, Mass.; Horace E. Speer, Boston, and C. R. Haverford, Fall River, Mass.

The Optical Society of the State of New York.

At the meeting of the above society, held in Saratoga last June, an amendment to the constitution was introduced, the purpose of which was to change the time for holding the annual meeting of the society from the month of October to June. In view of this proposed change, and in order not to conflict with the meetings of other optical organizations, the executive committee recommended that the usual fall session be dispensed with this year.

A circular recently mailed to the members of the society by the executive committee said: "Unless something unforeseen occurs, necessitating a special meeting, it is the opinion of the committee that the next assemblage of the Society should take place during the latter part of the month of June, 1899, in the city of New York. And it is hoped that this meeting will eclipse all others in points of interest, not alone to our own membership, but to the membership of other optical societies that are adjacent to our state, your committee believing that *one* big meeting a year, lasting perhaps several days, will prove more attractive, and of greater benefit, than smaller ones held oftener.

"Rumors are once more afloat regarding possible adverse optical legislation during the approaching session of the State Legislature. A watchful eye must therefore be kept on all bills introduced, so as to again check the progress of any 'sneak' measure that may appear. It is also well for opticians to bear in mind the experiences of the past, and remember the wisdom of keeping in touch with their local senators and assemblymen, thereby enabling them, in case of emergency, to exert such influence as will thoroughly protect optical interests."

New York State Association of Opticians.

The regular meeting of the New York State Association of Opticians was held in the assembly room of the Yates Hotel, Syracuse, on Wednesday evening, September 21st. President F. L. Swart, of Auburn, occupied the chair. The minutes of the last meeting were read and accepted. The treasurer's report showed that the organization is financially sound. Edwin Wilcox, of Fulton, and James Holden, of Syracuse, were admitted to membership. The president, F. L. Swart, was constituted a committee of one to further the arrangements with Mr. L. L. Ferguson for his coming lectures next month.

After the routine business was completed the members had the pleasure of listening to a very instructive lecture by James Holden, demonstrated by blackboard drawings. Mr. Holden is a practical man, having had many years' experience in doing trade work, and therefore well qualified to give practical instruction. He spoke, in part, as follows:

"I have chosen the subject of mechanical optics simply to distinguish between refraction work and the work to be done after the errors of refraction have been estimated; and at the outset I wish to say that I do not intend to confine my talk solely to mechanical work, but to anything of interest and importance which comes in the every-day work of the optician outside of refraction. You will note that I said 'estimated errors.' Perhaps you would have me say 'corrected,' but errors of refraction can not be corrected until the required lenses are placed in proper position before the eyes, and one of the most important things is the measurement and selection of the frame. If there is *one* thing in optical education that is equally as important as the measurement of refraction, it is the measurement and adjustment of the frame; and if there is one thing in optical education that is neglected more than another, it is this very one, and if the optician is either ignorant of this branch or underestimates its importance, his business as well as his customers will sooner or later suffer.

(Continued on page 815.)

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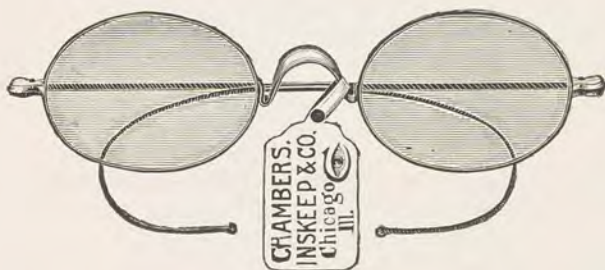
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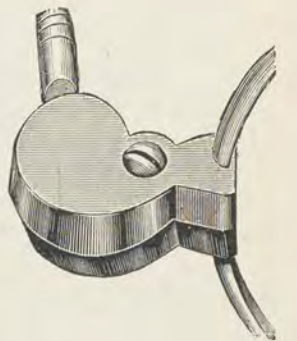
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New York State Association of Opticians.

(Continued from page 813.)

"Now, before we proceed to take measurements or note facial features, there are some things to be taken into account before selecting a frame, namely, whether lenses are to be used for constant wear, distance or close use only, the occupation of the patient and (not the least factor in the selection) the patient's pride. We will waive the latter and get down to practical business. The very first thing to do is to measure the distance between pupil centers. Now, this can not be done by trying on a frame which, at the best, is only guess work. The only reliable and, at the same time, simplest way, is to have a rule with graduations of either one-sixteenth of an inch or millimeter. Then measure from the inside edge of the pupil of one eye to the outside edge of the other, and you have the pupillary distance. It may seem a strange thing to say, but in preparing this paper I have come to the conclusion that one reason why so little attention is given to actual measurements of frames is that there are many persons who have no more conception of the graduates of an inch than a hog has of latin. I frequently meet men in the optical business who, I know, could come nearer measuring off the correct space required for a yard than they could for one eighth or one-sixteenth. I have customers who state "bridge one-fourth deep," and I know they mean one-eighth, and so on. Let me impress this upon you—familiarize yourselves with a rule graduated to one-sixteenth of an inch or millimeter. The latter to my mind is the nicest measure, as it is just about fine enough.

"After we have ascertained the pupil centers we come to the bridge. Now, this must conform to the shape of the nose, and not be too narrow, or the points of the bridge will dig into the base of the nose, instead of resting on the crest. This and the following measurements can be easily obtained, *only* by trying on various frames having different size and different shaped bridges. Select a bridge that holds the required lenses at the proper height. Note this, and next select a frame with bridge that carries lenses out just far enough to clear the eye-lashes. The next thing to observe is the length of temples. When trying on your sample frame note if the regular temples are long enough to come well around the ears. I find many cases that require temples one-half inch longer than the regular length. The regular length of riding temples is six inches, so that if you desire extra long temples make the note on your prescription 'temples six and one-half inches long.'

"Now, a few words about the fitting of R. B. temples. Very few opticians pay any attention to shaping the curve end of a temple to conform to the shape of the ear. You, no doubt, have found out before now that many persons are extremely sensitive about the ears, and with such persons too much pains cannot be taken in shaping the temples properly."

Mr. Holden next explained how he neutralizes lenses, stating that they should be held at arm's length, and not near the eye. He also explained how he drew out straight gold temples, making riding bow temples of the same, and how he transposes lenses and repairs gold temples.

The lecture was well received, and many questions were asked by the members and answered by Mr. Holden satisfactorily. A hearty vote of thanks was extended to the lecturer.

The next meeting, on October 19th, will occupy the entire day, and an interesting and instructive programme is being prepared.

"Thus far I have received two copies of *The Keystone*, and cannot say too much in praise of it. No person who is interested in optics can afford to do without it. *Wishing you much success, which you deserve.*"—G. E. Boyce, optician, Fayette, Iowa.

Optical Society of New York City.

The first fall meeting of the above society was held in the Fifth Avenue Hotel, New York, on the evening of September 14th, President L. L. Ferguson in the chair. About thirty-five members were present. It was decided that the Hotel was a more desirable meeting place than the quarters further up town, where the meetings were held last winter, so for the present, the meetings of the society will be held at the Fifth Avenue Hotel. It was also decided to have a course of two lectures to be delivered at each meeting, instead of one, as heretofore. Prof. Wm. G. Fox, of the College of the City of New York, was selected to lecture on "Theoretical Optics" and President Ferguson on "Practical Optometry." Prof. Fox was present, and at the close of the executive session delivered his first lecture, which was well received, and demonstrated that the lectures, as outlined for the coming winter, will be of more value than any the society has heretofore listened to. Prof. Fox proved to be a pleasing speaker, with a faculty of demonstrating his subject in an interesting manner. Mr. Ferguson's ability of lecturing is well known.

Hereafter, the executive business session of the society will be held from eight to nine, and the two lectures to follow, each to occupy three quarters of an hour.

Annual Meeting of the Pennsylvania Optical Society.

The annual meeting of the Pennsylvania Optical Society was held at the Hotel Walton, Philadelphia, on September 13th. The entire morning session, which began at 10.30, was occupied by L. L. Ferguson, a well-known skiascopist, of New York City, who lectured on the skiascope and its use. The lecturer began with a recital of the principles of vision and a brief history of experiments and instruments made by various scientists to diagnose errors of vision, credit being given to Helmholtz for the introduction of the ophthalmoscope. By diagrams on the black-board the lecturer illustrated the method of examination and the workings of the ophthalmoscope and retinoscope, and also showed by diagrams the action of the shadow in the skiascopic test.

Regarding the size of mirror to be used, the lecturer explained why he preferred a large mirror, and stated that unless the operator was particularly sharp and quick he would likely have to repeat his efforts, to ascertain the nature of the error, if he used a small mirror, and that outside of a number of other advantages the large mirror offered greater ease in operating. "Never move the mirror, but hold it firmly to the eye with one arm, steady the arm holding the mirror with the other arm and move the head, not the mirror, in making the examination." As to the size of light to be used, for the same reasons that a large mirror was preferable, so the lecturer preferred a large light, as by it he said it was more easy to recognize the object desired. As to the best distance at which to place the light, he stated that this was a subject of much discussion, but he preferred it at as great a distance as is possible. Ninety-five per cent. of his examinations, he stated, were made at a distance of six feet. In working at a distance, he claimed that the operator could work with more ease and to greater advantage. The speaker then explained the different appearances that the shadows would have in persons of light and dark complexion, showing that the reflex light from a person of very dark complexion would be dark in contrast to the bright red appearance of the reflex light from a person of light complexion. The pigment in the retina of the dark complected person would absorb more of the light and reflect less of it, than would the retina of the light complected patient which contained less pigment and consequently would throw out a brighter light.

The lecturer then took up the action of accommodation in reference to the use of the retinoscope, and this part of the lecture seemed to interest his audience most, as numerous questions were asked on the subject. Along with the action of accommodation, the lecturer also treated of plain and mixed astigmatism, and, as this would be the most difficult part of the operator's work, he explained in detail the best methods in correcting these errors. Care would have to be exercised, he said, in deducting the proper amount for the distance at which the operator worked, and he stated that failure to do this accounted, in many cases, for many operators failing to secure good results where the error was only slight. He emphasized the rule that a cylinder should never be placed on first in making an examination, but a spherical should always be used, and explained his method of first correcting the angle of the greatest error and then working back with a minus lens to the lesser error of a different angle. (At this point the lecturer illustrated a simple method of transposing lenses.)

Referring to latent hypermetropia, the lecturer said he did not believe in any such thing, and that if the examination was made thoroughly, it would disclose all the error and would thus be all manifest. He believed what is termed latent hypermetropia and spasms of accommodation were due to faulty examinations and that a proper examination would disclose all the error. He disparaged the use of mydriatics, claiming that they gave a false impression of the error, and stated that he had, within the past year, won a number of his medical friends over from the use of mydriatics, having convinced them that it was both unnecessary and unwise. After the lecture there was an adjournment for lunch.

The afternoon session, which began at 2.30, was devoted to demonstrations with the retinoscope, the opticians present being given an opportunity to make practical use of the information acquired in the morning. Mr. Ferguson acted the part of demonstrator, giving directions as to the use of the instrument, and explaining difficulties as they arose. The opticians made free use of the privilege to ask questions, and the demonstrator thoroughly elucidated every point not clearly understood, clarifying in detail the various mystifying phenomena that the operator might encounter. The demonstrations were very instructive, and

all were eloquent as to the benefit derived from them. Mr. Ferguson brought the session to a conclusion by explaining the *modus operandi* which he himself pursues with such success in the examination of patients.

A most enjoyable part of the convention proceedings was the banquet, which was served at 8 o'clock, after the regal fashion for which the palatial Hotel Walton is noted. At that hour members and guests sat down in pleasant mood and with edged appetite to do justice to an excellent supper.

The banquet over and the cigars passed around, the business meeting was opened by President Martin. The reports of the secretary and treasurer were read and approved, and the election of officers to fill vacancies resulted as follows:

Second vice-president, J. F. Brinkerhoff, of Philadelphia. Secretary, C. A. Longstreth, of Philadelphia. Executive Committee, H. F. Freeman, of West Chester, Pa.; G. F. Applegate, of Trenton, N. J., and A. H. Peoples, of Chester, Pa. Auditors, W. F. McCaffrey, of Philadelphia, and W. M. Updegrave, of Johnstown, Pa.

It was moved, and carried, after some discussion, that arrangements be made with a prominent Philadelphia oculist to give a course of lectures and clinics on the eye in a diseased condition, to such members of the society as are eager to attend such a course, the expenses to be paid not by the society but by the members attending the lectures. This plan of acquiring information which will enable members to readily recognize diseased conditions of the eye, was generally commended.

The question of suspending payment of the initiation fee for a time with a view to increasing the membership, was discussed, and a motion carried that the initiation fee be one dollar, instead of five, until June 1st, 1899.

The following members, who passed the examination of the society, were elected to the dioptrician grade: C. A. Longstreth, Philadelphia; H. J. Hallock, Wyalusing, Pa.; J. L. Miller, Williamsport, Pa.; Chas. C. Hohmeyer, East Stroudsburg, Pa., and D. L. Cleeland, Butler, Pa.

Mr. Ferguson was then called upon once more, and gave the society the benefit of his experience with optical organizations in New York City and State. He commended the contemplated engagement of a lecturer and demonstrator, and advocated greater attention to the matter of physical optics. He favored the acquisition of knowledge from any source, and gave much advice that will serve the society.

Mr. Fox, of Queen & Co., Philadelphia, was also called upon by the president, and gave his young brethren the benefit of his long experience. He referred to the interesting fact that the society should now be taking steps to get such high professional coaching for its members as he procured for the employees of Queen & Co. some twenty years ago.

The proceedings were brought to a close by passing votes of thanks to Messrs. Fox and Ferguson.

Among the out-of-town members who attended the annual meeting, we noticed the following: Chas. C. Hohmeyer, East Stroudsburg, Pa.; W. M. Updegrave, Johnstown, Pa.; Geo. Clouse and E. S. Lichtenberger, Reading, Pa.; G. F. Applegate, Trenton, N. J.; C. J. Rueffer and L. Steinbruner, Wilkesbarre, Pa.; S. O. McKee, Wilmington, Del.; H. F. Freeman, West Chester, Pa.; H. J. Hallock, Wyalusing, Pa.; J. L. Moore, Altoona, Pa.; A. H. Peoples, Chester, Pa.; R. E. Shapley, Mechanicsburg, Pa.; Herbert Keller, Allentown, Pa.

Prizes Offered for Best Written Advertisements.

An old principle applied to nineteenth century ideas has produced a revolution in an eye-glass nose-piece, which the T. M. Heard Optical Co., of Cleveland, are now manufacturing and putting on the market. The application is new, and where shown has produced most favorable impressions. The glasses are held on by *suction* and not by *pinching*, as the old style glasses are equipped.

In order to increase the output of this patent nose-piece and to bring it to the attention of every reader of THE KEYSTONE, the T. M. Heard Optical Co. offer two prizes to the two best-written advertisements on their nose-piece, THE KEYSTONE to act as judge. One copy of ad. for prize must be mailed to THE KEYSTONE and one to the T. M. Heard Optical Co. The first prize will be one dozen 14 karat gold Heard patent nose pieces, valued at \$24.00. The second prize to be one-half dozen.

This contest is open to any optician or jeweler who now handles or will handle the T. M. Heard Optical Co.'s goods. The contest will close December 1st, 1898. Remember that the glasses are held on the nose by *suction*. *



OUR NEW WORLD-WIDE TERRITORY.

ANNOUNCEMENT

We take pleasure in informing our customers and the trade at large, that for the advancement and better conduct of our increasing business, we have removed from our old quarters in the Masonic Temple to a new and modern storeroom at

84 WABASH AVENUE,

where we occupy the entire fourth floor, about four times the space we have occupied heretofore. Our new quarters are pronounced by all who have seen them to be spacious, well-lighted, well-arranged and thoroughly up to date. With improvements in machinery, arrangement of factory and salesroom all on one floor, we believe our present facilities for serving customers are unexcelled.

We most cordially invite you to find us hereafter by mail or in person, as above. We take this occasion to thank our friends for past favors, and with abundant assurance for the future we solicit new trade from every quarter—United States, Canada, Great Britain, Hawaii, the Philippines, Cuba, Porto Rico and the Caroline Islands. Give us a trial, and see how well we can treat you.

Our Stock and Prescription Catalogue,
Duplicate Prescription Book and College Prospectus,
can be had upon request.

J. M. & A. C. JOHNSTON,

MANUFACTURING OPTICIANS,

84 WABASH AVE., CHICAGO.

SELL THE UP=TO=NOW SPECTACLES.



DO YOU REALIZE the FACT that if your customers knew of the advantages of the

LITTLE BEAR-ON SPECTACLES

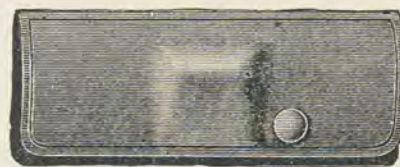
you would gain trade? Advocate its use and see.

E. KIRSTEIN SONS CO., ROCHESTER, N. Y.

P. S.—Be sure the temples act only as cords over the ears.

"Although I have every Keystone in which the Optician's Manual appeared, I want it in book form, even if I had to pay ten dollars for it instead of two, as I think it worth twice ten dollars to any optician."

W. D. MCGLOGLHON, Dover, Del.



The New Koenen Case for OFFSET Eye-Glasses.

Made of the same material, STEEL and ALUMINUM, as the Shell Case, which has gained such favor among the opticians and their patrons. It is COMPACT, HANDY and DURABLE, offering a perfect protection to the eye-glass.

Manufactured by
A. KOENEN & BRO.,
81 NASSAU STREET, NEW YORK
Sold by Jobbing Trade.



Patent applied for.

THE OPERA SEASON HAS OPENED

You should lay in your stock of

OPERA GLASSES.

We have them in all grades, styles and makes, AT LOWEST PRICES.

LEATHER, ACHROMATIC AND NON-ACHROMATIC (BLACK AND FANCY LEATHER.)
PORCELAIN ETCHED.
PEARL AND GILT.

PEARL AND ALUMINUM.
ALUMINUM ETCHED AND SOLID ALUMINUM.

ALSO A FULL LINE OF MARINE GLASSES.

Selection packages sent to reliable parties.

A full line of OPTICAL GOODS always in stock.



L. BLACK & CO. { PROGRESSIVE OPTICIANS, MANUFACTURERS AND IMPORTERS, } **DETROIT, MICH.**

TRY US WITH YOUR PRESCRIPTION AND REPAIR WORK.

The South Bend College of Optics

ESTABLISHED 1893
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(Talk No. 30.)

We Teach By
Personal Instruction.

Every pupil who comes to the South Bend College of Optics gets individual attention. This is the only college we know about where every student is taught personally. There is no method so thorough, and, at the same time, so completely adapted to the capacity of the pupil. Your tuition fee of \$50 pays for your complete course, no matter how long it takes. No pupil is permitted to leave who is not thoroughly grounded in the science of optics. The day after he receives his diploma, he can fit any case with the right glasses.

Dr. H. A. THOMSON, President,
South Bend, Indiana.

Tuition, \$50.



THE BEST FILLED GOODS

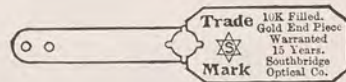
- No. 072, Gold End, Straight Temple.
- No. 078, Gold End, Riding Temple.
- No. 460, Gold End, Adjustable Guard.
- No. 493, Gold End, Offset Guard.

The Eye-glasses are hand engraved.
All guaranteed 15 years.

Ask your jobber for these goods and use these numbers.

Made by

Southbridge Optical Co.
Southbridge, Mass.



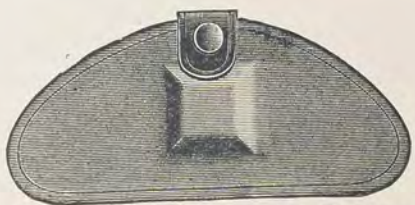
The Optician's Manual

is acknowledged by optical teachers and practicing opticians to be the most practical work on optical science. It contains 404 pages, is bound in cloth and copiously illustrated.

The Keystone,

19th & Brown Sts., Philadelphia, Pa.

Price, \$2.00



Koenen's Improved Shell Case
FOR OFFSET EYE-GLASSES.

Made in STEEL and ALUMINUM, being the lightest, strongest and best case made. Covered with the finest grade of leather. Manufactured and patented by **A. KOENEN & BRO.,**

Sold by the jobbing trade. 81 Nassau St., NEW YORK.



IN TWO SIZES, THIN AND STRONG.

ASK TO SEE THE PATENT EXPANSIBLE SPECTACLES AND EYE-GLASSES.

BEST WEARING QUALITIES FOR THE LEAST MONEY.

1. Solid Temple.
2. No screws to rust.
3. No solder on joints.
4. Non-breakable spring.
5. Interchangeable.
6. Superior finish. Mounted in all forms of lenses.



Made In **Nickel Silver and Goldoin** Two Metals

Nickel Silver—A white metal; high lustre; will not tarnish or rust.

Goldoin—A combination of metals resembling 14 K. gold and their combinations.

PRICES { SPECTACLES, \$15.00 to \$24.00 Gross.
EYE-GLASSES, \$24.00 to \$30.00 "

TO BE HAD FROM JOBBERS ONLY.

Naming Dimensions of Frames.

The entire optical trade will be interested in the unique and ingenious system of naming dimensions of frames devised by the Johnston Optical Co., Detroit, Mich. By means of this system opticians can order any dimension with a single word. After twenty-two years' business experience the Johnston Optical Co. found that their prescription department had attained such enormous proportion that it became necessary, or at least advisable, to invent a system whereby they could name every dimension of frame in their establishment, which comprises many thousand. This was a task which called for ingenuity. As the system is explained elsewhere in this issue it is unnecessary to describe it further. The entire explanation, in an illustrated booklet of some twenty pages, will be sent by the Johnston Optical Co., free on request to any optician.

A New Optical Treatise.

"Eye Defects, How to Detect and Correct Them," by R. H. Knowles, M. D., is a new book which gives timely information relative to optometry and everything pertaining to the optical profession, from lenses and frames, and the adjustment of the same, to the use of all instruments, both subjective and objective. The chapter upon "Illustrative Cases" is of great importance, especially to a beginner who desires to learn how to put questions authoritatively, and meet objections professionally. The glossary will be of great benefit to those who are not familiar with the language necessary to express themselves optically. The book contains 96 pages, with 131 illustrations. The book is published by The Spencer Optical Manufacturing Co., No. 15 Maiden Lane, New York City.

Another Optical Book.

A new addition to optical literature is a cloth-bound volume of some 200 pages, entitled "Refractive and Ophthalmic Catechism," by Lawrence J. Dailey, M. D., a well-known oculist and medical practitioner. The information covers the usual field and is conveyed in catechetical form, which helps the memory. In addition to optical work proper, there is a chapter of illustrative cases, and a chapter on diseases and therapeutics of the eye. The book can be had from this office on receipt of the publisher's price, \$2.00.

— H. R. Preble has begun business as an optician in Newton, Mass.

— H. A. Heath has begun business as an optician in Greenville, Mass.

— C. C. Taylor, formerly of Savannah, Ga., has begun business as an optician in Lyons, N. Y.

— Louis P. Cronau, of Kewanee, Ill., has opened an optical parlor on the floor above his jewelry store.

— G. E. Boyce, Fayette, Iowa, is taking a course in optics at the Northern Illinois College of Ophthalmology and Otology, in Chicago.

— H. L. Lang, the jeweler-optician, of Staunton, Va., and E. Vanvoorst, Schenectady, N. Y., spent the greater part of last month in New York City, taking a course in skiascopy from L. L. Ferguson.

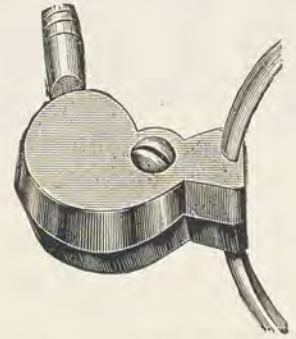
— Geo. G. Lafayette, Brockville, Ont., has had his premises on King Street completely refitted and furnished in the most up-to-date style. As Mr. Lafayette intends to devote special attention to optical work, he has had a fine parlor specially fitted up for that purpose. He is an expert optician, and his new parlor will be a boon to his town.

— Charles A. Hoffman, the Minneapolis, Minn., optical importer and jobber, made a tour of the leading optical factories in the Eastern States last month, ordering goods. Mr. Hoffman reported a good business as already prevailing in the Northwest, and steadily increasing. Mr. Hoffman recently filled a large order of instruments for one of the leading railroads of Japan.

— A. R. Chamberlin, Aurora, Ill., the newly-elected secretary of the Illinois Optical Society, was born in Monroe County, Illinois, in 1869, and educated at various schools, completing his education at the Iowa Wesleyan University, Mt. Pleasant, Iowa. He was, for several years, subsequently engaged in mining and mercantile pursuits in Illinois and Iowa. He has been in the jewelry business the past nine years in Aurora, Ill., and has met with gratifying success. He is a graduate optician, well versed in the science, and is an enthusiast on the matter of optical organization. He will make an efficient secretary to the new society.

Improved End Piece for Spectacles.

Our illustration shows the new extra-finished end piece on the gold filled spectacle frames of Chambers, Inskip & Co., Chicago. This end piece is said to be a most desirable improvement in that it adds to the strength and



durability of the frames, for which extra fine finish is also claimed. The manufacturers are confident that an examination of these improved frames will convince opticians of their superiority, a fact which, in itself, makes them worthy of trade inspection.

A New Riding-Bow Spectacle Case.

Owing to the great demand for their offset eye-glass case, A. Koenen & Bro., New York City, have placed on the market a new and equally desirable case for riding-bow spectacles and large size offset eye-glasses. The new case is made of steel and aluminum, plush-lined and leather covered, is compact, handy, durable and affords perfect protection for the spectacles or eye-glasses.

— Dr. J. S. Lawton, optician, formerly of Brockton, Mass., was a recent visitor to Philadelphia and welcome caller at THE KEYSTONE office. He contemplates settling in the West, where he will continue the practice of optics.

— M. Schwab, optician, of Savannah, Ga., recently returned from Saratoga, N. Y., where he conducted a branch office during the summer months, obtaining pecuniary and physical benefit at that famous resort.

Klein School of Optics,

2 Rutland Street,
BOSTON, MASS.

This is the most scientific and practical optical school in the world. The instructions given include examination of eyes for glasses and for diseases; the use of the ophthalmoscope, ophthalmometer, retinoscope, perimeter, optometer, phoroscope, refractometer, test case, prisms, etc.; surface grinding, edge grinding, setting up rimless and bifocals, making and repairing frames. This is the school for beginners, for opticians and for physicians. Our clinics, which are the largest connected with any similar institution, serve to make theory and practice go hand in hand. Send for catalogue.

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KLEIN SCHOOL OF OPTICS,
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THE
Great French

EYE WATER
The Best Remedy
Known for
Weak or Inflamed
EYES,
Granular or Scaly
Eyelids, Etc.

IT CURES

Once used,
recommends itself.

\$18.00 per Gross.

Ask your Jobber for it
or send \$1.50 for a sample
dozen to the manufacturer,

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The Lamb Eye-Shield.

The Only Authorized and
Lawfully Manufactured

It is light, flexible and waterproof; made to fit closely to the face and around the eyes; a soft felt rim renders it impossible for dust or any other substance to enter between it and the skin; small perforations in this felt rim admit sufficient air for the eyes to retain their normal moisture. The EYE-SHIELDS are formed of the clearest mica and are perfectly transparent. They are furnished in either clear, blue, green or smoke. Sample pair, in neat case (straight or folding), post-paid, 50 cents. Trade prices and catalogue sent free on application. Address

B. F. Lamb, 131 State St., BOSTON, MASS.
Sole Patentee and Manufacturer
For sale by Leading Jewelers and Dealers in Optical Goods.

To the Trade:

It is an understood fact among expert and scientific men in our line that we can not fit all noses with one size of bridge for spectacles. But up to the present time you, I, and all of us, have been compelled to use the same eye-glass mounting for every kind of nose (large or small, straight or crooked, thick or thin, broad or knife-blade). Now, with the **HEARD PATENT EYE-GLASS MOUNTING**, any nose can be fitted so that the mounting will stay on without pinching (on a principle of suction) which is unique, and a revolution in the manufacture of eye-glass mountings.

For new printed matter explaining and describing it all, send two-cent stamp.

THE T. M. HEARD OPTICAL CO.

JOBBER AND MANUFACTURERS OF
OPTICAL GOODS.

CLEVELAND, OHIO.



\$1.50 buys this handsome leather-covered, velvet-lined case for

Fay's Improved Optometer.

The latest improved model, including case, \$13.50. With this optometer you get the full amount of the latent hypermetropia; you are able to cure temporary myopia and properly correct astigmatism. For particulars, address

W. G. FAY, Springfield, Ohio.

KELLAM & MOORE'S College of Optics (Incorporated)

ATLANTA, GA.

Two Courses—

Attendance and Correspondence.

These Courses embrace instruction in

*Anatomy of the Eye,
Physiology of Sight,
Physical Optics, and
Anomalies of Refraction and
of the Muscles of the Eye.*

Our diploma insures thorough qualification.

Address **Kellam & Moore's College of Optics,**
Atlanta, Ga.

IMPORTANT!

Those intending taking a course of study in **Skiascopy and Ophthalmoscopy** are reminded that appointments must be made in advance, as only a limited number of open dates are available. Terms, \$30.00. Address

L. L. FERGUSON,
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The Best place in New England
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TRY OUR PRICES } AND YOU WILL
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NO OTHER.

J. Ouimette, Jr.,

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SOUTHBRIDGE, MASS.

