

The KEYSSTONE

The ORGAN of the JEWELRY & OPTICAL TRADES



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19 THE BROWN STS. PHILA.

Vol. 27

September 1906

No. 9

The Sale of an **ELGIN** Watch
Brings other
Business to
You



The sale of an Elgin Watch is often the entering point of a wedge of profitable business for the dealer. Elgin Watches are reliable and the selling of them gives you a reputation for reliability. A point to remember is that you always buy

ELGIN WATCHES

under a positive guarantee. Pass that guarantee on to your customers, and get the benefit that comes from handling guaranteed goods.

See Jobbers' List for prices or write the Company.

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

ELGIN NATIONAL WATCH COMPANY,

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

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

F&B.

Established 1873



1429

The LOUIS

A New Etched Pattern

This will not be made in the full number of pieces, only the Mirror, Brush and Comb. Our other patterns are all made with the full number of pieces and can be furnished in any Set or Combination illustrated in our Catalogue.

Consult our Catalogue H, for almost anything wanted in a first-class jewelry store and you will find it illustrated and quoted at a reasonable price.

The quality is fully guaranteed by the **F&B.** trade-mark on every article. They are all made a little better than seems necessary, just to be sure they are right.

Gold Filled "Armlet" Bracelets, Locket, Charms, Crosses, Pendants, Chains, Fobs, Neck Chains, Collarettes, Pins, Brooches, Earrings, Link Buttons, Scarf Pins, Hat Pins, Barrette Pins, Belt Pins, Waist Sets, Buckles, Hair Chain Mountings.

Sterling Silver Toilet and Manicure Goods and Sets, Desk Sets, Sewing Sets, Traveling Sets, Photo. Frames, Jewel Cases, Smokers' Articles, Flasks and other goods for gentlemen, and a great variety of useful novelties.



No. 3107



No. 3106



No. 3108

Illustrations 1/2 scale

Theodore W. Foster & Bro. Co.

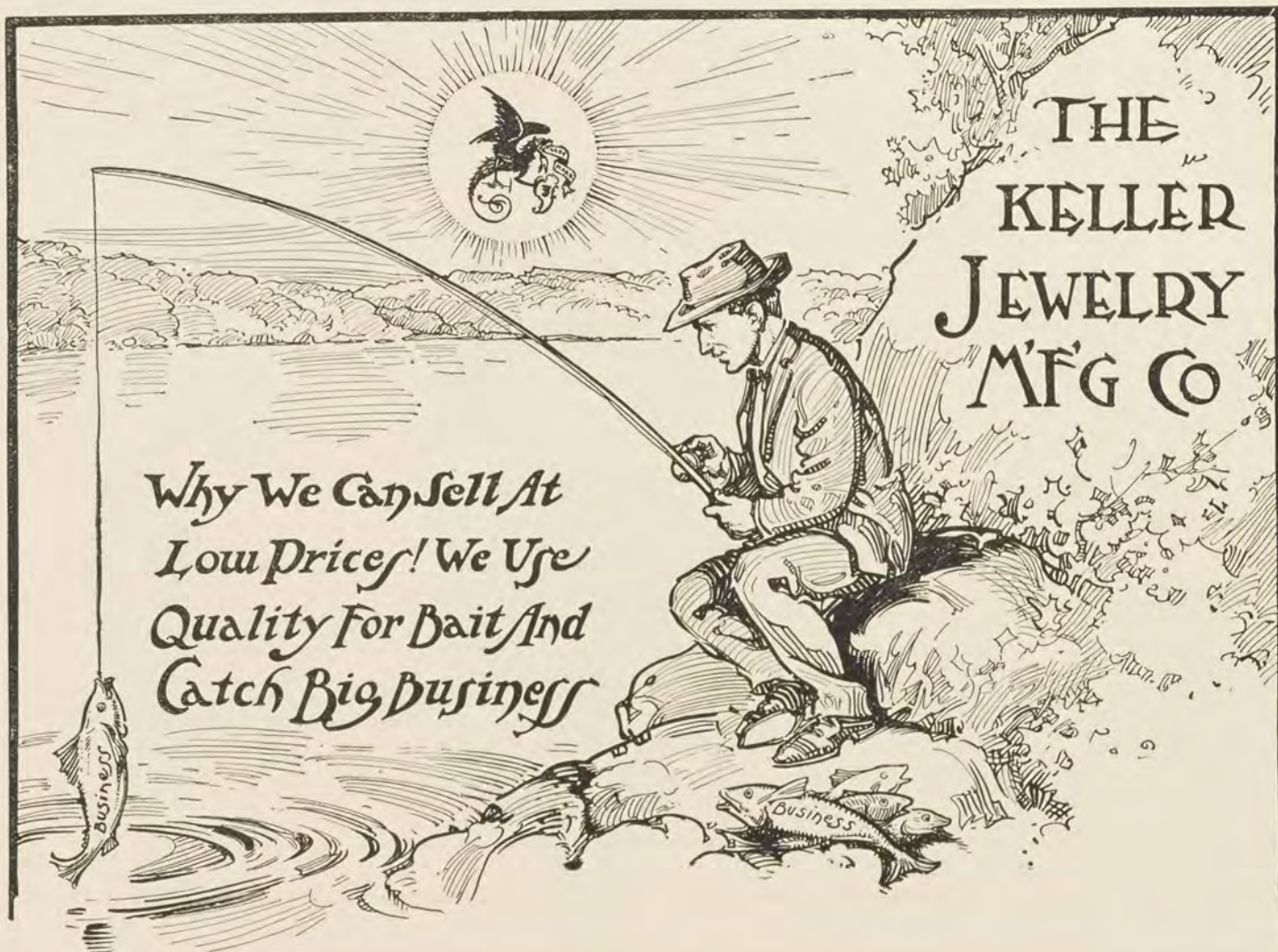
Manufacturing Jewelers and Silversmiths

100 Richmond Street, Providence, R. I.

New York Salesroom
13 Maiden Lane

Chicago Salesroom
Heyworth Building, Wabash Avenue and Madison Street

Canadian Salesroom
350 King Street, Kingston, Ont.



A 10 K. Line that is 10 K.

THE SUCCESS which has attended our efforts is the best proof we can offer in presenting our line to our friends this fall—excellence of workmanship and honesty in quality are our constant watchwords.

If you are not already a customer, let us have our salesman call on you, or write us for memo. package and be convinced.

We make the largest, most varied line of **CUFF BUTTONS** shown to the retail trade, also **LOCKETS, SCARF PINS, BROOCHES, CROSSES, FOBS, NECK CHAINS, LORNETTE CHAINS, etc., etc.**

Our prices are the lowest possible, consistent with quality.

The greatest business in the history of the trade is expected this fall and holiday season. Start right by seeing that our line is well represented in your show cases.

THE KELLER JEWELRY MFG. CO.

64 Nassau Street, New York

Factory—8 Lum St., Newark, N. J.

Gold Cases

Filled Cases

Never before in the history of our business have we had so **large** and **varied** and **fine** assortments of **Gold** and **Gold Filled Cases** as we are showing to the trade this season. You will find in our stock many patterns **exclusively our own**, and by selecting these cases you will have an **exclusive** stock.

BE WISE AND SEE OUR LINE BEFORE BUYING YOUR FALL BILL OF CASES

The Non-Retailing Company

Jobbers in Watches and Chains
Lancaster, Pa.

The Main Features of Schools

The most requisite features to be considered with schools lies in the quality of the instructions.

This demands instructors who are masters of their craft, who have developed the teaching faculty, and who enter into their work of endeavoring to impart what they know and can do it with enthusiasm and zest.

IN THESE ESSENTIALS WE LEAD

The superior quality of our instructions is possible only because we have superior instructors.

They give their personal attention—their interested personal attention—to each student individually; they give the closest attention to the smallest detail. In short, they lead the strenuous life, and that is exactly why our school leads.

Send for circular.

THE CANADIAN HOROLOGICAL INSTITUTE

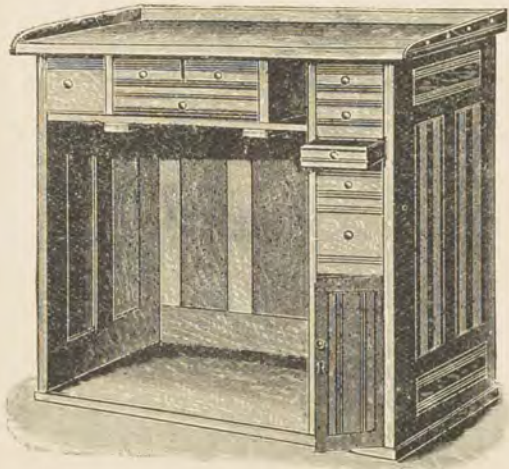
H. R. PLAYTNER
Director

115 King St., East, TORONTO, ONT.

Circulars on
Application

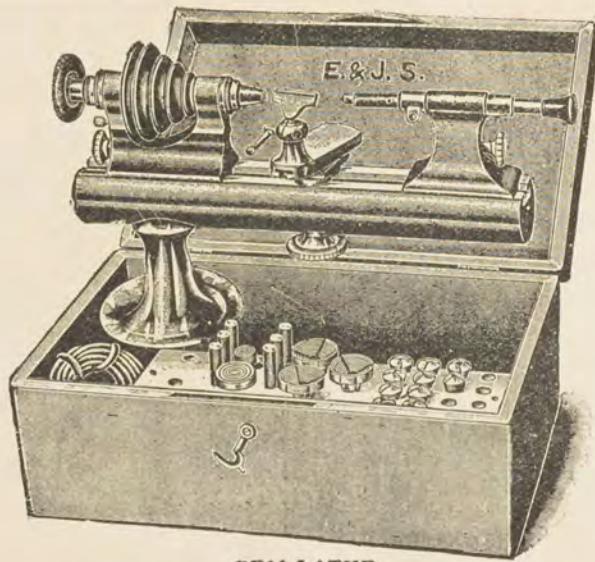
Special Prices for Lathe Outfits

For the convenience of many purchasers who are either about to start in business, or wish to install a new bench outfit, we sell the combinations quoted on this page at special low prices. The Lathes, Benches and Attachments are all of good quality, as we sell only goods that are serviceable and reliable. Write us before you make your purchase, and any information wanted will be furnished at once. We always have the goods in stock, and fill orders at once.



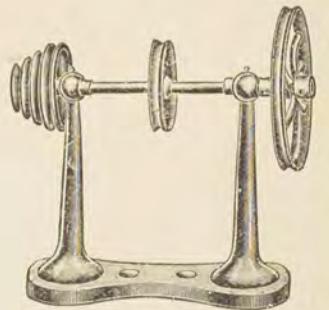
SOLID OAK BENCH, No. 2

Has eight drawers and chalk box. Built to wear and is well finished. Size—40 inches high, 40 inches long, and 20 inches wide.



GEM LATHE

With 14 chuck combination



COUNTERSHAFT No. 12



FOOT-WHEEL No. 1

Lathe Combination C

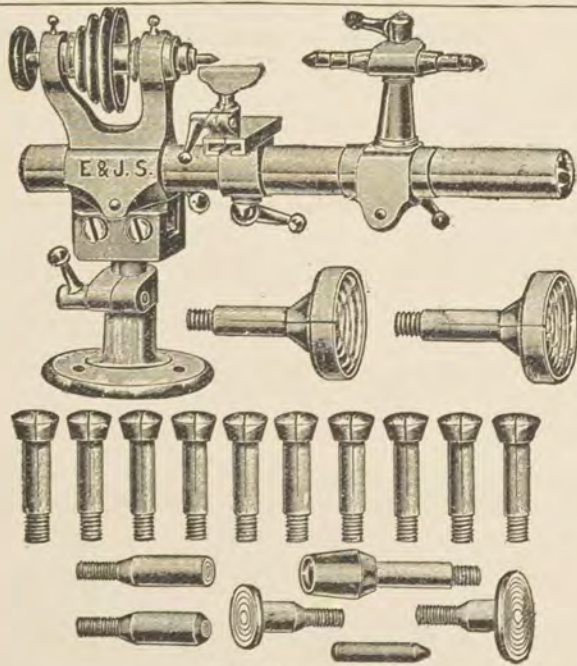
All complete, as illustrated, **\$32.65** net cash

The Lathe and Bench in this combination are first class in every way, and with the wheel and countershaft make up one of the best medium-price outfits now sold. The Lathe is warranted true and perfect.



OAK FINISH BENCH, No. 4

Made of elm, and finished in oak. Dimensions are same as bench No. 2. It is a good, every-day serviceable bench.



GENEVA LATHE

Combination as illustrated



COUNTERSHAFT No. 12



FOOT-WHEEL No. 1

Lathe Combination D

Complete, as illustrated, **\$24.38** net cash

The Geneva is especially well adapted for watch work and light turning of every kind. We have sold hundreds of this Lathe, and our customers are always pleased. Extra chucks and attachments can be added at any time.

Our new 1906 Catalogue quotes many other makes of Lathes and a full line of Attachments. Send us your business card and the book will be sent you free of charge.

E. & J. SWIGART, Cincinnati, Ohio



**A RULE THAT
WORKS BOTH
WAYS**

**GIVES
FULL MEASURE
and a LITTLE MORE**

GETTING AN EXTRA PROFIT

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

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

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

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

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

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

We are paying 60 cents per ounce for old silver.

GOLDSMITH BROS.

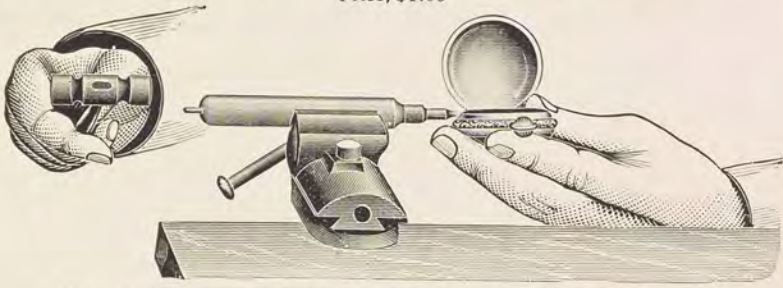
Sweep Smelters, Refiners and Assayers

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

CHICAGO, ILL.

The Improved Nilson Patent Rivet Extractor

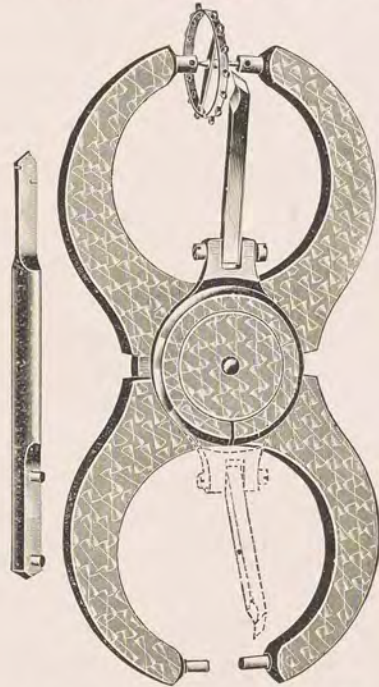
Price, \$1.00



The wood handle has been replaced by an octagon brass full nickel-plated handle.

SOMETHING NEW

Patented May 15, 1906



New Patented "E.F.B." Caliper

with REVOLVING and SWINGING INDEX

Does away with the old-style Index Bar and cumbersome shifting of the same from one side of caliper to the other.

Instantaneous placing of Index in position is possible only on this, the LATEST and BEST of all calipers.

Price, \$2.25 each



The Simplex Watch Hand Remover, No. 55

Simplicity itself. Will remove hands quickly, and the strain is away from the hole where damage is most often caused by other tools for this purpose. Nickel plated.

Price, 80c.



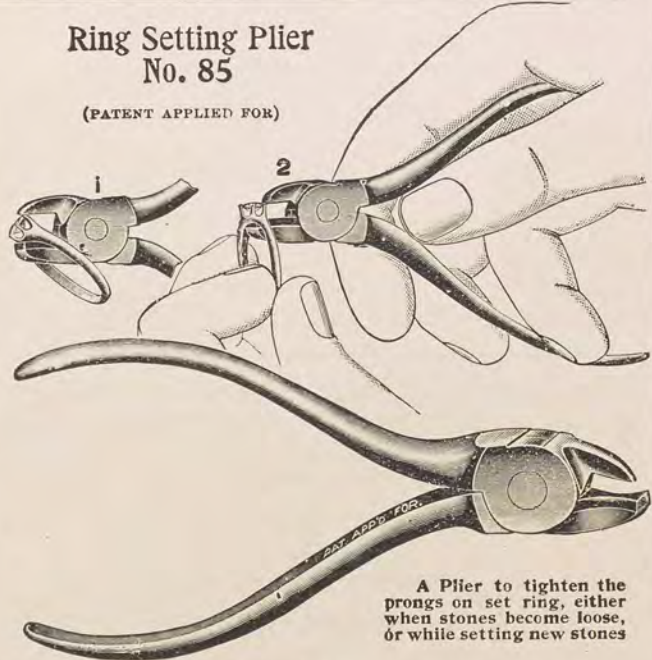
Roller Remover No. 18

Quickly adjusted to suit the various size rollers. Nickel plated, jaws hardened and blued.

Price, \$1.25

Ring Setting Plier No. 85

(PATENT APPLIED FOR)



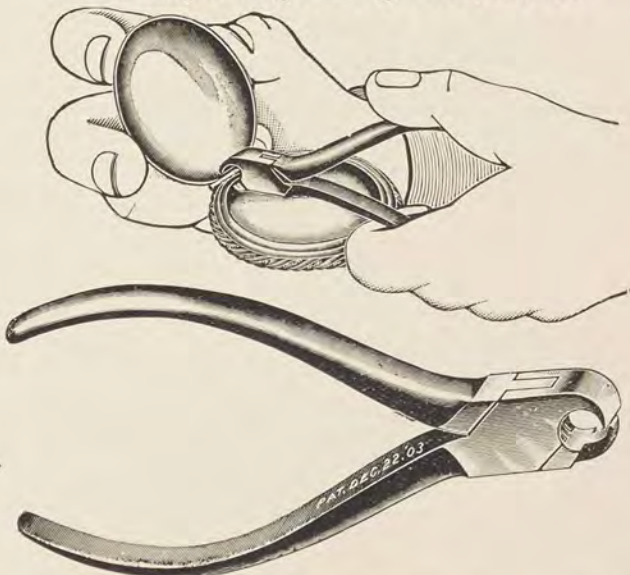
A Plier to tighten the prongs on set ring, either when stones become loose, or while setting new stones

For sale by all jobbers in the United States and Canada

Hammel, Riglander & Co.

47 and 49 Maiden Lane NEW YORK

Watch Cap Straightening Plier, No. 55



The most popular article on the market and most useful. Finely nickeled. Best material.

Price, \$1.25

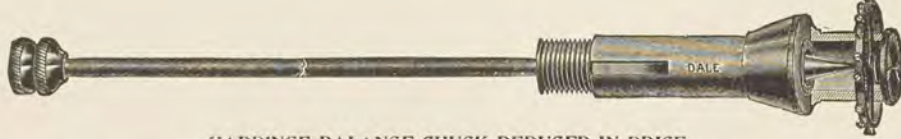
The illustrations will show in a way the method of application. When the prongs are just new cut, you drop the handle very low and allow the under jaw to go clear through the ring (see Fig. 1) and rest on the opposite side of the setting, while the top jaw bends the prong slightly over the set, and then draw the under or brass-lined jaw under the ring (Fig. 2) and gently press the prong down into its proper place on the stone. The top jaw is grooved to take the point of the prong and not allow the plier to slip off and injure the stone. The lower jaw is brass lined to prevent the tool from scratching the inside of the ring; the lower jaw is also longer than the top jaw to permit of securely holding the ring while the prong is bent to place. It is also hollowed out on the sides to permit of the ring being turned to the side to press down the end prongs. There is also a groove in the side of the top jaw to use on a ring that has a prong deep into the side, so the end cannot grip it. It will be found in setting opals that are very brittle, one can make the prong good and tight and not chip or mar the stone at all. Made in the best possible manner, of high-grade Swedish Steel, finely nickel plated.

Price each, \$1.25

PRACTICAL TOOLS



Round-Faced Wire Chuck
Price, 60c. each



HARDINGE BALANCE CHUCK REDUCED IN PRICE

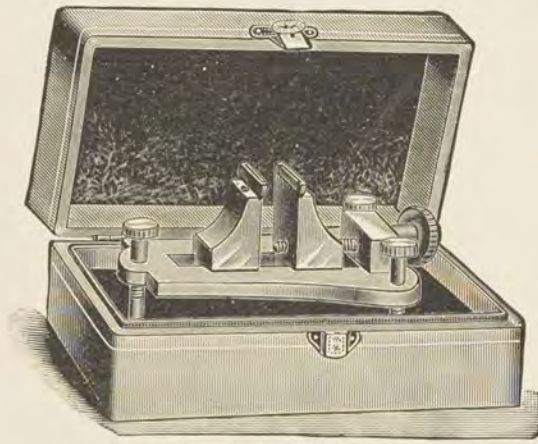
We have reduced the price of this Chuck to **\$3.75** from **\$5.00**. Do not be misled by poor substitutes of this article. Every one is properly made with hardened and ground center, and is true. We have sold thousands of these to the watchmakers throughout the country, giving universal satisfaction, and it is no experiment. **Made for all standard watchmakers' lathes.**



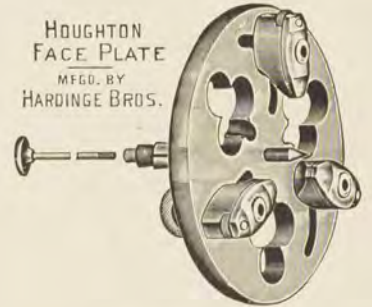
Flat-Faced Wire Chuck
Price, 60c. each



Fitted to any Standard Watchmaker's Lathe
Price, in neat case, **\$30.00**



AGATE JAW POISING TOOL
Nicely Made and Nickel Plated
Price, in case, **\$2.00**



Houghton FACE PLATE
MFGD. BY HARDINGE BROS.
With Trefoil Peep Holes
Fitted to any Standard Watchmaker's Lathe
Price, **\$8.00**

We make a specialty of nickel plating and repairing all makes of watchmakers' lathes, and guarantee a first-class job. We are manufacturers of high-grade Pyrography Points, also repair any make of Pyrography Point. If interested, write for booklet pertaining to this line of goods.

SEND FOR OUR NO. 5 CATALOGUE

HARDINGE BROS., 1034-1040 Lincoln Ave., CHICAGO, ILL., U.S.A.

Tried and Proven

For 29 years the

JEWELERS' LEAGUE

has been in continuous and successful operation

During this period they have paid to the beneficiaries of their members over

\$3,134,000.00

without disputing or compromising a single claim.

To-day, with adequate rates, the League is in the full blast of vigor and prosperity.

Those desiring life insurance protection for their wives, or those dependent upon them, should investigate the new monthly tables of rates, which offers maximum insurance at minimum cost.

Death benefits, \$1000 to \$5000
Age limit of applicants, 21 to 44 years

For full particulars, address the

Home Office, 12 John St., New York City

GEO. W. STREET, President

F. A. MARSELLUS, Sec'y and Treas.

Established in 1888

L. P. TARBOX

Baltimore Jewelers' Supply Co.

- A Webster-Whitcomb Lathe, tip-over rest, 10-chuck combination
- A Speed Countershaft, nickel-plated
- A Foot-wheel, swing treadle, 40 pounds

All for \$40.65, net



- | | |
|------------------------------|----------|
| | Per Doz. |
| Staffs | \$1.00 |
| " Polished | 1.25 |
| 3-inch Round or Square Files | 1.00 |
| Imperial Main-springs | 1.00 |
| Paradis Main-springs | 1.00 |
| Fine C. and F. Jewels | 1.00 |
| Jobbing Stones | |

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210 E. Baltimore St., Baltimore, Md.

LIQUID AMBER

JEWELERS' CEMENT



Get the Genuine

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

Sold by every Material Dealer in America

Price, 25c.

Sussfeld, Lorsch & Co.

Wholesale Distributing Agents

37 Maiden Lane, New York



OUR MASONIC EMBLEMS

are individualized by certain important characteristics, which have materially added to their selling qualities. Among these are: the quality of material utilized; our emblems having twice the thickness of the ordinary class of goods. Second, the excellent workmanship, which will bear the minutest inspection, being the product of the most skillful labor obtainable, while the beauty and unique conception of the designs strongly appeal to the artistic sense, and while our emblems will bring 50% more at retail on account of their attractiveness, uniqueness and general superiority, they do not cost any more than the ordinary makes.

Within the extensive range of our manufacture are included Elk, Eagle, Masonic, K. of P. and other societies and fraternities, etc., which are represented in styles of almost endless variety. They are copiously illustrated in our 1906 Catalogue and Supplement.

If you have not received our 1906 Catalogue and Supplement, be sure and write for the same. It is replete with useful information. If your jobber does not handle our line, send to us direct.



THE GUSTAVE FOX CO.

14-16 E. Fourth Street

Cincinnati, Ohio, U.S.A.

Stamp our new trade-mark on your memory
It is a guarantee upon which you safely stake your reputation



The "Fine Mark" on government gold is not a stronger guarantee than our trade-mark on Emblems



A PROSPEROUS YOUNG MAN

is one who is master of his business

Are you successful, do you earn as much as you should or is your trade good as your competitors? If not, increase it by learning to engrave and repair watches **RIGHT**. Save time, money and energy. It is a

pleasure to engrave and repair watches by our method and our tools. We have doubled salaries for hundreds of young men during the last sixteen years. Write us asking for booklet and samples of work by our students. What we have done for others we can do for you. **DOUBLE YOUR SALARY.** High-class workmen always in demand. We can place double our graduates in good positions. Only young men of good character admitted, our present enrollment is composed of young men from the best families, many sons of leading Jewelers. The best environments, the best building in the city (new and fire proof), north light, everything for advancement and comfort of students. We would be pleased to mail our booklet to you.

The REES SCHOOL

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

Steele Memorial Building
ELMIRA, N. Y.

PHILIP PRESENT

207 Chamber of Commerce Building
ROCHESTER, N. Y.

Manufacturer, Importer and Wholesaler

Watches, Diamonds, Jewelry
Silverware

Tools and Material

We have recently enlarged our factory and are prepared to do special or job work for the trade on short notice



EMBLEMS

Pins, Buttons and Charms

in

Solid Gold and Rolled-Gold Plate

Also

20th Century Solid Gold Shell Charms

—the best money can buy, unless a solid gold charm.

IRONS & RUSSELL

New York Office
11 MAIDEN LANE

Main Office and Factory
95 Chestnut St., PROVIDENCE, R. I.



EXTRA X ★ F FINE



SWISS PATTERN FILES

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



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

NICHOLSON FILE CO.

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

Reinhard & Patterson

114 West Baltimore Street, BALTIMORE, MD.

DIAMONDS

WATCHES

JEWELRY

SILVER NOVELTIES

COMMUNITY SILVER

FALL LINES READY

We do **RELIABLE**

Silver-Plating

and
Silverware

Repairing



Can this be Repaired?

Yes!

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

Silverware
Repaired and
Replated

Sercomb Company 1429 Wabash Ave.
CHICAGO



WE BUY

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

WE PAY FOR OLD GOLD:

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

MARKET RATES FOR SILVER AND PLATINUM

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

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

WE SELL

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

PRICES OF ALLOYED GOLD:

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

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

LANCASTER PA.

LANCASTER, PA.

H.S. MEISKEY COMPANY
IMPORTERS-MANUFACTURERS.

H.S. MEISKEY COMPANY
IMPORTERS-MANUFACTURERS.

It is said that we meet LEGITIMATE
Competition from all sides.
YOU WILL FIND A LOOK INTO
OUR TRAVELERS' NEW AND EX-
TENSIVE LINES QUITE CONVINCING.

We are showing the most ORIGINAL
LINES OF **BRACELETS, CHAINS,
RINGS, FOBS, BROOCHES, LOCKETS**
AND **ATTRACT YOU.**

RICH CUT GLASSWARE
AND **COMMUNITY SILVER,** in-
cluding the NEW "CLASSIC" AND
"LINTON" DESIGNS.

H.S. MEISKEY COMPANY
IMPORTERS-MANUFACTURERS.

H.S. MEISKEY COMPANY
IMPORTERS-MANUFACTURERS.

LANCASTER, PA.

LANCASTER, PA.

BRACELETS
SIGNET RINGS

"Sapienti Sat"

Memo. orders solicited

L. Witsenhausen

47-49 Maiden Lane
New York

Chicago: L. KATLINSKY, 405 Masonic Temple

DON'T LOSE CUSTOMERS!

WASTE

TIME!

by sending your trade away when they have anything like DIAMONDS, WATCHES or DIAMOND-MOUNTED JEWELRY to sell. Send the goods to me for a **SPOT CASH OFFER** and save time and worry. We do all the work for you, pay express charges and insure the goods in transit. Have been right here for 16 years, and can furnish the best references on application. Offers and valuations furnished promptly. See my advertisement on another page of this issue. Write for further information.

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

We had a special lot of diamonds which we mounted in single stone rings to retail from \$30. to \$50. - bright - snappy - salable. - If you have a special sale, or if you want some for stock it would pay you to let us send some for your inspection - which we will gladly do for the asking -

J. Engel & Co.
JEWELRY FOR THE JEWELER

BALTIMORE, MD.

The Bryant Rings.

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

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



Trade-Mark

M. B. BRYANT & CO.

7 Maiden Lane, NEW YORK

FIRE

SEND AT ONCE

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

THE C. G. BRAXMAR CO.

Manufacturers

No. 10 Maiden Lane, NEW YORK

POLICE

Art Metal Ceilings

FOR INTERIOR FINISH



Write us for information and prices

The Canton Art Metal Co.

(Formerly The Canton Steel Roofing Co.)

CANTON, OHIO

New York Branch, 525 West Twenty-third Street
Minneapolis Branch, 253 Second Ave. S.

Very attractive.

Admit of highest degree of ornamentation.

A nice ceiling at low cost.

Will not crack, burn, peel or fall off.

The right kind for every jewelrystore.

Insist upon having "Canton" Metal Ceilings when you remodel your room. You will never regret it.



SUCCESS is the best recommendation a school can have

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

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

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

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



BEWARE
OF
IMITATIONS

FULL NICKEL PLATE

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

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

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

FOR SALE BY ALL JOBBERS
IN THE UNITED STATES AND CANADA

1443
**PERFECT
CONSTRUCTION**

IN EVERY DETAIL

HARD SPINDLES RUNNING IN
HARDENED
STEEL
BUSHINGS

This certifies that the Lathe marked
AMERICAN WATCH TOOL CO.,
No. 12824
was made by us from the best materials, on
the most approved plan, and is a reliable lathe.
For any defect in material or workman-
ship we hold ourselves responsible.
But Notify US Promptly of Any Faults. No Claims Allowed
After 60 Days. **WALTHAM, Jan. 7th, 1904.**
American Watch Tool Co.,
INSPECTED BY J. Graham.

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

THE TRUE BLUE

Beaded Label

French Watch Glasses




"CLEAR AND BRIGHT
AND LABELED RIGHT"

HIGHEST QUALITY, FINISH,
CORRECT SHAPE
AND
ACCURATE SIZING

The Crown Watch Glass



Note the  and beware of imitations

Ask your jobber for them

SUSSFELD, LORSCH & Co.

Wholesale Agents

PARIS
21 Rue de l'Echiquier

NEW YORK
37 Maiden Lane



Liberal and assured profits

That's one of the things that recommends the sale of *Victor Talking Machines and Records* and it's just the sort of business that finds a place in a jewelry store.

Every *Victor* dealer can figure out just how much profit he stands to make on *Victor* goods and know to a certainty he will get every cent of that profit. He doesn't need to be afraid that some other dealer will start slashing prices and take all the profit out of *Victor* goods.

We not only protect our dealers, but give them larger profits than they get on any other talking machine. We help them to get business, too, by advertising

Victor Talking Machines and Records

in magazines that reach 49,000,000 people every month.

You shouldn't miss the opportunity to get hold of this desirable trade. It is easy to handle, brings new customers to your store all the time and is full of profit.

Isn't that interesting to you? Use the attached coupon and get full particulars.

Victor Talking Machine Co.
Camden, N. J.

FILL OUT **CUT OFF** **MAIL TODAY**

Victor Talking Machine Company, Camden, N. J.

Please send me illustrated catalogue of Victor Talking Machines and Records, with full trade information and names of my nearest distributors.

Name _____

Street _____

City _____

State _____

40

The Peckham Ring Stretching Machine



This machine will stretch Seamless Rings to **almost any size** in a few minutes, and soldered plain rings, stone-set rings and diamond mountings several sizes **without** losing their shape, and the ring will remain **perfectly round** after being stretched. No other machine will show these results.

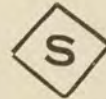
It is very simple in its construction, and any jeweler can operate it.

Price, \$16.00

Including 8 Rolls



TRADE MARK



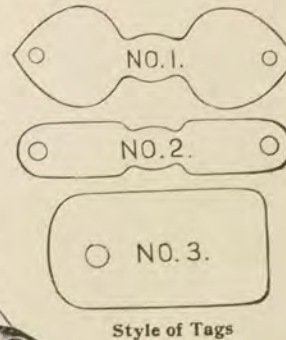
PECKHAM SEAMLESS RING MFG. CO.

45 Maiden Lane, New York

"THE" Machine for Tagging Rings, etc.

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

Price complete, \$5.00 net



Style of Tags



Hand Pliers are Useless for Tagging Rings

Pat. applied for

The HOLD-ON CLUTCH

Best Safest Simplest



YOU slide the Clutch on— IT does the rest

Pat May 20, '02

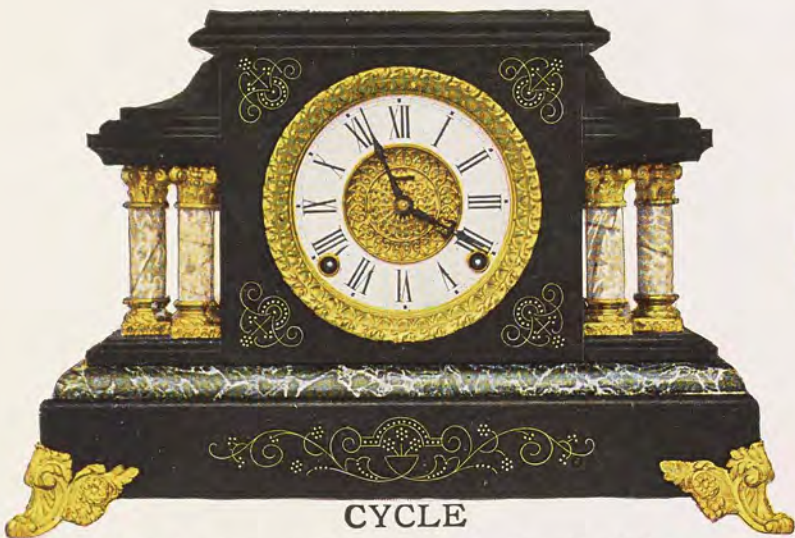
A Splendid Seller Retailing at 50c.