WE MUST APOLOGIZE

to the large number of our customers whose orders for goods advertised in September KEYSTONE we were unable to fill as promptly as was desired. We expected to receive hundreds of orders, and had large quantities of goods ready for shipment. We, however, were simply overwhelmed with orders, so *have put on extra hands, and will fill all orders received.* We have been convinced that the Jewelers know a good thing when they see it, and so give you a few more **GOOD THINGS.**

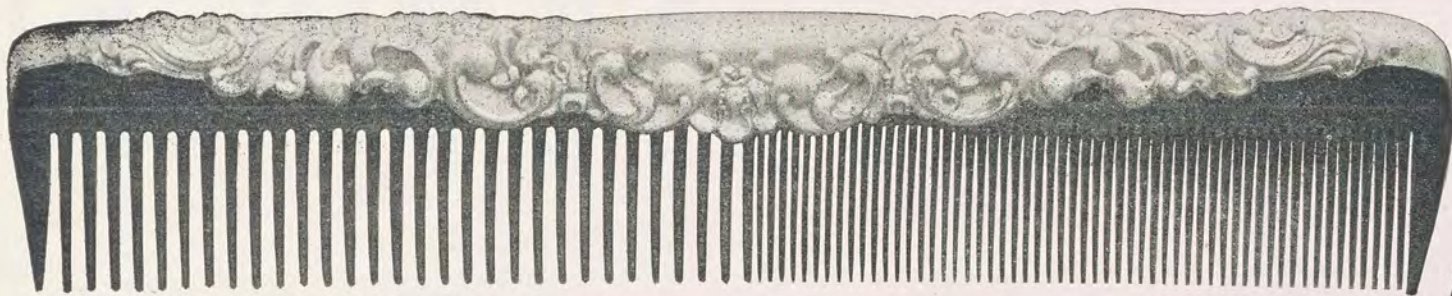
OUR GOODS
ARE
925
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STERLING SILVER MOUNTED COMB. No. 74

OUR GOODS
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925
1000 FINE

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58^{c.}

THIS PEPPER — FITS ON — THIS SALT



No. 7 STERLING SILVER MATCH SAFE
GOLD LINED
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STERLING SILVER
SALTS AND PEPPERS
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INDIVIDUAL SALTS, GOLD LINED
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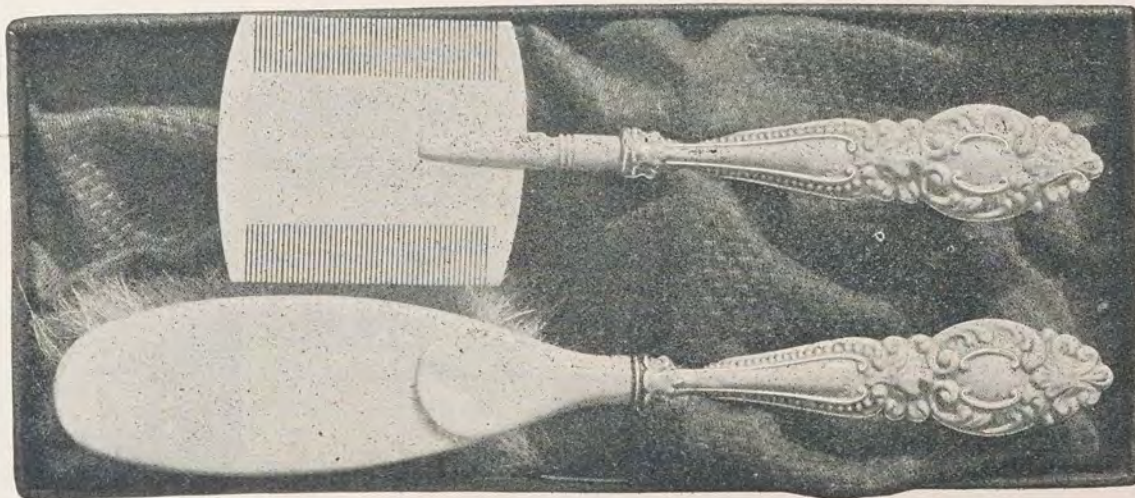


No. 8 STERLING SILVER MATCH SAFE
GOLD LINED
75^{c.}

If you have not seen September number of THE KEYSTONE, WRITE TO US FOR IT.

The prices on these goods are strictly NET.

All orders must be accompanied with the amount of order, or satisfactory references.



No. 60. BABY BRUSH AND COMB SET. STERLING SILVER. IN A NICE BOX
68^{c.}

We not only make Silver goods, but also a fine line of Solid Gold goods in

Match Safes, Garter Buckles, Pen-Knives, Manicure Goods, Lorgnette Chains, Link Buttons, Locketts, Diamond Mountings, Etc., Etc.

M. SICKLES & SONS,

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with our claim to make

SELLERS

in honest, full plated Hollow Ware designs for the legitimate jewelry trade, we ask your attention to the article illustrated herewith.

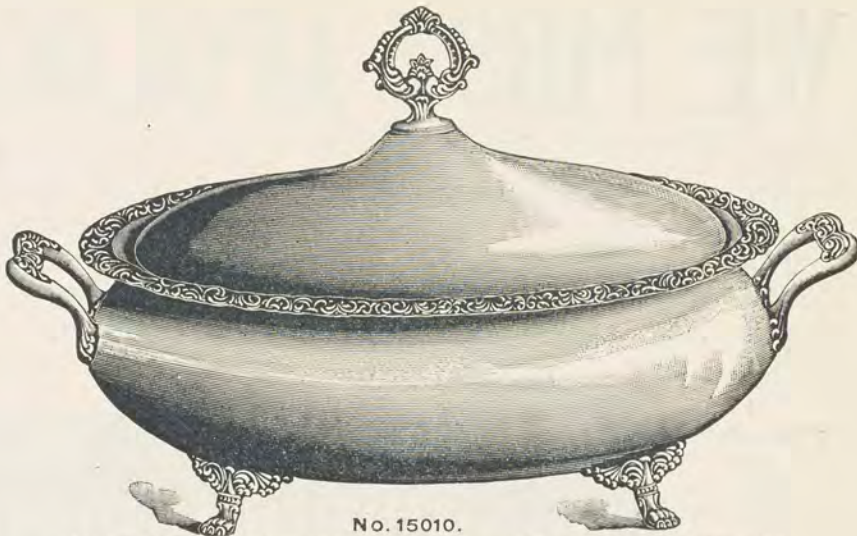
No. 15010. BAKE DISH.
Burnished or Satin Engraved. Capacity, 2 quarts.

The Queen City Silver Co.

Makers of Fine Plated Hollow Ware,

Factories—933 to 941 Fillmore Street,

CINCINNATI, OHIO.



No. 15010.
List \$5.50. Burnished or Satin Engraved. Price according to Keystone Key.

SOMETHING NEW

in

FAIENCE CLOCKS



These goods are finished in rich, high-glaze colors, with gold tracings—the flowers on case front being in relief and tinted in their natural colors. Fitted with latest Gilbert eight-day movements, half-hour strike, ivory dial, visible escapement and gilt rococo sashes.

They retail at from \$8.00 each up, and are without doubt the best clocks for the money in the market. Let us give you detailed information about them. A postal will do it.

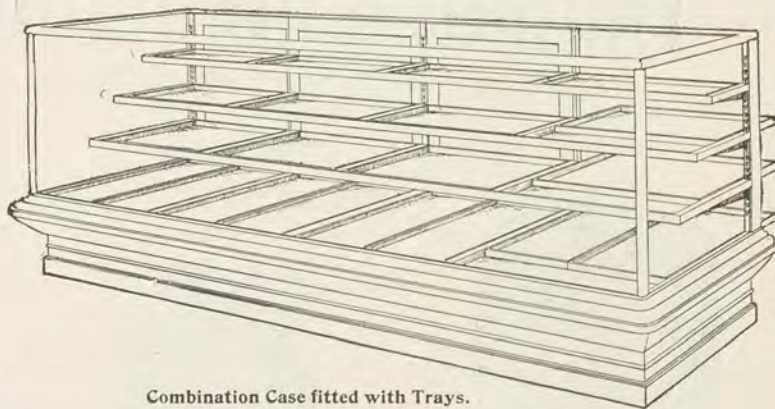
BAWO & DOTTER

MANUFACTURERS AND IMPORTERS

26 to 32 Barclay St., New York

A. H. REVELL & CO.

431 TO 437 FIFTH AVENUE
CHICAGO



Combination Case fitted with Trays.

We make just what you need—

**WALL CASES,
CLOCK CASES,
COUNTER CASES,
COMBINATION CASES,
COUNTERS,
TABLES, Etc.**

We have the best stock to select from, and our prices will always be right.

Ask for our new No. 8 Catalogue.

The Sumner-Grimes Co.,

204 Superior Street,
CLEVELAND, OHIO.



Quickest Selling

Ladies' AND Gents' Chains

IN THE MARKET.

PATTERNS, PRICE, QUALITY, FINISH,
with our Tiger Motor and Rotary
Display Stand,

MAKE THEM GO.

Motor not a toy. Guaranteed to run a
watchmaker's lathe with perfect satisfaction
Can be used in any store, as an electric
light current is not necessary.

WRITE FOR CIRCULARS AND PRICE-LIST.



SYSTEM OF NAMING DIMENSIONS OF FRAMES BY

JOHNSTON OPTICAL CO

DETROIT, MICHIGAN.

After twenty-two years' business we find that our Prescription Department has attained such enormous proportion that we have found it necessary, or at least advisable, to invent a system whereby we can name every dimension of frame in our establishment, which comprises many thousands.

To explain our system: The first letter in a word indicates the pupillary distance, L standing for 2 1/8 inches pupillary distance; M for 2 1/4; N for 2 3/8; O for 2 1/2; P for 2 5/8; Q for 2 3/4; R for 2 5/4; S for 2 7/4; and T for 2 9/4 inches pupillary distance.

When there is but one letter used, it indicates that bridge is on pupillary line, and also EVEN with plane of lenses. One letter with the figure 1 following, indicates that bridge is 1-16 inch high, and also EVEN with plane of lenses. A word containing two letters indicates the bridge is 2-16 inch high, three letters, 3-16 inch high, and four letters, 4-16 inch high, etc.

When a + sign follows one letter, or one letter with the figure 1, it indicates that top of bridge is 1-16 inch OUTSET; and when a - sign follows one letter, or one letter with a figure 1, it indicates that top of bridge is 1-16 inch INSET.

If the second letter in a word is E, it indicates that top of bridge is EVEN with plane of lenses, and if O, it is 1-16 inch OUTSET, and if I, it is 1-16 inch INSET. Thus, it will be seen that different words can be used for same dimensions, and understood, when our system is comprehended. However, for convenience, we have adopted the letters and words in the three diagrams following for dimensions indicated.

Bridges in this diagram are even with plane of Lenses.

HEIGHT OF BRIDGES.

	O	1-16 in	1/8 in.	3-16 in.	1/4 in.	5-16 in.	3/8 in.	7-16 in.	1/2 in.
2 1/8 in.	L	L1	Le	Let	Lend	Level	Levant.	Leisure	Learning
2 3/8 in.	Q	Q1	Qe	Qeb	Qeab	Qeast	Qeader	Qercine	Qeirites
2 1/4 in.	M	M1	Me	Men	Meat	Merit	Mellow	Measles	Medicate
2 5/8 in.	R	R1	Re	Red	Reap	Rebel	Refine	Receipt	Register
2 3/4 in.	N	N1	Ne	New	Neck	Negro	Newton	Neutral	Negative
2 7/8 in.	S	S1	Se	Sea	Seal	Selah	Secure	Selfish	Selected
2 1/2 in.	O	O1	Oe	Oer	Oese	Oelet	Oecoil	Oestrus	Oedipode
2 9/16 in.	T	T1	Te	Tea	Tell	Terce	Tender	Testate	Textrine
2 5/8 in.	P	P1	Pe	Pew	Pear	Pedal	Pecker	Peevish	Pedigree

Bridges in this diagram are 1-16 inch outset.

HEIGHT OF BRIDGES.

	O	1-16 in	1/8 in.	3-16 in.	1/4 in.	5-16 in.	3/8 in.	7-16 in.	1/2 in.
2 1/8 in.	L+	L1+	Lo	Log	Loin	Lobby	Loathe	Loyalty	Losenger
2 3/8 in.	Q+	Q1+	Qo	Qox	Qoit	Qoran	Qoiver	Qoybler	Qoestion
2 1/4 in.	M+	M1+	Mo	Mow	More	Money	Monkey	Molding	Moderate
2 5/8 in.	R+	R1+	Ro	Rot	Rock	Round	Robust	Rosebud	Rounding
2 3/4 in.	N+	N1+	No	Not	Nose	Novel	Notice	Nothing	Notional
2 7/8 in.	S+	S1+	So	Son	Sold	South	Soften	Soldier	Solarize
2 1/2 in.	O+	O1+	Oo	Oon	Ooze	Oolak	Oolong	Oolitic	Ooglist
2 9/16 in.	T+	T1+	To	Ton	Toil	Toast	Toledo	Tontine	Tolerate
2 5/8 in.	P+	P1+	Po	Pot	Poet	Pouch	Poetry	Poacher	Pogonias

Bridges in this diagram are 1-16 inch inset.

HEIGHT OF BRIDGES.

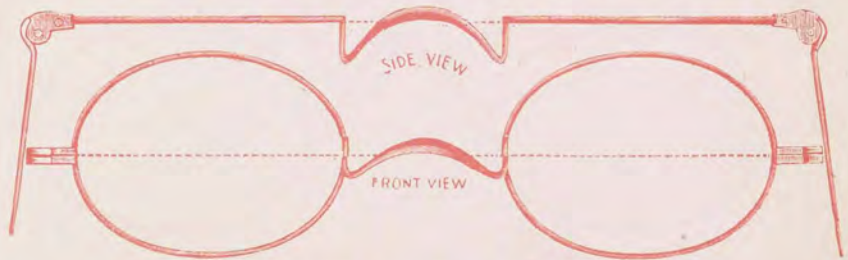
	O	1-16 in	1/8 in.	3-16 in.	1/4 in.	5-16 in.	3/8 in.	7-16 in.	1/2 in.
2 1/8 in.	L-	L1-	Li	Lit	Lion	Light	Listen	Lighten	Literary
2 3/8 in.	Q-	Q1-	Qi	Qig	Qist	Qiver	Qitter	Qippish	Qinoogy
2 1/4 in.	M-	M1-	Mi	Mix	Mind	Might	Mingle	Mistake	Mistrust
2 5/8 in.	R-	R1-	Ri	Rig	Ride	Right	Riddle	Richard	Ridicule
2 3/4 in.	N-	N1-	Ni	Nit	Nine	Night	Nimble	Nitrate	Nineteen
2 7/8 in.	S-	S1-	Si	Sin	Side	Sight	Signal	Silence	Siberian
2 1/2 in.	O-	O1-	Oi	Oil	Oily	Oicos	Oilway	Oidemia	Oilstone
2 9/16 in.	T-	T1-	Ti	Tip	Tick	Title	Tissue	Tintype	Tiberian
2 5/8 in.	P-	P1-	Pi	Pig	Pink	Piece	Pigeon	Pierced	Pickerel

To illustrate further, we give on this and following three pages thirty-six impressions with dimensions under each, which comprise the best selling assortment.

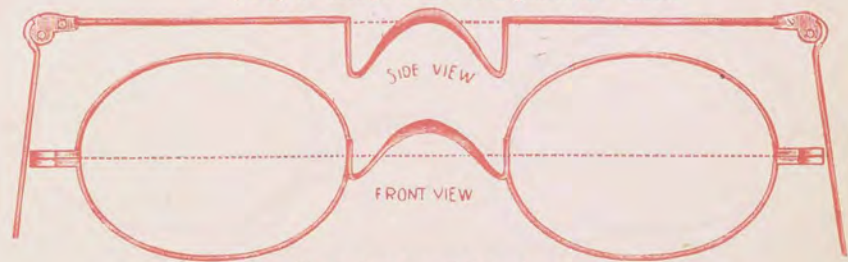
When ordering by telegraph or otherwise it is only necessary to specify letters or words which indicate dimensions wanted.

To introduce our "Extra Finished Frames" we will make a special discount of 10 per cent on them, when three dozen or more are ordered, until January 1, 1899. Three dozen will give one pair each dimension as illustrated on these pages.

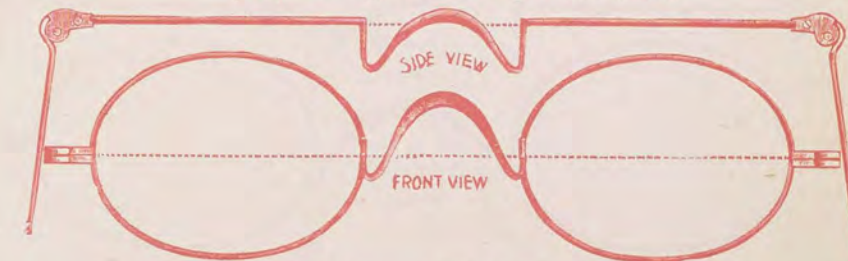
Prices of Extra Finished Goods will be sent upon application.



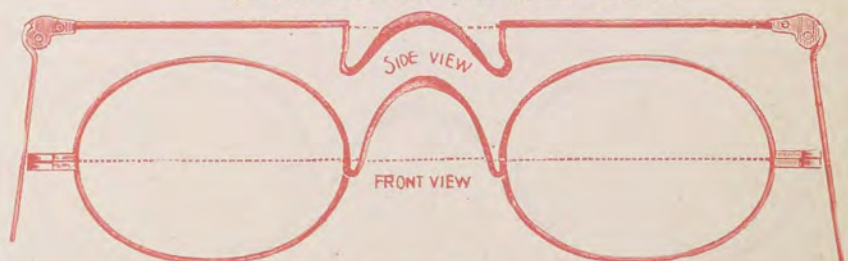
M. { Pupillary distance 2 1/4 inches.
Height of bridge on pupillary line.
Top of bridge even with plane of lenses.



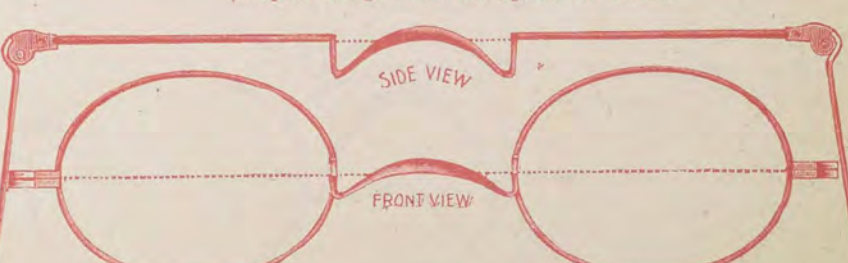
Me. { Pupillary distance 2 1/4 inches.
Height of bridge 1/8 inch.
Top of bridge even with plane of lenses.



Meat. { Pupillary distance 2 1/4 inches.
Height of bridge 1/4 inch.
Top of bridge even with plane of lenses.



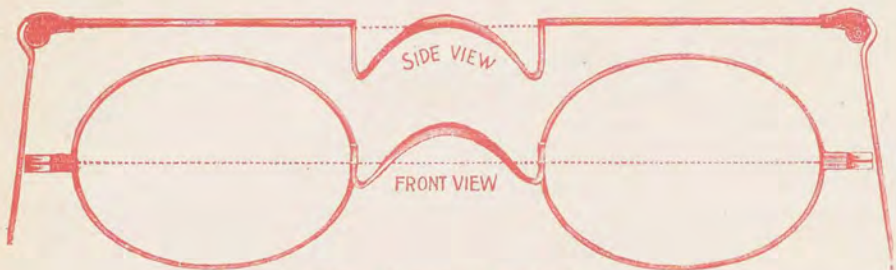
Mellon. { Pupillary distance 2 1/4 inches.
Height of bridge 3/8 inch.
Top of bridge even with plane of lenses.



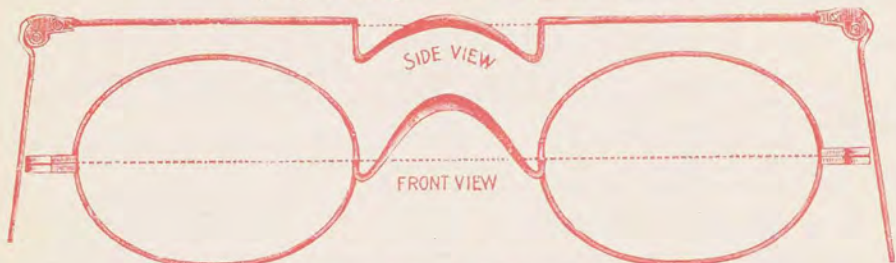
N. { Pupillary distance 2 3/8 inches.
Height of bridge on pupillary line.
Top of bridge even with plane of lenses.

SYSTEM OF NAMING DIMENSIONS OF FRAMES BY

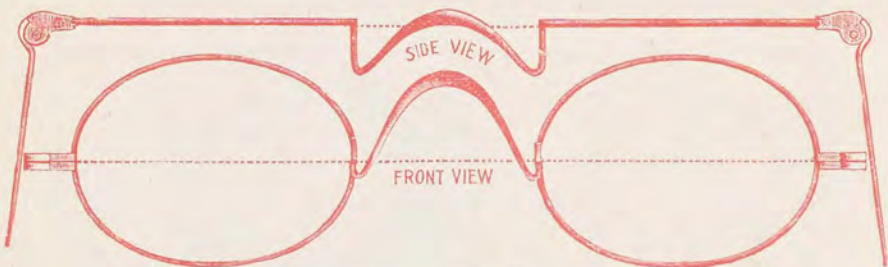
JOHNSTON OPTICAL CO., Detroit, Mich.



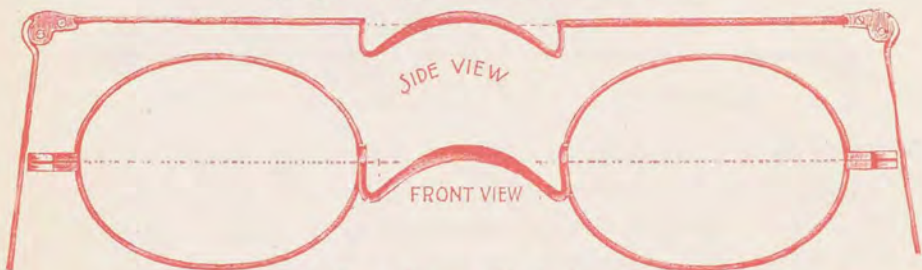
Ne. { Pupillary distance 2 3-8 inches.
Height of bridge $\frac{1}{8}$ inch.
Top of bridge even with plane of lenses.



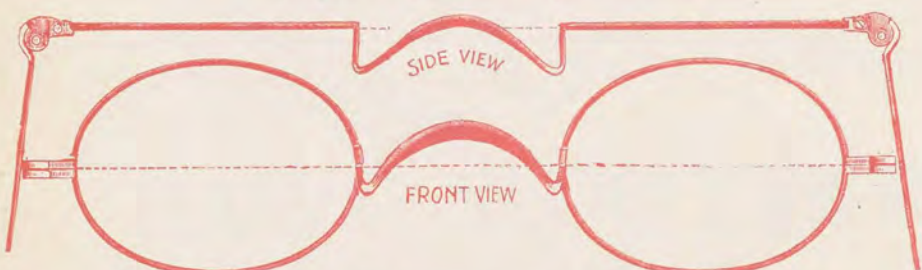
Neck. { Pupillary distance 2 3-8 inches.
Height of bridge $\frac{1}{4}$ inch.
Top of bridge even with plane of lenses.



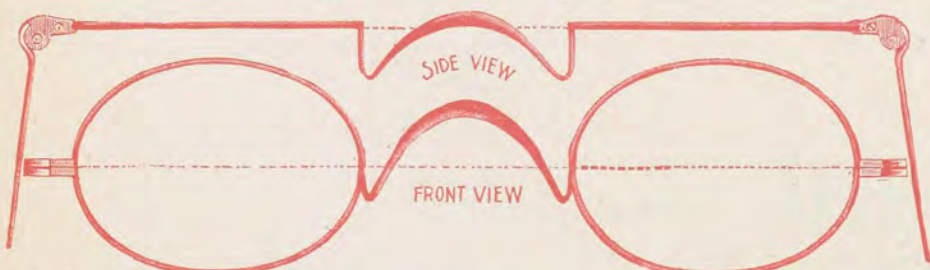
Newton. { Pupillary distance 2 3-8 inches.
Height of bridge $\frac{3}{8}$ inch.
Top of bridge even with plane of lenses.



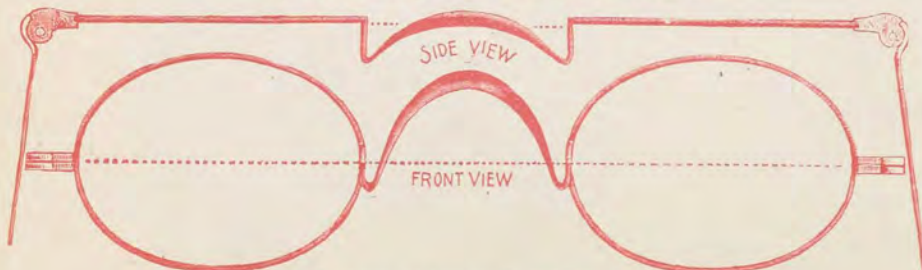
O. { Pupillary distance 2 $\frac{1}{2}$ inches.
Height of bridge on pupillary line.
Top of bridge even with plane of lenses.



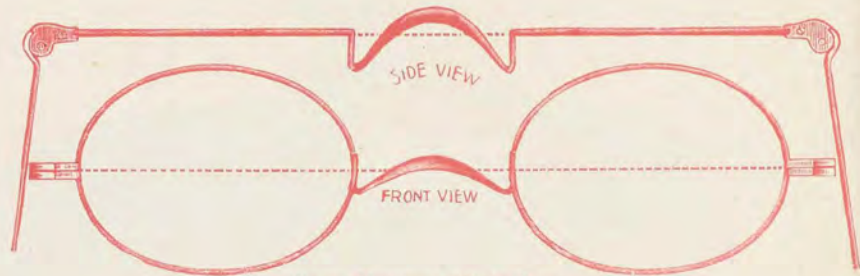
Oe. { Pupillary distance 2 $\frac{1}{4}$ inches.
Height of bridge 1-8 inch.
Top of bridge even with plane of lenses.



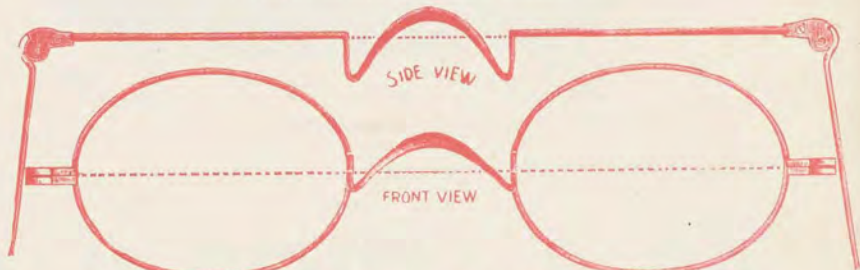
Oese. { Pupillary distance 2 $\frac{1}{4}$ inches.
Height of bridge $\frac{1}{4}$ inch.
Top of bridge even with plane of lenses.



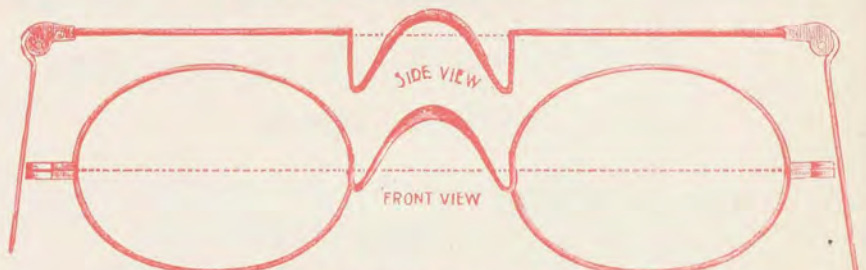
Oecoil. { Pupillary distance 2 $\frac{1}{4}$ inches.
Height of bridge 3-8 inch.
Top of bridge even with plane of lenses.



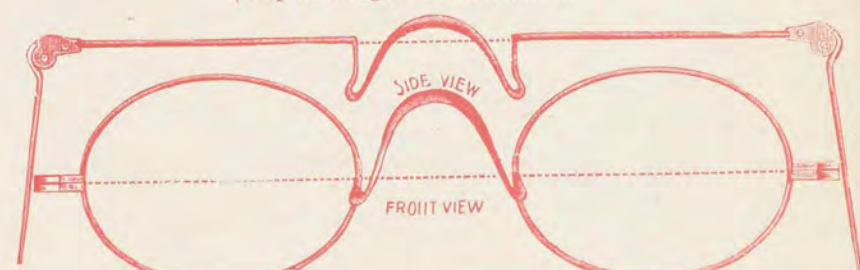
M+ { Pupillary distance 2 $\frac{1}{4}$ inches.
Height of bridge on pupillary line.
Top of bridge 1-16 inch outset.



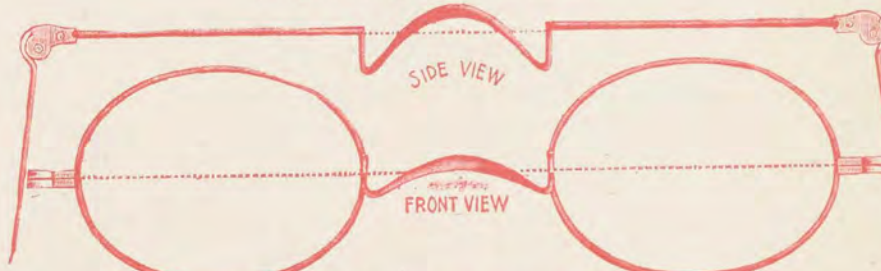
Mo. { Pupillary distance 2 $\frac{1}{4}$ inches.
Height of bridge $\frac{1}{8}$ inch.
Top of bridge 1-16 inch outset.