Scarf Pin Insurance

Ask your Jobber or write to

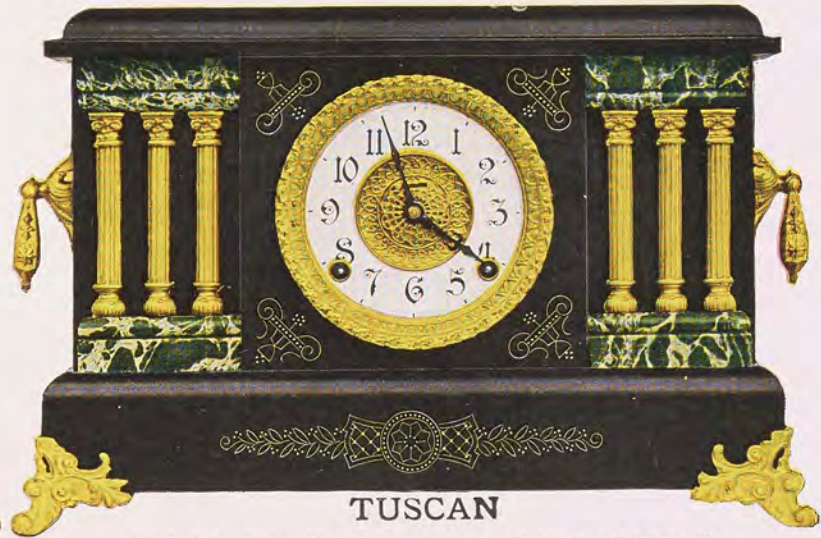
Hold-On Clutch Co., 33 Gold St., NEW YORK

INGRAHAM CLOCKS



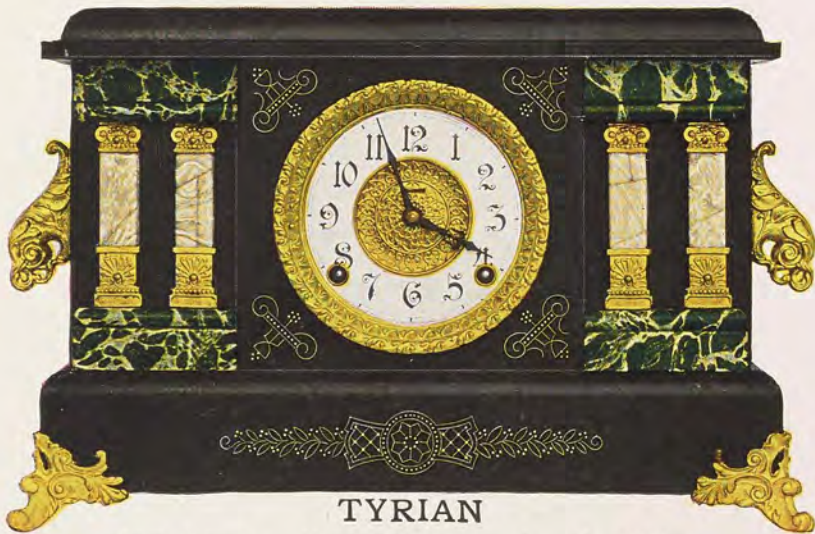
CYCLE

Dial, 5 inches. Height, 11 inches. Length of Base, 14½ inches. White or Fancy Dial, Columns Imitation Onyx. \$9.50



TUSCAN

Dial, 5 inches. Height, 11 inches. Length of Base, 17 inches. White or Fancy Dial. Mouldings Marbleized, Brass Columns \$8.20



TYRIAN

Dial, 5 inches. Height, 11 inches. Length of Base, 17 inches. White or Fancy Dial. Mouldings Marbleized, Imitation Onyx Columns. \$7.90



CLIMAX

Dial, 5 inches. Height, 11 inches. Length of Base, 16 inches. White or Fancy Dial, Metal Columns . . \$7.30



DON

Dial, 5 inches. Height, 11½ inches. Length of Base, 12 inches. White or Fancy Dial, Metal Columns . \$6.60



AMHERST

Dial, 5 inches. Height, 12 inches. Length of Base, 16¼ inches. White or Fancy Dial, Metal Columns \$9.00

The above represent a few of our latest and most popular designs in Enameled Wood Clocks. At the prices, these clocks are by far the best value we have ever offered, which means they are the cheapest clocks, quality considered, in the market. The finish and quality of Ingraham Clocks is so well and favorably known that comment is scarcely necessary.

Our process of enameling produces a surface and lustre superior in appearance and durability to the finest imported marble. Every clock is run and tested before it leaves the factory and with proper usage is warranted a correct timekeeper.

For net prices apply to your local jobber. All wholesalers handle Ingraham Clocks.

BRISTOL, CONN.

THE E. INGRAHAM COMPANY

INGRAHAM CLOCKS



ERNA

Dial, 5 inches. Height, 11½ inches. Length of Base, 15½ inches. White or Fancy Dial. Columns Hand Decorated Porcelain. \$8.00
Columns Imitation Onyx, or Metal \$7.75



VESTAL

Dial, 5 inches. Height, 12¼ inches. Length of Base, 17½ inches. White or Fancy Dial, Marbleized Mouldings, Metal Columns. \$8.30



ADRIAN

Dial, 5 inches. Height, 11 inches. Length of Base, 17½ inches. White or Fancy Dial. Mouldings and Columns Marbleized. \$8.00



VICAR

Dial, 5 inches. Height, 11 inches. Length of Base, 16 inches. White or Fancy Dial, Marbleized Mouldings, Imitation Onyx Columns. \$7.75



ELITE

Dial, 5 inches. Height, 10½ inches. Length of Base, 11½ inches. White or Fancy Dial, Imitation Onyx Columns. \$6.30



ZENITH

Dial, 5 inches. Height, 11 inches. Length of Base, 18¼ inches. White or Fancy Dial. Mouldings Marbleized. Imitation Onyx Columns \$8.20
This Clock may be fitted with alarm, when so ordered at 75 cents, additional list.

The above represent a few of our latest and most popular designs in Enameled Wood Clocks. At the prices, these clocks are by far the best value we have ever offered, which means they are the cheapest clocks, quality considered, in the market. The finish and quality of Ingraham Clocks is so well and favorably known that comment is scarcely necessary.

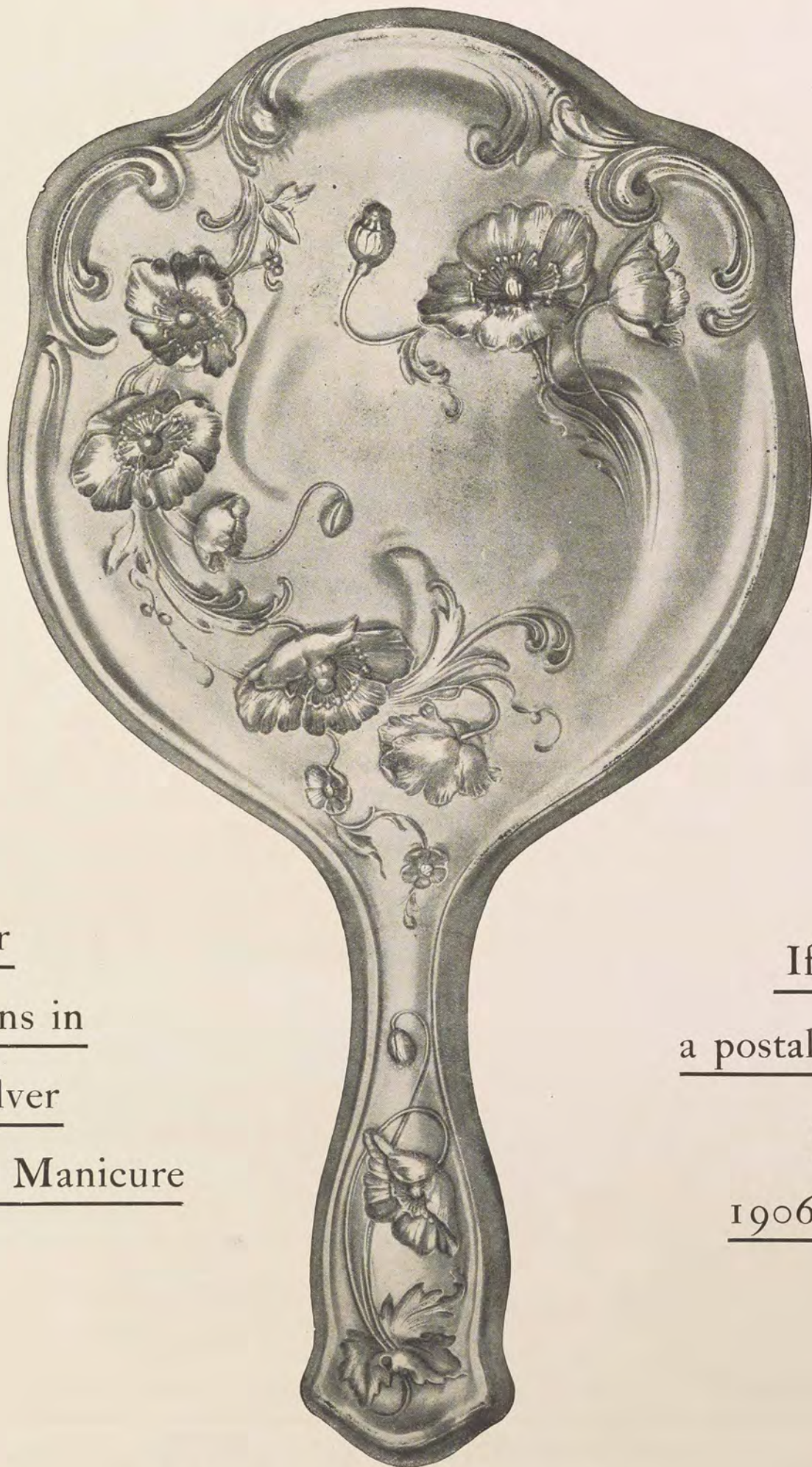
Our process of enameling produces a surface and lustre superior in appearance and durability to the finest imported marble. Every clock is run and tested before it leaves the factory and with proper usage is warranted a correct timekeeper.

For net prices apply to your local jobber. All wholesalers handle Ingraham Clocks.

BRISTOL, CONN.

THE E. INGRAHAM COMPANY

The
Poppy



One of our
new patterns in
Sterling Silver
Toilet and Manicure
Goods

If interested
a postal will bring
to you our
1906 Catalogue

WILLIAM BENS Co.

New York Office
396 Broadway

95 Chestnut Street, PROVIDENCE, R. I.

San Francisco Office
1937 Bush Street



It may be possible to make a better polish for silver and cut glass than **Wright's Silver Cream**, but up to the present time it has never been done.

For 33 years Silver Cream has been used by the best families in the land with perfect satisfaction.

Sold by all jobbers or direct

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

Ask J. A. Wright & Co. or your jobbers for our 1906 advertising proposition; it will interest every jeweler



OUR ELECTRO-PLATING SALTS

when dissolved in water make a Plating solution at once ready for work and **always correct shades**.
Know that we are the originators and manufacturers of

Dark Green Gold Salts (Antique)
and other Shades of Green

Likewise the

Rose and Orange Rose Gold Salts

used for single and double gilding, and of a good many other shades now on the market.

Our Roman Gold Salts produce an almost bright deposit, requiring little or no scratch brushing. **French Gray, 14 or 18 K. Gold, Old English Gold, Silver Ebonizer**, in fact any shade wanted can be had of us.
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The AUTOMATIC ELECTRO-PLATING MACHINES

Specially designed for the small manufacturing and the retail Jeweler, will be of interest to them.
Send for Pamphlet.

U. S. ELECTRO-CHEMICAL CO.

H. HIRSCHBACH, Prop. 80 Elm Street, New York



SAMS' SAFETY BLOWPIPE OUTFIT FOR JEWELERS

The original Sams'—
Greatly improved

FOR SALE BY ALL JOBBERS

- Outfit complete . . . \$12.50
- Outfit without bellows, 8.50
- Generator (B) . . . 6.00
- Blowpipe (A) . . . 2.50
- Foot Bellows (C) . . . 4.00
- Sams' Flux25

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(Sole Mfrs.)
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NECKLACES

LATEST FAD

Imitation bead necklaces
in all shades

A Few Suggestions

- Coral Amethyst
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- Pearl, etc.

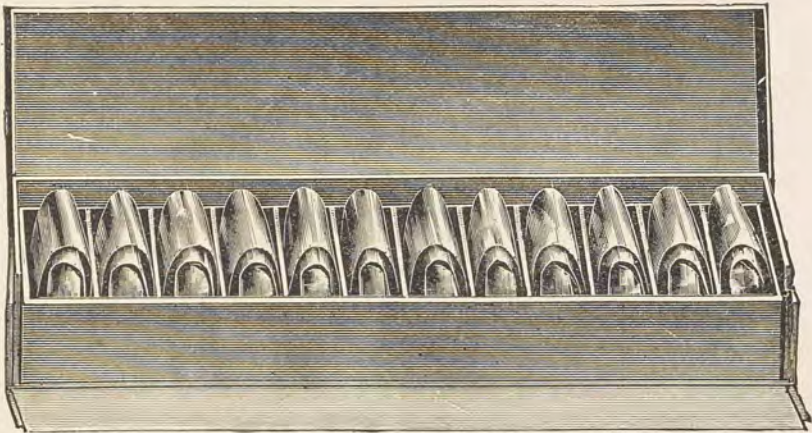


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Headquarters
for the most exclusive line
of French and Vienna Fans

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LOUIS STEINER, Importer, 520 & 522 Broadway, New York



THE BEST IS THE CHEAPEST

Why the "LAFAYETTE MAINSPRING" is superior

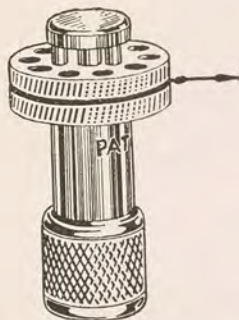
- 1st—It is guaranteed to be made of the Best Steel.
- 2d—It is made by Skilled Hand Labor.
- 3d—Each Spring is wrapped in Oil Paper and Silver Foil, which packing positively avoids exposure to the moisture of the air, and therefore all danger of rust is prevented.
- 4th—Each Spring bears a Metal Tag,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

The Newark Watch Case
Material Co's.

**Improved 10-Prong Patent
Sleeve Wrench**

This is the only practical Sleeve Wrench on the market. Every key is measured accurately, so they will fit all makes of sleeves. Beware of imitations and see that our patent number is stamped on the key you buy.

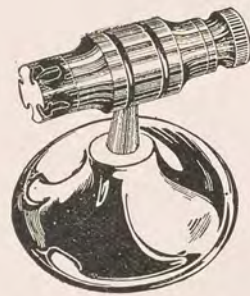
We are sole agents for this wrench. Beware of imitations. None genuine unless bearing date of patent shown in illustration. This is the only accurate and practical tool of its kind on the market.



**Patent Hand Broaching
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Most practical tool for broaching out all kinds and sizes of watch hands and seconds or any other small article which requires broaching of hole. You cannot damage or break the hands while broaching. Nickel-plated.

Price, \$1.00



**Patent Upright Roller
Remover**

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

Price, \$2.25

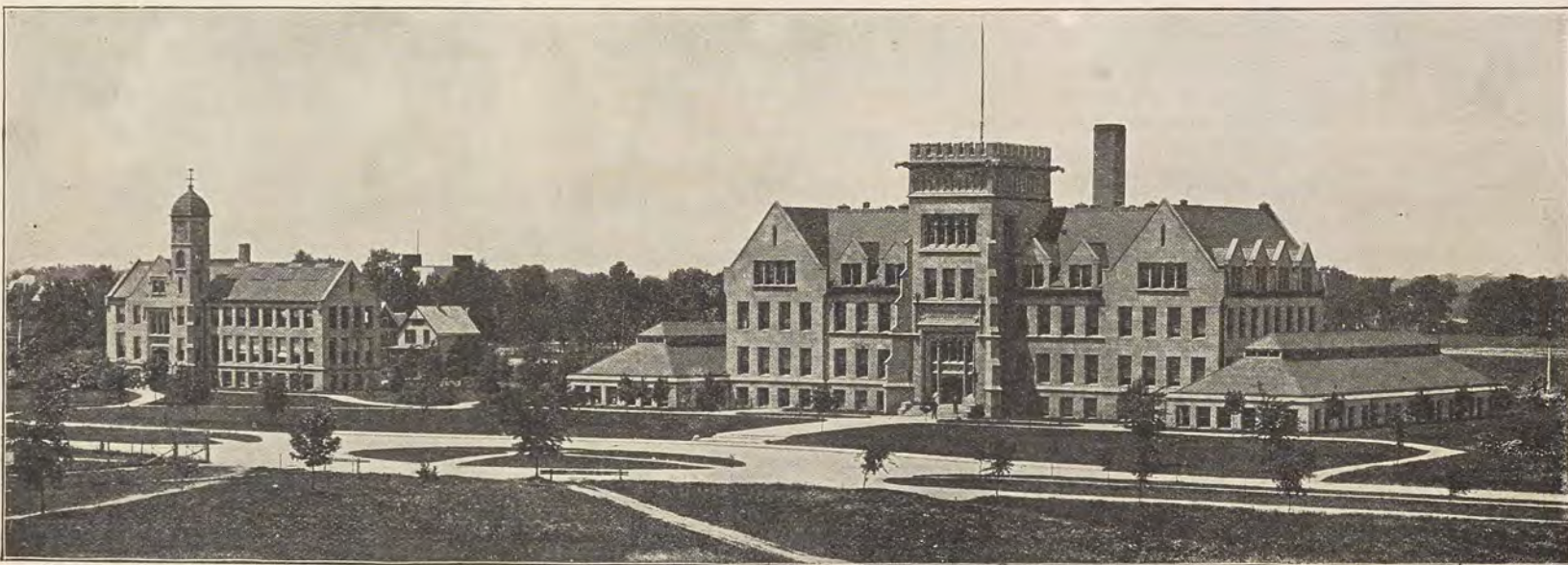
1447

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HENRY ZIMMERN & Co., Inc.

SOLE AGENTS

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"HOROLOGICAL HALL"

"BRADLEY HALL"

"Every room in the Horological Building is used exclusively for instruction of Watch Work, Jewelry Work, Engraving and Optics and the necessary offices to carry on the business of this kind, besides lecture rooms, cloak rooms and a room for experimental work."

ARE YOU LOSING MONEY by not being in possession of the ability to command the wages of a first-class workman? If so, do as thousands of others have done—come to the **Horological Department** of **Bradley Polytechnic Institute** and perfect yourself in Watch Work, Jewelry Work, Engraving and Optics. Do not put it off this time as you have in the past, but make up your mind that you will put yourself in shape to be on equal footing with the best workmen in the country, thereby being able to draw wages due a thorough workman. This school is not an experiment, having had **TWENTY-ONE YEARS'** successful experience. It is endorsed by the leading jobbers and watch manufacturers of this country; besides, we have hundreds of testimonials from individual jewelers who have been fortunate enough to get one of our students, or have had their sons take a full course in this institution, and from many students who are in business for themselves or have secured lucrative positions with salaries much in advance of what they were receiving before coming to us. Illustrated catalogue free on application. Send postal card to-day, with name and address, to **Department K,**

BRADLEY POLYTECHNIC INSTITUTE, Peoria, Ill.

GILDING AND PLATING DYNAMOS

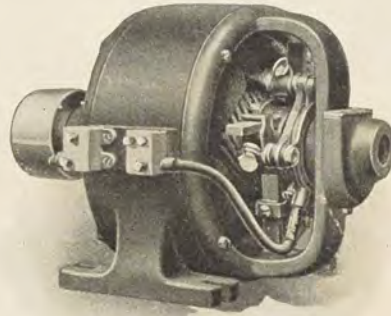
Something New for Jewelers or Small Plating Shops

These generators are the latest on the market and possess all new features.

They are mechanically and electrically up to date and of high efficiency.