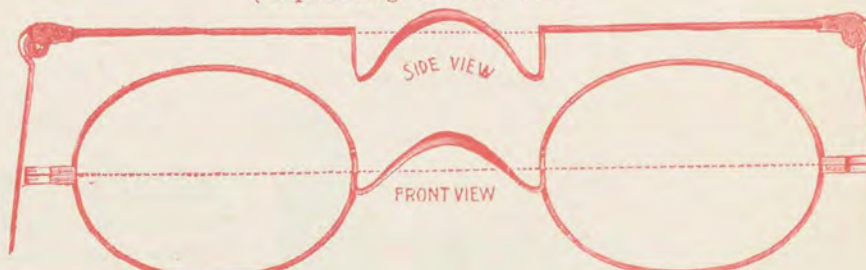
More. { Pupillary distance 2 $\frac{1}{4}$ inches.
Height of bridge $\frac{1}{4}$ inch.
Top of bridge 1-16 inch outset.



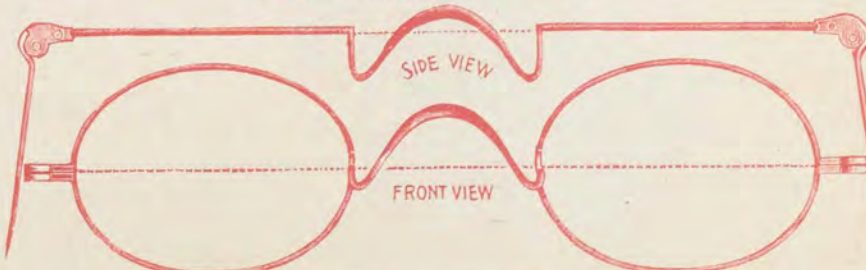
Monkey. { Pupillary distance 2 $\frac{1}{4}$ inches.
Height of bridge $\frac{3}{8}$ inch.
Top of bridge 1-16 inch outset.



N+ { Pupillary distance 2 $\frac{3}{8}$ inches.
Height of bridge on pupillary line.
Top of bridge 1-16 inch outset.



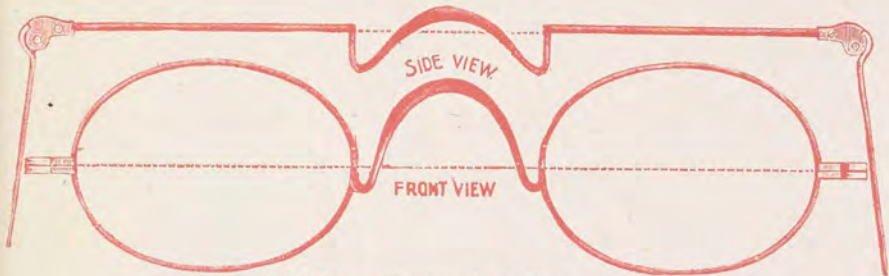
No. { Pupillary distance 2 $\frac{3}{8}$ inches.
Height of bridge 1-8 inch.
Top of bridge 1-16 inch outset.



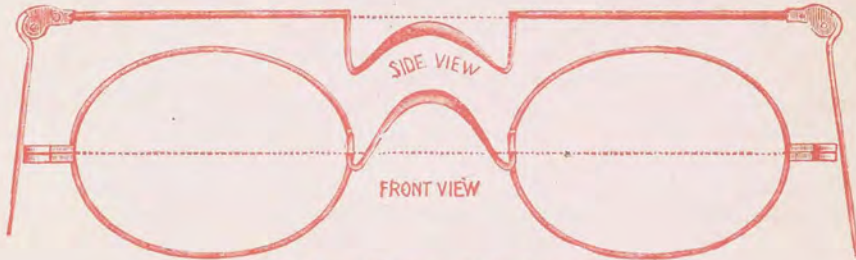
Nose. { Pupillary distance 2 $\frac{3}{8}$ inches.
Height of bridge $\frac{1}{4}$ inch.
Top of bridge 1-16 inch outset.

SYSTEM OF NAMING DIMENSIONS OF FRAMES BY

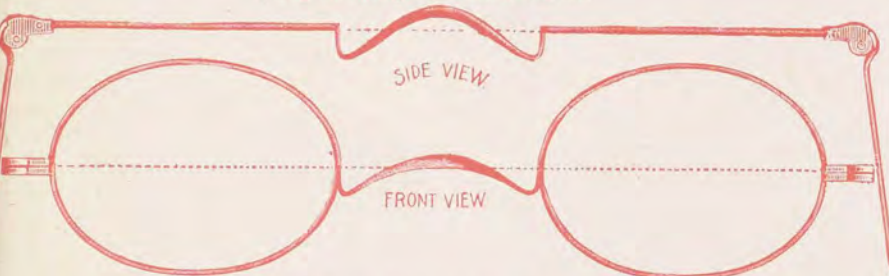
JOHNSTON OPTICAL CO., Detroit, Mich.



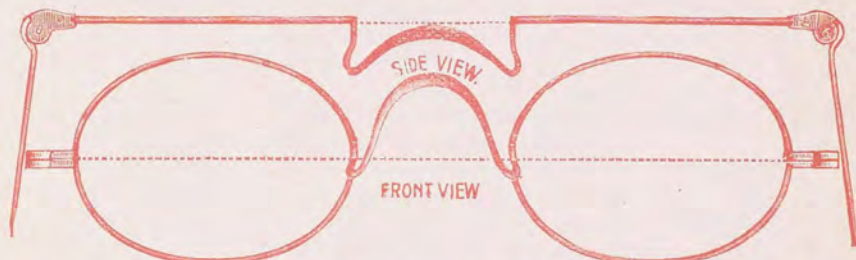
Notice. { Pupillary distance $2\frac{3}{8}$ inches.
Height of bridge $\frac{3}{8}$ inch.
Top of bridge 1-16 inch outset.



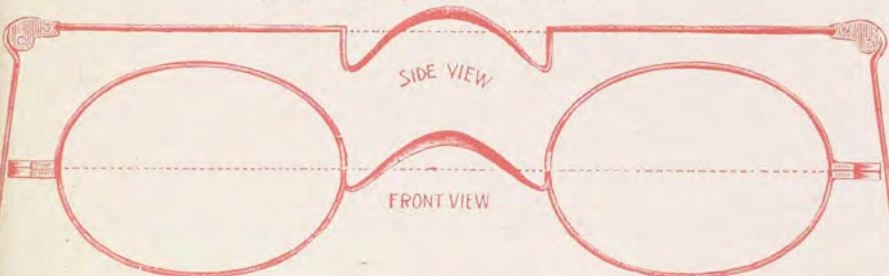
Mind. { Pupillary distance $2\frac{1}{4}$ inches.
Height of bridge $\frac{1}{4}$ inch.
Top of bridge 1-16 inch inset.



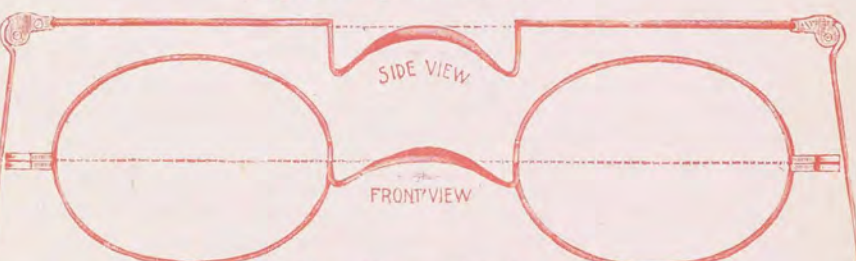
O+ { Pupillary distance $2\frac{1}{2}$ inches.
Height of bridge on pupillary line.
Top of bridge 1-16 inch outset.



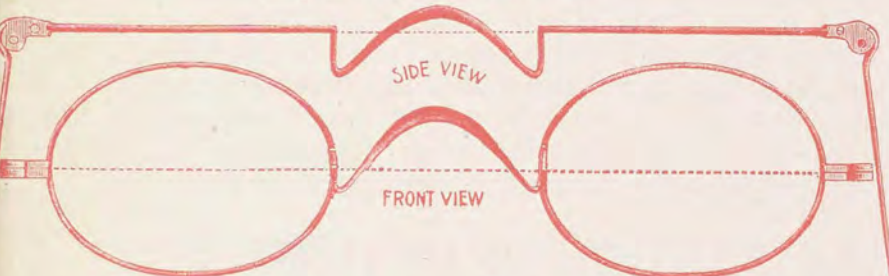
Mingle. { Pupillary distance $2\frac{1}{4}$ inch.
Height of bridge $\frac{3}{8}$ inch.
Top of bridge 1-16 inch inset.



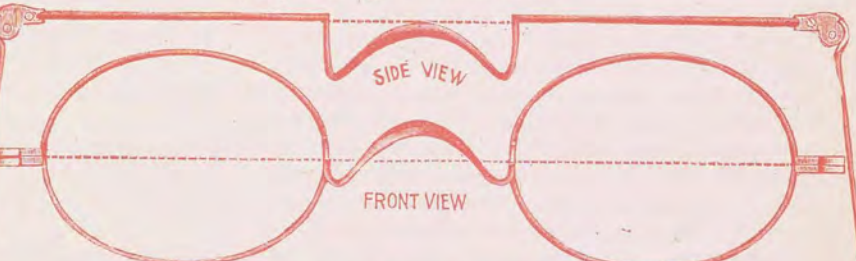
Oo. { Pupillary distance $2\frac{1}{2}$ inches.
Height of bridge 1-8 inch.
Top of bridge 1-16 inch outset.



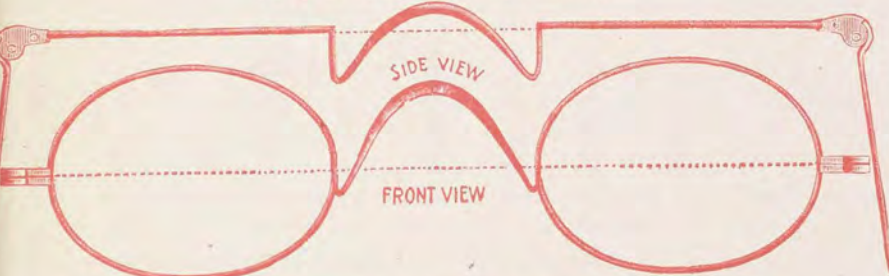
N- { Pupillary distance $2\frac{3}{8}$ inches.
Height of bridge on pupillary line.
Top of bridge 1-16 inch inset.



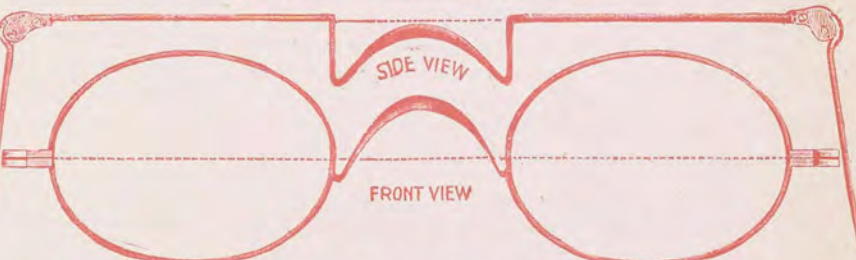
Ooze. { Pupillary distance $2\frac{1}{2}$ inches.
Height of bridge $\frac{1}{4}$ inch.
Top of bridge 1-16 inch outset.



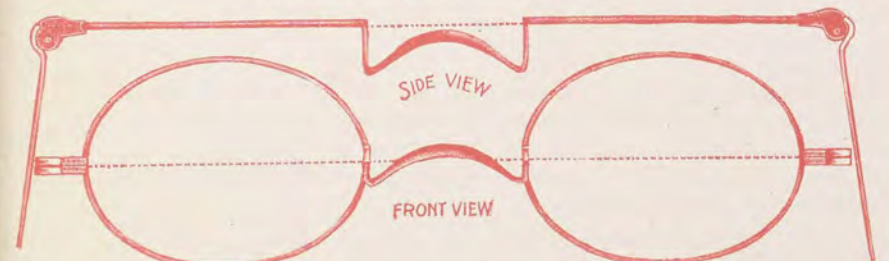
Ni. { Pupillary distance $2\frac{3}{8}$ inches.
Height of bridge 1-8 inch.
Top of bridge 1-16 inch inset.



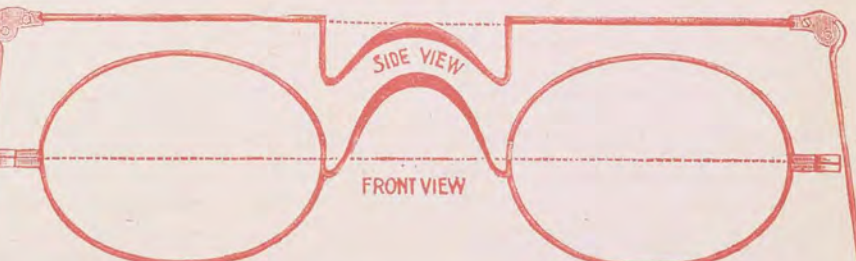
Oolong. { Pupillary distance $2\frac{1}{2}$ inches.
Height of bridge $\frac{3}{8}$ inch.
Top of bridge 1-16 inch outset.



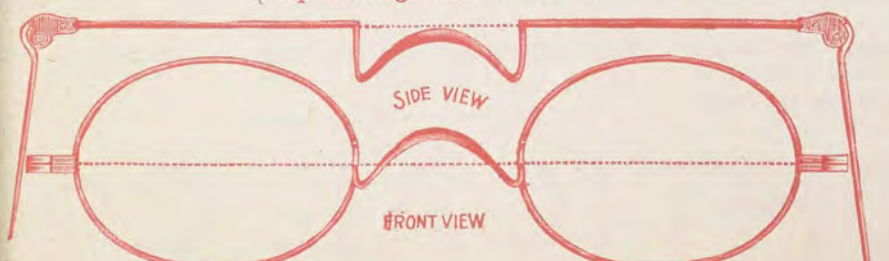
Nine. { Pupillary distance $2\frac{3}{8}$ inches.
Height of bridge $\frac{1}{4}$ inch.
Top of bridge 1-16 inch inset.



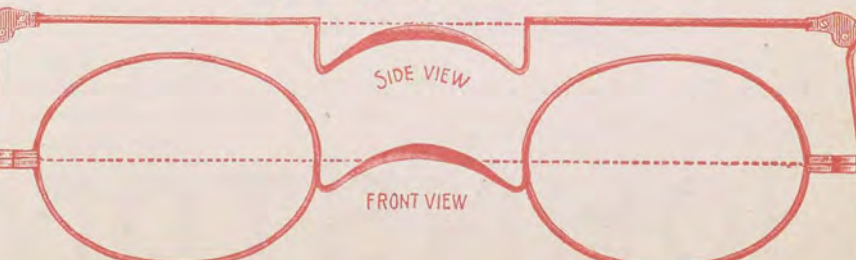
M- { Pupillary distance $2\frac{1}{2}$ inches.
Height of bridge on pupillary line.
Top of bridge 1-16 inch inset.



Nimble. { Pupillary distance $2\frac{3}{8}$ inches.
Height of bridge 3-8 inch.
Top of bridge 1-16 inch inset.

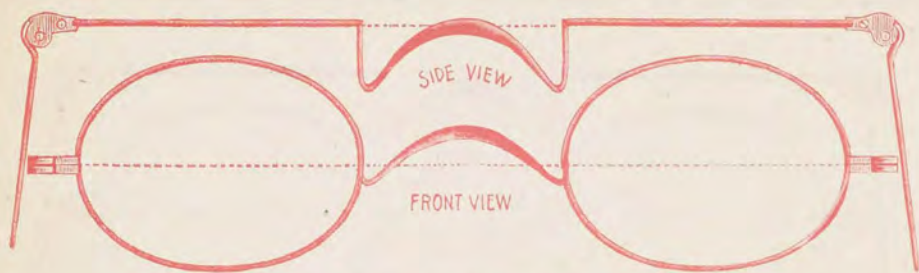


Mi. { Pupillary distance $2\frac{1}{2}$ inches.
Height of bridge 1-8 inch.
Top of bridge 1-16 inch inset.

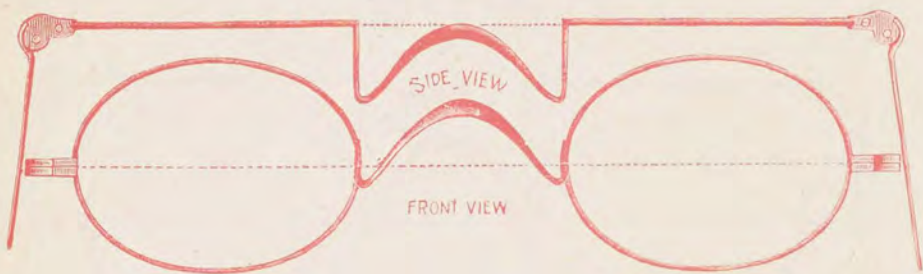


O-. { Pupillary distance $2\frac{1}{2}$ inches.
Height of bridge on pupillary line.
Top of bridge 1-16 inch inset.

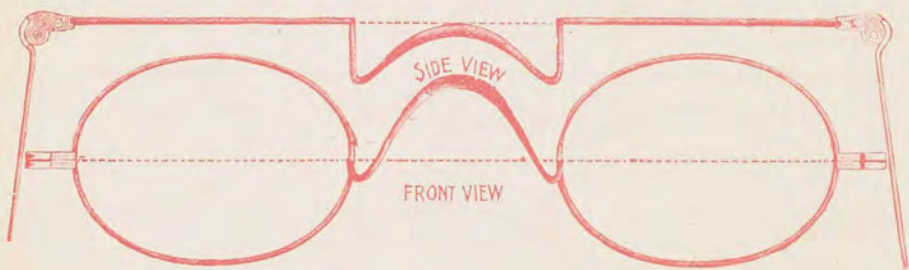
SYSTEM OF NAMING DIMENSIONS OF FRAMES BY
JOHNSTON OPTICAL CO DETROIT, MICH.



Oi. { Pupillary distance 2½ inches.
 Height of bridge ¼ inch.
 Top of bridge 1-16 inch inset.



Oily. { Pupillary distance 2½ inches.
 Height of bridge ¼ inch.
 Top of bridge 1-16 inch inset.



Oilway. { Pupillary distance 2½ inches.
 Height of bridge ¾ inch.
 Top of bridge 1-16 inch inset.

Our "Platiluminum" frames contain a larger amount of Aluminum than has ever before been put into spectacle frames.

They are lighter and whiter than any other ductile metal frames that are made. A dozen pair weigh only 1¼ ounces.

They are the next thing in strength to finely tempered steel frames. They cannot easily be bent out of shape. Unlike steel frames, they will not rust.

There is a small per cent of platinum in the metal which gives it luster and admits of a high finish. They are made in "Extra Finish" only.

Instead of being of steel as usual, the screws and rivets are of platiluminum also. There is nothing about the frame which can rust or tarnish; each frame is tagged with our guarantee that it will not do so.

Supplement giving prices of "Platiluminum" spectacles and eye-glasses furnished on application.

Supplement to our One-Fifth Century edition will be sent to all dealers applying.

Fan Guards lead. Ask for Supplement.

"Platiluminum" is better tempered than any other ductile metal ever made. Ask for Supplement.

If you wish to examine prices of every style of Gold Filled spectacles and eyeglasses made, ask for our Supplement.

Our 12K 1/8 Extra Finish Gold Filled spectacles are as good as solid Gold. Ask for Supplement.

"Platiluminum" is the coming metal for Prescription work. Ask for Supplement.

Revised prices on Gold Filled spectacles and eyeglasses will be found in our Supplement. Ask for copy.

A complete line of Extra Finished goods will be found in our Supplement. Ask for copy.



One Continuous Smile

Even a hearty smile like that worn by our "Laughing Man" for the past six months will not break the hold of the **Johnston Fan Guard**.

It is the only Guard that can be depended upon to stay in place at all times. Is made in eight shapes and sizes, and is made only by the

JOHNSTON OPTICAL CO.
 DETROIT, MICHIGAN.

We are also inventors, proprietors and manufacturing agents of the following Guards.



Our 12K "Extra Finish" Gold Filled Frames are just as good as solid gold.

They are made from ½-12 carat gold. Twelve carat gold is the best gold for this purpose we could possibly use. It is harder than gold of any other carat. It is almost impossible to polish through it. Besides, enough platinum has been added to admit of the highest polish without any danger of wearing through.

If one of these frames wears through within fifteen years, or proves in any way defective, we replace it with a new pair. On the bridge of each frame is stamped "J. O. Co." Attached to each frame is a small tag carrying this guarantee. We believe these frames will wear as long as any frames made. We back up this belief with our name and our guarantee.

Supplement and price list of 42 styles and qualities Gold Filled spectacles and eye-glasses sent upon request.

Don't fail to study the Johnston system of naming the different dimensions of frames so that you may be able to order any dimension up to a million with a single word.

JOHNSTON OPTICAL CO.
 DETROIT, MICHIGAN.

Electro-Metallurgy.

VIII.

Gold Alloys by Electro Deposition.



REQUENTLY workmen, especially those who have but little experience in the business of electro-plating, will encounter difficulty in making their gilding adhere, especially to some

kinds of German silver. The fault usually arises from grease still lingering on the surface of the goods to be plated, although the usual precautions have been taken to remove it. This state is more frequently attendant on work prepared by employing coal oil or vaseline in the abrasive or polishing compounds. All the hydro-carbons, including kerosene, coal oil and vaseline, are but feebly attached by potash or soda.

Removing Grease

Freshly-burned quick-lime seems to remove such hydro-carbons about the best of any alkali which we have used. Lime water prepared by plunging lumps of fresh-burned kiln lime in water—say two pounds of lime to a gallon of water, and allowing the lime to stand and settle. Such lime water is a very efficient means of removing all grease of the coal oil kinds. Milk of lime, that is, lime made up as for "white-wash," is also a very efficient cleanser, but the dust produced is very corrosive to the hands of the workman. We think, however, if this material was employed with a proper blowing apparatus for getting rid of the dust, it might be of great advantage in many of the departments of electro-plating. Some electro platers make use of a "quicking bath" in preparing German silver cases for electro-plating both in gold and silver.

In our personal experience we never had any trouble in making either gold or silver adhere perfectly to German silver or nickel, without quickening; but we attribute much of this success to the care exercised to remove all traces of grease. We might add, that there seems a natural affinity between German silver and grease, and a process which would effectually free brass or copper from grease, would still leave German silver sufficiently contaminated to cause gilding to slough.

We have already given a formula for preparing a nitrate of mercury quickening bath, but will now add one prepared by using cyanide of potassium. In making such a solution the nitrate of mercury can be precipitated by adding a strong solution of potassium cyanide to a solution of nitrate of mercury as long as any precipitate forms. This precipitate is washed with pure water, as we have already described in former articles for preparing cyanides of metals, to remove all traces of acid. Then enough of the strong cyanide solution is added to dissolve the precipitated mercury. One ounce of mercury will make about one gallon of such quickening solution. Another, and very good, quickening bath is prepared by dissolving $1\frac{1}{4}$ ounces of red precipitate (red oxide of mercury) in such strong solution of potassium cyanide and diluting with one gallon of water. This last quickening solution is best used with an electric current and giving only the merest flush of mercury to the surface to be gilded or silver-plated. This last-named solution can be enriched at any time by adding more red oxide of mercury dissolved in a strong solution of cyanide of potassium.

Gilding to Match Color

We have already suggested that the color of a gold deposit might be greatly varied by skillful management. For ordinary watch case and jewelers' work, it is unnecessary to use a solution much above 12 K., even for coloring up to 14 K., because by the management of the anode a deposit can be made fully 18 K. in a 12 K. solution, by immersing only small portions of the anode and working the solution pretty hot—say 140° F.

As a rule, it is not safe for those who have had but little experience in electro-gilding to employ any alloy for gilding, except simple copper. Hence it follows that in preparing anodes it is unsafe to make use of alloy containing silver. It seems as if the usual alloys for jewelers' gold (containing silver) can be employed as anodes for some little time, without the pernicious effects of the silver asserting itself, but sooner or later it will do so.

For this reason some gilders on jewelers' work use a platinum anode which has no effect on the solution. In this case the solution constantly becomes impoverished in metal, and to keep up the gold and copper percentage, fresh cyanide of gold and copper are added. This policy is bad, because the percentage of potassium cyanide is gradually increased and will ultimately ruin the solution. Our advice is to use two anodes, one of copper and one of gold, letting the surface exposed of each be such as to maintain the desired ratio of gold and copper. If we find our solution becoming too rich in gold, we then chiefly employ the copper anode until the just ratio is restored.

It is seldom a new beginner keeps up his gilding solutions to the proper strength of metal, especially in gold. This can easily be accounted for if we imagine such a beginner to plate two or three watch cases in succession. A gold anode presenting as large a surface as a 16 or 18 size case is seldom employed, and we are aware the anode, to maintain the due percentage of gold, should be fully the size of the cathode or watch to be plated. For this reason, if working an anode exposing less surface than the average cathode, we should enrich the solution by placing the cathode pole in a porous cup, and let the current dissolve gold enough from the anode to bring up the solution to the proper percentage.

Keep a Clear Head and Taintless Breath.

A retailer who recently visited New York to buy goods, is credited with the following:

"No man has ever seen a sign of grog on me since I have been coming to this market. Business has received my undivided attention when in the market, and every man with a good thing to offer has found me as interested in it as he was himself, and just as alert to pay attention to it.

"I have received a good many attentions and plenty of favors that I am sure I would not have had if I had conducted myself differently. I needed consideration when I began and I set out to encourage it. Would I have had the same experience if I went into those same houses every now and then reeking of stimulants and, perhaps, half sprung? I will leave it to any sensible man to decide."

This retailer is said to be a successful merchant, and we can readily believe it. Business and stimulants don't mix, and the impression made on the wholesaler must be considered. The creditor is curious above all else as to the character of his prospective debtor, and his nostrils have direct communication with his bumps of cautiousness and suspicion, and the first whiff of grog sends a message to both. The old saw, "Give a dog a bad name, then hang him," is not without force, and many a man has got a bad name for no worse reason than an occasional drink taken at the wrong time, and has suffered from it without being able to trace the cause.

The Detached Lever Escapement.

EAST LIBERTY, OHIO, Sept. 15, 1898.

ED. KEYSTONE.

For several years I have eagerly read every article in THE KEYSTONE, besides those in several other journals, upon the escapement. It is the time-measuring part of the watch, and should perform its work as nearly perfect as it is possible to make it. It should not be taken for granted that because a movement is new there are no faults, especially in the cheap or medium grades.

I have a plan of ascertaining these faults which I think the proficient will approve and the less skilled may appreciate. Take an 18-size full-plate movement, with a right-angle escapement, as this is easier observed than the straight-line escapement, although it is an easy matter to arrange the test for any other size. Take about a half inch of the hairspring of an old nickle clock and bend it in the shape of Fig. 1. Insert this tension spring between the upper plate and the outer end of the lever, as in Fig. 2, so that the lever will remain in any position it may be left in. It is presumed there is power on the train. Remove the balance and bend the guard pin away from the roller, for if too close it will mislead one in existing conditions.

Fig. 1



Fig. 2



See that the roller jewel is exactly at right angles to the roller table in both directions and the flat face of the jewel parallel to the passing hollow of the roller. Move the lever so escape-wheel tooth will rest on receiving pallet stone. Now replace balance and turn it so escapement will begin to unlock, and notice exactly at what point the lever is deposited when the roller jewel leaves the fork; this point should be just as escape-wheel tooth drops from the receiving pallet. Turn the balance in the opposite direction and see if escape-wheel tooth drops from discharging pallet when roller jewel leaves the fork on that side. The roller jewel should not carry the lever beyond the point where the escape-wheel tooth drops from either receiving or discharging pallet stone.

See if the amount of lock is the same on both pallets, which should be about one degree, with one-half degree more for the slide. If with this one degree of lock the lever is not carried far enough for escape-wheel tooth to drop from either pallet stone, move the roller jewel a little farther from the balance staff. On the other hand, if the lever carries the pallets beyond the point of drops, move the roller jewel nearer the balance staff.

The arc through which the lever is carried by the roller jewel is increased or diminished in some American watches by moving the lever on its arbor, either forward or backward. If either pallet is not carried far enough for tooth to drop, warm the lever and push pallet stone back until the tooth will drop; or if with the required degree of lock on either pallet the other should lock light and be carried past the point of drop, warm the lever and draw pallet stone forward the necessary amount.

All of the above conditions can be ascertained in a very few moments with the dial off and tension spring in place.

Remove tension spring and straighten up the guard pin; hold movement perpendicular, so balance is directly under the lever and let it gain its full arc of vibration in that position. Then reverse its position, so the balance is directly over the fork, and see if there is any falling off in the arc of motion. If so the guard pin is too close to the roller and should be bent back a trifle. Turning the banking pins back would give the same result, but would increase the degree of slide. See that the corner of escape-wheel tooth continues to rest on the locking face of the pallets when guard pin is pressed against the roller.

Another very essential thing to know is if the draw is sufficient. That point can be proven, and, if necessary, remedied in the manner explained in the August KEYSTONE.

If there is no more side-shake to the escape wheel, lever and balance than there should be, with the watch in perfect beat and the pallet and roller action lined up as above instructed, the balance should go spinning like a top and the results satisfy the workman for his trouble and please the wearer for time to come.