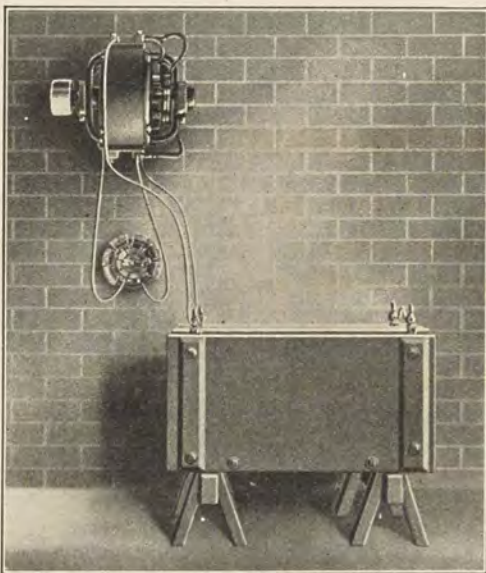
Can be used in all operations of Plating, Gilding or Silvering.

Operated in any position: ON FLOOR, CEILING, or SIDE WALL, thus effecting an economy of space.



Furnished in Four Sizes—

50 Ampere capacity
100 Ampere capacity
150 Ampere capacity
300 Ampere capacity



Dynamo on Side Wall

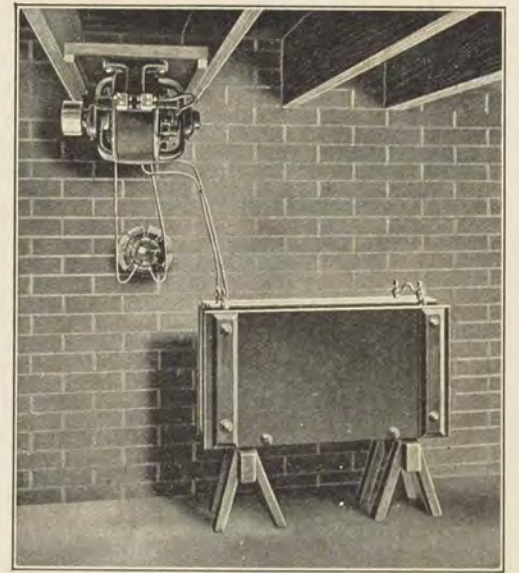
WE CLAIM:

Latest Features
Mechanical and Electrical

Adaptability

Economy of Space

Compound winding, insuring
maintenance of a fixed
voltage without drop



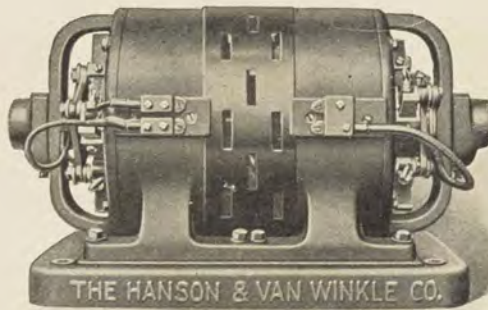
Dynamo on Ceiling

We can furnish these generators connected to a direct-current motor, as shown by the cut below. We can also furnish the outfit connected to an alternating-current motor if desired.

THE ACME OF
CONVENIENCE

ECONOMY IN POWER

CLEANLINESS



THE HANSON & VAN WINKLE CO.

LOCATION CAN SUIT
CONVENIENCE OF USER

NO LONG LINES OF BELTING

ABSENCE OF DANGER
TO EMPLOYEES

We can supply everything used in plating and polishing

Anodes of all metals
Polishing Lathes and Material

Solutions
Ammeters

Bufs
Storage Batteries

Compositions and Rouges
Voltmeters Rheostats

THE HANSON & VAN WINKLE CO.

(Established 1820)

Branch, Chicago, Ill.

Main Office, 219-221 Market St., NEWARK, N. J., U.S.A.

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

MAIN SPRINGS



\$ 1.00 per Dozen
10.50 per Gross



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

Lathe Cone for Rings OF SOLID GRIT



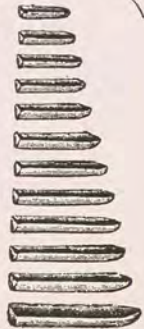
A desirable article for repairing. Is made of solid grit and will outwear thousands of paper shells. Has a metal taper cone to fit on brush arbor.

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

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

Price per pair, 75 cents

ROLLER JEWELS

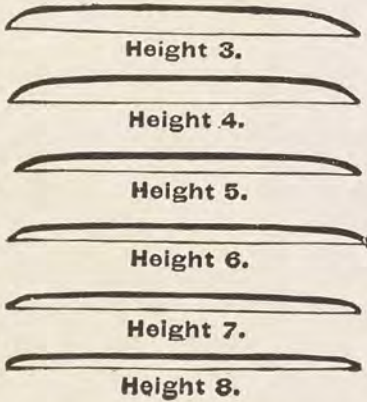


\$.15 per Dozen
1.50 per Gross

BALANCE STAFFS



\$.75 per Dozen
7.50 per Gross



Fac-Simile of Oval Label



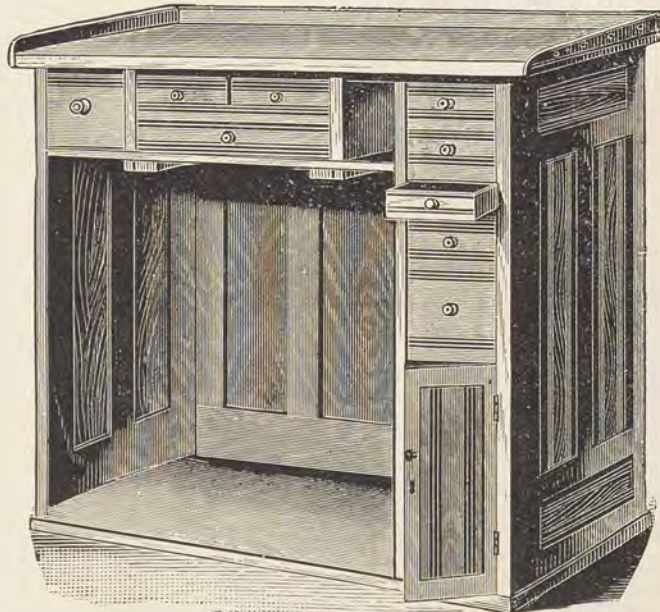
BALANCE JEWELS



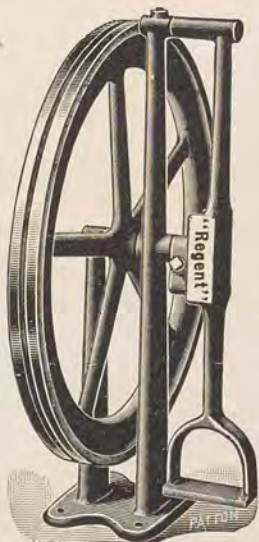
\$.75 per Dozen
7.50 per Gross

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

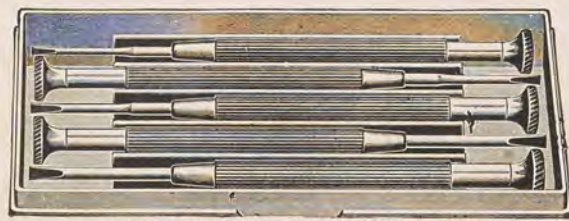
PRICE-LIST	Genevas	\$3.60 per gross	Patent Genevas	\$ 7.20 per gross
	Thick Mi-Concaves	4.00 " "	Lentilles	12.00 " "
	Mi-Concaves, Extra Thick	9.00 " "	Antiques	7.20 " "
	Parallels	7.20 " "	Lunettes	3.00 " "
	DOZEN LOTS AT SAME RATE			



Solid Oak Bench. \$11.50



Regent Foot Wheel, Improved
\$5.50



Set of 5 Nickel-Plated Screw Drivers. 40c.



Webster-Whitcomb Lathe and
2 Chucks. \$29.00

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(A Corporation)

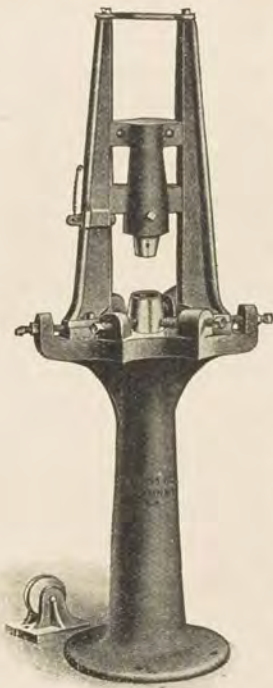
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JEWELERS' MACHINERY

"BLISS" JEWELERS' DROP HAMMER



This Drop Hammer is specially designed to meet the requirements of button and jewelry manufacturers, but can be used for a large variety of similar work in the manufacture of novelties, metal trimmings, etc. It is handy and solid in construction. Prices low.

Write for particulars regarding our presses, dies, drop hammers and special machinery for jewelry work.

E. W. BLISS CO.

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Agents for Chicago and Vicinity
STILES-MORSE CO., Chicago, Ill.

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We can tell you how it can be done with but little expense or effort on your part. You will find that a well-selected line of musical instruments will add to the attractiveness of your store. If you have the celebrated

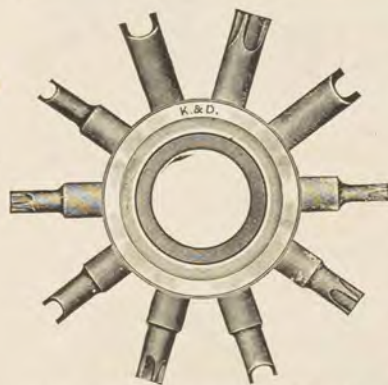
Durro

Violins, Bows, Strings, etc., you will find that your musical friends know at once of their high standing. Artists prefer them.

Then we have all kinds of Accordions, Mandolins, Guitars and Harmonicas, at lesser prices, but which are superior to any on the market at the same price.

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Buegeleisen & Jacobson
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No. 145. Ten-Prong Sleeve Wrench

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

The best of its kind made

Drivers are made of tool steel, accurately fitted to the different sleeves of all American watches, and are correctly shaped and properly tempered for strength and are handsomely blued. Center finely polished and nickel-plated. Drivers interchangeable with our No. 139 and No. 144 Sleeve Wrenches, a desirable feature for the jobber and watchmaker; the most simple and rigid of fastenings. All genuine tools stamped K. & D. Beware of imitations.

New K. & D. Roller and Hand Remover

with parallel jaws. Latest and Best



No. 150

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

FOR SALE BY ALL JOBBERS



KENDRICK & DAVIS, Lebanon, N. H.

Clement Combined Lathe Attachment

For Watchmakers (Patented)

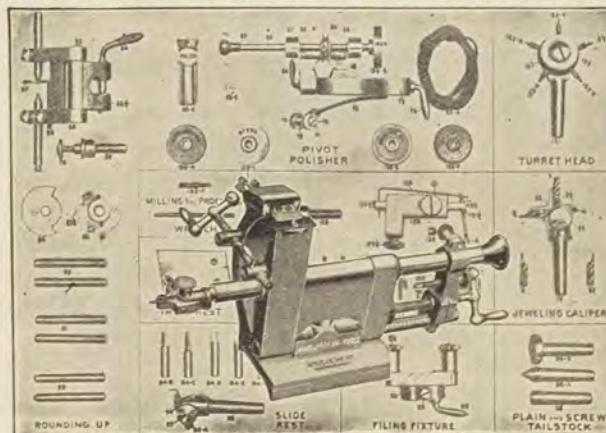
Fitted to any lathe

Complete as shown

\$40.00 strictly NET

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- 2.—Screw Tailstock
- 3.—Swing Rest Jeweling Caliper
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- 6.—Filing Fixture
- 7.—Rounding-up Tool
- 8.—Milling Fixture
- 9.—Rusty Pinion Polisher
- 10.—Profiling Fixture
- 11.—Turret Head
- 12.—Table Rest



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- Turning
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- Rounding up
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Be sure you get OUR LATEST

150 improvements since our FIRST

This tool is now PERFECTED

W. D. CLEMENT, WALTHAM, MASS.



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PRICES NOT ADVERTISED IN ANY JOURNAL

MOVEMENTS

Are
Fine
Timepieces



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

Made in 6 Different Grades

A trial will convince you of their merits.
Send for price-list.

10 Ligne 11 Ligne 0 Size 12 Size 16 Size

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

Why is it so many watch movements are sold under the plea that they are just as good as the OMEGA? There must be a reason

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We manufacture a complete line of

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

Also, all kinds of

Plain, Real and Imitation Tortoise
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Selection Packages Sent to Responsible Jewelers

Wagner Manufacturing Co.

41 Union Square, New York

Repair Work a Specialty

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

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NEW YORK



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*Mountings that help sell
Diamonds*

CROSSMAN COMPANY

☞ Be sure and keep us in mind before buying your Fall line of Necklaces and Pendants. We are getting out a nobby line of Necklaces and Pendants set with Baroque Pearls and Colored Stones.

☞ We also have a nice line of Baroque Pearl Rings, Brooches, Collars, Ear Studs, Scarf Pins, Lorgnette and Neck Chains always on hand. Memo. business will receive prompt attention.

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Special Rates to Chicago Fall Meetings, 1906

OF THE

Chicago Commercial Association

(Succeeding the National Association of Merchants and Travelers)

At CHICAGO—"The Ideal Summer Resort"

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Merchants' special rates, Western Passenger Association Territory, including the following States: Iowa, Nebraska, except points on Great Northern Ry., Colorado, New Mexico, on the Atchison, Topeka & Santa Fe proper, New Mexico and Arizona on the Santa Fe Pacific; Montana, from points on the C. B. & Q. Ry., Wyoming, from all points on the C. B. & Q. Ry., and C. & N.-W. Ry., and from Cheyenne and points east on the Union Pacific; also all points in Wisconsin, Minnesota and North and South Dakota, except on Great Northern Ry., Northern Pacific and the Soo Line, and members on these lines can secure the reduced rates from the nearest points on other lines; Illinois, Missouri and Kansas in Western Passenger Association Territory, and Northern Peninsula of Michigan.

FOURTH MEETING	{	Dates for Buying Tickets—September 1, 2, 3, 4, 5, 6, 7, 8 and 9.
		Dates for Returning Home—September 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18 and 19.
FIFTH MEETING	{	Dates for Buying Tickets—October 27, 28, 29, 30, 31, November 1, 2, 3 and 4.
		Dates for Returning Home—October 29, 30, 31, November 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 and 14.

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

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The Great Central Market for Jewelry and Optical Goods

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

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

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(Succeeding the National Association of Merchants and Travelers)

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From all points on the Atchison, Topeka & Santa Fe System, east of and including Arizona and New Mexico; Chicago, Rock Island & Pacific Ry.; Chicago, Rock Island & Pacific Ry. (Choc. Dist.); Chicago, Rock Island & El Paso Ry.; Chicago, Rock Island & Gulf Ry., El Paso & Southwestern System; Fort Worth & Denver City Ry.; Fort Worth & Rio Grande Ry.; Gulf, Colorado & Santa Fe Ry.; Galveston, Harrisburg & San Antonio Ry.; Houston East & West Texas Ry.; Houston & Texas Central R. R.; International & Great Northern R. R.; Kansas City, Clinton & Springfield Ry.; Kansas City Southern Ry.; Missouri, Kansas & Texas Ry.; Missouri, Kansas & Texas Ry. of Texas; Missouri Pacific & Iron Mountain System; San Antonio & Arkansas Pass Ry.; St. Louis & San Francisco Ry.; St. Louis, San Francisco & Texas Ry.; St. Louis Southwestern Ry.; St. Louis Southwestern Ry. of Texas; St. Louis, Brownsville & Mexico Ry.; Texas & New Orleans R. R.; Texarkana & Fort Smith Ry.; Texas & Pacific Ry.; Texas Midland R. R. Also from all points in the Republic of Mexico.

ONE AND ONE-THIRD FARE (For the Round Trip) Central Passenger Association

The territory of the Central Passenger Association is bounded as follows: Cairo, Ill., thence the Ohio River to Evansville, thence the L. H. & St. L. Ry. to Louisville, thence the C. & O. Ry. Louisville to Kenova, thence the Ohio River Division of the B. & O. R. R., Kenova to Wheeling, thence the B. & O. R. R., to Washington, Pa., thence P. C. C. & St. L. Ry. to Pittsburg, thence B. & O. R. R. to Callery Jct., thence to Butler, thence the B. & L. E. R. R., Butler to Mercer, thence the Penna. R. R. from Mercer through Franklin, Oil City, Irvineton, Warren and Kinzua to Salamanca, thence B. R. & P. Ry. Salamanca to Buffalo, thence the Niagara River; also that portion of Ontario reached by the lines of the Michigan Central R. R., Pere Marquette R. R. and Wabash R. R.; the Lower Peninsula of Michigan; the line of the C. & A. Ry., Chicago to Peoria, Ill., thence the T. P. & W. Ry. Peoria to Burlington, thence the Mississippi River to Cairo.

All members within the boundaries above described are entitled to the reduced rate on the dates and subject to the conditions given on opposite page. Members outside these boundaries can secure the reduced rate from the nearest points in above territory.

IMPORTANT RULES TO BE OBSERVED

Certificates. You must in all cases ask for and obtain from the Ticket Agent at the point of starting a *Certificate* (not receipts).

Membership Card or Application for Membership. Your *Certificate* together with the *Membership Card* or *Application for Membership* must be presented to the Association Secretary at Chicago. If correct, the Secretary will approve the Certificate, and see that it is properly validated by the Joint Agent of the Railway Agent of the Railway Companies. The Certificate, when so validated, will be exchanged by the Ticket Agent at Chicago for the return ticket upon payment of *One-Fifth the One-Way Fare*. These tickets are good to return only via the route over which the original ticket was purchased.

Return Ticket—Read this Carefully. If you do not hold a *Membership Card* which is issued at the office of the Association, be sure and secure an *application for Membership card* from your wholesale firm or manufacturer, who only can issue and must approve these applications and who must be a sustaining member of this Association, *otherwise your Return Railway Certificate cannot be validated.*

Important. You are earnestly requested to call at Association headquarters immediately upon your arrival in Chicago and deposit your Certificate with the Secretary. Tickets will be validated between the hours of 8.30 A. M. and 11.30 A. M., and 12.30 P. M. and 5.00 P. M.

Remember your Return Certificate cannot be validated after 5 P. M.

Warning. The dates given on opposite page only are correct. The Association cannot be responsible for any statements of Railroad Employees to the contrary.

Only Retail Merchants and Manufacturers in good standing are entitled to the Special Rate Privilege.