Respectfully yours,

C. E. HAYDEN.

"I enclose herewith one dollar, for another year's subscription to The Keystone. The most remarkable feature of the journal is the vast amount of reliable information it contains for the small sum of one hundred cents."—W. H. Poole, jeweler, Oxford, Iowa.

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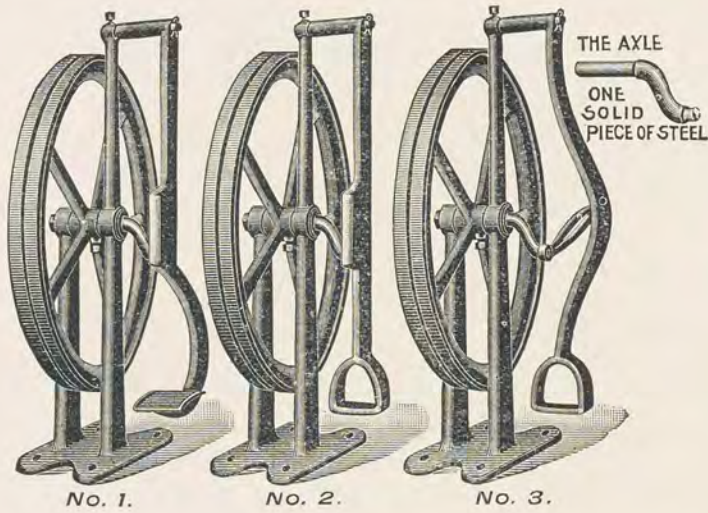
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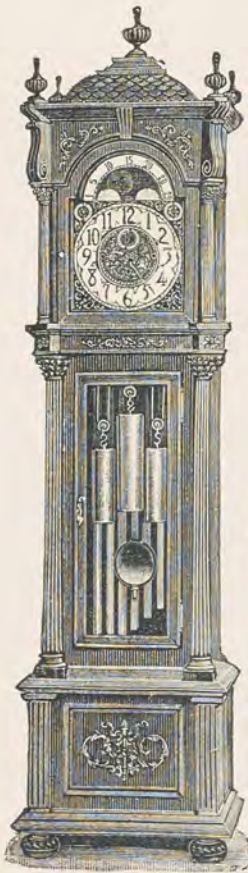
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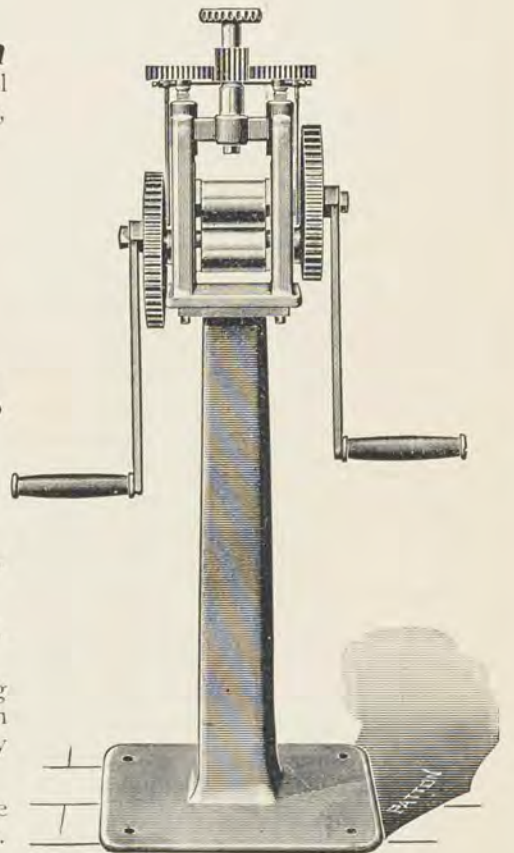
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Subscribers wishing inquiries answered in this department must send name and address—not for publication, but as an evidence of good faith. No attention will be paid to anonymous communications. Questions will be answered in the order in which they are received.

"Difference in Time."—Will you inform me the difference in time between present points of interest, such as Washington, Havana, Madrid, Honolulu, San Francisco? The difference of time is usually computed from the meridian of Greenwich (London), England, and for the cities named is as follows: Washington, 5 h. 8 m. 11 s. slow; Havana, 5 h. 29 m. 25 s. slow; Madrid, 0 h. 14 m. 45 s. slow; Honolulu, 10 h. 25 m. slow; San Francisco, 8 h. 10 m. 0 s. slow.

"Stripping."—I wish to know how to do stripping by the electric current to remove the green color on fancy settings after they have been through the fire. Also, how to make a red color in ten and fourteen karat solder?—There are a great number of formulas for stripping solutions, but they all depend on the properties a solution of cyanide of potassium has of dissolving gold when aided by electrical action. The stripping solution is composed of 2 ounces of cyanide of potassium dissolved in a quart of pure water; the article to be stripped is connected to an electrical circuit as if it was an anode, and a piece of plain sheet copper to be used as a cathode. That is, the piece of plain copper is placed in the solution as if it was to be gilded, and a pretty strong current of electricity sent through—a current strong enough to give off gas bubbles copiously. A few seconds does the work, but it requires a little experience to judge when enough of the surface of the article has been dissolved away to remove the color. We cannot make a low karat solder of good red color, and even if the solder seems all right in color the pickle acts on it, giving it a brassy look. The usual practice is to color ten karat goods in a fourteen karat plating solution, which brings the solder to the same color as the gold.

"Impulse Angle."—(1) I see in your reply to "Pallet Stones," in July, 1898, Keystone, you give an elaborate description of how to reduce the thickness of pallet stones for which please accept my thanks, and I presume I am only one among many others. I should have been much more pleased if you had extended the description to include grinding the impulse angle. I should be much pleased to have an outfit for doing such work.—See our reply to "Grinder" in another column.

(2) We have no gas in our town, and I would like to have a device by which I can dispense with the blowpipe and likewise have the advantage of both a pointed and scattered flame at choice.—We think we can fit you out with what you want by combining some of the devices which have been described in THE KEYSTONE. As a substitute for gas you can employ the apparatus described on page 641, August, 1896, KEYSTONE, in our reply to "Foot-Blower." This machine will furnish gasoline vapor which will in every way replace coal gas, and then if you employ the automatic blow pipe illustrated at Fig. 5, on the same page, you can at will produce either a pointed or scattered flame, provided you have an air blast affording a constant pressure, and such air pressure can be had by carrying out the instructions given to "Onyx" on page 980, December, 1897, KEYSTONE. If the source of air, as here described, is not powerful enough, read the description in reply to "Gasoline Brazier," page 572, July, 1898, KEYSTONE, which will give all the wind required for brazing a bicycle frame, or small enough for a spectacle bow.

"Silver."—Can you give me a recipe for a silver testing fluid? I did know what it was composed of but have forgotten.—There is no test for the practical jeweler like nitric acid. Most experts in such matters use the same acid as they employ for gold, that is, chemically pure nitric acid with as much common salt added as you can take up on a silver five-cent piece for each ounce of acid. Such acid is kept in a glass bottle with a long glass stopper which extends down into the acid, hence when you take out the stopper you have a little acid on the end of it, which you rub on the article to be tested. Nitric acid prepared as above does not have a very strong action on silver; it chiefly darkens it, producing a gray-black surface. If the silver is alloyed much the acid boils up green from the copper in the alloy. Every jeweler should make a study of testing silver and gold so as to be able to buy or "trade-in" old gold and silver successfully. Most jewelers in buying or trading for such goods go on the principle of getting the article as cheap as they can. In fact, they are but poor judges, and are afraid of "getting stuck." Now, there is good money to be made from buying old gold and silver, and every jeweler should make up his mind to spend the time necessary to learn to judge of the quality of old gold and silver. We will not say much about gold here, but devote ourselves to silver. To become expert in judging of the quality of silver take an old silver coin, say a quarter of a dollar, with a hole in it and cut it into four equal pieces and weigh them carefully, and to No. 1 piece add one-tenth of its weight in copper; to No. 2 add two-tenths of its weight of copper or brass, and so on to No. 4, where we add four-tenths of its weight of alloy. These pieces are melted with their alloy on charcoal, and the resulting button flattened out a little. Experiment on these with the nitric acid until you can judge by the action of the acid exactly as to quality. After a little experience no German silver alloy will deceive you as to it being a low quality of silver.

Britannia articles act under the acid somewhat like silver, but the softness of this metal will prevent any one from being deceived. While on the topic of buying old gold and silver it may not be amiss to say that it is not always good policy to buy such goods on too low an estimate, for the reason that most of the people who own such articles of solid gold or silver paid good prices for them and hold them valuable, and in trading it is better to keep the good will of your customer, even if you sacrifice a portion of the profits. Nitrate of silver in solution has been recommended as a test for silver, as it would have no action on a genuine silver article, but nitrate of silver solution will not keep, and is consequently not reliable. A solution composed as follows: Nitric acid 3 parts, water 1 part, bichromate of potash 1/2 part. This solution applied to silver gives a bright red stain; to German silver a brown stain; to Britannia metal a black stain. This solution is also uncertain. Hence, we recommend the simple nitric acid test which, after a little practice, becomes infallible.

"Diamond Puzzle."—I recently had an experience which I am very much puzzled over. I had a nine-stone diamond cluster ring to build up the clasps for, and proceeded as follows: I as usual put on boric acid to retain the color during the process of soldering. I built up the clasps and then let the ring cool, and put it in a pickle composed of 1 part of sulphuric acid with 3 parts of water. When taken out of the pickle five of the stones were a dull, milky white, the other four retaining their brilliancy. Can you give any reason for the stones turning white as they did, and give us any method for restoring their color?—Whenever we have given any advice in regard to the repairing of diamond settings we have invariably advised the removal of the stones, and in several instances have received notices from readers saying they never removed a diamond, as it did not do a diamond any harm to heat it red-hot. Now, it is a well-known physical fact among scientists that a diamond is nothing but a bit of pure carbon, and if maintained at a red-heat for any considerable time where the air can furnish the oxygen for combustion, it will commence to burn like a piece of anthracite coal, and if the heat is maintained the diamond will all burn up. When a diamond first commences to burn, if allowed to go out, would leave the surface a sort of gray-white; if the burning continued a little longer, and then was allowed to go out, the surface of the stone would be black like a lump of hard coal. It is a feat which has often been performed in chemical laboratories to burn a diamond in the open air; all that is required is to maintain a red-heat long enough to start combustion going. The reason why some of the stones did not color was they were harder, and more heat or a longer time was required to start combustion. We wish some of those people who persist in believing that it does no harm to heat a diamond could have a cheap touch of your experience. There is no way to restore the polish except on the diamond-cutters' polishing wheel. It does not need any grinding—simply repolishing.

"Telephone."—(1) How to make a telephone induction coil, and how to connect it? Also how to connect and assemble all the parts—generator, bells, transmitter, receiver, etc., as I wish to make (or assemble) one?—We gave a very complete description of a simple and easily constructed telephone in April, May, June and July, 1894, numbers of THE KEYSTONE. To answer your questions fully would occupy all the pages of three issues of THE KEYSTONE. The following are briefly the chief proportions of a good induction coil for telephonic purposes. Take No. 23 cotton-covered wire and length enough to give one-half ohm resistance, winding into 180 or 185 coils for primary. For secondary, enough No. 28 wire to give 250 ohms resistance, wound into 4100 or 4200 turns.

(2) Which will flow the easiest—high or low karat gold solder?—Low karat is supposed to flow the most readily.

(3) Can gold filled rings where the gold has worn off be refilled, and, if so, where can I get it done? Would it pay to have such work done?—Such rings can not be refilled. Most of the cheap, so-called gold filled rings are merely heavily gold plated. In replating such jobs the gold remaining on the ring should be removed, the surface smoothed up, and then replated. Storage cells are the proper source of electricity for doing such work; putting in sufficient resistance to cause the deposit to form very slowly. In this way a very even and thick coating of gilding can be obtained.

(4) How can gold rings be hardened after hard-soldering?—There is no method of hardening gold except to compress it either by hammering, rolling or burnishing.

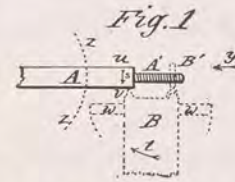
(5) What is the little cylinder filled with small bits of brass put on the end of the armature shaft of some telephone generators for?—Our expert says he does not remember seeing any such form of construction as you describe.

(6) How are watch glasses made?—Even a brief description of the various processes employed in making watch glasses would be too long for this department.

"Photos. on Glass."—Will you kindly tell where I can obtain a book giving information for preparing photo. prints transparent for painting with oil, and how the work is done?—We know of no reliable book on the subject. The secret process was sold some few years ago at prices ranging from \$10.00 to \$50.00. The facts attending the process are that the desired result can be obtained by several methods. The principles on which the process depends

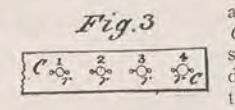
are briefly that the photo. print to be colored be one of the albumen kind, and printed rather deep. The next part of the process is to cement such print securely to concave side of a convex glass. It does not require a glass of very pronounced curvature—say a glass is 4 1/2" x 6" across, it should rise about 1/4" in the center. The photo. print is next securely attached to the concave side of the glass. After trimming the print to a size a trifle less than the glass, go over the albumen side with a rag wet with benzine, then dip into warm water twice, employing two vessels of warm water, blot off the water with a clean, soft towel. Place the print on a plate-glass surface, with gelatin side down, and apply the mounting paste over the entire surface. The mounting paste is made by dissolving 20 grains of French gelatin in 1 ounce of water, to which is added 5 drops of an alcoholic solution of salicylic acid. This should be warmed a little before using. The same paste is applied to the concave side of the glass, and the print placed on the glass and carefully pressed down with what photographers term a squeegee, an instrument made by enclosing a piece of rubber cloth about 1/8" thick between two pieces of thin board, and clamping the pieces of board together with small screws. All air bubbles and excess of mounting paste are to be forced out either with the squeegee or the ends of the fingers. After the print and paste are perfectly dry the operation of removing the paper from the back is performed by rubbing with fine glass paper—a paper much like sandpaper. The idea now to be worked for is to remove as perfectly as possible the paper on which the gelatin photo. print was made. To render the print transparent prepare the following mixture: Canada balsam 5 ounces, paraffine wax 2 ounces, white wax 2 ounces. Make the mixture at as low a temperature as possible, and thoroughly incorporate the ingredients. Place the dish containing the melted composition in a water bath to maintain the temperature and lay the glass in the mixture. After about an hour examine the picture to see if all the parts are transparent, and if any opaque patches appear the glass should be allowed to get cold, when the spot can be rubbed with glass paper and then replaced in the heated mixture until transparent. Wipe off all excess of the mixture by which the print was rendered transparent, and when the glass is cool it is ready for the painting, which is usually done with the ordinary oil colors, although water colors can be used if mixed with borax water, that is, water in which a little borax is dissolved. Of course, it is understood that all colors are applied from the back, and the effect watched from the front. Vandyke brown, Naples yellow, Indian yellow, vermilion, rose madder, Chemnitz white, cobalt blue, light red, yellow ochre, Prussian blue forms a good list of pigments. These are the ordinary tube colors of the artist.

"Fine Screws."—I wish a plate for cutting a fine screw on a bush for bushing a watch plate; where can I procure such a plate? I desire the diameter of the screw to be large enough for a bush and still have a very fine thread—say 200 to the inch?—We know of no concern which manufactures such taps, and think your only plan will be to make one for yourself, which is not a very difficult task. To do this procure a piece of well-annealed sheet steel, 1/4" wide 1/2" thick, and, say, 2" long. It is not to be understood that these sizes are imperative. This strip of



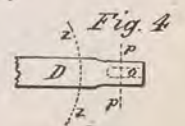
steel is shaped at one end to the form shown at the dotted outline B B', Fig. 1, and also separate at Fig. 2. The projection B is left about 1/8" wide and is drilled at x, and tapped out, to receive the guide screw A', Fig. 1.

The lug or projection B', Fig. 2, is twisted one-fourth the way around so as to bring the axis of the hole x in the same plane as the flat surface of the piece B, as shown in Fig. 1. We now take a piece of Stub's steel wire about 1/8" diameter and place it in a wire chuck and turn the part at u, Fig. 1, of such size as we desire the bush to be. We next turn the part A' of the steel wire to such size as will fit, say, the No. 15 hole of our Swiss screw plate and cut a screw on it; we also tap out the hole x to fit the screw on A. The point v is now sharpened to an angle of about 45°, and, after twisting B', the end of B is hardened and tempered. The end of the screw A' is entered into the hole x as shown in Fig. 1. The handle end of B is now swung around in the direction of the arrow t until the point v commences to cut A as the lathe spindle is turned by the left hand grasping the lathe pulley. A very little practice will enable one to turn a very nice thread on A. After hardening, A becomes a tap, which, if a No. 15 hole of a Swiss plate is used, will have a pitch of about 200 threads to the inch. To make a plate to match the tap A take a piece of old file about 1/8" thick and long enough to receive about three or four holes as shown at C, Fig. 3. Each of the holes r



should be of a different size so that we are provided with four sizes of bush. To make a bush turn it to the size desired, and while in the lathe and before the screw is cut on the bush, center and drill the central hole as shown at Fig. 4, where D represents the brass wire. The hole to be bushed is tapped out with the tap A, Fig. 1. To anneal a piece of steel for the plate C lay it on a good size piece of charcoal with another piece over, then, with the blowpipe heat until bright red, allowing the steel to cool off between the pieces of charcoal.

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KREMENTZ ONE-PIECE DRESS SHIRT Collar Button

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Made in 3 sizes, known as 7^L, 8^L AND 9^L

Guarantee: If from ANY CAUSE one should get damaged, either in the hands of the DEALER or WEARER, a new button will be GIVEN IN EXCHANGE.



The Standard American Collar Button.
Extra Long Post. Extra Width of Back.

SOLVES ALL COLLAR BUTTON PROBLEMS.

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- 5—Easiest to button.
- 6—Stays buttoned.

- 7—Easiest to unbutton.
- 8—No lever or twist to bother.
- 9—No repairs; customer gets new for old one without charge in case of accident of any kind.

18 K., 14 K., 10 K. GOLD, STERLING SILVER AND OWN MAKE 14 K. ROLLED-PLATE.

KREMENTZ & Co.,

49 CHESTNUT ST.,
NEWARK, N. J.



The "SENSIBLE"
Knock Down Show Case and Table

Would you like to know something about it?
READ

WHAT IS IT? Did You Say?

Why nothing less than our NEW PATENT KNOCK DOWN JEWELERS' SHOW CASE AND TABLE.

Have you seen the combination? It's a beauty, and the price will astonish and please you. Listen to the following:

This show case is the best all around case on the market.
Can be had in any wood desired; any finish.
Is made entirely knock down; fastened with nickel-plated bolts.
Is more substantial and solid than any other case.
Construction is perfect. Bottom is paneled, preventing warping.
It can be put together by anyone without aid of any tools except a monkey wrench.
Being knock down, it saves freight and reduces risk of breakage.
Shelf supported by brass chain, can be of wood or glass.
It has numerous other advantages which we haven't room to mention.
We will send circular and complete description on application.

OUR KNOCK DOWN TABLE is also a money saver. It will surprise you how cheap it is. Write about it.

We make anything in the line of JEWELERS' FIXTURES. Tell us what you want, and if our catalogue doesn't show it, we will be glad to send special sketches, with prices.

We want your orders. If we get them you will not be sorry you gave them to us. Write us anyway

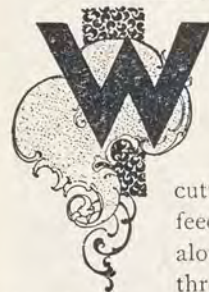
M. Winter Lumber Co., Sheboygan, Wis.

ESTABLISHED
1865.

Arts Allied to the Jewelry Trade.

CI.

A Good Screw Cutting Lathe Described.



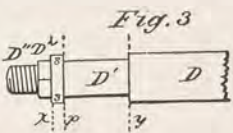
WE have now arrived at the point in our lathe construction which takes up the screw cutting attachment. The first essential in constructing a screw cutting attachment is to procure a feed screw for moving the carriage along as the turning tool chases the thread. It is highly important that this screw should be of an even and regular pitch from end to end. To obtain these characteristics in a satisfactory degree, such screw must be turned in a screw cutting lathe. We would say, however, that there are methods for producing a screw of any desired pitch, but they are all complicated and involve a great deal of time and care. For our purpose the true plan is to have a screw turned by a machinist. For such a lathe as we are dealing with a screw $\frac{1}{2}$ " in diameter and 18" long will be found about right.

The Pitch of Thread for a Feed Screw

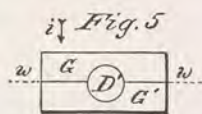
About the most desirable pitch for such a screw is ten threads to the inch. We show at Fig. 1 a plan view of the lathe bed with the feed screw at *D*. The cut at Fig. 1 is identical with several drawings we have made use of in former explanations, except we have added the feed screw *D*. To better aid in explanation we show the screw *D* separate at Fig. 2. This screw has a bearing only at one end, that is, the one shown at *D'*. Of course it is understood the screw *D* is provided with a nut which moves the carriage, said nut being indicated at the dotted outline *K*. We show at Fig. 3 an enlarged view of the screw *D* to the left of the dotted line *z*, Fig. 2. The space between the dotted lines *p y* represents the thickness of the box in which the bearing *D'* revolves. At *D''* is shown a squared portion of *D* on which the feed wheel that drives the screw *D* is placed. When we were describing the construction of the support *B* we said nothing about the bearing for the feed screw from the fact that it is bad policy to attempt to describe too many things at once, and also load the drawings with a great number of parts. If the reader will turn to page 328, April, 1898, KEYSTONE, he will see how we delineated the support for the ways, and also the lower part of the headstock. In these we made no allowance for room for the feed screw. We would say, however, that the position for the feed screw is about half way to the right between the screw *s* and notch *x*, Fig. 5, page 328, April, 1898, KEYSTONE. Of course it is understood that in making room for the feed screw, that we also make a corresponding recess in the head stock, shown at Fig. 9 of the issue just referred to.



In providing space for the feed screw *D*, it is well to make the wood patterns, from which the base block or support for the ways and the head-



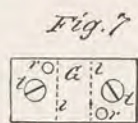
stock are cast, with recesses for not only the feed screw but also for a gun-metal bearing for the part *D'*, Fig. 3. To make the matter easier to talk about we show at Fig. 4 a combination of the cuts just referred to on page 328, April, 1898, KEYSTONE. The added recess for the gun-metal



boxing is shown at *F F'*. We show a side view of the gun metal boxing at Fig 5. This boxing is a simple "pair boxing" opening on the line *w* into halves.

Fitting Up a Feed Screw

We also show at Fig. 6 a top view of the lower half (*G'*) of the boxing seen in the direction of the arrow *i*. This lower half of the gun-metal boxing is secured in the base *B* by means of two screws shown at *v v*, and to maintain the exact position of the piece *G'*, two steady pins passing down into the base *B* are added. The top half of the box (*G*) is secured by means of two screws shown at *t t*, Fig. 7, said figure being a view of Fig. 5 seen in the direction of the arrow *i*. In this instance the top half (*G*) of the boxing is not removed. The sizes of this boxing is $1\frac{1}{8}$ " long, $\frac{3}{4}$ " wide, and $\frac{3}{4}$ " thick. It will be seen by referring to Fig. 3 that at *s* is shown a flange, which is of the same diameter as the main part of the screw *D*. Now the space between the lines *p y* corresponds to the length of the bearing *D'*. The thickness of the flange *s* between the lines *x p* is $\frac{1}{8}$ ".



The recess made in the base *B* to receive the lower half of the boxing *G* is of such size and depth as to bring the screw *D*, Fig. 2, in such relation to the moveable carriage shown at Fig 4, page 717, September, 1898, KEYSTONE, as to allow the nut *K* to act with advantage. This nut is also shown in dotted outline at *K*, Fig. 2. It will be seen that at *D''*, Fig. 3, we have shown a screw on which a nut is placed to clamp the toothed wheel which governs the pitch of the feed. It is usual, even in the smaller sizes of screw cutting lathes, to employ change wheels about $\frac{1}{2}$ " thick. Now, while such strong gear does no harm, still there is an extra weight and strength about them which is not absolutely needed, as there is really but little force required to revolve the feed screw *D* and move the tool carriage, hence it is not necessary to use the thick gear.

Change Wheels for Screw Cutting

Gear wheels are kept in stock by many large concerns like the Brown & Sharpe Mfg. Co., Providence, R. I., from whom catalogues of prices can be obtained. There are also dealers who handle cheaper light brass gears which can be made to answer the purpose. Among this class of dealers can be named Goodnow & Wightman, 63 Sudbury St., Boston, Mass. These people keep in stock gear wheels made from sheet brass $\frac{1}{8}$ " and $\frac{1}{16}$ " thick, which can be substituted for the more expensive cast iron wheels with cut machine teeth. A catalogue of such gear wheels can be had of this concern by writing to them. The underlying principles which are involved in change wheels for screw cutting lathes are really very simple, still, very few people who run screw cutting lathes understand them. We will, however, try to make the matter so simple that "he who runs may read."

Not To Be Fooled.

"Now, jest you go right along; you needn't stop here," said farmer Hayfork, authoritatively. "I don't want no lightning rods."

"I am not selling lightning rods," responded the sleek-looking peddler, whose sudden appearance at the gate had aroused the ire of farmer Hayfork.

"I don't keer what yer sellin'," replied the farmer. "I don't want it and won't take it, and that's all there is about it. I know the tricks of you city sharpers. I read the papers, I do. You can't catch me on any double-back-action pumps, or any self-working churns, or patent Egyptian corn fresh from the pyramids—not much; and I don't want to take any mowers on trial, either, and sign a receipt for it and have it come back as a ninety-day note for \$10,000. No, sirree. And you can't buy my farm, either, and then have me buy it back at a big advantage, because some confederate of yours comes along and offers twice what you gave fer it. Nixy! I'm no chicken. Now clear out."

"I only want—"

"O, yes; you only want to get my name to anything at all so you can make a note of it. I'm up to all such tricks. I read the papers, I do."

"I only want to show you our new patent reversible hen's nests."

"What on airth is them?"

"It's an ordinary hen's nest, only it reverses itself every time a hen lays an egg and drops the egg into a basket below."

"What good is that?"

"Can't you see? The hen turns around to look at the egg, but it ain't there, and she concludes she didn't lay any, and sits right down and lays another one, and so on. Only fifty dollars."

"By gum! Gimme a dozen."

"Enclosed find check for one dollar, for which please renew my subscription to The Keystone for one year. I read each number from one end to the other—advertisements and all—and consider it the best source for information for the up-to-date jeweler."—J. Linnenbrink, jeweler, Rochester, Pa.

Stationery as an Advertisement.

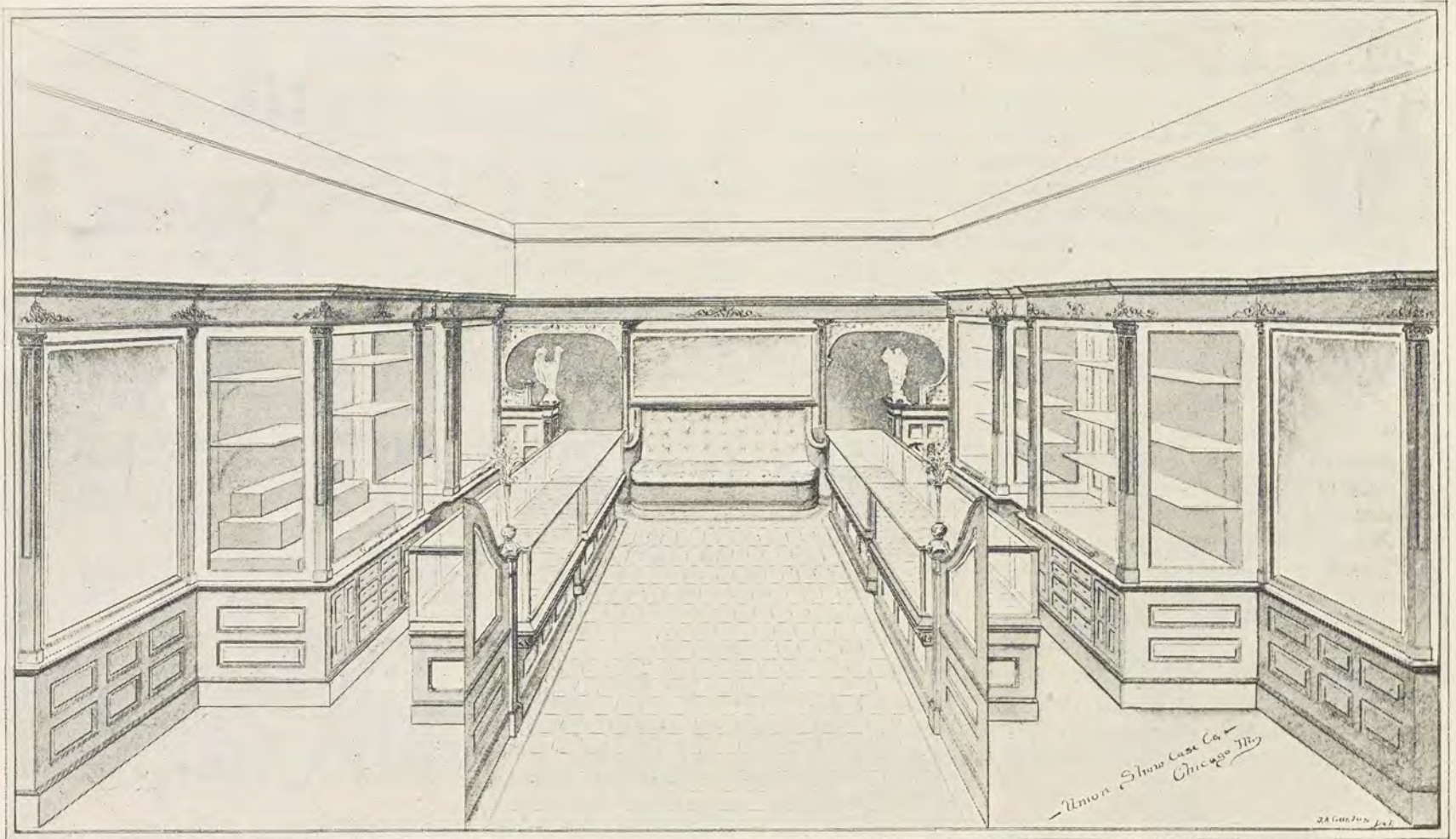
In planning for effective advertising, the wide-awake firm will be careful that the stationery is made to help the other means of attracting attention. The envelope that bears an especially attractive design will command the attention of every person through whose hands it passes. The business man of energy should adopt a distinctive design, which should go on all his stationery; but he should further devise some means of making the envelope an assistant to his publicity department. Order envelopes in lots small enough so that you will have a change often. Put on a specialty to which it will be worth while calling attention. Don't make a bulletin board of it—just a plain announcement of a special feature. The man who sends out circulars will see the necessity of making an argument through the envelope. He will have an envelope that speaks for itself. It will be an advance agent for the good things inside. It need not tell the name of the man whose advertisement is within, but it can say to the recipient that the contents of that envelope are worth looking at.

It is a question whether a letter-head should be changed often or not. There are firms which insist on using the same style of stationery they have used for years. They believe that the style that was good for the early days of their business life is good for the present regime also. This is true in some cases, but people believe in progressiveness. Stationery should reflect the characteristics of the house that uses it. New ideas should be instilled into every department of the business. What was approved by people years ago would not answer for the needs of to-day. When you go after goods you want the latest and best. When you buy stationery you should have your up-to-dateness reflected in it. The advanced idea is what the best printer gives to your printing. He will stamp upon your letter-head an evidence of carefulness and excellence which the recipient will note. When it reaches its destination it will be a credit to, and say a good word for, the firm that sent it. When you write it you have pride in the message you send. The letter is stronger because it is written on the best the stationer can provide, printed in the highest style of the typographic art. Thought for their stationery has given many business houses a great business advantage, and appreciation of what that advantage meant has brought success to the best firms.

—Ex.

Union Show Case Company, 167 Randolph Street, Chicago.

Manufacturers of ARTISTIC STORE FIXTURES FOR JEWELERS.



The above is the design of a new outfit we are just putting in for E. A. MARSH, Grinnell, Ia., to whom, among many others, we refer as to the beauty of our fixtures and the quality of our work.

A. N. CLARK & SON, Plainville, Conn.,
 MANUFACTURERS OF **BICYCLE STAMPINGS,**
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Our endeavor to make our **Celebrated Loop Watch Key** the best key, quality and price considered, in the market is a success, as thousands of watchmakers will testify. We solicit the continued sale of these keys for our mutual benefit.

We also manufacture **Crosby's Jeweling Tools, Manicures, Tweezers and Key Rings** in variety.

Order keys through your jobber, who will furnish them at our prices. **J. H. Walbridge & Co., Box 1895, New York,** are our agents for Tweezers, Key Rings and Manicures.



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The "Mean Morals" of the Merchant.

BY JOHN TWEezer.

The editor of THE KEYSTONE has permitted me to read the proof of the article which appears on another page of this number, wherein a jeweler, who has been annoyed by an aggravating shopper, gives way to some reflections; and as his unhappy experience is one of a thousand like it, I am tempted to add to his reflections some of my own.

How far should a merchant go in submitting to the criticism of his goods, or his technical ability, or his special knowledge, by those incompetent to criticise him? What are the limitations put upon a merchant by a proper self-respect? What is a "proper" self-respect, and when is business "business" only?

I have before me a very curious book, written over two hundred years ago, entitled, "The Complete English Tradesman." Its author is Daniel Defoe, and it antedates that other immortal work of Defoe's, the joy of boyhood the world over—"The History of Robinson Crusoe." The art of Defoe is so fine that critics have never been able to agree whether this thin volume was serious thought or ironical satire. The pompous detail, the studied analysis of every little mean art, every sneaking address, every trick and subterfuge, short of larceny, that was necessary to the tradesman's occupation in the basest period of England's commercial history, all tending to the same amiable purpose—namely, the sacrificing of every honest emotion of the soul to "the main chance"—make it an extraordinary piece of wit if it was written in irony; but if it was written in earnest, it is one of the vilest and most degrading to the moral sense that has ever been gathered into covers. I quote a specimen of his advice to a young tradesman on the government of his temper:

"The retail tradesman, in especial, must furnish himself with a complete stock of patience. I mean that sort of patience which is needful to bear with all sorts of impertinence, and the most provoking curiosity that it is possible to imagine the worst of buyers is, or can be, guilty of. A tradesman behind his counter must have no flesh and blood about him, no passions, no resentment; must take all the abuse he gets, and place it to the account of his calling; 'tis his business to be ill-used, and resent nothing."

One can understand, now, why Drayton wrote that hard censure of the mercantile spirit, living, as he did, in the astonishing narrowness and illiberality of those times:

"—The grapple merchant, born to be the curse
Of this brave English isle."

But, to further help out my reflections as to the limitations which a proper self-respect puts upon the merchant, in respect of the abuse or criticism of an ignoramus on the other side of the counter, I again take up Defoe:

"He must be a perfect, complete hypocrite if he would be a complete tradesman. It is true, natural tempers are not to be always counterfeited: the man cannot easily be a lamb in the shop, and a lion in himself; but let it be easy or hard, it must be done. If he is provoked by the impertinence of the customer beyond what his temper will bear, let him go up stairs, beat his wife, kick his children, and be as furious for two or three minutes as a man chained down in Bedlam; then, after the fit, let him go down into the shop again and be as humble, courteous, and as calm as any man whatever. In the shop he must be a soulless animal that would resent nothing; in the family he may be a madman; in the shop, meek like a lamb—in the family, outrageous as a Libyan lion. The sum of the matter is, it is necessary for a

tradesman to subject himself, by all the ways possible, to his business; his customers are to be his idols; and so far as he may worship idols by allowance, he is to bow down to them, and worship them."

Well, two hundred and seven years have passed since this counsel was written for the direction of English retail merchants; and if there has been no growth of the self-respect of merchants since that day, no broadening of the sense of human dignities, no liberalizing of the estimate of personal rights, it is good enough counsel for to-day as in Defoe's time. But I doubt if the merchant who follows the instruction will ever achieve a large success. He will not absolutely fail, for there are yet a-plenty of people who insist upon the recognition of a certain social caste as between buyer and seller, and who will reward with their trade those who abjectly accept their dictum; but every recurring day that increases the distance between the present and that earlier time when the merchant was ignoble and the shopkeeper stood in social contempt, sends with its morning sunshine new revelations of his personal rights and dignities into the soul of man; and Mrs. Shopper and her pagan kin will be converted at some later dawning.

"Business is business"—yes; but is Defoe to be the gospel of trade in *this* year of grace? Shall we not be delivered from the bondage of the customs of 1691? Must we be hypocrites to be successful? Or is there not a field ripening to the harvest that waits the sickle of the fearless, self-respecting merchant who, attentive and grateful to his customers, is yet not required to "bow down to them, and worship them," and whose business life embodies Robbie Burns' maxim, "A man's a man, for a' that"? And haven't we a moral duty toward Mrs. Shopper, in the way of showing *her* the evil of her ways?

The Gift of Accident.

The pivotal events in history are largely the result of accident. Columbus sailed west to find a shorter route to Asia, and stumbled upon America. Napoleon dawdled the night before Waterloo, and Continental Europe was re-formed on the morrow. Dewey set out to destroy a Spanish fleet, and destiny laid an empire in Columbia's lap.

What shall we do with this gift of accident? It is the greatest problem that was ever given this country to solve. Our judgment must not be influenced by emotion, or deceived by generalities, or warped by ill-grounded fears or unwarranted hopes.

Four months ago the eyes of this nation were habitually turned inward upon itself. We were occupied with thoughts of our own mines and forests and fields and factories, our own narrow politics, our provincial problems of finance and our selfish citizenship. To-day we look out upon the empire of the earth, with the moral elevation which a wide outlook brings. The messenger of fortune knocks at our door—and it knocks once only, in the history of nations as of individuals. It is for us to determine whether his message is of good or bad fortune, and for us to say whether we shall keep the door closed, with stolid self-sufficiency, or open it to all the potentialities of good or evil which follows as the vast consequence.

In this brief space I shall not attempt to discuss the moral and political issues involved, except to aver that there can be no question as to our responsibility toward the helpless millions in the Philippines, to protect them from other powers and from themselves; and to aver, further, that

we are as certainly morally bound to fulfil our national destiny, thus directed by the hand of fate. As to the large political problems involved in the government of an alien people, it is sufficient to say that the genius of American statesmanship can be safely reckoned on to compass the difficulties; and let us not forget that the Constitution is a human instrument, and can always be conformed to human needs.

It is not the question of moral or political necessities, in relation to this problem, which I wish to discuss, but the question of commercial expediency, as befits the columns of a journal of commerce and trade.

I believe that Hawaii, the Caroline Islands, and the Philippines are *intrinsically* not worth the responsibilities incurred by their occupation. Their commerce and resources will not counter-balance the strain put upon our political system. But behind them, looming in mountainous interest and opportunity, against which the Philippines are a mere handspeck, is a mighty continent which beckons to American commercial and moral energy—behind them is the vast empire of the trade of the Orient! The islands which lie in our path to the Asian continent, across the Pacific, are valuable to us only because they are the links in the chain of Opportunity. They safeguard our way—they sentinel the progress of our trade—and they are therefore priceless to us.

Four hundred million civilized human beings have up to this time lived apart from mankind. To-day their doors swing inward, inviting every kind of enterprise. The Asiatic life is undergoing a change—the Asian dream of isolation is a thing of the past. China rubs its sleepy eyes and is about to repeat the awakening of Japan.

In 1868 Japan imported \$3,000,000 in merchandise; in 1897, \$111,000,000. Of this amount, the United States sent 12½ per cent. But Japan has only thirty-five million inhabitants; China has four hundred millions. All the West Indies and South America combined do not contain *one-eighth* the civilized population of this new field. At the ratio obtained in Japan, the world should be sending to China, inside of fifteen years, \$1,250,000,000, or 50 per cent. more than the United States takes from all the world.

Every European power is impressed with the enormous trade opportunities opening to the view in the vast East. Its certainty, its present proportions, its immeasurable potentialities for growth, make it a world-event commercially more important than the discovery of America. It is the present great fact in modern trade.

We need to retain the Philippines as an integral part of our trade opportunities, in enabling us to draw physically closer to the field to which destiny points as the world's future market. Let the moralists and politicians meet their own difficulties in the question; but the American manufacturer and tradesman is "out for business," and demands, "Keep the Philippines!"

When the frost is on the pumpkin and there's ginger in the air—when the sun-burned summer maiden's skin is bleached from black to fair—when the autumn nights are chilly, and the autumn days are hot—when the fortunes of the Spaniard have essentially "gone to pot"—when the signal-lights of Christmas flash a little way ahead—when is passed the summer dullness, and no longer trade is dead—when the wheat crop has been garnered and the fodder's on the shock—*then's* the time to grab a pencil and go through your ancient stock!

J. T.

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American Lathes and Their Attachments.

XCVI.

More Practical Instructions About Making Wire Chucks.



WE now have our blank for a wire chuck drilled through from end to end, and is ready for turning the outside. In large establishments a turret lathe is employed for roughing out the blanks for chucks, leaving little to be done but finishing. For the working watchmaker, who desires to employ some spare time in making a few chucks, facilities of this kind are not available; about all such a workman has, probably, is an American lathe with a slide rest, but if he will take the trouble to add to his slide rest a screw cutting attachment, together with a wheel cutting attachment, he will be able to make wire chucks, and make them as good as anybody. The extra attachments just named are also serviceable ones at any rate, and should be included in every watchmaker's outfit.

We show at Fig. 1 a side view of our drilled blank, with the central hole represented at the dotted outline *z* and *s*. We next countersink the small hole *s* with a V-shaped countersink to give a firm bearing for the cone center. It may not be amiss to say that such cone centers are in this day invariably turned to an angle of 60°. We show at Fig. 2 an end view of *A*, Fig. 1, seen in the direction of the arrow *w*. In this view the countersink we are speaking about is shown at the dotted circle *t*. The opposite end of *A* should also be countersunk a little to give a secure bearing on the back cone center *B*.

We are satisfied that we can, to good advantage, say something about countersinking for lathe centers, because very many, even among experienced machinists, make but a poor job of this very essential part of fitting a piece for the lathe. We have seen many machinists who did not even drill for a lathe center, contenting themselves by driving in a strong, heavy center punch, letting the lathe centers serve the purpose of holding the piece to be turned as they best could. We show at Fig. 3 a longitudinal section of the end of a piece of work properly fitted for turning in a lathe with cone centers. We first drill a hole of suitable size. It is a good deal a matter of judgment as regards the proper size for such drilled holes.

The governing idea is, to provide a place for the extreme point of the cone center, so that it will not "bottom." Another point is, to provide a conical countersink which fits the cone center. This will be understood by inspecting Fig. 3, where we show a cone center at the dotted outline *D* with the conical bearing surfaces at *o*. These bearing surfaces should be of sufficient extent to give strength and rigidity to the piece being turned and not allow the oil to be burned off by excessive friction, as such condition always results in cutting the cone center into gutters and channels, a condition which destroys all prospect of extreme

accuracy. After the above instructions the pith of the matter can be condensed into these words: Be sure your bearings on the cone centers are amply strong, and that they will not wear out of shape during the operation of turning.

There is another important point to be borne in mind in turning such a piece as our chuck blank, which is, in doing such work we should push the cutting action forward as rapidly as possible consistent with the ability of the lathe. Many workmen have an idea that a very fine chip is conducive to accuracy. This is a mistake, the best average lathe work is done when the turning tool is cutting as large a chip as the rigidity of the lathe will permit. Again, there is very much in properly shaping the cutting points of the tool we are working with. All turning tools should be shaped to cut on the principle of a graver. This will be understood by inspecting Fig. 4. If we shape the cutting point as shown at the full outline, the cutting action at the angle *n* will be more of a scraping process than true turning.

To obtain a true cutting angle the upper surface of the tool should be oblique, and correspond to the line *n m*, and it is the usual practice to recess out back of the cutting angle, as shown at *a*, to allow such shaping. But such cutting angle soon wears away, and the tool then needs re-pointing. In turning such a chuck, it is good policy to turn in a groove or recess with a cutting off tool, as indicated by the dotted lines *l*. It will be seen that this groove strikes the barrel of the chuck at the foot of the conical head, as shown at

Hints on Lathe Work

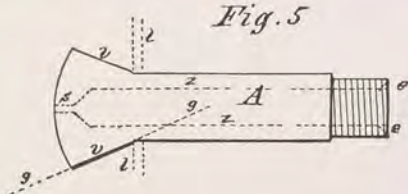
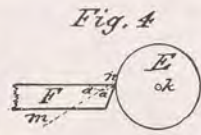
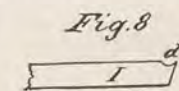
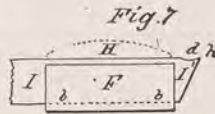


Fig. 5, where we portray a complete wire chuck. Now the channel we are talking about is located at the position indicated by the dotted lines *l*, Figs. 1 and 5. An excellent tool for cutting such a channel as we are discussing can readily be made by taking a piece of 1/4" square steel 1 1/4" long, filing it to 3/8" one way.

In one of the narrow sides of this piece of steel we saw a slot, as shown at *b*, Fig. 6, said cut being an end view of the piece of steel we are describing. This slot for our purpose need not be more than 1/2" wide. At Fig. 7 we show a side view of Fig. 6, seen in the direction of the arrow *i*. Practically, it is well to make the slot *b* a little V-shaped, as shown. In this slot is placed a piece of narrow sheet steel, also fitted V-shape to the slot, as shown in dotted outline at *I*, Fig. 7. The point *h* of the cutting tool *I* is concave back of the cutting point, as shown at *d*, to give a better cutting action, as illustrated at Fig. 4. This concave can be quite small, say to 1/8" radius. The end of the cutting tool *I* need not protrude more than 1/8" from the holder *F*.

We show a side view of the cutting tool *I* separate at Fig. 8. In actual working, such cutter blanks, if carefully made according to our instruction, will not show an error in the round to exceed 1/1000", and in turning in the



channel *l* we can run the tool *I* up so it commences to cut, and then feed in a certain number of turns and parts of a turn, and be sure we have cut said channel to the proper depth to form the barrel of the chuck.

Business Man's Worst Enemy.

The worst enemy, next to ignorance, a man can have is self-distrust. He might as well have a millstone tied about his neck and be cast into the uttermost sea—so far, at least, as business success goes. It is said that this distrust is caused by a want of business talent; but there is no warrant for such an inglorious confession, and no man, certainly no young man, should encourage such a self-destroying belief. The possibilities in every human mind are past finding out. Men are not made like pint measures, to hold just so much, but are limitless in their capacity and unlimited in their powers. The history of the race has proved it in thousands of illustrious examples. The history of our own people has shown it. There is scarcely a name among the illustrious men of the United States but proves it. Every one of them would have died unknown and unwept had they believed that their powers were limited to the achievements of a mediocre life only. They may not have believed at the beginning what the end would be, and perhaps they were more surprised at their advancements than anybody else; but, step by step, fortified by a reliance upon themselves, they moved forward, and always found the necessary powers within themselves. No man can tell what is within him, but every man may be certain that there is a rich mine to explore—one that will be far from being exhausted when he is called upon to lay down the push-cart.

Now, this self-reliance is a queer plant. In some men it requires cultivating; in others it needs pruning. Where it is just right it wants to be carefully tended, and there is no plant more beautiful to look upon. It is a quality in a man's character which calls forth the admiration and homage of his fellows. It has no pompousness, no conceit, no supercilious or patronizing airs towards the rest of humanity. It is a healthy, manly consciousness of power directed toward a definite and noble end which inspires others with respect and enables the possessor to accomplish great and difficult things.

The young man in business, more than any other, should be full of this spirit. It is at his command if he chooses to call it. —Ex.

Necessity of Truthful Financial Statements.

Trade depends upon credit; and credit upon confidence. Credit cannot exist where there is doubt. By stating facts, doubt is removed. By removing doubt, confidence is established. By establishing confidence, credit is secured.

Good credit in the markets of the world enables every merchant to add to his ability to do business. It gives him the use of enlarged capital, thus enabling him to carry a more complete stock, increase his sales, and magnify his profits.

Large assets are not always necessary to the creation of credit; what is most desirable is, that credit should be in relative proportion to the actual means, and in harmony with conditions which create and maintain. A merchant's capital is the sum of his net available resources, plus his credit. The giver of credit is a contributor of capital, and becomes, in a certain sense, a partner of the debtor, and, as such, has a perfect right to complete information of the debtor's condition at all times.

Credit is given a merchant because of the confidence reposed in him. Requesting a statement when credit is asked is not a reflection on one's character, honesty or business ability, but is done to secure information to enable business to be conducted intelligently.

When a statement is made it should be absolutely correct. To make it such necessitates the taking of at least an annual inventory and the keeping of an accurate set of books. Statement giving, therefore, will tend to make a debtor a better buyer, because more familiar with his stock, more careful in giving credit, more conservative in incurring debt, and will result in a better knowledge of his business generally.

A merchant who desires to serve his own best interests should recognize that his most valuable possession, next to his actual assets, is a sound, substantial and unquestioned reputation as a credit risk, and that under the prevailing conditions and demands of business the most effective, and eminently the best way to prove his basis for credit is to be willing and always to submit a statement of his financial condition.

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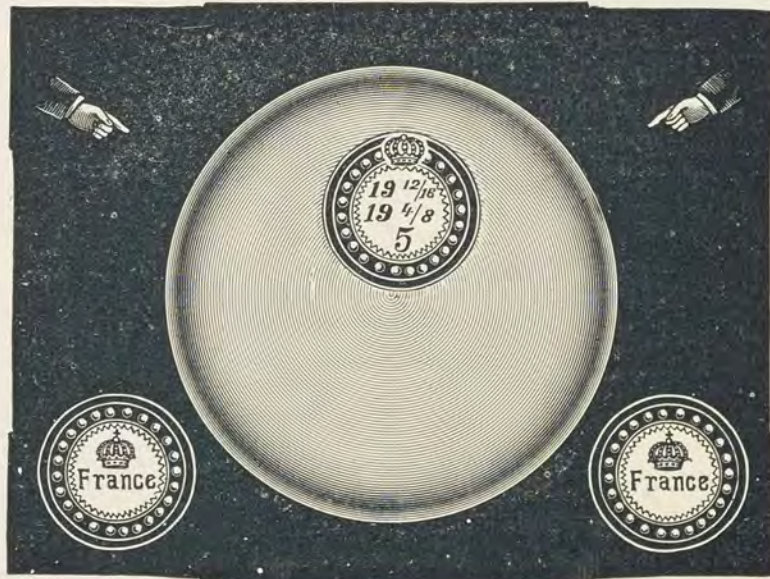


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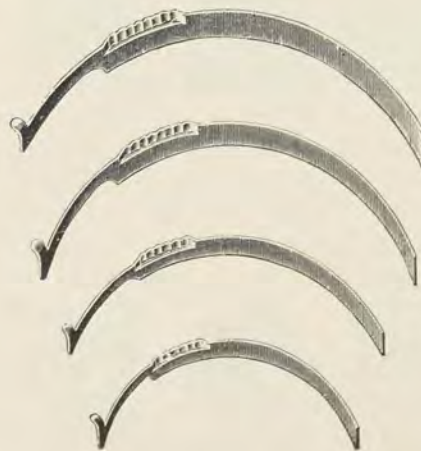
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"Grinder."—Please tell me how to grind the impulse face of a pallet stone to a lever watch.—We desire the reader to make himself conversant with our reply to "Pallet Stones," on page 576, July, 1898, KEYSTONE, before we commence to talk on the subject of pallet stones, as most of the appliances we are to use are described in this reply to a former querist. With such appliances we can, with slight modifications and a few extra tools, grind pallet stones such as we find in most foreign watches; the American lever watches have pallet stones with cylindrical impulse faces which require special devices for grinding. We will first consider replacing a "close pallet" such as we find in most Swiss and English watches which were made a few years ago. We show at Fig. 1 the entrance pallet of a pair of Swiss pallets, and at Fig. 2 a view of Fig. 1 seen in the direction of the arrow b. The slot c in the pallet arm N between the lines c' c' represents the thickness of the pallet stone. The first thing we have to do is to determine the thickness of said pallet stone, which is of course determined by the width of the slot c in the pallet arm; we ascertain this by the taper gauge which we employ for measuring the holes in hole jewels. We show the taper tongue of such a gauge at K, Fig. 1. After clearing out the slot we insert the taper tongue as far as it will go, and then with our micrometer calipers measure the tongue just where it enters the pallet arm. It is well to allow about .003" for cement space between the slot and the stone. We have now got to use the device shown at Figs. 1 and 2, at page 576, July, 1898, KEYSTONE. For the sake of ready reference we reproduce Figs. 1 and 2 of the page just mentioned at Figs. 3 and 4. The laps we employ are the same as described on page 576.

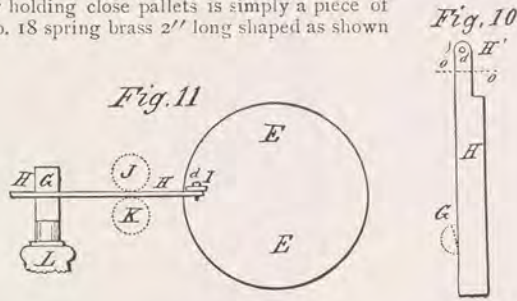
For a Swiss or English close pallet we can take a large unset cap jewel and, placing it in the recess x, Fig. 4, with the flat side down, grind the convex side flat, and the whole stone to the proper thickness to fit the slot c in the pallet arm N, Fig. 2. Usually, we can find a cap jewel large enough to make two or three Swiss pallet stones and by setting a prick punch at, say, s, Fig. 5, and striking the punch with a light hammer, when the stone will split somewhat as indicated at the dotted lines r, producing two or three pieces fit for pallet stones. We select a piece of the stone slab D of the proper size for our purpose, and try it into the slot in the pallet arm as shown at Fig. 6,

where the irregular outline r indicates the stone for a pallet. We next square one edge of the "chip," as we shall from now on term the piece of D we are making a pallet stone of, to fit the bottom of the slot in the pallet arm as indicated by the dotted line a. For holding the chip we make a boxwood tool shaped as shown at

Figs. 7 and 8. Such tool should be about 3" long and $\frac{1}{8}$ " square at the small end. The small end is split with a thin saw as shown at v v', Fig. 8. Near the end of the tool is placed a screw as shown at d, which serves to clamp the wood

jaws l' together for holding the chip r for squaring one edge. For the grinding and squaring we employ a lap shaped as shown at E, Fig. 9. For the details of constructing such laps see page 576, July, 1898, issue of THE KEYSTONE. The lap we want for this squaring is the one charged with coarse diamond dust by rolling with a hardened steel roller as described in the article just referred to. We have seen a great many devices for holding pallet stones for grinding them, many being arranged to employ an arc graduated to degrees. Now, all such finished accuracy for ordinary repair work is the most abject nonsense. We explained in our articles on "The Detached Lever Escapement" that as long as nothing was lost by drop or extra friction, the angle of a pallet stone has but little to do with results, from the fact it was much modified by the shape of the club tooth. For job shop work a very simple tool can be employed. This tool is shown separate at H, Fig. 10, and is employed in connection with the various laps shaped as shown at Fig. 9. To ensure steadiness we place in the T-rest holder a piece of large wire which serves as a guide. Such piece of large wire is shown at G, Figs. 9 and 11, where

it is tightly clasped in position. The device for holding close pallets is simply a piece of No. 18 spring brass 2" long shaped as shown



at H, Figs. 9 and 10. The widest part of H is about $\frac{1}{4}$ ", while the end to which the pallet arms are attached is about $\frac{1}{16}$ ". We show at Fig. 12 a magnified view of the small end of H, Fig. 10, as if broken off at the dotted line o. This cut shows a screw hole at d into which a screw is tapped by a tap cut in a No. 15 hole of a Swiss screw plate. This screw holds any size of Swiss or English close pallets when detached from the lever and pallet staff; the head of the screw resting on the pallet arms as shown in Fig. 12.

How Swiss Pallet Stones are Ground

The cut at Fig. 9 shows how the holder H is held between the thumb and finger at J and pressed in the direction of the arrow f against the lap E. A little study of the situation will show the reader how the pallets I can be turned (reversed) on the screw d to present either of the faces 1, 2, 3, Fig. 6, to the lap E, Fig. 9. The shape of the steel pallet arm is a guide as to the proper form for grinding the chip r, Fig. 6. In the rough grinding with the water lap we should only grind the chip r nearly down to the steel, leaving a little for smooth grinding and the operation of polishing. It is to be understood that for the operation we have in hand we require the four grades of diamond laps described on page 576. It might seem at first glance that it would require considerable time to change laps and adjust the holder H for the different faces. Such adjusting can be facilitated by filing the wire G half (or more) away as shown at Fig. 13, by this course we can, by turning G in the T-rest holder, adjust the end of H back and forth in the direction of the arrow p, Fig. 13, with the greatest nicety. We might say that Fig. 13 shows the wire G seen in the direction of the arrow e, Fig. 9. The policy of the ambitious workman should be to provide such a set of laps as we described on page 576, July, 1898, KEYSTONE, and then make the simple little tool shown at H, Fig. 10, and practice with it until he can put in a new Swiss pallet stone in twenty minutes—the job has been done in half this time. The thin edge of the lap E at u enables us to get at the inner face of the exit pallet with perfect ease.