HARRY A. WHEELER, General Secretary

9th Floor Great Northern Building, 77 Jackson Boulevard, CHICAGO

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

H. F. HAHN & COMPANY

M. S. FLEISHMAN COMPANY

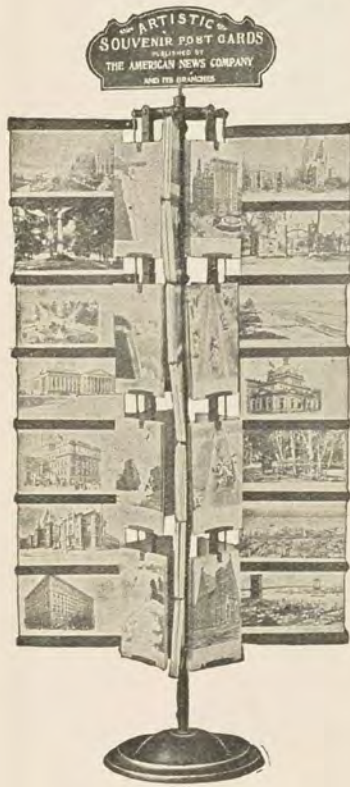
SPROEHNLE & CO.

LAPP & FLERSHEM

SWARTCHILD & COMPANY

YOUR STOCK WOULD BE COMPLETE IF YOU HAD ONE OF OUR

Revolving Display Stands and Special Assortment of POSTAL CARDS



THE DEMAND FOR POSTAL CARDS is increasing all the time, so much so that five times as many more Cards will be sold during 1906 than was sold during 1905.

As the demand grows for Postal Cards, the taste is better developed, the customers' knowledge of what they want far greater and they desire naturally only the best.

Our EXCELSIOR and POLY-CHROME Cards are productions of the highest grade, the Colored Cards having 10 to 12 colors, thereby enabling our artists to make the picture true to life. One's friends are always delighted when they receive Postal Cards that they know are good photographs of the object we wish to call to their attention.

We here show an illustration of our patented and IMPROVED PARAGON REVOLVING POST CARD DISPLAY STAND, constructed entirely of Gun Metal Steel. It is the handsomest and most effective Stand on the market. An ornament to any store. Price, \$10.00. In order to introduce the Stand to all dealers for a limited time we will give as a premium with each stand, for the cost of the Stand alone, the following:

100 POLY-CHROME (Colored) Cards, including cities of Washington, New York, Boston.

100 EXCELSIOR (Black and White) Cards, including cities of Washington, New York, Boston.

50 Burnt Leather.

700 Comic Cards, all clean, wholesome humor.

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

Price
\$10.00

We have, after much thought, selected this assortment with a view to helping our dealers sell large quantities of Postal Cards. There are no slow selling cards in this assortment. They will all move out quickly and you will very soon need to re-order.

Ask for our catalogue and instructions as to how to start in the Postal Card business.

THE AMERICAN NEWS COMPANY

Post Card Dept. Desk 1

NEW YORK

L. LELONG & BROTHER



Southwest Corner
Halsey and Marshall Streets

NEWARK, N. J.

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

Sweepings Our Specialty

C. O. BAKER, Pres.

C. W. BAKER, Vice-Pres.

PLATINUM

and its alloys, made expressly for jewelers' use

GRAND PRIZE, UNIVERSAL EXPOSITION

St. Louis, 1904

GOLD MEDAL, Lewis and Clark Centennial Exposition

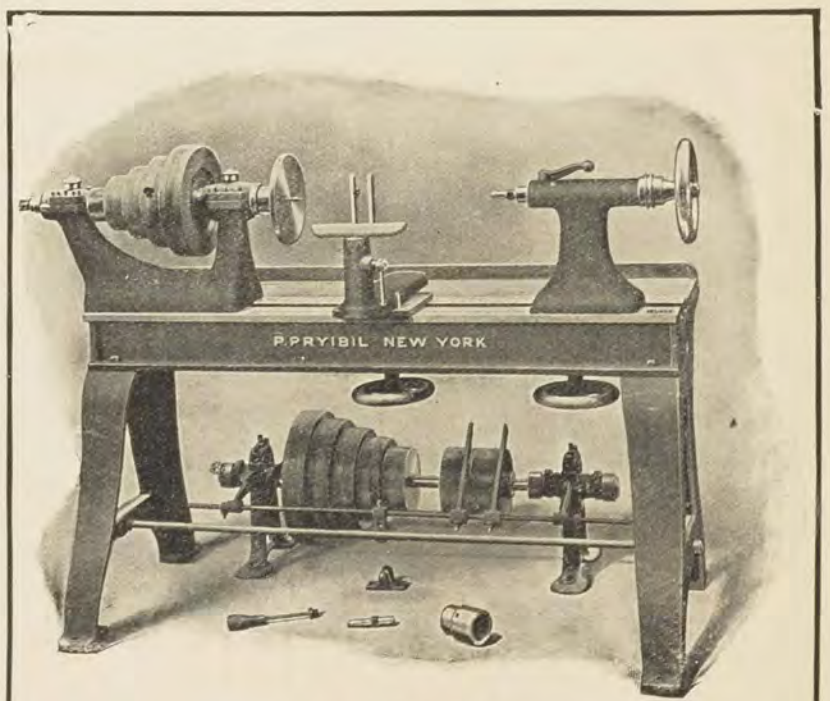
Portland, Oregon, 1905

Awarded

BAKER AND CO., INC.

Newark, N. J.

120 Liberty St., New York City




ABOVE CUT SHOWS OUR

METAL SPINNING LATHE

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

WRITE FOR CATALOGUE

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



L. S. & CO.

Trade-Mark

THE SECURITY OF A STAMPING LAW

Is found in our trade-mark. It means a fixed standard quality with the additional assurance of distinctive style and faultless construction. Never was our supremacy in chain manufacture so evident as in the new line prepared for this season and now in the hands of the jobbers. If you are dissatisfied with the sale and profits of your chain stock, this line affords you the remedy. Insist on seeing our new patterns.

LOUIS STERN & CO.

Chainmakers and Silversmiths

PROVIDENCE R. I.

H.-C. Jewelers' Electric Lathe Motors

This illustration shows one of the **eight** different styles

and sizes of Jewelers' Electric Lathe Motors, manufactured by **The Holtzer-Cabot Electric Co.**

Every Holtzer-Cabot Jewelers' Lathe Motor is backed by **an absolute guarantee of one year**

have passed through the experimental stages, and through a careful elimination of defects, have become practically perfect



In using **Holtzer-Cabot** Jewelers' Electric Lathe Motors you receive the benefit of their **thirty years' experience** in the building of electrical apparatus, and you get a motor which has had **four years' trial** in practically all classes of buffing, grinding, polishing and kindred uses

Send for our special circular No. 410, regarding our offer of **"A Jewelers' Lathe Motor on Trial"**

Main Office
Boston (Brookline), Mass.

The Holtzer-Cabot Electric Co.

Chicago Office
395 & 397 Dearborn St.

The Allsopp Rings

THE UP-TO-DATE LINE OF

Signet and Set Rings



No. 6314
Tiger
Diamond, Ruby Eyes

In twenty years we have built up a business second to none in Rings exclusively. ALLSOPP QUALITY, DESIGN and WORKMANSHIP appeal to the most fastidious. It will pay you to examine a selection package.



No. 6077
Eagle. Signet

A ★
TRADE-MARK

ALLSOPP BROS., Allsopp Building, NEWARK, N. J.

Landis School of Engraving



M. L. Landis
Proprietor and Instructor

NEW SYSTEM OF TEACHING

Each pupil is given personal instruction. If you wish to take a Course this FALL, please WRITE US AT ONCE and we will assign and hold a place for you.

We do not accept more than twelve pupils at one time, devoting our entire time to their personal Instruction and Advancement.

Our methods are original and entirely new. We are the founders of a New System in the Art of Cutting and Designing, which enables a pupil, not endowed with artistic skill, to learn to make perfect letters.

Write us, and we will give you an idea of what you could accomplish by taking a Course with us.

M. L. LANDIS, 119 Mt. Vernon Avenue, Detroit, Mich.

NOTE NEW NAME OF STREET

SOLDER SOLDER SOLDER

All kinds and sizes of solder in Brass, Silver, 4 K., 6 K., 8 K., 10 K. Gold, cut from wire or flat stock. Our solder guaranteed the most uniform and easy flowing solder on the market.

Tell us the class of work and we will send sample.

Ask your jobber or material house for the BLISS SOLDER; if they do not have it, send direct.

E. C. BLISS MANUFACTURING CO.

116 Chestnut Street

PROVIDENCE, R. I.

Swartchild & Company,

IMPORTERS AND JOBBERS OF

1457

Watchmakers' Jewelers' and Engravers' Supplies
Jewelers' Building, 134-138 Wabash Ave., CHICAGO

Established 1870

OUR NEW CATALOGUE

The most magnificent and complete illustrated price-list ever published, is ready for distribution.
Those desiring a copy will please apply, and same will be forwarded gratis, prepaid.

CHAS. F. HALBKAT
JEWELER AND OPTICIAN
INSPECTOR OF RAILROAD WATCHES
WATERBURY, SOUTH DAKOTA

WATCHES, DIAMONDS, RINGS, SILVERWARE, CLOCKS
HIGH CUT GLASS AND HAND DECORATED CHINA
MAIL ORDERS RECEIVE OUR CAREFUL ATTENTION

August 16, 1906.

A. R. HUEBSCH

UP-TO-DATE
JEWELER AND OPTICIAN
EVERYTHING IN THE JEWELRY BUSINESS

FINE CHINA
FINE CUTLERY
PHONOGRAPHS

Messrs. Swartchild & Co.,
Chicago, Ill.

Gentlemen:-

Your new material catalogue was delivered to me to-day, and I wish to compliment you upon the excellence of its arrangement and its general superiority over anything of its kind that has heretofore been brought to my notice. Wishing you unbounded SUCCESS under this new banner of "the Black Shield", I remain

Yours truly,



St. Charles, Minn., August 18, 1906

Swartchild & Co., Chicago, Ill.

Gents:-Your catalogue was just received and many thanks for it. You are to be congratulated, as you certainly have hit upon the right idea as to classification of materials, etc., and the index which is so essential.

Yours truly,

A. R. HUEBSCH

FEATURES

"Black Shield" Mainsprings are packed in the following manner:

Each spring is wrapped separately in oiled paper, and placed in an individual envelope printed with the name and size of movement for which it is intended.

Twelve envelopes, or one dozen mainsprings, are contained in a well-made strong box properly labeled.

Useless handling of the springs is avoided, thereby preventing rust or mixing of stock.

The name, "Black Shield" is scratched on every spring.

The New Mainspring

"Black Shield"



Mainsprings

TESTS

In selecting the "Black Shield" Mainsprings, we were guided not alone by our own severe tests and judgment, but we distributed samples to dozens of expert watchmakers throughout the country.

The opinion of all was that the "Black Shield" Mainsprings are the finest ever introduced in this country. That they are even, properly tempered, carefully finished, correctly gaged, and tips and length positively accurate.

They are of wine color, well polished, and will fit the respective movements without any filing or change whatsoever.

THE PRODUCT OF THE HIGHEST ATTAINMENT IN MAINSPRING MAKING



Fac-Simile of Box Containing One Dozen "Black Shield" Mainsprings

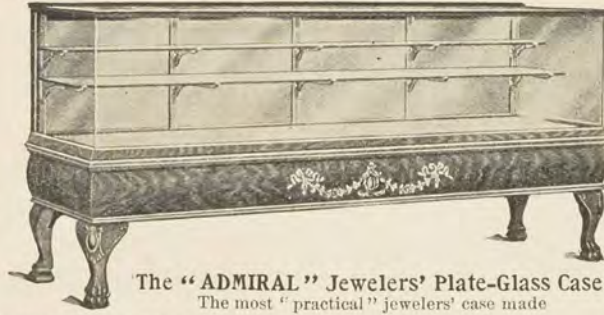
"Black Shield" Mainsprings are manufactured for us only by the oldest and most reputable maker in Switzerland

"Black Shield" Mainsprings are guaranteed in every respect No better can be had at any price

Per Dozen, \$1.25

Per Gross, \$13.50

Per Gross, with 4-Drawer Cabinet (capacity, 48 dozen), \$15.00



The "ADMIRAL" Jewelers' Plate-Glass Case
The most "practical" jewelers' case made

WINTER FIXTURES! The STANDARD for QUALITY and STYLE

The "ADMIRAL" is only one of the many handsome, practical and thoroughly modern Jewelers' Show Cases illustrated in our catalogue entitled "Winter's Encyclopedia Americana of Modern Store Fixtures," a 310-page book full of the best in modern Jewelry Store Fixtures. Every jeweler should have a copy of this valuable book on file. Sent postpaid on receipt of 25c. postage.

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

M. WINTER LUMBER CO., The High-Grade Fixture Makers, SHEBOYGAN, WIS.

Established 1865

We
Carry
Everything
a
Jeweler
Needs

A. Anzelewitz & Co
INCORPORATED

Importers and Jobbers

DIAMONDS, WATCHES and JEWELRY

110 Canal Street, NEW YORK

Right
Prices
Right
Goods
Right
Service

IT MAKES YOU FORGET

There is so little difference between a properly-constructed gasoline gas blowpipe and the coal gas kind that you will hardly realize that your workshop lacks a city gas supply if your generator is efficient and safe.

B. D. M. Co.'s No. 45 Gasoline Gas Generator

is the kind that will make you forget. It has a three-way turret valve controlling all passages to its interior. It is made of brass throughout. The valve is ground in and provided with safety gauzes to prevent flashing back of flame. It has provisions against overfilling. Vapor is produced only as consumed, hence there is no danger of leakage or overpressure. Give hand wheel a quarter turn; operate bellows, apply a lighted match to blowpipe nozzle and you have a flame which is instantly adjustable from a small pointed flame to a large brush flame. A touch of the valve on blowpipe controls it. Stop operating bellows and the flame is extinguished.



Catalogue
"B. K."
shows
sectional
view of
construction
of
Generator;
a convincing
argument
as to its
safety

Tell us you
are
interested.
We want to
send you a
copy

Dealers
everywhere
sell
B. D. M. Co.
specialties

Price, as illustrated, \$15.50

Buffalo Dental Manufacturing Co., Buffalo, N. Y., U.S.A.

JEWELERS' SAWS

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

THE BEST SAWS

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

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

or write to us

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

E. P. REICHELME & Co.

23 John Street, New York

Every Retail Jeweler

who buys 40 or more W. & S. B. ★ Chains before January 1, 1907, gets a premium

For the aluminum coupon tags on 40 W. & S. B. ★ Chains we will send free of charge one Globe Filled one-eighth vest chain, warranted twenty years. For 75 tags we will send free two Globe chains. For 100 tags we will send three Globe chains, absolutely free of charge. Larger number of tags will be redeemed in the same proportions.

All W. & S. B. ★ Vest, Dickens, Pony and Waldemar Chains are shipped with aluminum coupon tags like this:



It is simply necessary to send the tags to our factory in order to get the premiums.

The four retail jewelers who accumulate the largest numbers of W. & S. B. ★ coupon tags before January 1, 1907, will be awarded four grand prizes, as follows:

- First, One 1907 Model Touring Car**
- Second, One 1907 Model Runabout**
- Third, One 1907 Model Motorcycle**
- Fourth, One Jewelers' Watch Lathe**

The winners of the grand prizes are not entitled to any chains, as described above. To compete for the grand prizes all tags must be held until January, 1907. The tags of all who compete for the grand prizes and do not win one, will be redeemed in Globe filled chains. A selection package will be sent on request through your jobber.

W. & S. BLACKINTON CO.

New York, 14 Maiden Lane

Factory, North Attleboro, Mass.



WATCHES

With bountiful harvests assured all over the West and South, we are strongly impressed with the possibilities of a big fall trade in Watches, which will necessarily mean increased demands of the trade for carrying good stocks in this line.

Our preparations for this record-breaking fall trade are now complete, and we can boast of a Watch Department which stands absolutely unrivaled in the volume, quality and comprehensiveness of the stock.

We are sectional headquarters for the products of the Waltham Watch Company, the Elgin National Watch Company, The Keystone Watch Case Company, the Crescent Watch Case Company, the Philadelphia Watch Case Company and the New England Watch Company. This fact enables us to furnish *everything in watches worth while*. Then we have so systematized our business that, no matter what may be the character or dimensions of your requirements, satisfactory selections can be promptly made, or, if ordered by mail, will be shipped with like promptness. Buying from us means that you save money in expressage as well as time.

Our new fall and holiday catalogue will be ready early in October. It lists over four thousand items in the jewelry line and illustrates nearly every one. It should be an important part of your buying department, Mr. Jeweler, for it will be the standard by which close buyers gage prices. If your name is not on our mailing list, it should be. Send for this catalogue and we will mail it to you as soon as out. It will surely save money for you. It is free to regular jewelers.

ALBERT BROS.

The Quick Delivery House

Cincinnati, Ohio



B - 1910



G.2204



F - 3168



G.2442



F-3061



B-1916



B-1917



F. 3161

FIRST ATTRACT ATTENTION

This is of first importance in merchandising. Next see that this attention creates the right impression. You do both, attract attention and create the best impression, with our

20th Century Display Stand

You may spend many dollars in various advertising, but there is never such a convincing argument as a good display.



The drawing herewith represents the motor and mechanical works. It turns the disks separately at different speeds. The first and third shelf revolves to the right, the second and top shelf to the left, ranging from 4 to 10 revolutions per minute.

A blaze of splendor, a dazzling beauty; all these superlative terms fail to describe it. The mirror and plate glass disks and gold trimmings revolve in different directions at different speeds, the electric globe on top remaining stationary. This, with your jewelry display, makes a striking attraction that nobody can pass without seeing and becoming impressed in a way that dollars spent in other advertisements could not produce. **When folks come to see you, make an impression. No amount invested in any other fixture can do as much for you.**

DESCRIPTION.—The lower shelf is 32-inch French Plate Mirror. The other three shelves are heavy plate glass, 27, 22 and 17 inches, respectively. All have half-inch bevel or polished edges as ordered.

The stand is not a temporary affair. The standards are made of seamless steel tubing, running on steel ball bearings. The trimmings between the shelves are brass, polished, and lacquered, and can be had in gilt or nickel finish as may be desired. This display stand is run with a 1-12th H. P. motor, at an average cost of about \$1.00 per month. All the attention necessary is to start and stop the motor and a few drops of oil occasionally. The motor and reducing gearing and all mechanical parts are contained in a frame-work 18x18x15 inches, which is placed under the window floor, and is noiseless. With the fixture we send full directions that will enable any novice to set it up without any difficulty. The price quoted is for everything complete, including motor, etc., which makes it by far the cheapest window display fixture ever placed on the market. A guarantee is sent with each stand from factory and can be returned if not as represented. The stand is easily removed from window and as easily replaced.