Grinding American Pallet Stones

We now come to making and altering the angle of American pallet stones. We gave on page 576 the process of making American pallet stones except the impulse angle. Before we go into the details of grinding let us understand exactly what we have to accomplish. At Figs. 14 and 15 we show a flat and side view of an American pallet stone. Now the only puzzle about grinding the impulse face of such a pallet is to form the curved surface n. It is well to know that there is no especial curve or radius to which such curvature has to be ground. The principle involved in the American lever pallets is illustrated at Fig. 16, where P represents the pallet stone and W the impulse face of the tooth. The idea of the action is, the rounded face of the pallet stone through or by the end shake of the wheel arbor and pallet staff confines the action of the pallet on the wheel teeth between the dotted lines m. It is also held, theoretically, that a curved surface can only touch a flat surface at one point. Now, like all fine spun theories when put to practical test, the unexpected is certain to happen, the pallet stones wear to a narrow, flat surface which coincides to the impulse face of the tooth, and, instead of the theoretical point of contact, we have a narrow belt of flat surface, and the pallet action, which at the outset run so easily without oil, now requires oiling. Another feature about jewels and jewelings which demands attention is consideration of the structural character of all watch jewels which are made of crystals. Glass, if only hard enough, would make the ideal jewel, because the structure is homogeneous throughout and has no lines of cleavage. This will be understood by inspecting Fig. 17, where we show a transverse section of a six-sided crystal, the parallel lines at k showing how such crystals are built up of layers. If now we get out a jewel the laminations or flakes of which the crystal is made up are arranged as shown at the parallel lines l, Fig. 18, the jewel in polishing will "drag," as the jewel makers say, if the wear or action of the operation of polishing is conducted in the direction of the arrow l. In the highest grades of watches this distinction is looked

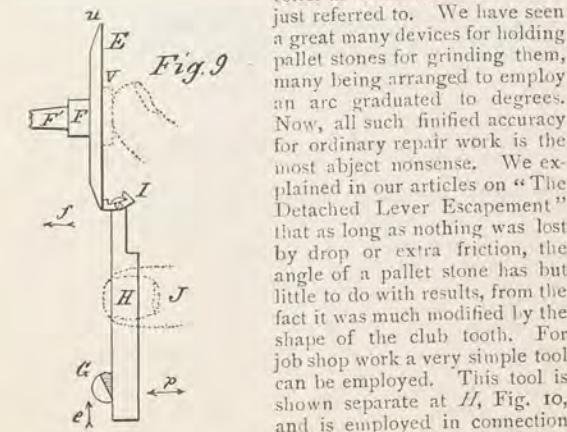
to, and jewels are cut from crystals in the proper relation to the lines or planes of cleavage. For holding a pallet stone of the American type we make a holder of a piece of hard sheet brass somewhat like the one shown at H except of a little thicker metal, say No. 16 American wire gauge. On each side of the piece M is placed a chuck piece as shown at M' M'', Figs. 19 and 20; Fig. 20 being a side view of Fig. 19 seen in the direction of the arrow g. Between the chuck pieces M' M'' is placed a small brass disk shown at V, in the edges of which are cut

several notches of different widths to receive pallet stones of different thicknesses as shown at q q. It will be evident on inspection that we can readily grind the angle of a pallet stone set in the slot q to any angle we desire. The back end of M is rested against the wire G in the T-rest holder as illustrated at Fig. 9, and also at G, Fig. 19. Where the workman is making up a lot of pallet stones for stock, it is well to fill the six slots with stones, and in that case the side edges of all the stones can be ground and polished at one time by holding the disk V (removed from M) against the laps E with the tip of the finger as shown in dotted outline at V, Fig. 9. We show a side view of the disk V at Fig. 21. When only one pallet stone is to have its edges polished two flat headed screws are provided as shown at 1, 2, Fig. 21. These screws enable us to adjust the disk to lie in the same plane as the edge of the pallet stone. When the one edge of the pallet stone is ground and polished we attend to the opposite side, changing the screws 1, 2, so as to level the opposite side of the disk V and properly grind the other edge of the pallet stone. With the simple devices we have described, and a reasonable amount of practice, any ingenious workman can change the angle of a pallet stone or grind new stones as perfectly as can be desired. The rounded edge at n, Fig. 14, can be produced by simply rocking the piece M with the finger and thumb as the pallet stone rests on the lap during the operation of grinding.

"Refiner."—I refined some gold, following the instructions given in the "Goldsmiths' Hand-Book," for refining metal. I have chemically pure nitric acid and pure water. After the silver, copper, etc., has dissolved, and pouring water on to wash the gold, the water turns very black and will not settle, and seems to dissolve the gold. Will you please tell me what is the trouble? I do not know if I applied too much heat or what. I never had any trouble before.—There must be something wrong about your nitric acid; because one buys what is called chemically pure nitric acid it is no assurance that it is such. Nitric acid, if strictly pure, will, under no conditions, hot or cold, attack gold. The best place to procure strictly pure chemicals is some large concern which make a specialty of such matters.

"Electric Engraver."—I wish to use a 110 volt circuit on a direct current light line, to work my engraving machine. I require about the power which would be evolved from three or four cells of a bichromate plunger battery. I must wind a new coil, and how shall I do it to not get more current than I need?—Probably your very best way would be to wind a new coil of fine wire, say No. 25 A. W. G. This wire runs about thirty feet to the ohm resistance, and will carry about one-half an ampere current. Now, according to electrical arithmetic, we would require sixty feet of such wire to reduce a current of one volt pressure to one ampere current, and if we make a statement in proportion, thus 1 : 60 :: 110 : to the length of wire required to cut the 110 volt circuit down to one-half an ampere current. Probably such a coil would be too large for convenience, as the wire alone would weigh over six pounds. By putting resistance in the circuit you can use the coil you now have. For such resistance, probably your best plan would be to use about No. 16 iron wire, employing about 600 feet of such wire to start with. Such wire should be mounted on a resistance board so the coils do not touch. A cheap form of such board is made by taking a piece of soft wood board 5" long, 12" wide and $\frac{1}{2}$ " thick, in the ends of the board saw notches $\frac{1}{16}$ " apart, that is, there will be six strands of wire to the inch. We show such a board at E, Fig. 5,

with the notches at n n'. In winding on the wire, the coils should be drawn tight, and to prevent accidental contact, large-sized wood shoe pegs should be driven between the courses of wire, as shown at h, the wire coils being represented by the dotted lines m m. Such a resistance board is not exactly safe, and no current should be allowed to pass through the wire except when some one is in attendance, as the wires might accidentally touch and a short circuit be established, and set the board on fire. We only show a few notches in the board at n n', as the scale of the drawing would not permit us to show the proper number (70). Such a coil would probably offer too much resistance, but you can cut from the length you require to give you the necessary current to work your machine.



shown at Fig. 9. To ensure steadiness we place in the T-rest holder a piece of large wire which serves as a guide. Such piece of large wire is shown at G, Figs. 9 and 11, where

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"Watch Plates."—Can you tell me what brass watch plates are worth by the pound? We have an accumulation of this kind and would like to know what to do with them. —They are worth no more than any other old brass, except the gilding which may be on them and the jewels which are in the plates or cocks. Such jewels can be removed at the same time the gilding is taken off. To remove the gilding and jewels, place the old watch plates in chemically pure nitric acid reduced one-half with water. The action of the acid causes the gold of the gilding to flake off, and such gold will be found settled as a brown powder in the bottom of the vessel in which the acid is placed. The acid also dissolves the brass so the jewels will fall out. It is easy to see when the gold has all fallen off and nothing but brass remains. Take out the watch plates at this time and rinse. They can now be sold for old brass at five or six cents per pound.

"Sand Blast."—Will you kindly tell me how to construct a machine for sand blasting? I have swing brushes for the lathe and know how to use them, but I would like to have an apparatus for doing sand blast.—We gave description for a sand blast machine on page 452, May, 1893, KEYSTONE, but would beg to say here that the troublesome part of sand blasting is to provide the air blast, which should represent a pressure of at least four or five pounds to the square inch. If you have an air blast of such force, the rest of a sand blast machine is very simple. To give a brief description of such a machine, say you have a nozzle $\frac{1}{4}$ " diameter, from which air is escaping under a pressure of five pounds to the inch, all you have to do is to arrange to let a small stream of sharp sand escape into the nozzle so the sand is driven forcibly against the article to be frosted. The next essential is to enclose the nozzle in a box to prevent the sand from flying about the room, and a hole in one side of such box into which you can introduce your hand holding the work. The hand hole should be covered with a curtain which falls around the wrist and arm to prevent the sand from flying about. The hand needs protection from the sand—an old cotton glove will do this. The sand as it falls dead from the sanding box is collected in a bucket and poured into the hopper which supplies the stream of sand which enters the nozzle of the air blast. A sand-blasting apparatus to do satisfactory work requires at least about one-horse power to run it.

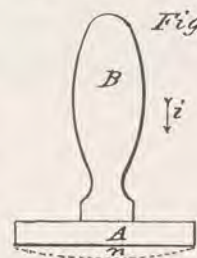
"Nickel Movements."—(1) I wish to know the details of the nickel-plating process to which so-called nickel movements are subjected after the damaskeening is done? —We have often heard it claimed that nickel movements were subjected to a nickel-plating process after damaskeening, but we have always doubted that such was the case. It is not an easy matter to get at the details of secret processes of manufacture under ordinary circumstances, but for KEYSTONE people, who make public all they find out, it is easy to see manufacturers would be doubly reticent. We have never had any satisfactory evidence offered to establish such claim, and all the evidence of our senses tends to disprove it. The so-called process of damaskeening consists in cutting innumerable fine lines in the surface of the metal with some clean-cutting abrasive material like diamond-dust or sapphire crushed to powder, and the merest film of plating would obscure the brilliancy of such lines and detract from the finish. A second argument against the plating claim is, where we find a spot or stain on the damaskeened surface the stain is the same as we find on the finer grades of German silver; a further argument against the claim of nickel-plating will be found in our reply to your next question.

(2) How is the gilding done in the lettering on American movements, and how is it protected from the nickel-plating? If the description is too long for your "Workshop Notes" department, please refer me to some book on the subject.—By conceiving the gilding to be done before the damaskeening, and the damaskeening not nickel-plated, the explanation is simple enough. That is, suppose the nickel watch-plate is gilded on the side to be damaskeened, and then subjected to the damaskeening process. Now the gilding is in the engraved lines, where the damaskeening tool does not touch it. We know of no book on the subject.

(3) There has been a discussion between A, B, C and D as regards who is entitled to the term or name of watchmaker. A claiming that the man who makes a living repairing watches is a watchmaker, although he could not make a single piece of a watch. B says nay, and claims that the man who made one watch at the school from which he graduated, although he never made another or had the tools for doing so, should be entitled to the name. C differs from B, claiming that a man who has made several good watch movements at his bench, doing the entire work himself except to make the hairspring and some of the jewels, is only entitled to the name. D lays his claims still higher, insisting that the workman who claims the name of watchmaker must make the entire movement from the raw material, and do this as his chief business. Now it has been left to you to decide as to which is right. As a rule we shirk the office of umpire on all occasions as it is an unthankful position to fill, and decisions must be satisfying although not convincing. We hold that the general term watchmaker applies to the man who repairs

watches and conveys no idea of his craft skill. The disputants can see for themselves the difficulties which ensue as soon as we attempt to define and limit the skill combined in a person who can be admitted as a watchmaker. Early in the production of watches the trade (of watchmaking) soon saw the advisability of sub-division of labor, and in the time when watches were, as the phrase goes, hand-made, there were a dozen sub-divisions of special skilled workmen. The term, or name, watchmaker as applied to craftsmen we think can be more correctly applied to men who work in jewelry stores at the repairing of watches. A man who has made a dozen or a hundred lever watches cannot, in a restricted sense, be called a watchmaker, because he has never made a duplex or cylinder watch.

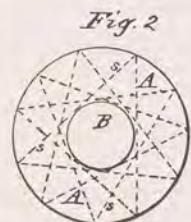
"Hoosier."—Please inform me how lithographic inking rollers are made, or where they can be bought?—Lithograph rollers are usually made of leather, as the ink employed is so tenacious as to tear the ordinary composition rollers of the type printer. There is no art which requires more experience in the technical details than lithography, or a somewhat similar art, rolling up for zinc etchings. We doubt if any verbal or printed instructions could be given which would enable the workman to master either art. Lithographic rollers can be had of A. Sellers, 59 Beekman Street, New York. For small surfaces and experimental work an inking cushion can be substituted for a roller. To make such an inking cushion provide a flat disk of wood about 2" or $2\frac{1}{2}$ " diameter, and fit a wood handle to it as shown at Fig. 1, where A represents the wood disk and B the handle. To cover the face of the disk A with leather, procure a good round piece of French calf skin a trifle larger than the disk A, and, after placing two or three thicknesses of soft broadcloth between the leather and the wood, proceed to pad out the broadcloth and leather with cotton wool to the dotted line *n*, and then draw



the leather tight by sewing across the back, letting the threads form a lacing as shown at *s*, Fig. 2; said figure being a view of Fig. 1 seen in the direction of the arrow *i*. Such a cushion is a little slow, but still the most perfect inking device ever used for surface printing.

[Our correspondent contributes a good suggestion for the benefit of those who wear spectacles, and also have to use their eye-glass.—Ed.]

"I take a coquille frame that the eye-glass will fit in and cut one eye rim off, leaving the nose-piece and the rim on the side I use my glass. I use a stiff half-riding temple and bend it down so it will fit close to the ear. This device holds the glass in position, and can be put on or taken off with one hand.



"Gold-Plating."—(1) Please give me formula for making a gold-plating solution; also for a silver-plating solution.—To make a gold-plating solution take four 15-grain bottles of chloride of gold and dissolve their contents in a pint of distilled water. Next dissolve two ounces of pure cyanide of potassium in a half pint of distilled water. Pour slowly of the cyanide solution into the solution of chloride of gold, stirring constantly. At first the addition of the cyanide solution causes a precipitate to form which, by the addition of more of the cyanide solution, will redissolve. The point to watch for is, to stop adding of the cyanide solution as soon as all the precipitate (cyanide of gold) is redissolved. Add distilled water to make one quart. If you cannot readily procure distilled water, use water from melted ice. This plating solution will deposit pure gold, or Roman gold as many say. If you desire red or jewelers' gold, add cyanide of copper until you get the desired color. For a battery use a Bunsen quart cell with porous cup in the center. This is not the very best gold-plating solution, but good enough for all ordinary plating jobs. In our "Hand-Book of Letter and Ornamental Engraving," by Cellini, Jr., is a detailed formula for preparing a gold solution of the highest quality, and also of making chloride of gold. Price, fifty cents; can be had at this office. To prepare a silver solution, dissolve scrap silver in chemically pure nitric acid diluted one-half with water. In cool weather stimulate chemical action by heating the vessel in which the acid is placed; said vessel should be either of glass or porcelain. After the scrap silver is all dissolved, add a quart of water for every ounce of silver dissolved, and into this pour a strong solution of common salt as long as it produces any white precipitate. This white, curdy precipitate is chloride of silver; allow it to settle, and then pour off the supernatant fluid. Pour on fresh, pure water, let settle, pour off again, repeating this operation three or four times to wash the precipitated silver chloride. The above operations had better be performed in an obscure light, as the chloride of silver is affected by light. Prepare as before a strong solution of cyanide of potassium by dissolving four ounces of this salt in three pints of water. For every gallon of silver solution made, take the chloride of two ounces of silver scrap and add enough of the strong cyanide solution above-named to dissolve it; then add water from melted ice to make one gallon. Use the same battery as named before.

(2) Please give instructions for nickel-plating?—The solution usually employed for nickel-plating is one made by

dissolving double sulphate of nickel and ammonia in water, employing from eight to twelve ounces of this salt for a gallon of water, boiling the solution for an hour, and then allowing it to cool and stand for twenty-four hours before using. You will require a much stronger electrical current than for gold or silver-plating—about three cells of the kind of battery named above will be about right. Nickel-plating is more difficult to manage than almost any electro-deposition, and requires much more experience to ensure success. A few general suggestions will greatly aid the novice. Current enough should be employed to give off gas at the cathode, and much of the secret of nickel-plating depends on getting as much nickel deposited, and as little hydrogen gas given off as possible. The solution is apt to become acid, at which time we get a flaky deposit. To correct this add ammonia—not too much, but just enough to keep the solution slightly alkaline. This can be determined by means of litmus paper, which comes of a blue color, and when the nickel solution gets to an acid state on dipping a strip of such litmus paper in the solution it turns red; add ammonia enough to cause the nickel solution to turn the reddened litmus paper back to blue. A nickel-plating solution should have about the specific gravity of 1.06 at 60° F. Always use an anode surface greater than the cathode. For small work never use an anode of less than six superficial surface inches. Cast nickel anodes are both cheaper and better than rolled ones. At least six volts should be employed to "strike," that is, to start the deposit of nickel, but after a coating is once started the voltage can run down to two volts. You cannot take out the work and replace it, the entire deposit must be at one operation.

"Transfer."—(1) In engraving, say, a spoon-handle, how can I make a transfer from the first spoon so as to have the rest of the set or dozen like the first spoon? There are many plans for transferring for duplication, and also a great number of formulas for making transfer composition; a mixture formed by melting together white wax and olive oil. The proportions of the ingredients will vary somewhat as regards the temperature of the season; that is, the composition for winter use will require more olive oil than what is to be used in summer. Generally four parts of white wax will require one part of olive oil. The ingredients are well stirred while hot. Some workmen say a few drops of Canada balsam, say ten drops of balsam to an ounce of the mixture, improves the working qualities. For our own part we employ the simple mixture of white wax and olive oil in about the proportions named above. Some considerable skill is required in using any composition. One man would make a perfect success while another would meet a failure. About the best method of using is to apply the wax paste with the end of the finger, rubbing so as to fill the engraved lines and leave a smear over the entire surface. Do not try to clean the surface of the spoon handle perfectly. The main thing is to fill the deep lines even full of the composition. The next operation is to lay a strip of rather heavy paper over the handle of the spoon and rub the paper with a burnish to press the paper firmly down on the surface of the spoon handle. The burnish should be so applied as to mark the edge of the spoon handle on the paper in order that we can cut the paper to the same form as the spoon handle. The paper, after cutting to form, is laid on a second spoon and, after adjusting to the proper position and relation, is held firm with the fingers of the left hand, while the forefinger of the right hand is drawn very lightly over the slip of paper. If the process is a success, a perfect transfer will be found on the spoon handle, and in exactly the right place. One paper transfer should mark five spoon handles distinct enough to follow with the graver.

(2) What is the best method when engraving coffin-plates to keep the polished surface from getting scratched? —Coat the surface of the plate with gamboge. Here is needed some explanation: Gamboge is a gum resin which is produced in the East Indies. The best specimens of this substance come in round cylinders, varying from $\frac{3}{4}$ " to $1\frac{1}{4}$ " diameter. For engraver's use, procure a cylindrical piece as above, of as large a section as possible; wet the end of the finger with saliva or water, and rub up with the finger a paste of gamboge, which is of a beautiful yellow color. Apply this thin, yellow paste by patting the surface of the plate with the end of the finger until an even surface of gamboge is produced. This surface will be a little rough, but can be drawn on with a lead-pencil in designing, and if any error is made, wet the finger and pat up the surface again. The gamboge surface in no way affects the process of engraving, which is conducted precisely as if no gamboge was on it. After the engraving is done, wash off the gamboge with pure water. The chief skill required in using gamboge is to get an even coating, and in no case rub the surface of the plate in applying it, as such rubbing would show on the highly polished surface. If you cannot procure gamboge in sticks or rolls, you can mix the ground (pulverized) gamboge with water to thoroughly incorporate the gum into a paste with water. Let this paste dry in a very small teacup, and after the gamboge is dried into a lump it can be used as above described.

(3) I am working to get up a cabinet of engraved plates of different styles of engraving, which I intend to use for advertising purposes. These plates are of Britannia metal, and I would like to know if it would not be a good scheme to give them a coating of silver and then lacquer them?—You can not silver-plate such goods and maintain the polish, but you can apply a celluloid lacquer which is absolutely invisible, and by this means maintain the high polish.

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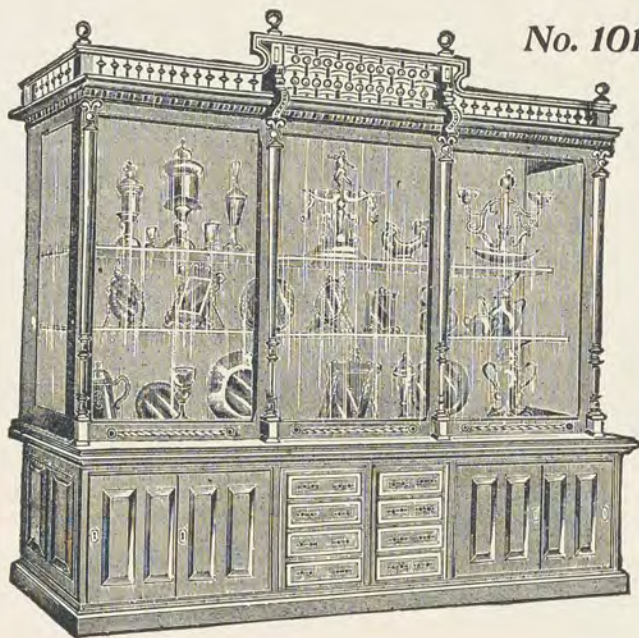
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New Orleans, La., May 14th, 1898.

Having just concluded an auction sale which has been phenomenally successful, I feel it my duty to state the result for the mutual benefit of the gentlemen who made it and the trade. To me it is a task of pleasure to write this letter of recommendation for Messrs. BRIGGS & DODD, who so ably did the work. When first contemplating making the sale I looked carefully over the list of the few great public salesmen, listening to what their friends in Chicago and New York had to say in their behalf, visiting those cities for that purpose. Much depended on the result to me, my stock inventorying over \$300,000. After mature deliberation, I concluded to employ the above gentlemen, and now have substantial reasons for being pleased with my choice. Friends endeavored to persuade me against having a sale; a local auctioneer of good reputation in another line said he would wager any amount that it would be a failure, giving as his reasons that the city had not recovered from the yellow fever epidemic, general depressed condition of business, the great war scare, etc. Under these discouraging conditions the sale opened. The result was the greatest auction of an exclusive jewelry stock ever held in America; it lasted nine weeks; prices obtained beyond my most sanguine expectations. The marvelous skill and ability displayed on the part of Messrs. BRIGGS & DODD, in handling the sale, I have not the use of language to paint a word picture which would in a measure show the resources of these matchless salesmen; each in his own inimitable way pursuing different original methods with the same result. Never in the history of auctioneering jewelry has there been so much talent offered the trade. Finding myself under such great obligations to these gentlemen, will with pleasure answer any letter of inquiry.

Very respectfully,

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Notice.—We have no connection with other auctioneers, and any one using our names to procure sales will be prosecuted.

We are now arranging dates for the season '98-'99. Correspondence Solicited.

Workshop Notes.

Subscribers wishing inquiries answered in this department must send name and address—not for publication, but as an evidence of good faith. No attention will be paid to anonymous communications. Questions will be answered in the order in which they are received.

"Gilder."—Will you inform me in "Workshop Notes" how to gild or gold plate?—See our reply to "Gold-Plating," September, 1898, KEYSTONE.

"Stock."—How can silver thimbles which have become shopworn and discolored be restored to look like new? The problem is how to get down into the indentations.—You certainly stated the gist of the problem. We never found a better plan than to dip in a cyanide solution formed by dissolving half an ounce of cyanide of potassium in a pint of water and dipping the thimbles in to remove any stain, after which rinse well with water and dry hand brush with precipitated chalk. The back and forth action of a hand brush doing better work than a rotary brush in a lathe.

"Charcoal."—How to make willow charcoal in a small way?—Willow charcoal is usually made by heating this wood in cast-iron cylinders to a full red heat. For a very small operation of this kind an old iron tea kettle could be employed, fastening down the lid and plastering up the crack around it with whitening made into a thick paste with water. The snout should also be closed with powdered brick and whitening. The kettle should be brought to a full dull red heat and maintained at that as long as any gas escapes, which can be told by the jets of flame around all the crevices. As soon as the wood is charred, cover the kettle with hot ashes and allow it to cool off.

"Pivots."—(1) I am an old style French watchmaker, and do pivoting and other turning in the old style way, but I have an apprentice who would like to learn according to more modern methods.—We think your best plan will be to procure a copy of our little book "Pivots and Pivoting," by the Lightning Pivoter, price fifty cents. In this book will be found thoroughly practical instructions for making staffs and pivoting.

(2) I have a customer who uses 10" focus periscopic lenses for ordinary use, but he wants something which will also magnify. I tried him with another number but it did not suit.—You can not combine such power in one lens except you could give it an infant's accommodation, which ranges from 3" to infinitude. We have seen an extra short focus lens set to swing in front of the ordinary spectacle lens when the supplementary lens is to be used as a magnifier.

"Pallet Stone Setting."—Please give me some points on setting pallet stones? I have a Keystone article on the subject in August, 1892, and an escapement matching device I made according to Keystone instructions, but I would like some additional information on the subject to expedite the process.—We know of no one branch of horological art that remains so much at loose ends as the setting of pallet stones. Our expert has had this matter in hand for several years, and devoted much leisure hours thought to the subject, but, as yet, has accomplished nothing entirely satisfactory. He has devised a pallet stone setter which will set a single stone or a pair "just as they come from the factory," but all skillful workmen know that almost every lever escapement requires some slight modification to adapt it properly to the individual escapement. We shall give this matter attention in one of our technical articles in the near future, giving a full description of our expert's device for this purpose, which is entirely satisfactory, except it requires so much labor to make that it would necessarily be expensive.

"Local Time."—A correspondent inquires how to get at correct local sun time where the exact longitude of the place is not known?—[In our explanation we will not give the longitude he gives, as we strictly preserve, in every instance, the incognito of our correspondents. He says, the longitude of the nearest town east of us is 71° west of Greenwich, said town being ten miles east.—ED.] To convert degrees of longitude into time we divide by fifteen. Suppose we desire to know the difference in time between London (Greenwich) and New York. We find the longitude of New York to be 74° 00 m. 03 s. Now we divide the degrees by 15 to get the hours: The reason for dividing by 15 is, that if we divide 360, the entire circuit of the earth, by 24, the number of hours in a day, we get the number of degrees the earth turns through in 1 hour. On dividing 74 by 15 we find it goes 4 times and 14 remainder. Now this 4 represents the full hours; the remainder 14 we multiply by 60 (the number of minutes in an hour), and divide again by 15, and get 56 minutes and no remainder. There are still 3" of a degree to change into time, which, as we cannot divide by 15 we can let stand at $\frac{3}{15}$ of a second of time, or add a cypher and divide by 15, making the time statement read 4 h. 56 m. 00.2 s. To arrive at the degree value of miles involves the use of higher mathematics, because the linear extent of a degree of longitude diminishes as we pass from the equator toward the poles—on the 40th parallel of latitude a degree can be assumed to approximate to 60 English miles, and the ten miles you speak of as 20 minutes of a degree.

"Pivot."—Kindly give me a hint or two to get me out of my trouble. I find it extremely difficult to make a perfect balance pivot, one which will not grind or rattle noticeably, especially the top pivot. I use a pivot polisher and other up-to-date methods, and to the eye, employing a strong glass, apparently the pivots are round and of the proper shape, but, to my disgust, comes the rub or rattle. I often detect the same in new watches of good make.—We think workmen are too prone to attribute rattle and scraping noises to the pivots. A good test of this matter is to remove the hairspring and roller and place the balance in the movement, then with a blowpipe give the balance a rapid rotary motion. Set the movement in a movement box and hold it to the ear, tipping the movement in all directions to test it. Blow the balance to run in the opposite direction and listen to it again. With such tests we have the balance running at a high speed—in fact, at all kinds of speed until it stops. We can also test for smooth running by removing the roller and leaving the hairspring on, giving the balance a good vibratory motion by shaking. If we hear no grinding or scraping with these tests we can feel pretty sure the trouble is not in the pivots or the jewels. If the pivots are perfectly smooth, and we hear a grinding in the tests just named, we can feel pretty sure the trouble is in the jewels, which should be carefully polished. If no grinding noise obtains except when the escapement is in action we should attribute the noise to escapement action, and persist until we found the trouble and remedied it.

"Gold Chains."—How to clean woven gold chains, Roman colored; also how to restore silver filigree work to look like new?—Roman color on gold goods is produced by one of two processes. (a) Coloring by acid process. (b) Electro-gilding by fine gold solution. The process of acid coloring for gold articles below sixteen and above twelve karats is conducted as follows: Take saltpeter 14

Acid Coloring Process

parts, common salt 7 parts, muriatic acid 5 parts. The above salts are carefully pulverized in a porcelain mortar and then thoroughly mixed. If the proportions above given are made in ounces, we will require a black lead color pot 6" deep and 6" across the top. The mixed ingredients, that is, the saltpeter and the common salt, are placed in this color pot, set over a fire and carefully dried, stirring with a wooden paddle until the pulverized salts are well dried and hot. The pot is now ready for the muriatic acid, on the addition of which the ingredients will boil up and the color pot is ready for use. The articles to be colored are strung on fine silver wire and hung in the pot for three minutes, keeping them slowly moving up and down. On removal from the color pot, plunge the articles in boiling water and rinse well; then into a second vessel of boiling water, again rinsing. Add to the color pot two ounces of boiling water, and when it boils up immerse the articles again for one minute and again rinse in two successive vessels of boiling water. Dry in hot boxwood sawdust. Simple as the process reads, it requires a great deal of practice to color gold goods successfully. The greatest care must be observed to preserve the most scrupulous cleanliness from grease and the contamination of any iron or salt of iron. There is another feature about acid coloring, which is, the acid salts which dissolve out the alloy of the gold rots the articles until they are quite frail, and a second operation of acid coloring would cause them to fall to pieces in the color pot. For this reason Roman gold goods are seldom recolored by the acid process, but are gilded with a fine gold solution, employing an electric current to deposit the gold. To gild and get a good Roman color requires a considerable experience. For making a gold solution for such purposes see our reply to "Gold-Plater" in another column. For restoring silver filigree work heat the articles to a faint red heat, that is, so you can barely see they are a dull red, and then allow them to cool, after which place them in a glass or porcelain dish containing a mixture of sulphuric acid and water in the proportions of 5 parts of acid to 100 parts of water. In mixing sulphuric acid and water always add the acid to the water, pouring as fine a stream as possible, and stirring constantly. The annealed piece of filigree work is placed in the dilute acid pickle and allowed to stand for several hours, and if not sufficiently whitened repeat the annealing and pickling.

"Compass."—I would like to know how to make a compass needle to point north and south. Also how to restore the needle when it gets weak?—A piece of old clock mainspring will make a good needle. Anneal the piece and file it into shape after having drilled a hole in the center for the support. This support is usually a brass bush drilled deep from the lower side so that when the compass needle is set on the center pin it will hang free and balance on the center pin, which is a pointed piece of steel like a sewing needle. The best compass needles are jeweled, that is, at the center is placed an agate with a hollow conical depression in it which rests on the pivot or center pin of the compass. A practical watchmaker can readily substitute a balance hole jewel for the hollow-coned agate. Suppose, in illustration, we wish to make a compass needle 4" long, we take a piece of clock spring as above directed, and drill a hole in it $\frac{3}{8}$ " diameter; in this we fit a brass bush $\frac{1}{4}$ " long, said bush to have a collar so that we can pass it up through the hole in the clock spring and let the collar rest on the lower side of the finished compass needle. This bush is bored out and in the top of the bush we set the hole and cap jewel of an ordinary eighteen size American movement. The center pivot on which the needle turns has a point turned on it somewhat like a thin stumpy pivot, but we should be sure such pivot touches the cap jewel. The needle is now shaped to a bar about $\frac{1}{16}$ " wide, with one end

pointed for indicating north. The needle is now hardened and tempered to a blue. To charge the needle take one of those little toy magnets, such as can be bought for ten or fifteen cents at any toy shop, and rub the ends of the needle on the poles of the toy magnet—the end of the needle to point to the north is rubbed on the south pole of the magnet. If you poised the needle before magnetizing it, you will find the north end to droop; to bring it level wind a few coils of fine wire around the south end to make it balance. Be sure the cap jewel rests on the center pin, and that the needle hangs free. Such a needle will be found to be much more sensitive than any cheap compass one can buy from the fact that we have jeweled the center action. Many people in making a needle of this kind fail because they fail to set the jewels high enough: the lower face of the cap jewel should be at least $\frac{1}{8}$ " above the upper surface of the needle. We can make a familiar comparison to illustrate the center lynch—make it like a small brass high hat, the hole in the needle resting on the rim and the jewels, hole and cap set in the center of the crown. In boring out the brass bush, shape the hole so as to guide the center pin to the jewel, and yet free to turn and rock.

"Oiling Watches."—Please give us some hints on cleaning and oiling watches and clocks. They seem to run better without any oil than with it.—Before we commence to clean either a watch or clock we should carefully examine it to see if any repairs are needed, and if so such repairs should be done prior to the operation of cleaning. As for the method of cleaning, this is best performed by simply washing the parts with warm water to which a very little spirit of ammonia is added. The washing is performed with a watch brush, rubbing the brush on a piece of Castile soap occasionally to take off some of the soap to form a suds with the water. After washing, the parts are rinsed in pure water and dried in hot boxwood sawdust. Common Yankee clocks are seldom taken apart for cleaning, especially those which run thirty hours. Usually, oiling copiously and then removing the verge and letting the clock run down will cause the old, dirty black oil to come out around the pivots when it can be wiped off, then add a little fresh oil and the clock is good for another two years. If the pivot holes need closing the clock must then come apart. There is one kind of disciplining for apprentices which is, in most cases, sadly neglected, and this is to learn them how to take all kinds of striking clocks apart and put them together again, and have them strike right and give the proper warning. We desire all apprentices who read these remarks to master this part of their business, and we mean master it in the full sense of the term. To make the matter more plain we will state it over again: Learn to take apart and put together all kinds of striking clocks and to do it quickly; also master the principles involved in the striking train. It will take a little time and study—and what do we learn that does not—but in after years you will confess you never devoted time to better advantage. Not infrequently the coils of eight-day clock mainsprings will adhere together from gummy oil and cause the clock to stop; in such cases the spring must come out and be wiped clean. Rub the spring with a rag saturated with vaseline instead of oiling it.

"Blue Coat."—I saw a man boiling something on the stove in a porcelain dish, and a little while after he showed me a fine looking-glass he had made. How did he do it?—There are many processes by which pure silver can be deposited on glass from a solution. We know of none in which boiling would be essential to success, and are quite sure that the effect of ebullition would be detrimental at the time the silver was being deposited. The following process will be found to give satisfactory results: Dissolve 14 grains of silver nitrate crystals in 1 ounce of distilled water, then strong spirits of ammonia drop by drop. A brown-black precipitate will form, but as the ammonia is added this precipitate will be redissolved. Stop adding ammonia just before all the brown precipitate is dissolved. Add twelve ounces of distilled water and filter three times; for such filtering place a lock of absorbent cotton in the neck of the filter, packing the cotton moderately tight—exactly how tight is only to be learned by experience. Prepare a second solution as follows: Dissolve 3/4 of a drachm of silver nitrate crystals in twelve ounces of distilled water. Next take 1/2 ounce of water in a glass vessel and dissolve in it 15 grains of pure white caustic potash and add to the solution just made. Next add to the solution we are making 210 grains of Rochelle salts. This solution should be filtered until perfectly clear. Mix 2 parts of No. 1 solution with 1 part of No. 2. Place the glass to be silvered so it sets perfectly level, and then pour on of the solution as much as will stand on the surface. The glass to be silvered should rest on a plate of metal heated up to about 100° F., and be absolutely (chemically) clean. A minute or two serves to perform the operation. A glass so silvered should be rinsed in pure water and allowed to lay for forty-eight hours before it is handled. There is a valuable property about such mirrors not possessed by those coated with quicksilver, which is, the silver can be polished on its outer surface. In illustration, suppose we desire a small concave mirror, we take a periscopic spectacle lens the inner surface of which is ground to the proper curvature; we coat this surface with silver by the above process, and after it has stood for forty-eight hours to toughen the silver film, we polish the silver surface with a piece of soft, clean chamois skin and rouge, and the surface of the silver becomes a concave mirror of perfect form and brilliancy.

"Inclosed is one dollar for The Keystone. It is a welcome visitor, and is worth twice the subscription price."—C. C. Thurston, jeweler, Montgomery, Minn.

Workshop Notes.

Subscribers wishing inquiries answered in this department must send name and address—not for publication, but as an evidence of good faith. No attention will be paid to anonymous communications. Questions will be answered in the order in which they are received.

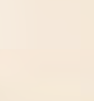
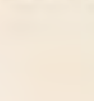
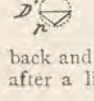
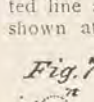
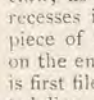
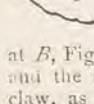
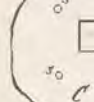
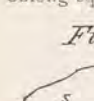
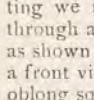
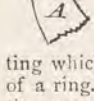
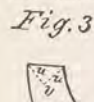
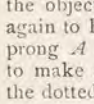
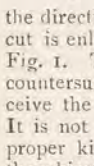
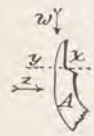
"Sour Milk."—A correspondent writes us that this substance will remove stain from silver and leave a nice polish. He inquires if such sour milk will injure the silver. Not in the least, as the lactic acid of the sour milk only acts on oxidized silver.

"Slide Rest."—(1) I have a Moseley slide rest and desire to know how to use it. In turning a balance staff would you use square or taper cutters first, or what shape?—The slide rest is not intended for such work as staff making. The slide rest and universal face plate were added to the American lathe to take the place of what the English workmen called the "mandril," and was known in the country as the "universal lathe." Such lathes combined a universal head and slide rest, and were used for setting jewels, cutting wheels, sinks and freeing. The American slide rest is adapted for jewelers, turning tapers, freeing, and do a great variety of work, in fact, we could cover every page of this number of THE KEYSTONE with instructions for doing different kinds of jobs with the slide rest; some of the jobs would also require the assistance of the universal face plate, while other jobs could be done in connection with wire chucks, and also work supported between two centers. For turning staffs, we refer our readers to a little work on "Pivots and Pivoting," published by THE KEYSTONE, and for sale at this office, price fifty cents. It would be possible to turn a staff by tools placed in the slide rest, but a skillful lathe workman, who is up-to-date in latest tools and methods, would turn four staffs by hand processes in less time than the same work could be done with the slide rest.

(2) What do the figures represent on the swivels of a slide rest?—These figures designate degrees, and are used for turning or boring tapers.

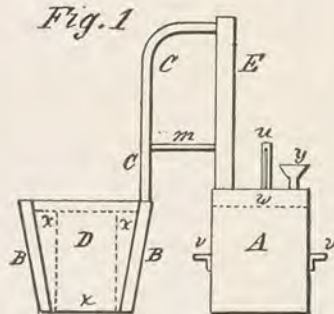
(3) How would you repair a ring where the settings are worn off too short to hold the stone?—There seems to be but two ways of managing such jobs: (a) Sink the stone so as to file up new claws or clamps for the stone. (b) Solder on new claws. The plan of procedure under method (a) is too obvious to need explanation. The operation under method (b) is conducted as follows: Cut back the defective claws until a firm point is secured for soldering on a new one. We show at A, Fig. 1, a side view of a single claw, the part x being broken off to the seat of the stone. We first file the claw back to the line y. We show an end view of this claw, or as it is seen in the direction of the arrow w at Fig. 2. This cut is enlarged from the scale as shown at Fig. 1. The cut off end is centered at v and countersunk made, which is a hollow conical recess to receive the end of the wire which is to form the new claw. It is not the easiest job in the world to make quickly a proper kind of recess in the end of a piece of metal for the object we have in view. To better explain, we refer again to Fig. 2. Now the center of the cut off end of the prong A is supposed to be at v, and what we have to do is to make a conical recess in the end of A, as indicated at the dotted lines u u, Fig. 3, said figure being a side view of Fig. 2 seen in the direction of the arrow z. The object of this recess is to provide a secure seat or rest for the end of the piece of gold wire we use for forming a new claw. This will be understood by inspecting Fig. 4, where we show a side view of a setting which we will suppose to be of a ring. For holding such setting we make a slot, or mortice, through a piece of asbestos board, as shown at Fig. 5, where C shows a front view of the board, and the oblong square A the slot in which the ring, or other piece of jewelry, is secured while being repaired.

To aid in holding, we make some small holes, as shown at s, through which binding wire is passed. Usually we can pass the ring setting up from below to the best advantage. The gold wire for the new claw is pointed to a cone shape with a file to fit the recess u v, Fig. 3, and then bent to the form shown at B, Fig. 4, the end b being inserted in the asbestos board, and the conical end l resting in the recess in broken-off claw, as shown. The best form of drill for making the recesses in the claws, as shown at u, Fig. 3, is to take a piece of steel wire about 1/16" in diameter, and turn a cone on the end, as shown at D', Fig. 6; this cone is first filed half way, as shown at the dotted line r, and then to a triangular point, as shown at Fig. 7, which is an end view of Fig. 6 seen in the direction of the arrow a. Such a drill should be about 1 1/2" long, and inserted in a convenient handle, to be used with a back and forth turn of the wrist. A recess, after a little experience, can be cut in less



time than it takes to read five lines on this page. The center, or starting point v, Fig. 2, is best made with a sharp graver point, this center only serving to start the triangular point D', Fig. 6. The end l of the wire B should be filed near to the proper size before soldering. One, or any number of prongs can be soldered at one operation by having a wire for each prong. The idea of the conical recess u, Fig. 3, is to avoid any slip or getting out of place while soldering. The step, or ledge for the stone, is best made with a mill, which goes into the taper chuck of an American lathe. Such a mill is shown at Fig. 8; the taper E' goes into such taper chuck up to the line g. The mill E is cut into teeth like a file with a graver, as shown, and hardened file hard. The setting is held in the hand and presented to the mill, as shown at the dotted outline A, Fig. 8.

"Ice Plant."—Will you please inform me how a small ice plant for family use could be constructed for a little expense. The work to be done by a tinner, and using heavy sheet iron. The plant to make use of ammonia, and employing heat instead of machinery for freezing. The plant to make about eight or ten pounds of ice at one operation?—The iron employed for such an operation should be heavier than that usually worked by tinsmiths. The iron for such a device should be about 3/8" thick and the joints and laps joined by rivets in the same manner as steam boilers. Workmen who make water tanks for hot water apparatus for stoves could do the work. Such strength is important, as the apparatus is subjected to a pressure of about 100 pounds to the square inch. The operation depends on the property ammonia vapor (gas) has of becoming liquid under a pressure of 6 1/2 atmospheres; which, counting the normal pressure of the atmosphere as 15 pounds, will make 97 1/2 pounds pressure as being required at 60° F. to change ammonia vapor to a liquid. The form of machine for making ice cakes weighing from 8 to 10 pounds, as is illustrated at Fig. 1, was invented by Carre, and consists of a strong iron cylinder about 7" diameter and 15" long. From it rises a stand pipe shown at E, said stand pipe being connected by the iron tube C to the conical vessel B, said vessel being provided with double walls, as shown in vertical section at Fig. 1. This vessel B must also be made strong enough to stand a



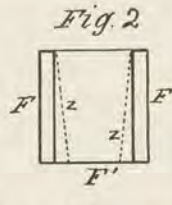
pressure of something over 100 pounds to the square inch. It may not be amiss to say, however, that no portion of the success of the freezing process depends on the conical shape of the vessel B, and if a hollow cylindrical vessel, shaped as shown at F, Fig. 2, was employed, it would be equally efficacious. If a cylindrical vessel is employed it should be closed at the bottom F' so that the interior chamber, or the inside of the inner wall of the cylinder F could be used as a vessel to hold some fluid which would not congeal at 32° F. To understand the working of the machines let us suppose the iron vessel A is filled up to the line w with a strong solution of ammonia in water. The vessel A is now heated to about 266° F., which causes ammonia vapor to be given off, which fills the pipes E, C, and hollow-walled vessel B or F. If we now apply water, of a temperature below 60° F., to the chamber B or F, the contained ammonia vapor will be condensed by its own pressure, filling the space between the walls with condensed ammonia vapor. It may be well at this point to explain the difference between the commercial spirits of ammonia and liquid ammonia gas. To produce the so-called spirits of ammonia, sal ammoniac is mixed with freshly slacked lime in a glass retort, and gently heated, when ammonia gas is given off copiously. Now water will absorb about 700 volumes of this gas, and becomes the spirits of ammonia, or water of ammonia, of the druggists. There are many methods of obtaining ammonia gas besides the one stated, the mode cited was chosen for the sake of illustration. If we should, by means of a force pump, compress the ammonia gas generated as above, until a pressure of 98 pounds per square inch was obtained, the gas would condense to a liquid, which would be liquid ammonia gas. Such water of ammonia readily gives off its imprisoned ammonia gas by the application of heat. This fact is taken advantage of in the apparatus shown at Fig. 1. Heat is applied to the vessel A until the temperature of 266° F. is reached, at which time nearly all the contained ammonia gas is expelled. By means of cold water the vessel B is kept a little below the temperature of 60° F. This temperature is maintained during the process of condensation by water inside and outside of the vessel B. As soon as all the ammonia gas held by the water in the vessel A is drawn off, the heat is removed from A, and the cold water taken from both inside and outside of the vessel B or F. A strong solution of common salt is now placed in the vessel B, and inside of this salt and water solution is placed a smaller vessel of pure water to be frozen—said vessel is represented

by the lines x, Fig. 1, and z, Fig. 2. The hollow chamber B is now wrapped in dry flannel cloths to prevent absorption of heat from the atmosphere. Now, as soon as the temperature of the vessel A begins to fall, the pressure produced by the heat acting on said vessel A, the gas pressure in the chambers B and A is reduced, and the condensed ammonia vapor in B assumes the gaseous form, producing intense cold in the vessel B, which soon freezes the pure water in the small vessel x to a solid cake of ice. It is usual to make the vessel which holds the pure water slightly conical, as shown at the dotted lines z, so that as the process of freezing proceeds the cake of ice formed will rise in the containing vessel, and not burst it. By having a cover to the vessel B it can be placed in a box of dry bran (wheat or rye) and covered with this substance, and dispense with the woolen blankets. It is imperative, however, to have B surrounded with some poor conductor of heat to prevent its absorbing heat from the air. A flange can be attached to the chamber A, as shown at v, which will enable us to set this vessel into a hole in a cooking stove up to said flange. A thermometer should be attached to the chamber A with the bulb extending down into the interior, as shown at u, and the temperature not permitted to rise above 268° F. As soon as all the ammonia vapor is given off of the water in A, remove A from the fire. This apparatus, if properly constructed, is entirely safe if a thermometer is employed, as suggested. It would seem at first thought that it would be impossible to tell when all the ammonia gas contained in the ammonia water in the tank A was given off, and the water, by which the ammonia gas was held, would commence to boil, and the pressure of the steam would increase until it exploded the apparatus. Now the chemistry of the situation tends to prevent such accident, from the fact that water at the temperature of 266° F. will expel the absorbed ammonia, but simple water heated to 280° F. would only produce 48 pounds steam pressure. Consequently, if we heat the contents of the chamber A up to only 280° F, we can run no risk of explosion, as the ammonia gas will be given off from the water and assume a liquid form in the vessel B at a pressure of a trifle less than 100 pounds per square inch, that is, if the vessel B is maintained at a temperature of 60° F., or less. The principles involved in this machine are (a) that heat applied to the water of ammonia in the tank A causes it to give off the contained ammonia gas, said gas, under a pressure of 97 1/2 pounds to the square inch, at 60° F. assumes the liquid form; (b) on removing such pressure the liquid ammonia assumes the gaseous form, but in doing so absorbs a large amount of heat from all bodies in contact with it, which in this instance is the vessel B or F and its contents, hence we surround B with dry flannel, or some other poor conductor of heat, like bran. To effect the evaporation of the liquid ammonia gas in B, it must have heat from some source, and as we enclosed the vessel B in non-conductors of heat, it abstracts such heat from the water in B until it is frozen solid. There is but little or no loss in such a machine—in fact no loss can be sustained but from escape of ammonia gas from leaks arising from imperfect workmanship. The funnel shaped entrance y allows removal of the ammonia water when it becomes ineffective. It is to be understood that as the heat is withdrawn from A the contained water absorbs the ammonia gas again.

"Burglar Alarm."—I have been working a burglar alarm with an open circuit battery (Leclanche), but becoming convinced that it was not safe, I changed to a closed circuit, and my batteries worked for a little while and then gave out. I have inquired of electrical (so they claim) experts in this region, and they do not know what a closed circuit battery is. Please give me a little information on the subject, and tell me the kind of battery I need?—Perhaps, in speaking of a battery, we could hardly say a "closed circuit battery," but we certainly could inquire for a battery which was best adapted for a "closed circuit." We have but two batteries which fill the requirements demanded for a closed circuit, and these are the "Daniels cell" and the so-called "Crows Foot," the latter, all things considered, being the most desirable. Probably you would require about four crows foot cells, renewing one every month.

"Marble Clock."—I have a fine marble clock case with bronze trimmings which I wish to repair. The case has come apart, what can I use to cement the parts together, and how can I restore the bronze ornaments?—A simple mixture of plaster of Paris and water is all that is usually employed to cement marble clock cases together. A stronger cement is made of the white of an egg and freshly slacked lime. This cement must be used very quickly or it sets and crumbles. This cement can also be used only in very close joints. A cement used by continental makers of marble clock cases, is composed of mutton tallow, rosin and brick dust. The marble has to be heated to the melting point of the cement. This is about the strongest of all cements, but it is a great bother to use, as the parts have to be heated so hot that the naked hands cannot hold them. The brass ornaments can be restored by first removing the old lacquer by boiling in a weak solution of borax in water, after which they are repolished and relacquered. The lacquer is made by dissolving one ounce of shellac in a pint of alcohol. The muddy portion of the solution should be allowed to settle, and only the clear brown fluid used. The lacquer can be given a more golden color by dissolving a little gamboge and gum aloes in it. To give a red hue add dragons blood, a red, resinous gum.

"Enclosed find one dollar for subscription. The Keystone is better than ever; one copy is worth the year's subscription."—Owen Jones, jeweler, Hoquiam, Wash.



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To My Brother Jewelers:—It is with pleasure that I recommend Mr. F. P. D'Arcy, as a jewelry auctioneer. He made a very successful sale for me, and closed out my entire line in one-half the time I had expected. The prices realized were far beyond my most sanguine expectation, and I can more than congratulate myself upon the selection I made, for it meant hundreds of dollars to me, for I feel no man could equal the prices he realized; it far exceeded the retail price asked in many instances. I would be more than pleased to answer any communication in regard to Mr. D'Arcy's ability; also consider him the most agreeable business man I have ever met. Very respectfully yours,
HERMAN ENGLE, Wilkesbarre, Pa.

Now, more than ever, we can breathe easy; for months we did not know what to do to raise money to pay our outstanding bills, and as we were forced to, we decided upon an auction sale; but felt as if we were doing the next thing to going into bankruptcy. But an auction sale has no more terrors for us; we have tried it, and are so well pleased with our experience, that we will run a sale every second year hereafter. We were positively afraid that our goods would be given away; but to our amazement we got prices that we would have been afraid to ask at private sale. We wish to say right here that any jeweler that wants to get out of debt, and wants to get rid of old stock, should not hesitate for a minute, but get F. P. D'Arcy, the greatest of all auctioneers, to conduct the sale. He is a master of his business in every respect, and the most remarkable thing is our trade since the auction is far better than it has ever been before. It seems to wake people up, and they are more than interested in buying our class of goods. We are so well pleased that we heartily add our name to the long list of Mr. D'Arcy's references, and will write any one in full that desires a personal letter from us.
WHEELER & SHEPARD, Penn Yan, N. Y.

One of the pleasantest tasks of my life is to pen a few lines recommending Mr. F. P. D'Arcy, the jewelry auctioneer. He opened a sale for me during our coldest and most disagreeable weather, and the manner in which he handled my sale was a revelation to us. No one that has not heard him on the stand can appreciate his work. I have not heard many auctioneers, but when a man can average me 125 on the dollar, over and above all expenses in the month of February, he is certainly deserving of the highest praise. He left my store in the best possible condition, selling every piece of old shop-worn goods, and that without a single misrepresentation. My business has been better by far since the sale, and I will have a sale at least every two or three years hereafter. I cheerfully recommend Mr. D'Arcy to any one wishing an auctioneer.
A. SID JOHNSON, Hannibal, Mo.



We have held, in the last ten years, three auction sales, and we have no hesitancy in saying that the most important step a jeweler ever took is when he selects a jewelry auctioneer. It means success and thousands of dollars if you select the right man; it means a failure, humiliation and loss, if the wrong selection is made. I had three sales; one by the leading auctioneer of New York, one by one of the most extensively advertised in THE KEYSTONE, and my last sale was conducted by Mr. F. P. D'Arcy, of Chicago. It was so different to my other sales that I can hardly call it by the same name. It was simply an avalanche of business that we were utterly unprepared to take care of, and for over two weeks the crowd packed the store to suffocation, and it took three people to wrap up the goods. Talk about speed and endurance, it cannot be believed that a man can stand up afternoon and evening and talk with the speed Mr. D'Arcy does, without being entirely exhausted. But it seems to be second nature to him; his oratory simply holds the people spell bound, and he has convinced me that he can get any price he wishes for any article he puts up, and net profits run over twenty-five per cent., over and above all expenses, which we will make a sworn statement to, and we feel that we cannot speak or recommend Mr. D'Arcy too highly for his services to us. Write us for particulars.
SCHLINTZ BROS., Defiance, Ohio.

Mr. F. P. D'Arcy, of Chicago, has just closed a sale for me, and I wish to state that I am more than satisfied with the prices and amount of business done. My sale lasted two weeks, and the audiences attracted were the very best in our city. There is no question in the world but what an auction sale is a great benefit to any dealer; it disposes of old goods, gets people woke up, strengthens the repair business, and the best of all, makes a merchant independent of jobber or banker. I pay spot cash and find the benefit derived from my sale is far reaching in more ways than one, it is an education that no man can do business to-day without. The advice I received and the points I got in running my business, more than paid me for any expense I went to, if I did not derive a dollar's worth of benefit in any other way. I can cheerfully add that the success of my sale was due to the masterly efforts of F. P. D'Arcy, the jewelry salesman, of Chicago. He is a polished gentleman, a fine orator, and a salesman that establishes a confidence with his audience that is simply marvelous in the short time he was here. In case I have another sale he is the only man I would think of employing, as he is a practical man, and never makes a misrepresentation in any way.
O. C. ZINN, Hastings, Neb.

To the Public:—Mr. D'Arcy, of Chicago, has this day closed a sale for me, after a three week's run through the warmest weather, and I am more than satisfied with the success obtained. Our prices were satisfactory in every respect, averaging over 125 on the dollar, and our daily sales ran from two to five hundred dollars per day. It seems to be no trouble for Mr. D'Arcy to hold his audiences for hours and hours at a time, and the prices realized at auction far surpassed our most sanguine expectations. I have had one sale before, by a prominent New York auctioneer, but really did not know what an auctioneer of ability meant until I had heard Mr. D'Arcy sell. I will be more than pleased to answer any letter sent to me in regard to Mr. D'Arcy's ability and his manner of conducting sales.
Aug. 17, 1868. S. W. BRAMLEY, Kingston, N. Y.

F. P. D'ARCY, 3513 Calumet Ave., CHICAGO, ILL.

From Pittsburg's Largest and Most Palatial Diamond and Watch House.—After five weeks of the most successful sale of strictly high-class goods ever conducted in our thirty years' business career in Pittsburg, it is but just and right, and a pleasure to us, to bestow a slight token of our appreciation where it justly belongs. Through a mistake on our part, we advertised our sale extensively for three weeks without noticing the grave mistake we had made in the date. Mr. D'Arcy, the salesman we had selected, had given us the earliest date he could open sale and not conflict with his previous booked sales. After we had spent hundreds of dollars in advertising, we telegraphed permission from Mr. D'Arcy to substitute another man for the week until he arrived, knowing it would be detrimental to him. On account of our great expense he consented. We opened the sale on the day advertised, and for three days the auctioneer did fairly well, but at the end of that time the sale was dead. Mr. D'Arcy arrived the following Monday and immediately took charge, and such a revelation no man but those connected with the store could ever believe. In three hours the store could not accommodate the crowd, the prices almost doubled, the sales ran into the thousands, and for five weeks it was one surprise following another, as each succeeding day eclipsed the former; and at the end our \$75,000 stock looked as if it could not withstand another day. We feel under great obligation to Mr. D'Arcy for his great efforts in our behalf, and taking into consideration that there were three other jewelry sales going on at the same time, his success should be all the more gratifying. We wish to state that any dealer, no matter who he may be, or how expensive his stock, takes absolutely no chance in injuring his reputation, or losing a dollar, by turning his store over to Mr. F. P. D'Arcy. He will not only get you 100 cents on the dollar for your stock, but will sell thousands of dollars' worth of goods that could not be sold at private sale under any condition or circumstance for over 50 cents on the original cost. We have heard very near all the prominent auctioneers in the country, and unhesitatingly pronounce Mr. F. P. D'Arcy the leading light in his profession.
DE ROY BROS., Pittsburg, Pa.

I refer you with pleasure to the following firms for whom I have worked; any one will be pleased to give you any information you wish in regard to my ability and commercial standing.

H. G. Huffman, Clyde, Ohio.
Sheff Bros., Wheeling, W. Va.
Donaldson Jewelry Co., Des Moines, Iowa.
F. Loehmeyer, Cincinnati, Ohio.
J. B. Settle, Bowling Green, Ohio.
W. B. Piper, Ashland, Ill.
Powers & Hayes, Norfolk, Neb.
G. W. Sherman, Denver, Colo.
Wm. Ragland, Waco, Texas.

R. R. Rogers, Manning, Iowa.
Smyth & Ash, Rochester, N. Y.
O. C. Zinn, Hastings, Neb.
Otto Berner, Le Mars, Iowa.
Schlitz Bros., Defiance, Ohio.
A. Sid Johnson, Hannibal, Mo.
De Roy & Son, Pittsburg, Pa.
Herman Engle, Wilkesbarre, Pa.
Wheeler & Shepard, Penn Yan, N. Y.

M. Gitler, Calumet, Mich.
S. W. Bramley, Kingston, N. Y.
Parrett & Co., West Union, N. Y.
F. R. Kay, Creston, Iowa.
F. Loehmeyer, Newport, Ky.
C. G. Alford, New York City.
Lapp & Fiershem, Chicago.
Rich & Allen, Chicago.

Benj. Allen, Chicago.
Goldburg Bros., Cincinnati, Ohio.
Johnson Jewelry Co., Pittsburg, Pa.
Arnstine Bros., Cleveland, Ohio.
Heintz Bros., Buffalo, N. Y.
A. Roseman, 11 Maiden Lane, New York City.
Manhattan Jewelry and Silver Co., Lyons, N. Y.
Van Bury Bros., Rochester, N. Y.

S. MARTIN JEWELRY AUCTIONEER.

TWENTY-TWO YEARS' EXPERIENCE.

ALL BUSINESS CONFIDENTIAL.

Address—1036 Cambridge Ave., MILWAUKEE, WIS.



A. E. PAEGEL, JEWELER,
526 NICOLLET AVE

MINNEAPOLIS, MINN., September 9, 1898.

MR. S. MARTIN, Milwaukee, Wis.

Dear Sir:—Please accept this letter of thanks from me for the successful sale you managed for me during the month of June. After figuring up and deducting the expenses I find it a profitable sale, and I don't know to whom more credit can be given than the auctioneer, and if ever any one asks for reference I will be pleased to be at your service.

Yours very respectfully,

A. E. PAEGEL.



S. A. HASELTINE.

Jewelers' Auctioneer,

S. A. HASELTINE,

758 Lincoln St., SPRINGFIELD, MO.

In writing, give value of stock, size room, object of sale, etc.

All Correspondence Confidential.

Now is the time to book winter sales.

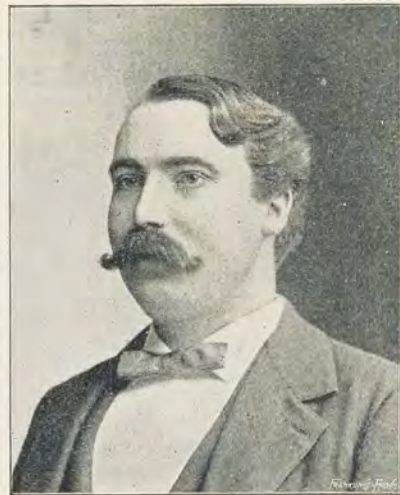
Terms Reasonable.

Satisfaction Guaranteed.

[See THE KEYSTONE last month, and for the past four years, for what others say of my work.]