Regular price, \$110.00

Our Special NET CASH PRICE **\$79.00** F. O. B. at Factory

Complete for motor, mechanical work and display stand

An Attractive Street Clock 1460 a

The Best Value ever offered. \$100.00 buys what it formerly took \$200.00 to \$300.00 to equal Exclusively Our Own Make

Each face or dial is equipped with a secondary movement operated by a Master Clock placed inside your store. Consequently your time is not affected by changes in temperature. Absolutely reliable.

Everyone instinctively looks at a clock, no matter how many times one may pass your place.

Extreme diameter, 32 inches. Diameter of dial, 24 inches. Dials of frosted glass, letters and figures of black or dark red, edged with gold. Behind or between the dials, inside the rim, are placed two electric bulbs which give a flash or steady light.

The case is made of wood, with metal face. The hands of each dial are run by separate secondary movements, operated by a Master Clock which we furnish.

The Sign is a beauty by day or night. Frames on faces come with oxidized copper finish or covered with gold leaf, edges of drum black.

Complete, excepting post and wires.
No. 1. With Oxidized Copper finish, \$100.00 net cash.

With two faces as illustrated.
No. 2. Covered with Gold Leaf, \$105.00 net cash.

Nos. 3 and 4 with three faces, triangular or 3-corner shape, may be seen from any direction.

No. 3. Oxidized Copper finish, \$129.50 net cash.

No. 4. Covered with Gold Leaf, \$139.00 net cash.

Nos. 5 and 6 with four faces, square shape.

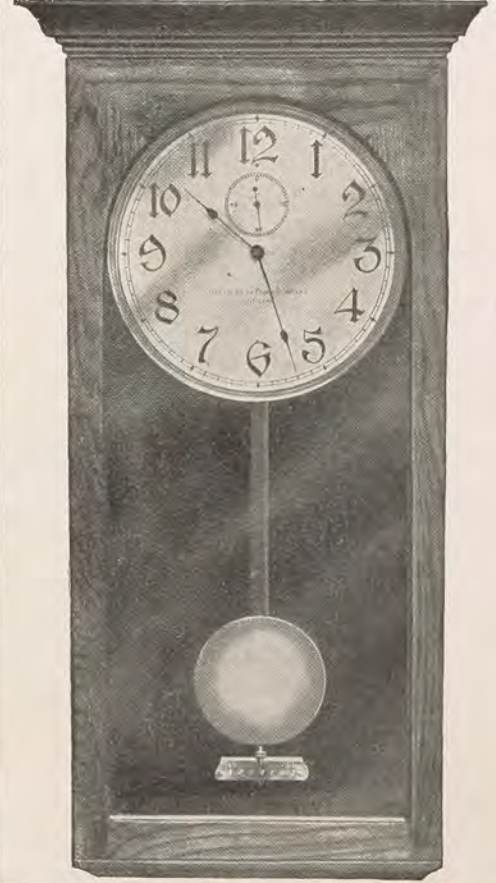
No. 5. Oxidized Copper finish, \$164.00 net cash.

No. 6. Covered with Gold Leaf, \$175.00 net cash.

Convex glasses may be had to fit over the two dials at an extra cost of \$6.00. These dials are fitted to bezels and swing out on hinge, thus fully protecting the hands.

Every one guaranteed. All furnished with 12 batteries and will run for one year without winding. May be had for post or to hang.

Cut below illustrates the Master Clock we furnish with Street Clock.



BY DAY OR NIGHT
A CONSTANT
ATTRACTION

No other advertisement can add the same prestige, attract the same constant attention; no similar amount spent in other ways can do you as much good

The Virtues of a Mainspring

were never so highly developed as in the

MERITAS

Its production is the result of generations of devotion to mainsprings. The price of other brands may be higher but cannot be better than the quality of the Meritas. Order Meritas and have the best. For all American Watches.

\$1.25 Dozen; \$14.00 Gross

Many Customers have told us our service was a revelation. Try us for the best kind of all-around satisfaction.

HENRY PAULSON & CO.

Watch Material, Jewelers' Supplies, Optical Goods, Etc.

156 Wabash Ave., CHICAGO

LOOK FOR IT

Our new fall Catalogue—the most complete and important we have ever issued—will be ready early in October. If your name is not on our mailing list, it should be. Send for this Catalogue and see if we cannot save money for you.

NORRIS, ALISTER & Co.









Wholesalers in Everything Needed by Jewelers
134-136 Wabash Avenue, CHICAGO

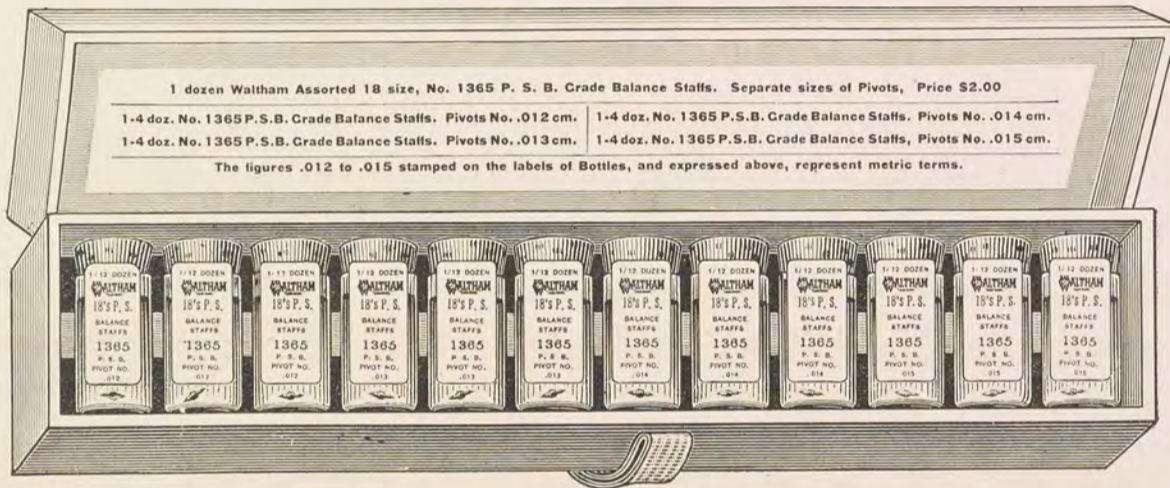


We make this bracelet in three sizes of wire—chased, plain and stone set. This is only one pattern of our large line of bracelets. We make them in the following sizes, inside dimensions: Misses', $5\frac{1}{2}$ inches; Ladies' in 6, $6\frac{3}{4}$, $7\frac{3}{4}$ and $8\frac{1}{4}$ inches regular bracelet measurements. When you order **D & C** Bracelets from your jobber, state the exact size you want and the kind of finish.

Waltham Watch Company Materials

WALTHAM BALANCE STAFFS ENLARGED 6 DIAMETERS.

SIZE	18 SIZE	18 SIZE	18 SIZE	18 SIZE	18 SIZE	18 SIZE	18 SIZE	18 SIZE
NUMBER	183	277	278	279	280	281	450	450 A
								
	LENGTH OVER ALL .615 CM. DIAMETER OF BAL. SHOULDER .124 CM.	LENGTH OVER ALL .560 CM. DIAMETER OF BAL. SHOULDER .124 CM.	LENGTH OVER ALL .560 CM. DIAMETER OF BAL. SHOULDER .124 CM.	LENGTH OVER ALL .570 CM. DIAMETER OF BAL. SHOULDER .124 CM.	LENGTH OVER ALL .560 CM. DIAMETER OF BAL. SHOULDER .124 CM.	LENGTH OVER ALL .560 CM. DIAMETER OF BAL. SHOULDER .124 CM.	LENGTH OVER ALL .850 CM. DIAMETER OF BAL. SHOULDER .130 CM.	LENGTH OVER ALL .615 CM. DIAMETER OF BAL. SHOULDER .130 CM.
PRICE PER DOZEN	\$2.00 & \$3.00	\$1.50 TO \$3.00	\$1.50 TO \$8.00	\$1.50 TO \$3.00	\$1.50 TO \$3.00	\$1.50 TO \$3.00	\$4.00	\$4.00



WALTHAM PATENT PAPER BOX, ENLARGED ONE THIRD, PATENTED, JUNE 5TH, 1894.

INTERIOR VIEW OF WALTHAM PATENT PAPER BOX HOLDING 1 DOZEN SEALED GLASS VIALS. PRESSING THE LOWER END OF ANY GLASS VIAL WILL FACILITATE ITS REMOVAL.

BALANCE STAFFS.	PER DOZEN	SINGLE STAFF	SINGLE STAFF
	EACH SIZE, ETC.	NOT FITTED TO BALANCE	FITTED TO BALANCE
7 Jeweled or Sterling and Seaside Grade, - -	\$1.50	.20	.40
15 Jeweled or P. S. Bartlett and Royal Grade, - -	2.00	.25	.45
17-19 Jeweled or A. T. & Co. and Riverside Grade, -	3.00	.35	.55
21-23 Jeweled or Crescent St. and Vanguard Grade, -	4.00	.45	.65

ASSORTED SIZES OF BALANCE STAFFS IN PATENT BOXES.

		LIST
200 A.	1/2 Gross Assorted Staffs	\$9.50
201 A.	1/4 Gross Assorted Staffs	5.00
202 A.	1/2 Gross Assorted Staffs	12.50
203 A.	1/4 Gross Assorted Staffs	6.50
204 A.	1/2 Gross Assorted Staffs	18.50
205 A.	1/4 Gross Assorted Staffs	9.50

Orders for Balance Staffs should state the size, model, grade and number desired.

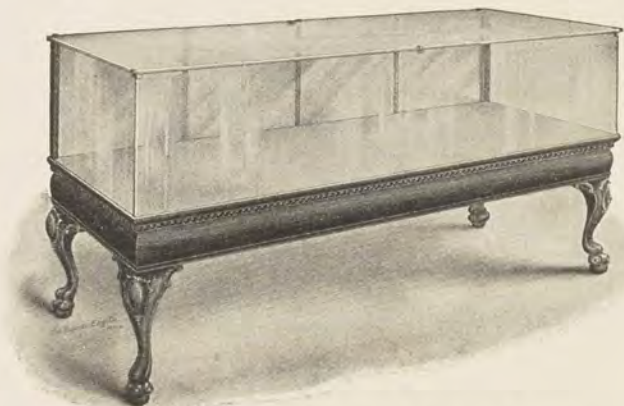
Waltham Watch Company

Waltham, Mass.

Buy only the Best of Fixtures from the Most Reliable of Firms

If you do not adopt this as your policy in re-outfitting, chances are ten to one that your efforts and money will be wasted ; because it is but a question of a very short time before you shall have to replace them.

Merchants are recognizing the advisability of this more and more daily ; and, as we stand highest in degree of work and ability to handle any high-grade proposition, inquiries are pouring into our office from all sides. The reasons for this are that



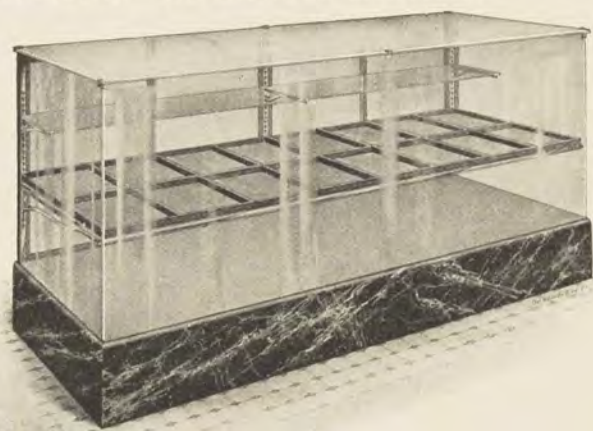
Our "AMERICAN BEAUTY" Table Case, No. 410

Our designers are **all artists.**

Their sketches are the talk of the fixture world.

That we solicit only the very choicest work.

We advise you at all times to consult us first ; and you cannot fail to be gainer thereby.



Our "AMERICAN BEAUTY" Floor Case, No. 403

Send at once for copy of our Jewelers' Catalogue and Folders

Grand Rapids Show Case Company, Grand Rapids, Mich.

New York Office, 740 Broadway, same floor as Frankel Fixture Display Co.

THE LARGEST SHOW CASE PLANT IN THE WORLD

United States Smelting and Refining Works

L. & M. WOLLSTEIN

Office: 16 John Street, New York

Telephone, 5644 Cortlandt

Works: 17 John St., New York

Sweep Smelters and Assayers

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

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

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

The Matchless Pocket Cigar Lighter

The only perfected cigar lighter on the market

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

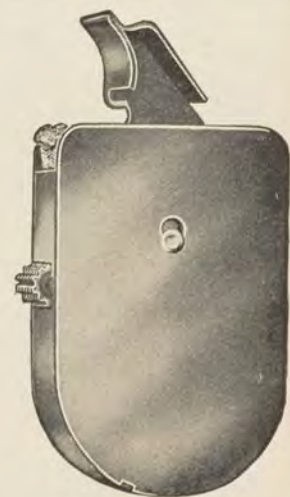
Write for Prices

The Matchless Cigar Lighter Manufacturing Co.

Office and Salesroom

16 John Street

New York, N. Y.



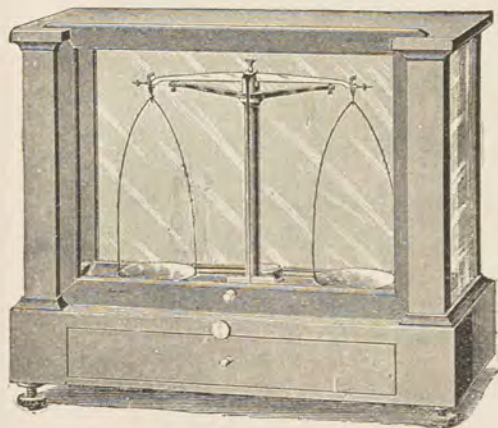
HERMAN KOHLBUSCH, SR.

MANUFACTURER OF

Fine Balances and Weights

FOR EVERY PURPOSE
WHERE ACCURACY IS REQUIRED

194 Broadway, New York, N. Y.



No. C. DIAMOND BALANCE

SEND FOR CATALOGUE



UPRIGHT POCKET DIAMOND
SCALE

Trade Announcement

We wish to announce to the trade that the widely-known house of J. H. Purdy & Co., exclusive wholesale dealers in tools and materials, has been taken over by the A. C. Becken Company, and that the combined business will be hereafter conducted under this title. Under the new arrangement our lines will embrace everything pertaining to the jewelry trade—watches, clocks, silverware, diamonds, jewelry and novelties, and a complete line of watchmakers' tools, materials and supplies.

Our stocks will be enlarged and everything will be done to hold the old and attract new trade. In this combination nothing will be lost but much will be gained, as the savings in alternating of activities of departments will be no small item.

For example, October, November and December are dull months in material and active in jewelry. The months of January, February, July and August are active in material but dull in jewelry, thereby economizing in labor, in floor space, light, telephone, shipping, office expense, corresponding, commercial reports, traveling and management.

These advantages enable us to sell at smaller margins than otherwise, and remove the temptation to substitute.

The many customers and friends of Mr. J. H. Purdy will be glad to know that he will still retain an interest in the business, and expects to soon call on the trade in the interest of the new combination.

Let us have your mail orders, and when you come to Chicago favor us with a call.

A. C. Becken Company

**Powers Building
Wabash Ave. and Monroe St.
Chicago**



Selling Beyond All Expectations!

We must ask the forbearance of all dealers who have not as yet been able to secure their assortments of

New York Standard "CHRONOGRAPH" WATCHES



and beg to advise that during the ensuing month our facilities will enable us to ship without delay. The extensive advertising in the various fiction, sporting and scientific publications has created a demand far ahead of all our manufacturing plans, and dealers are making many sales from the inquiries we are daily referring to them. You should be receiving your share. If you are not, see your jobber.

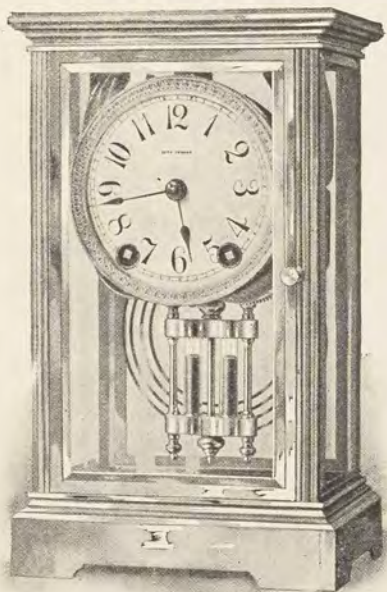
NEW YORK STANDARD WATCH CO.
Jersey City, New Jersey

Seth Thomas Clock Company ^{1460g}

Established 1813

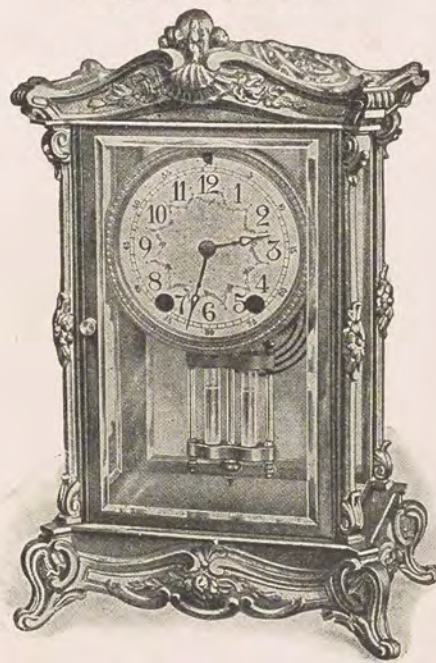
A few of the many new patterns shown in our new catalogue
which will be mailed to the trade September 10th

Empire No. 42
Rich Gold Finish
15 Day, Half-Hour Strike



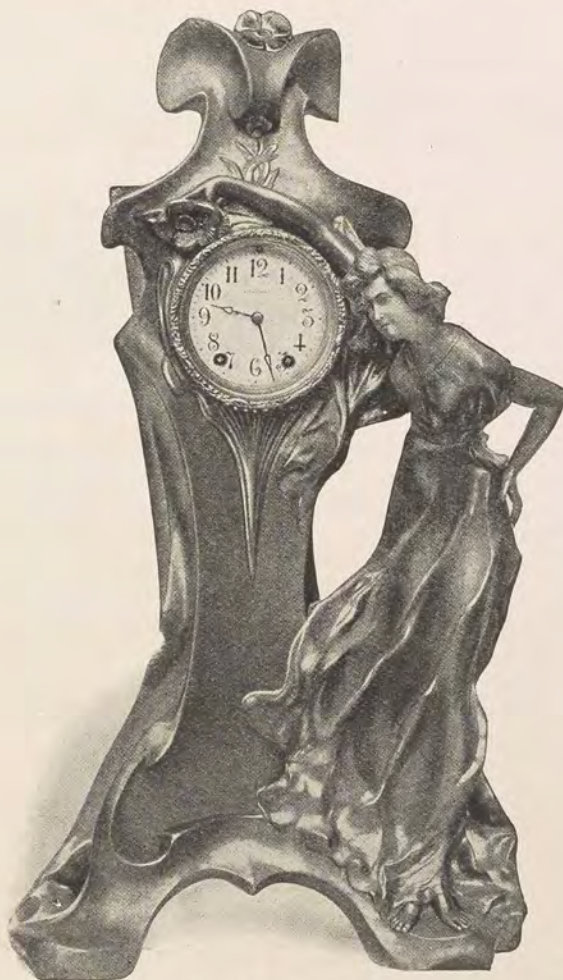
Height, 8¾ inches

Empire No. 9
Rich Gold Finish
8 Day, Half-Hour Strike



Height, 13 inches

Mercedes
Bronze Art Nouveau Finish
8 Day, Half-Hour Strike



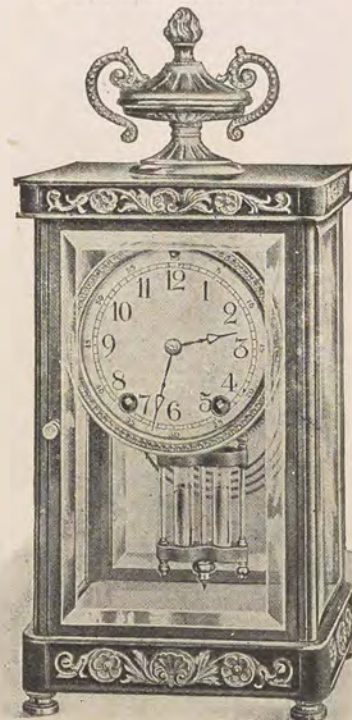
Height, 26 inches

Empire No. 15
Rich Gold
8 Day, Half-Hour Strike



Height, 15½ inches

Empire No. 5
Bronze Top and Base, Gold Body and Trimmings
8 Day, Half-Hour Strike



Height, 14 inches

If you do not receive a copy of our new catalogue
please advise us

51 Maiden Lane
New York

Seth Thomas Clock Company

70 Wabash Avenue
Chicago



We have just received from our printer

Our New 1907 Catalogue of CUCKOO CLOCKS

and we should like every Jeweler to have one.

It is the finest cuckoo clock book ever issued in this country, and contains an interesting talk to dealers about

These unique clocks and their cost

(Some of the trade papers have said some nice things about this catalogue)

No dealer should think of ordering his fall supply without having read through this new catalogue of ours. Lay this paper aside for a minute and send us your business card. We'd like to make sure that you are on our mailing list.

AMERICAN CUCKOO-CLOCK COMPANY
Cuckoo Clocks and Unusual Clocks
STATION S. PHILADELPHIA



Office Clock No. 122
120 beat pendulum movement. Time only. Dial diameter 12 inches. Arabic figures. Quarter-sawed oak case. Height, 26 inches; width 18 inches.

Retail Price, \$14.00
Finished in Mahogany, \$16.50

SOLD ONLY TO THE JEWELRY TRADE
NOT SOLD TO JOBBERS OR MAIL-ORDER HOUSES
ONLY ONE PRICE—THAT PRICE PROTECTED

SELF=WINDING OFFICE CLOCKS

GUARANTEED ACCURATE TIMEKEEPERS

EITHER STYLE SHIPPED
—CHARGES PREPAID—
FOR A 30-DAY TRIAL

Try these clocks in your store at our expense. If they do as we claim, keep them; if they don't, send them back, at our expense. They must "make good"—you to be the judge—or we expect no pay.

Send in your trial order to-day



Office Clock No. 82
80 beat pendulum movement. Time only. Dial diameter 12 inches. Arabic figures. Quarter-sawed oak case. Height, 3 feet 10 inches; width 19 inches.

Retail Price, \$25.00
Solid Mahogany Case, \$27.50

National Self-Winding Clock Company
Champaign, Illinois

HEADLINERS IN LIFE



"WEDDING RINGS"



No. 77

Look This  For Mark

in Each Ring



No. 63

It assures 20 years' constant wear



No. 26



No. 58



No. 55




No. 57



No. 25

RHODE ISLAND RING CO., INC.
PROVIDENCE, R. I., U.S.A.

GUARANTEE

Registered  Trade Mark

Rings, stamped as above are warranted 14 K. Gold Cased and will wear 20 years in constant use

Mail Orders Promptly Attended To

"Get acquainted" with the

Acme Plating Works

L. LACHMAN, Prop.

17 John St., New York

For Gold and Silver Electro Plating, Roman, Antique, English Green, Rose and French Gray coloring a specialty.

"If we do it, it is done right"

We are well known and a responsible house

Let us refinish your old stock for the holidays at very low prices

ESTABLISHED 1892

The Carpenter Wheels

and

IMPROVED FOOT-POWER LATHES

A motor which costs nothing for power or repairs, and is always ready to do your work.

The strongest and swiftest machines to-day for the jeweler's use.

Only an occasional kick needed to maintain a high speed.

Send for Descriptive Booklet

THE CARPENTER MFG. CO.
5 Park Square, BOSTON, MASS.

The Mahler Practical Sand Casting Outfit



Cast your own Fancy and Signet Rings, Elk and Eagle Buttons, etc.

With the use of my specially prepared sand, complete outfit and directions, any one can do his own casting with a little practice. The castings come out as distinct and perfect as patterns used; the process does not make the gold porous if in good condition before using, and no zinc is required.

For particulars write me.

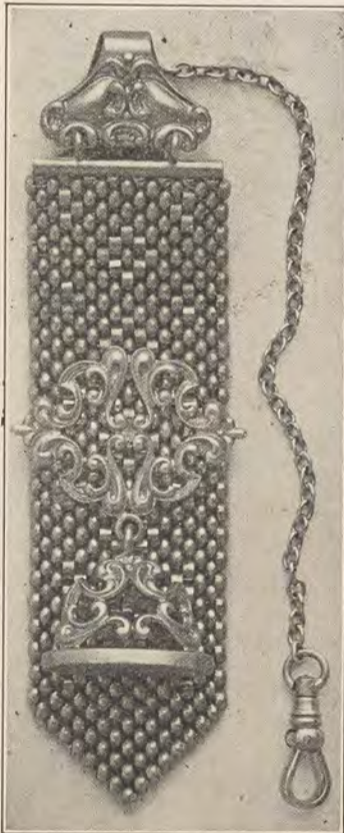
FRED MAHLER
612 S. Lafayette St., GRAND RAPIDS, MICH.



A Three Thousand Dollar Crow

This crow—larger size—was printed in two colors—red and black—on a thousand cards and mailed locally. It brought \$3,000 worth of business. It proved the business value of an original artistic illustration in advertising. The "Herrick Cut Book" is brimful of good illustrations and live ideas how to get the best business results. Send 25c. for it to-day, and get on our mailing list for the series.

The Herrick Press
85 Fine Arts Bldg, Chicago



The demand for Roller Chain Fobs and Bracelets is increasing

WHY? Because the trade see a superiority in it on woven wire and chain combinations, as it wears better and takes a nicer finish. Now, we are the sole manufacturers of this kind of chain, therefore our designs and mountings are far ahead of others putting the same article on the market.

We also manufacture a complete line of **CHAINS**—both gents' and ladies'—**BRACELETS, HAT PINS, BROOCHES, Etc.**, which the trade demands, as our orders will show.

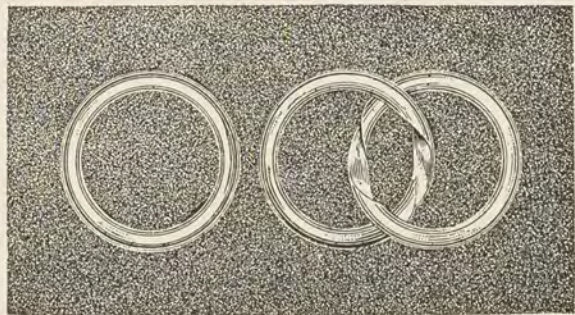
Should you be unable to obtain these goods from your jobber, write direct to the factory and we will make arrangements for you to get them.

B. S. FREEMAN CO., INC.

Chicago Office
J. T. EDWARDS
Columbus Building

Attleboro Falls, Mass.

¹⁴⁶²
Numerous inquiries have been made, Who makes



THE ALLIANCE RING?

Let us solve this question for you
WE DO!!!

The graceful style of the Alliance Ring is rapidly supplanting the use of the old-style wedding ring.

Its mysterious construction is another reason for its increased demand.

We have thus far supplied the entire demand, and we take these means to inform you that should you need them, we can supply you.

These rings are most carefully adjusted: the joints are barely perceptible, except by a magnifying glass.

Whenever engraving is desired, it is done in the inside flat surface. They are easily opened as shown on illustration by inserting a sharp instrument, for instance a pin, in the inside pin hole.

They should not be pried open, as this would destroy their adjustment.

14 karat, 3 dwts., each, \$1.25 per dwt.; in dozen lots, \$1.10 per dwt., net
18 karat, 3 dwts., \$1.40 per dwt.; in dozen lots, \$1.25 per dwt., net

LEONARD KROWER, Manufacturing Jeweler

536-538 Canal Street

New Orleans, La.



THE REASON WHY

other manufacturers tell you not to buy detachable handle umbrellas is because they have no detachable to show you which they are not ashamed of and which does not cost them a great deal to produce. They have been forced to make some kind of a detachable handle because of the demand we have created, but they don't want to sell them. We perfected our detachable before we commenced business

and had made our money out of it and built up one of the most successful umbrella businesses in the country before other makers got next. We make no charge for this added value on grades above \$1.00 each. In fact we would rather make them detachable than regular, but can make them either way.

This feature is most desirable for the jewelry trade and it is a fact we do not make one hundred umbrellas a year above \$1.00 each without the detachable feature. Every one is sold on an absolute guarantee and we have never had an umbrella returned to us on account of the detachable feature. Thousands of jewelers sell our goods exclusively and would not buy any other make.

Better send for our new catalogue showing hundreds of beautiful handles at one-half their actual size, and get your holiday order in early. Sample umbrellas sent prepaid.

Hull Brothers

Branch Factory at Norwalk, Ohio



Trade-Mark

Umbrella Co.

TOLEDO, OHIO

"THE ALETHEA"

BRACELET

1463



MADE IN
150 PATTERNS

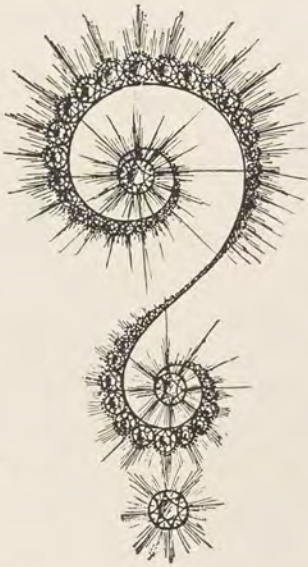
MANUFACTURED BY

WOLCOTT MFG. CO.

71 Peck Street

Providence, R. I.

The



WHERE
to
BUY
your
**DIAMOND-
MOUNTED
JEWELRY**

for your fall and holiday trade is easily answered when we tell you that our Mr. John Abel, after having spent several months

abroad, has selected and purchased the latest **European, Oriental and Parisian creations**. Also the latest and most elaborate designs and ideas to be found abroad, reproductions of which are being made in our factory by the most skilled workmen obtainable.

We also have the largest quantities of **DIAMONDS, RUBIES, SAPPHIRES, EMERALDS and PEARLS**, shipments arriving on every steamer. Let us send you a selection package, guaranteeing the latest creations, superior quality and workmanship, low prices, prompt attention and satisfaction.

ABEL BROS. & Co.

64-66 John St., 107-109 William St., Abel Building, NEW YORK

Branches in Boston, Baltimore, San Francisco, Amsterdam, Antwerp and London

THE SALABLE MOUNTING



Pat. Oct. 24, 1905

It gives light and brilliancy to the stone

**EARSCREWS, EARRINGS
STUDS, SCARF PINS
and RINGS**

of every description made in Platinum, 18 K., 14 K.
all sizes

JULIUS WODISKA, 40 John St., New York

Manufacturer of a general line of

PLATINUM, 18 K. and 14 K. MOUNTINGS

Prompt attention given to special order work Estimates and designs submitted
Diamonds recut and repaired

"CHELSEA" CLOCKS

EXCLUSIVELY 8-DAY, HIGH GRADE

You want the BEST? { **RESIDENCES
COUNTRY ESTATES
YACHTS and
AUTOMOBILES**

ASK for the "CHELSEA"

On sale by leading dealers in High-class Jewelry, etc.

CHELSEA CLOCK CO., 16 State St., BOSTON, U.S.A.

Morgan & Allen Co., 717 Market St., San Francisco—Sales Agents for Pacific Coast

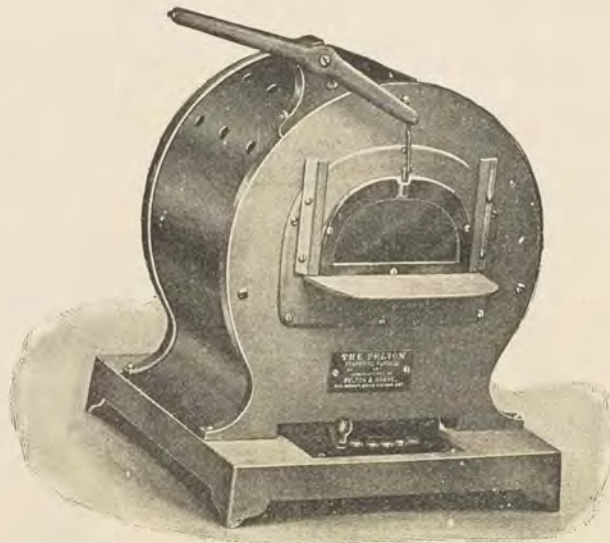
THE PELTON ELECTRIC FURNACE

For Jewelers

These furnaces give a clean, even, penetrating heat which is absolutely free from sulphur, dirt or flame.

These points, coupled with the fact that the heat may be regulated to any desired temperature, make it ideal for enameling work, and also the tempering of small tools and dies.

The economy in the expense of operation will pay for the furnace.



For Opticians

The heat in these furnaces is absolutely even from front to back of the muffle, and is free from sulphur, dirt or flame.

There is no danger from sudden heat, as the rheostat lever controls the current exactly.

Heat is concentrated in the muffle, there being no waste of heat nor discomfort in working around the furnace.

These furnaces are in use in some of the best factories of the United States and Europe.

We can furnish you testimonials from satisfied purchasers.

Special size Furnaces built to order.


Small stock sizes sent out on trial.

We may have just what you want. Let us hear from you.

PELTON & CRANE

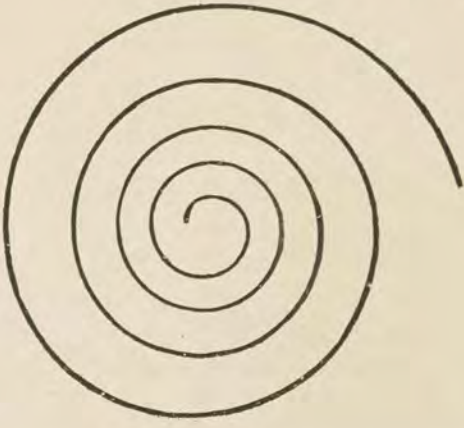
11-23 Raynor Street, DETROIT, MICH.

Branch, WINDSOR, ONT.



AT LAST





Sole Agents and Importers


(All coiled to size of barrel)

Price **\$12.00** Per Gross

A mainspring that has elasticity and temper, and retains its power in a watch when nearly run down the same as if it was fully wound. Every spring guaranteed, and are to be had in all American and Swiss sizes.

HENRY FEIN & CO.
Importers and Jobbers in
FINE WATCH MATERIAL, TOOLS, FILES and JEWELERS' SUPPLIES
49 Maiden Lane, NEW YORK

NEW ENGLAND



SCHOOL OF ENGRAVING
44 FRONT ST.,
WORCESTER, MASS.

Learn To Engrave by a Home Course of Instruction

Mr. Jeweler's Clerk :
WHY NOT INCREASE YOUR VALUE BY DOING THE STORE ENGRAVING?

We teach by correspondence, practical letter engraving. Our method is concise, rapid and comprehensive. Individual instruction under an expert teacher enables you to learn at home, using your spare time for necessary practice. We are teaching busy men to **engrave well**. Why not you? Our little booklet explains fully. **Ask for it.**



1200 Monograms

Every letter of the alphabet combined with every other letter in script and block monograms, arranged alphabetically. Good clear designs. Script, Roman, block, old English, Greek, Hebrew, German text, ornamental initials in many styles. Year date monograms. Also a treatise on designing and transferring.