MARSHFIELD, Wis., Sept. 20, 1898.
Judge S. H. Haseltine, of Springfield, Mo., has just conducted a three weeks very successful sale for me. He holds his audience from start to finish. I find him a scholarly, straightforward and honest man to do business with, and any one wishing an auctioneer, or desiring to close out, would do well to employ him.
H. C. HEADSTREAM.

Address, S. A. HASELTINE,
758 Lincoln St., Springfield, Mo.



R. M. Harding,

THE

Jewelers' Auctioneer,

192 Madison Street,
CHICAGO.

Acknowledged to be the hardest worker and the greatest watch salesman in the business. I refer you to any of the leading Wholesale Jewelers of Chicago.

Established 1884.

Ready Money for You

AND LOTS OF IT.

An auction sale is a money-getter every time, if the Auctioneer knows how to make it so.

H. J. WILBY, Auctioneer to the Jewelry Trade, is uniformly successful. No other man in the business can draw such large crowds or get such high prices. Hundreds of references. Write to-day for some.

H. J. WILBY,

325 Ellicott Square,
Buffalo, N. Y.



Should you at any time wish to convert a part or all of your stock into cash and get quick returns, you will find it to your interest to write me.

TERMS REASONABLE.

ALL CORRESPONDENCE STRICTLY CONFIDENTIAL.

A few for whom I have made sales:

- | | |
|--------------------------------------|------------------------------------|
| L. ZUCKERMAN, Chicago, 3 sales. | J. W. CLEGG, Charleston, Ill. |
| STRILITZ BRO., Chicago. | E. F. KIRCHGESSNER, Adrian, Mich. |
| RINHARDT & MITTENDOFF, Lincoln, Ill. | P. K. WISER, Mankato, Minn. |
| CUTTING & WILSON, Winona, Minn. | L. BLUMENKRANZ, Minneapolis, Minn. |
| D. A. HAUK, Logansport, Ind. | C. ROBERTSON, San Francisco, Cal. |
| J. C. HILTON, Neenah, Wis. | A. O. INGRAM, Mount Ayr, Iowa. |
| P. H. PIERCE, Lawrence, Kan. | B. ZANCOT, Madison, Wis. |
| A. SAKIRE, Crookston, Minn. | T. C. LINDSEY, Dayton, Ohio. |
| HART & ERNEST, Tiffin, Ohio. | S. BARDWELL, Plainfield, Wis. |
| COWARD & CO., Cresco, Iowa. | YOUNG & CO., Lewiston, Ill. |
| F. J. NEASHAM, Nevada, Iowa. | H. HOFF, Madison, Iowa. |
| W. C. PHAFFELL, Denton, Texas. | J. O. PORTERFIELD, Sanborn, Iowa. |

NOW is the time to hold your AUCTION if you ever expect to have one. References cheerfully furnished from many established jewelers of nineteen States for whom I have made sales in the past five years. I also refer to Union National Bank, Kansas City, Mo., or any wholesale jewelry house in Kansas City. Any information regarding an auction gladly given to established jewelers.

ALL INQUIRIES STRICTLY CONFIDENTIAL.

Auctions Personally Conducted on a Guarantee Basis for Established Jewelers Only.

D. O. HERNDON, JEWELERS' REALIZER,

OFFICE:

333 New York Life Bldg., Kansas City, Mo.

TELEPHONE 2341.



The Jewelers' Auctioneer

ESTABLISHED 1880.



J. H. HAVILL, Fifth Floor
Silversmiths' Building,
CHICAGO.

Send for particulars. All correspondence strictly confidential. Reasonable charges

Georgetown, Ky., Sept. 20, 1898.

TO ANY JEWELER:

Mr. J. H. Havill has just finished making a sale for us, which as a whole was very successful. He made a profit over the first cost of the goods, without the addition of any stock or misrepresenting anything. He is a good salesman, a good entertainer and a jovial fellow. He made many friends here.

Yours respectfully,
S. E. BARLOW,
Per J. W. Keller, Mgr.

America's
Leading Art and
Jewelry
Auctioneer.



Dan. I. Murray,
126 State Street,
Room 602,
CHICAGO, ILL.

I have a word of advice to give the trade that will make them money.

If you have a large store in a large city, and carry a large stock, by employing two or three extra clerks you may sell in November and December ten or twenty thousand dollars' worth of goods at 25 per cent. net profit, and half of it was charged, and you will lose some of it. Also, a new clerk, in a rush, may lose some fine goods or trust some one who is no good, and you work and worry day and night for two months, and have a few hundred in bank January 1st. Now let me tell you what I can do with this same stock and store: I can sell four times more goods than you can at retail, and perhaps ten times more, at a better profit; it is all spot cash. You have no need of new clerks; your old stock will all be sold; you only need to stay and take the cash six or seven hours per day, and on January 1st have thousands of dollars in bank, and have made a lot of new cash customers, and have had the grandest trade ever known in your city, and everyone will be pleased, and you will be the happiest jeweler in the city. Now, I can do all of this for you, and do it so nice and in such a kind, gentlemanly manner that you will say, "I never could have believed it." I guarantee every word I advertise and the success of every sale. Look at my profits on sales. Read the letter on page 735, September number of KEVSTONE. Think of 30 per cent. profits made in the hottest month in the year, and that after they had tried to sell the goods for six months at cost and could not do so, and I am now making the second sale for the same house.

Read this over carefully, then give it a few minutes of good, sound American thought, then write me for a date for November and December before your competitor gets me, or you will be very sorry. All correspondence is strictly confidential, and I will take pleasure in advising you in every way possible to improve your business. No trouble to answer any and all letters. Write me at once for dates. Address me,

126 State Street, Chicago, Ill., Room 602, or
34 East Fourth Street, Cincinnati, Ohio, care of A. & J. Plaut.

Read a list of people I have sold for recently and write any of them. Also I refer you to the leading jobbers and manufacturers and importers of the United States.

List of sales I recently made. I refer to the leaders in business. Read it and write any of them.

- | | |
|--|--|
| A. Whittington, Jamestown, Ohio. | W. C. Kline, Elwood, Ind. |
| F. A. Patterson, Hicksville, Ohio. | Murray Jewelry Co., Dayton, Ohio, 2 sales. |
| John Hashisell & Son, Owosso, Mich. | Anderton & Eberhardt, Dayton, Ohio. |
| H.E. Espenschied, New Philadelphia, O., 2 sales. | The Tyler Jewelry Co., Dayton, Ohio. |
| J. I. Strause, Monongahela City, Pa. | L. D. Rosenkrans, Oconomowoc, Wis. |
| A. C. Fawcett, Xenia, Ohio. | L. A. Davis, Greenfield, Ind. |
| C. A. Peabody, Plymouth, Ind. | The Foltz Co., Akron, Ohio, 5 sales. |
| J. M. Murray, Franklin, Ohio. | The Baldwin Co., Mansfield, Ohio, 2 sales. |
| A. L. Wode, Bradford, Ohio. | A. & J. Plaut, Cincinnati, Ohio. |
| New York Jewelry Co., Tippecanoe City, Ohio. | Joseph Jonas' Sons, Cincinnati, Ohio. |
| The Murray Jewelry Co., Miamisburg, Ohio. | The Gustave Fox Co., Diamond Importers,
Cincinnati, Ohio. |
| C. S. Syman, Hamilton, Ohio. | Henry Hahn & Co., Cincinnati, Ohio. |
| Joseph Hummel, Dunkirk, Ind., 2 sales. | Bene, Lindenbergl & Co., Cincinnati, Ohio. |
| F. K. Syman, Springfield, Ohio, 2 sales. | F. E. Morse Co., Diamond Impt's, Chicago, Ill. |
| F. E. Mount, Elwood, Ind. | |

And many others, if you wish their names.

S I G N S

I make the largest and most perfect watch signs in the world. With or without illuminated dials. They are the latest improved, and have advantages superior to all others. They are as perfect in proportion as a watch case, and also very beautifully and artistically designed. They are made of heavy sheet zinc, painted with white lead and gilded with the best XX gold leaf, and warranted in every particular. These signs can be placed on a post, and are so constructed as to revolve, or they can swing on a rod from a building. I make different sizes. Weight of signs varies from twelve to eighty pounds. The best advertisement for your place of business is one of these elegant signs. They are sure to attract attention, and always prove a paying investment. Price-list and photos. furnished on application. Address

Lon Barnhart,

717 W. Madison St., Chicago, Ill.

Jewelers' Auctioneer

S. C. HASELTINE,

Cor. Grand Avenue and Fort Street,
SPRINGFIELD, MO.

Correspondence Strictly Confidential.
Terms Reasonable.

I guarantee satisfaction in every particular; can any jeweler ask more?

If you wish a sale that will be a success financially, and leave your reputation as good as when the sale opens, write me.

I refer with pleasure to the trade, also see reference in KEVSTONE in past years.



"We have had other salesmen; S. C. Haseltine is the best."—N. B. SHYER & Co., Nashville, Tennessee.



Established
1880.

Large profits
and
satisfaction
guaranteed.

Very best of
references
and press
notices given
in corre-
spondence.

Have conducted some of the LARGEST SALES in the
UNITED STATES.

A. GOTTLIEB, Jewelers' Auctioneer

Suite 815-16 Ashland Block

CHICAGO, ILL.

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ENAMEL
 IN
 ALL SHADES
 AND
 EVERY DEGREE
 OF HARDNESS
 MADE TO ORDER.

JAMES G. MAYFIELD, ESTABLISHED 1869.
 MANUFACTURER OF FINE ENAMELS
 for Jewelers and Watch Case Manufacturers, etc.
 P. O. Box 129. 1031 Clinton Ave., Irvington, N. J.



J. S. ADLER & CO.,
RINGS 37-39 MAIDEN LANE,
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 CHICAGO ADDRESS, MASONIC TEMPLE SAFE DEPOSIT VAULTS.

New Polishing and Grinding Machine

This machine is designed especially to meet the demands of the jeweler. It will carry emery and buffing wheels up to 6 inches in diameter, and with perfect ease speeds to 2500 revolutions a minute.

Economy of space reduced to the minimum.

We also make a line of Foot-Power Lathes for heavy jewelry work.

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Our MR. T. B. HAGSTOZ was the senior partner of the firm of Hagstoz & Thorpe, predecessors of the Keystone Watch Case Co. He was also the president of the Essex Watch Case Co., and until last fall connected with the Courvoisier-Wilcox Watch Case Co. The use of his name insures our motto "Honest Returns." Estimates cheerfully given, and if not satisfactory goods returned at our expense.

T. B. Hagstoz Co., Ltd.,
 SMELTERS, REFINERS AND ASSAYERS,
 709 Sansom St., PHILADELPHIA.

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represents the highest point in typewriter quality and equipment. Many new and simple features.

CIRCULAR FOR THE ASKING.

United Typewriter & Supplies Co.

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CAN YOU DO BETTER?
 Advertise yourself for one cent per day.
A CHRONOMETER
 is the best advertisement you can use, either in the window or on the counter case.
 We have a large stock to select from, reduced to net cash prices to the trade.

RIGGS & BROTHER,
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 Write us before purchasing.



MONEY BACK

THE MONEY YOU MAKE.

You can't build up a paying and lasting business by using supplies that don't pay and won't last. The specialties we make pay because they last. They are the watchmakers' money-makers. They pay you and pay your customers, and so they pay us. Our prices are low and our terms are cash with the order, but we give you back your money if our goods do not suit.

Cock and Foot Jewels for Elgin, Waltham, Hampden, Illinois and Columbus movements 0, 6, 16 and 18 size, and for Rockford, Trenton and New York Standard 18 size movements,
 \$1.25 a dozen; \$12.00 a gross.

RED CROSS MAINSPRINGS,
 \$1.00 a dozen; \$11.00 a gross.

TIDD & CO.
 Columbiana, Ohio.

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The **OLYMPIA** is the most improved music box with tune disk. Owing to its very fine quality and finish, it is specially adapted to the jewelry trade.
E. L. CUENDET, Gen'l Agt.,
 Send for Catalogue. 21 John St., New York.

I Will Pay Cash

for every kind of Gold and Silver. Prompt and accurate estimate made on consignments. Satisfaction guaranteed. Send by mail or express.
FRANK JACOBSON,
 86 State Street, Chicago.

GOLD SOLDER.

BEST ON EARTH.
 Made in Low Karat, 6, 8, 10, 12, 14, 16, 18 Karats.
 Easy-flowing and good color.
SOLD BY ALL JOBBERS.

BROOMCORN PITH.

Far better and much cheaper for Progressive Watchmakers than Elder Pith.
MART H. BASSETT, Arcola, Ill.
 Larger shipments at proportionately lower rates

Chicago Gold Pen Repairer.

GOLD PENS.
 Send me your work. Repairs of all kinds.
S. N. JENKINS, 103 State St., Chicago, Ill.

There is a difference between Cheap Goods and Goods that are Cheap.

CABINET FILES
 Desks, Chairs, Etc.
 The U. S. Desk, File & Cabinet Co.
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J.W. RUSSELL & CO. MFRS.
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GLASS METAL

CUT IN 2.

EGGS from our thoroughbreds reduced one-half till October 1st. Regular price per setting of 15 is \$2.00 for Brown and Buff Leghorns and Light Brahmas, \$3.00 for Barred and Buff Plymouth Rocks and Warhorse Games. Cut these prices in two and get your order in by October 1st. All orders refused after that date. Will ship eggs any time after September 1st. Our stock is the best. Eggs guaranteed true to name, or money back, if you say so. Send for free catalogue.

Can ship safely any distance.

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 VALDOSTA, GA.

F. W. H. SCHMIDT,
 100 State Street, CHICAGO, ILL.

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Watchmakers', Jewelers',
Engravers', Opticians' Tools,
Materials and General Supplies
 of all kinds.

Alumnico, Gold Filled and Gold Frames.

SILK, WHITE METAL, FIRE GILT,
 ROLLED-PLATED CHAINS.

Watch and Jewelry Repairing for the Trade.
 Prompt and careful attention to mail orders.



ALWAYS SUCCESSFUL. WITH OUR
Incubator and Brooder

any one can make a success of poultry raising. Send 10 cents for 228-page Poultry Catalogue. It is filled with valuable pointers and illustrations. It tells all about our famous Reliable Incubators and Brooders. We sell poultry supplies of all kinds too.
RELIABLE INC. AND BROODER CO. Box B 161 Quincy, Ill.



50 PER CENT. COMMISSION
 Big attraction for your window, and money in your pocket.
Photo. Button Easel Card
 sent free to jewelers. Shall we send you one?
Photograph Novelty Co.
 125 State St., Chicago.
 Originators of Photo. Buttons.

Modern Letter Engraving.

The largest and most complete book of instructions ever written.
 By mail, \$1.50.

F. H. REES.

ELMIRA ENGRAVING SCHOOL,
 ELMIRA, N. Y.

The Souvenir Spoon Engraver.

Chas. A. Stahl, Jr.
 Providence, R. I.
 Best and cheapest. Send for price-list.

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WATCHMAN'S CLOCKS

E. O. HAUSBURG, 41 MAIDEN LANE, N. Y.

News From the Front



By sending all your Tarnished Stock and Old Silverware to

J. J. DONNELLY,
PLATER,
 73 NASSAU ST., NEW YORK,

they reach the front rank in that line of action and you will be surprised at the result.
 Send for Price-List.

WATCH REPAIRING FOR THE TRADE

LOW PRICES AND PROMPT ATTENTION.

ALL WORK GUARANTEED.
 PRICE-LIST UPON REQUEST.

C. CULMAN
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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.,
 86 State Street, Chicago.
 Send for Our New Price-List.

FOR SALE.

JEWELRY and optical business. Profitable, well established and centrally located in city of Los Angeles...

FOR SALE OR EXCHANGE.

WHAT have you to exchange for 6 city lots, centrally located? Singly or collectively. Value from \$250 to \$500 each.

SPECIAL NOTICES.

W. L. Rosenfeld, 19 Maiden Lane, New York, is offering some unusual bargains in discontinued movements and cases.

BUSINESS NOTICES.

THE best work for the least money at the Peoria Horological School, Peoria, Ill. No student work. See advertisement on page 828.

BUSINESS NOTICES.

WHY not send me your watch cases that need repairing? Can replace any part of a case.

SEND \$1 to W. E. Congrate, Morristown, N. J., and find out how to hard-solder polished gold without discoloring the metal in the least.

JOE BROWN CO., 96 E. Van Buren St., Chicago, Ill. Jewelry stocks and stores bought and sold for spot cash.

THE Omaha Watch Repairing, Engraving and Optical Institute are incorporated under the laws of the State of Nebraska.

You can always have from us an immediate CASH OFFER for any Diamonds or Jewelry set with precious stones...

L. COMBREMONT, IMPORTER AND JOBBER OF Watch Materials, Tools, Supplies and Optical Goods.

45 Maiden Lane, New York. Repairing for the Trade promptly attended to.

The Ezra F. Bowman Technical School,

Incorporating the American Horological Institute. This is a School for the thorough teaching of Watchmaking and Engraving.

EDWIN F. LEOPOLD & CO., Largest manufacturers of Chicago Photo. Buttons and Photo. Novelty Jewelry in the West.

PATENT

your novel idea or design. Have you invented a new or improved machine, article, implement, utensil, compound, casting, pattern, ornament, decoration, device or thing of any kind, or a process? If so, protect it. We can assist you by a good patent to make it pay.

SEND 25 cts. for sample card. 50 per cent. discount. Photo. on Watch Dials and Cases. \$1.00 cash and return postage.

The Bangle Engraver, Chas. A. Stahl, Jr., Providence, R. I.

Best and cheapest. Send for price-list and prints.

The Best Window Attraction in the World

A little oil once a month and one minute's attention each day, is all that is required. Will last a lifetime, and never lose its attraction.

COME take a short course in WATCH WORK, ENGRAVING or JEWELRY WORK. You will be surprised to see how much we can teach you in a month or two.

Philadelphia College of Horology, 1213 Filbert Street, Philadelphia.

Index to Advertisers.

Table listing various advertisers and their page numbers, including Adler & Co., Aikin, Lambert & Co., Aikin Lambert Jewelry Co., Ajax Spectacles and Eye-Glasses, etc.

Table listing various advertisers and their page numbers, including Goldsmith Bros., Goldstein Engraving Co., Gordon & Morrison, Gorham Mfg. Co., Gottlieb, A., Green Bros., Green & Co., Max R., Hagstoz Co., Limited, T. B., Hamilton & Hamilton, Jr., Hamlin, W. P., Harding, R. M., Hardy & Co., F. A., Harrington & Co., Geo. K., Hasselme, S. A., Hasselme, S. C., Hauburg, E. O., Havill, J. H., Heard Optical Co., The L. M., Heinrich, H. H., Heintz Bros., Herndon, D. O., Hobbs Bros., Houghton, J., Huston, Wm. E., Jacobson, Frank, Jacobson & Co., F. H., Jenkins, S. N., Johnston, J. M. & A. C., Johnston Optical Co., Juergens & Andersen Co., Kaufman & Co., Louis, Kellam & Moore's College of Optics, Keller & Co., J. H., Ketcham & McDougall, Keystone Poultry Farm, Keystone Watch Case Co., King Optical Co., Julius, King & Eisele, Kirstein Sons Co., E., Klein School of Optics, Knights & Co., C. H., Koemen & Bro., A., Krementz & Co., Lamb, B. F., La Porte Watch School, Lapp & Flerhem, Larter, Elcox & Co., Lelong & Brother, L., Leopold & Co., Edwin F., Levy & Dreyfus Co., Leys, Trout & Co., Loeb & Co., Wm., Mackellar, M., Manasse Company, L., Manross, F. N., Martin, S., Mayer & Co., Geo., Mayfield, James G., McCormick Optical College, Meriden Britannia Co., Meyer Jewelry Company, Meyrowitz Manufacturing Co., The, Monroe Co., The C. F., Murine Co., Murray, Dan I., Myers Co., S. F., National Optical Company, New Columbus Watch Co., The, New England Watch Co., The, Non-Retailing Company, The, Northern Illinois College of Ophthalmology and Otology, N Solder, Oliver, W. W., Omega Watches, Ominette, J. J., Parisian Novelty Co., Parker Clock Co., The, Pearson, Olof, Peckham Seamless Ring Mfg. Co., Peoria Horological School, The, Peters & Co., H. B., Philadelphia College of Horology, Philadelphia Optical College, Phillips & Co., John, Photograph Novelty Co., Pitkin & Brooks, Providence Optical Co., Queen City Silver Co., The, Reliable Incubator and Brooder Co., Revell & Co., A. H., Riggs & Brother, Robbins, Chas. M., Robert, Edmond E., Rogers & Brother, Rogers & Bros., C., Rogers Mfg. Co., Wm., Rosenfeld, Wm. L., Rosenzweig Bros., Rubenstein, L. W., Rubenstone, J., Rump & Sons, C. F., Russell & Co., J. W., Ryder Co., J. J., Schmidt, F. W. H., Scott & Co., J. T., Sercomb & Sperry Co., Sickles & Sons, M., Simmons & Co., R. F., Simmons & Payne, Simons, Bro. & Co., Sischo & Beard, Smith Bros., Solderless Locks, South Bend College of Optics, Southbridge Optical Co., Spencer Co., The M. A., Spencer Optical Mfg. Co., Spreehle & Co., Stahl, Jr., Chas. A., Standard Cut Glass Co., Stebbins & Wright, Stein & Ellbogen Co., Stern Bros. & Co., Sumner-Grimes Co., The, Sussfeld, Lorsch & Co., Swigart, E. & J., Thomas Clock Co., Seth, Tidd & Co., Trenton Watch Co., Union Show Case Co., United States Smelting and Refining Co., United Typewriter and Supplies Co., Updegrave, Wm. M., Upham, F. A., U. S. Desk, File and Cabinet Co., The, V. T. F. Watch Glasses, Wadsworth, G. F., Waite, Thresher Co., Wallace & Sons Manufacturing Co., R., Wells, Chester H., Whittlesey Optical Co., Grant, Wilby, H. J., Wilkinson & Co., C. A., Winter Lumber Co., M., Wirt Fountain Pen, The Paul E., Witsenhausen, L., Wright & Co., J. A., Yeakel & Co., A. M., Zimmern & Co., Henry

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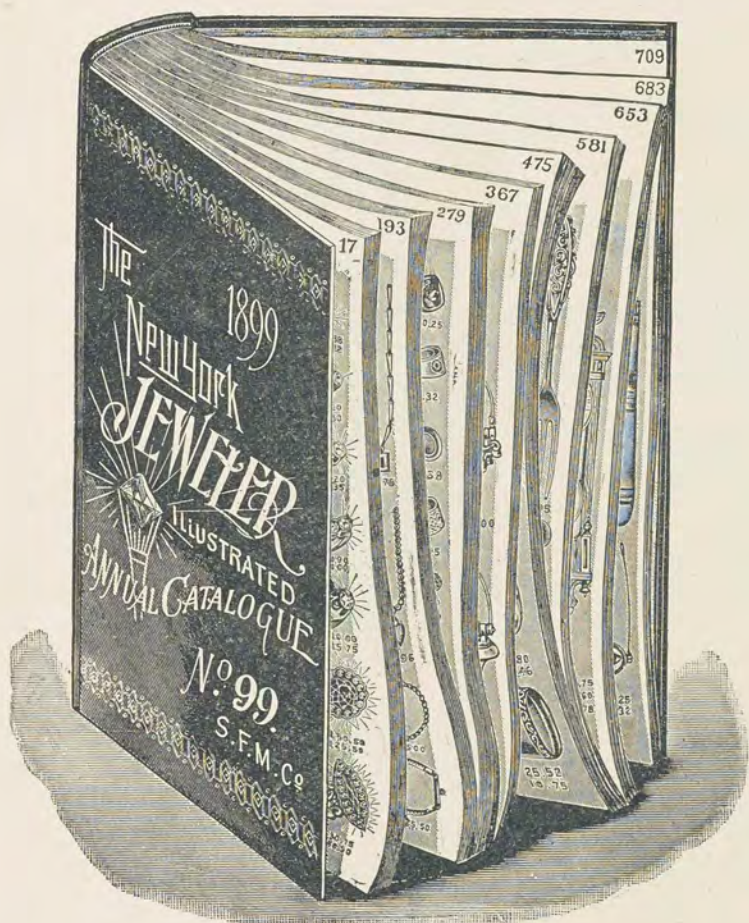
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Will be mailed to our customers (others on application) during October.

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**WATCHES,
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Our **22 DEPARTMENTS** are complete in every detail, and we are in a position to fill all orders promptly and satisfactorily.

CASH BUYERS and **CLOSE FIGURERS** will find our **NET CASH PRICES LOWER** than the majority of other firms.

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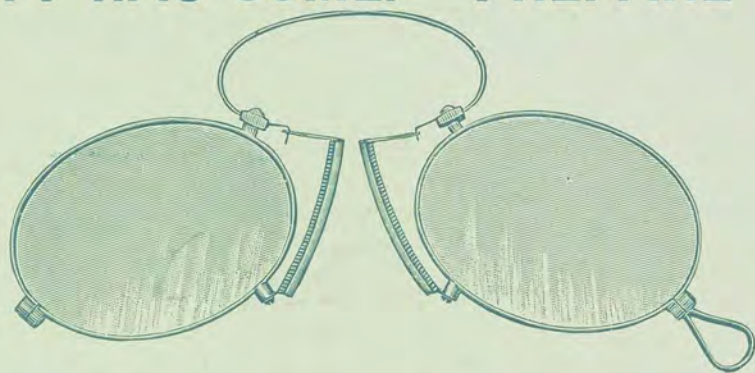
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These goods are made from **EXTRA HEAVY SEAMLESS FILLED STOCK.**

Not electro-plated or gilt, but made from **10 K. STOCK** drawn over base metal.

No **EXPOSED PARTS** to wear off or tarnish. **PRACTICALLY** solid gold as far as AP-



Guaranteed to Wear Like Gold.

PEARANCE and WEARING QUALITY is concerned.

EQUAL to GOLD in **STYLE and FINISH.** All frames **STRICTLY INTERCHANGEABLE**, and have inside of eye-wire polished.

Made all styles riding bow, and with cable coil, and also in straight temples, and all styles of eye-glasses.

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An evenly balanced symmetrical clamp with raised projections that engage only the strong part of lens. No contact between screw-hole and

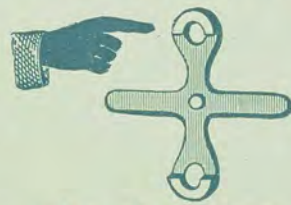
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The Pat. **NEVER-BREAK Strap.**



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We are prepared to meet the Fall demand for **OPERA, FIELD and MARINE GLASSES.**

AUDEMAIR



U.S. Army and Navy FIELD GLASSES

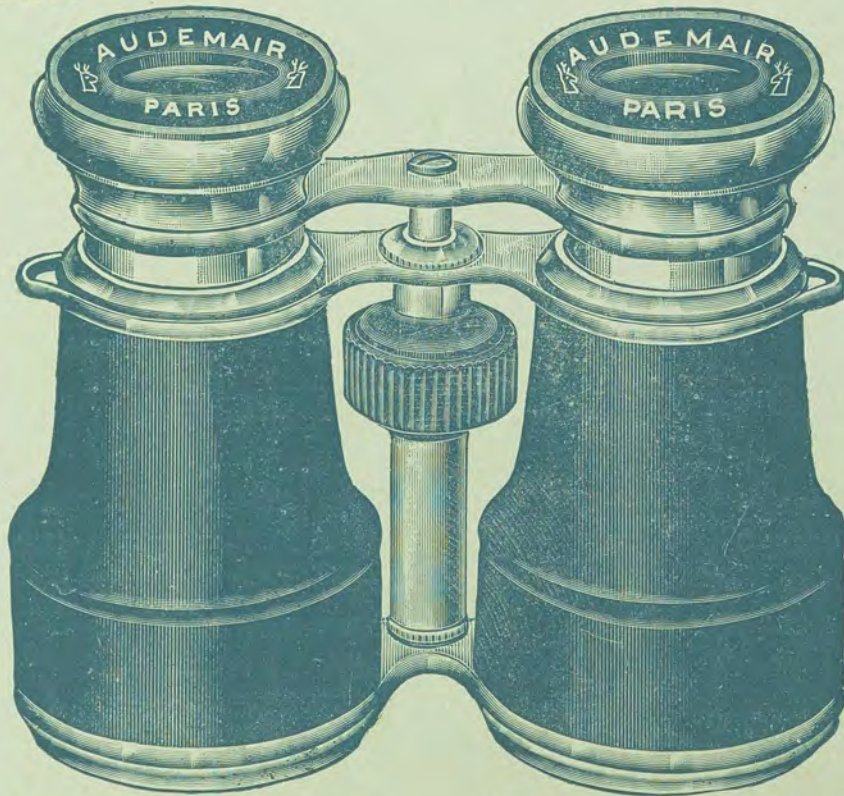
The most powerful long-distance glass known. Superior construction. Achromatism style.

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The finest quality of lens and finish. None better. Send for Catalog.

We carry a complete line of **Binocular Telescopes.**

The acme of perfection of magnifying power.



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DON'T PLACE YOUR ORDER UNTIL YOU SEE OUR LINE.

WE CAN PLEASE YOU IN STYLE AND PRICES.

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Make a Memo. right away of the names of the now famous new styles of **JAS. BOSS** Cases:

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These cases have been pronounced by the trade at large the most beautifully shaped and handsomest cases ever made. In fact, the improvement over all previous shapes is such as only an inspection of samples will make credible. For details of construction and sizes, see inside pages.

If you would realize, for your own benefit, what an inspiration prosperity is, see our beautiful new creations in all our grades of cases:

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Our new cases in these grades furnish the most salable, complete line of cases the trade can procure—the most reliable, best and handsomest. This trade-mark  is stamped in every case.

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