By mail **\$1.00** Postpaid

SEND DOLLAR BILL. NO CHECKS

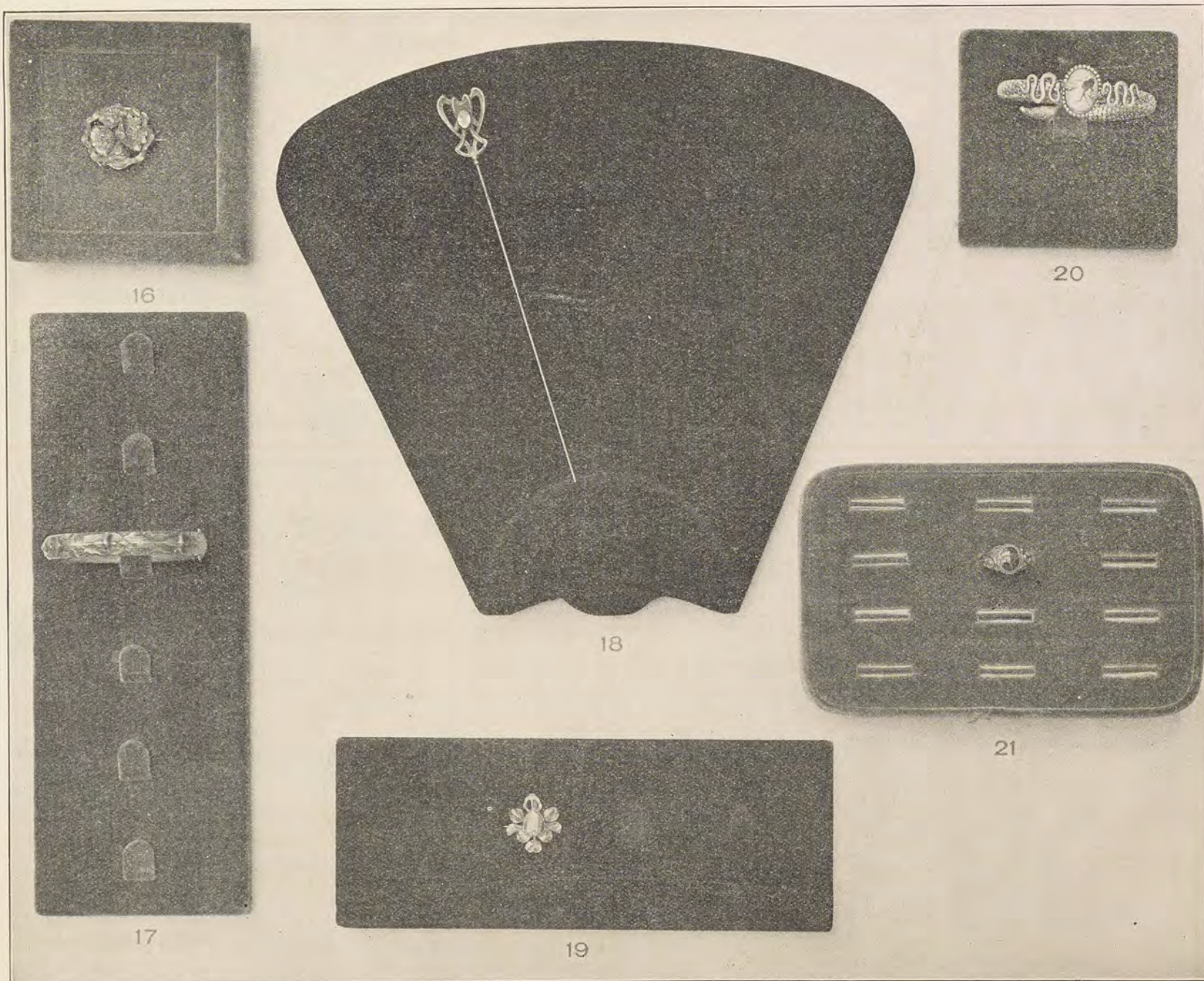
American School of Engraving
45 Maiden Lane, New York, N. Y.

New Magnet Window Easels and Display Pads

1465

Designed to show your Jewelry in the most attractive manner—making a handsome display at a small expense

These easels and pads are made of fine silk velvet in three colors—Royal Purple, Black and Green. For full line of easels, display stands, etc., see pages 388 to 402, our new tool and material catalogue, just issued.



Magnet No.	16.	Brooch Easel, single . . .	Size, 4	x 4	. . .	Per Dozen, \$4.50
"	"	17. Bracelet Pad, holding six . . .	"	3 $\frac{3}{4}$	x 10	. . . " " 9.00
"	"	18. Hat Pin Easel	"	9 $\frac{1}{2}$	x 10 $\frac{1}{2}$. . . Each, 1.15
"	"	19. Brooch Easel, holding four . . .	"	8 $\frac{1}{4}$	x 3 $\frac{1}{4}$. . . Per Dozen, 9.00
"	"	20. Bracelet Pad, single	"	3 $\frac{1}{2}$	x 3 $\frac{1}{2}$. . . " " 2.75
"	"	21. Ring Easel, for 12 rings . . .	"	4	x 6 $\frac{1}{2}$. . . Each, 1.15

Prices net, subject to 6% cash discount only

BENJ. ALLEN & CO., 131 to 137 Wabash Avenue, Chicago, Ill.

1466



CHARLES M. LEVY, 90 William Street, NEW YORK

Manufacturer of

RINGS and LOCKETS

Art and Sentiment
represented by
Signet Photo.
Locket Rings
An Exclusive Line



No. 1752



No. 1750

Send for my Fifth Edition Catalogue and start to get your goods from the manufacturer **direct**.

Interchangeable Incrusted in Sardonyx Initial and Emblem Rings.



Interchangeable

Signet Emblem and Initial Rings



Pacific Coast
Representatives
A. Eisenberg & Co.
1324 Geary St.
SAN FRANCISCO
CAL.

Silversmiths' Bldg.
131-137 Wabash Ave.

C. G. Breitenbach & Co.

CHICAGO

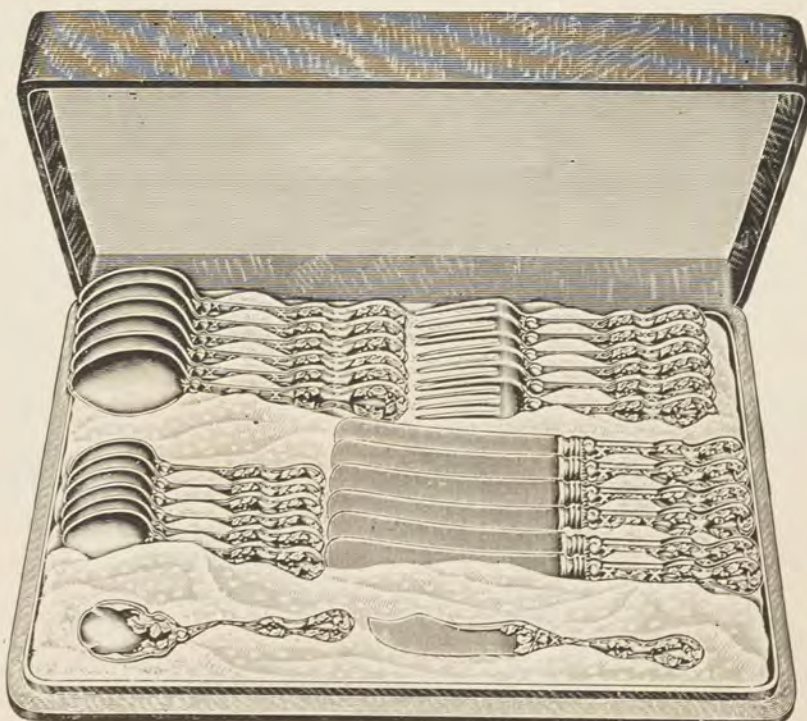
ESTABLISHED 1889

LARGEST DISTRIBUTERS OF SILVER-PLATED WARE IN THE WORLD

W. H. ROGERS' Celebrated Knives, Forks and Spoons
A brand that is noted the world over for Quality and Finish



This cut shows sectional plate spoon which is extra heavily plated on wearing parts.



All our spoons and forks have an extra heavy plate on all parts most exposed to wear, for which we make no extra charge.

We also carry
a complete line
of choice
Hollowware

Catalogues furnished
upon application

We call special
attention to
jewelers
contemplating
Auction Sales

Write for prices

Ask Your Jobber For
The WONDER OF THE BRACELET WORLD



The
Cloverette
 (CLOSED)

PAT. PENDING.

A POSITIVE SECRET JOINT AND CATCH

Makers of
 AMERICAN LEVER CUFF
 AND COLLAR BUTTON
 BROOCHES
 SCARF PINS
 LINKS
 STUDS
 FOBS
 HANDY PINS
 HAT PINS
 CHAINS

Sole Agents for
 KREMENTZ ONE-PIECE COLLAR BUTTONS

SATISFACTION
 GUARANTEED OR
 NEW ONE
 GIVEN
 IN
 EXCHANGE



The
Cloverette

(OPEN)

PATENT PENDING.

PARKS BROS. & ROGERS

NEW YORK OFFICE
 20 MAIDEN LANE

PROVIDENCE, R. I.

OUR NEW FALL LINE

Contains a large variety of

**Mounted Diamonds, Swiss and American Complete Watches
 Solid Gold and Gold Filled Jewelry**

from the leading manufacturers. Our representatives will call on you shortly. It will be to your advantage to reserve your orders until you have an opportunity of viewing our line.

Our Material Department for the jeweler and watchmaker is complete in every detail.

Necklace Clasps



No. 71. Plated, \$.50 per doz.
 No. 72. Rolled-Plate, 1.00 " "
 No. 73. Silver, 1.50 " "

ORDERS FILLED FROM ANY
 CATALOGUE ON THE MARKET

**1 DOZ. ROLLED-PLATE
 SCARF PINSTEMS.**



No. 162. Plated, \$.15 per doz.
 No. 163. Rolled-Plate, .50 " "
 No. 164. Gold Filled, .75 " "

Spring Rings



No. 100. Plated, \$.50 per doz.
 No. 101. Rolled-Plate, 1.00 " "
 No. 102. Silver, 1.50 " "

MAIL ORDERS FILLED
 PROMPTLY AND ACCURATELY

KORONES BROS., 32 Maiden Lane and 38 Chrystie St., NEW YORK



"VINTAGE"
COLD MEAT FORK

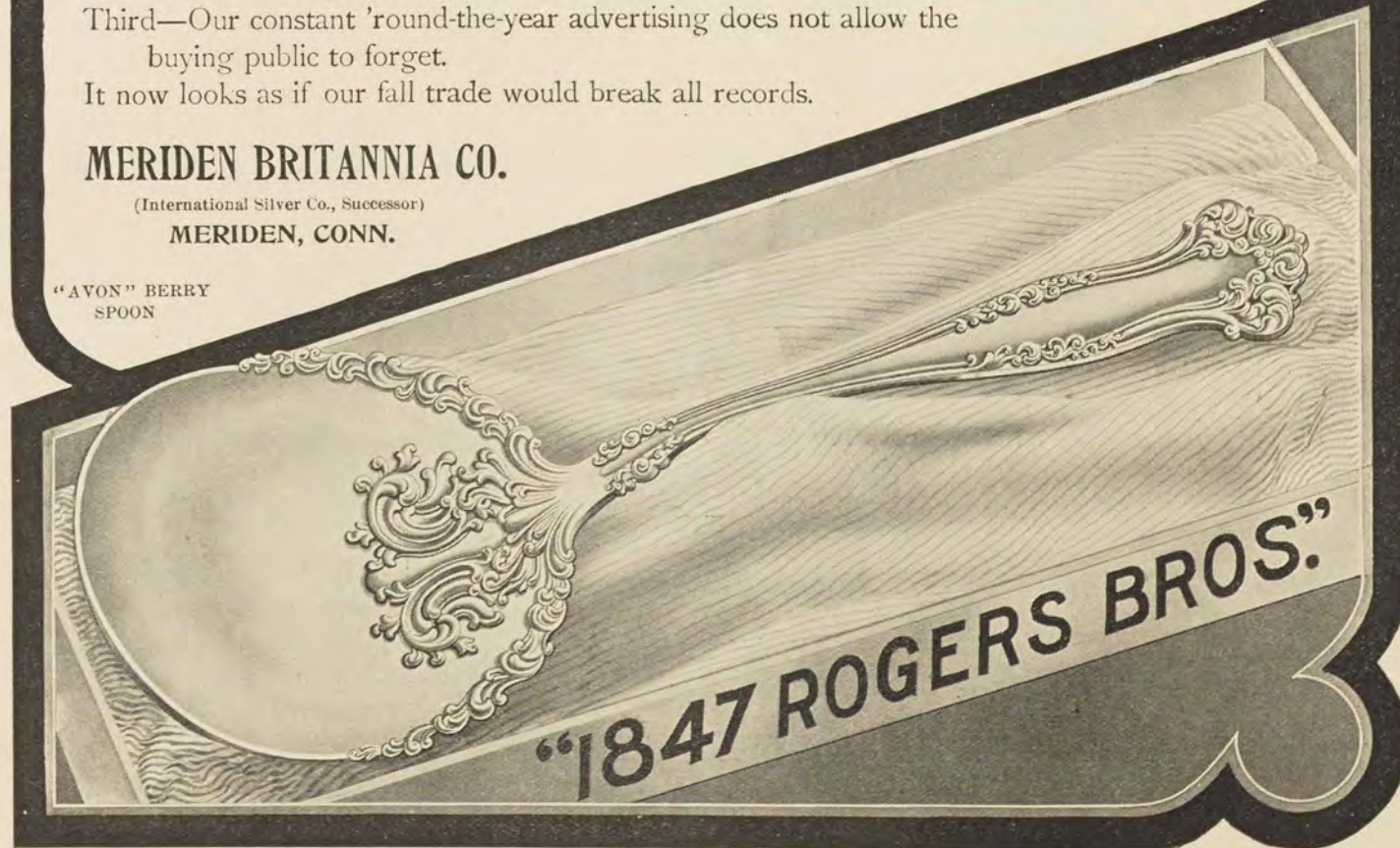
When a woman wants clothespins, she asks for clothespins—just clothespins. But when she buys silverware, she asks for a particular brand. No brand of silver-plated flatware is so often asked for or so well known as

"1847 ROGERS BROS."

First—Because it is the oldest. Its reputation has been growing for sixty years.
 Second—It is recognized by trade and public alike as "Silver Plate that Wears."
 Third—Our constant 'round-the-year advertising does not allow the buying public to forget.
 It now looks as if our fall trade would break all records.

MERIDEN BRITANNIA CO.
 (International Silver Co., Successor)
MERIDEN, CONN.

"AVON" BERRY
SPOON





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

Vol. 27

Philadelphia, September, 1906

No. 9

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Entered as second-class matter at the Philadelphia, Pa., Post-office

THE KEYSTONE

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

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

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

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

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

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

All communications should be addressed to

THE KEYSTONE PUBLISHING CO.

CHICAGO OFFICE 809-811-813 N. 19TH STREET
42 MADISON STREET PHILADELPHIA, PA.
LONDON OFFICE
45 HOLBORN VIADUCT, E. C.

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Broadening Out of the Jewelry Trade

THE character of the purchases now being made in the large buying centers by the visiting jewelers shows a very material expansion in the lines regarded by the trade as staple stock. Comparatively few jewelers at this time limit their line to jewelry goods strictly so-called. In practically all the more prosperous stores we find in addition to the regular lines, assortments of cut glass, decorated china, ceramics of various kinds, stationery and kindred goods. We have before us, as we write, a letter from a prosperous Western jeweler, who was recently honored with a vice-presidency of the American National Association of Retail Jewelers, and on his letterhead his stocks are catalogued as follows:

Diamonds, Rings, Watches, Jewelry, Clocks, Optical Goods, Sterling Silver and Fine Silver-Plated Ware, Sterling Novelties, Stationery, Pianos, Guitars, Harmonicas, Sheet Music,	Purses, Pocket Books, Talking Machines, Umbrellas, Cut Glass, Decorated China, Toilet Articles, Musical Merchandise, Banjos, Mandolins, Accordions, Strings and Sundries.
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This broadening out of the jeweler by the addition of appropriate side lines is highly commendable and harmonizes alike with the spirit of the times and the fundamental principles of a free-to-all business. As a rule the side lines are handsome and decorative, and the fact that they are as much of a luxury as jewelry itself, points to the jeweler as their natural vendor. Besides, in these unusually prosperous times there is a ready demand for all kinds of decorative goods and objects, from china toys to art bronzes, and for this reason the present seems a particularly appropriate time for the handling of such goods.

As it is evident from the activity now manifested by the trade in the matter of organization that they are doing a thinking part to better purpose than heretofore, the question suggests itself, has the legitimate jeweler not been altogether too legitimate? While the department store and the mail-order house have been all-grasping to an

extent that has alarmed the trade, their methods have not been imitated by the jeweler on any extensive scale up to the present time. Much, of course, can be done by effective organization to preserve to the jewelry trade its birthright, but it must be remembered that the natural laws of supply and demand are and must always be all-powerful in the mercantile field. Trade, considered abstractly, is so essentially self-regulating that attempts to direct it from without can, as the jewelers well know, never be more than a partial success. Money will always buy goods for resale, whether they be silk hats, shoes or watch chains, and the purchasing public is entirely too selfish to take into consideration the "legitimacy" or "illegitimacy" of the vendor. Theories are well in their way, but hard facts and experience are the only safe guide. A jeweler has quite as much right to two or more strings to his bow as any other business man, and it matters not whether the strings take the shape of pianos or pottery, so long as they have profit-making capabilities. The lines above referred to are of this character, and are besides fit companions for a jewelry stock and necessitate but little change in the store or its arrangement. Those jewelers who still limit themselves to regular jewelry lines might well take into consideration, especially under the present prosperous conditions, the example of their more enterprising brethren who are making the road to success easier by widening the avenues of profit.

Feminine Fashions Aid the Jeweler

THE very exceptional conditions now prevailing in the jewelry trade are well evidenced in the responses received from jewelers in regard to their summer business. Heretofore summer has been such a proverbially dull season that, as a rule, it were better forgotten than investigated, but the three months just ended have made a unique mid-year record. The dual cause for this happy condition was the unusual prosperity,

aided by feminine fashions and fancies. One prominent jeweler reports: "I have sold more medium-priced jewelry during the summer months than at any season since I have been in business," and this is more or less typical of many responses received. The chief factor in producing this result was fashion's endorsement of the short sleeve for women, this creating such a demand for bracelets that the manufacturers had the unusual experience of working overtime during the summer months, and could ill afford even the few days necessary for boiler inspection and a brief vacation for their employees. In this connection it is interesting to learn from the big fall fashion issue of the *Dry Goods Economist*, now before us, that the short sleeve will continue in style during the fall and winter, which will mean a continuation of activity in the bracelet market.

Other quick-selling lines were shirt waist perquisites, including the popular beauty pin, which sold in enormous quantities. She was a somewhat exceptional type of summer girl who could not find use for at least half a dozen of these pins, and the facility with which they disappeared sustained an immense demand. Other feminine favorites which were fruitful producers of revenue for the jewelers were the neck chains and dog collars set with colored stones. These came in such a variety of styles and were so decorative in use as to be practically irresistible to the jewel-loving woman. In addition to these may be mentioned hatpins, which are no longer merely useful but highly ornamental, and can be had in many shapes and colors, with settings to suit the most delicate tints in the trimming of the headgear. There was also an enormous demand for combs, the stone-set and be-monogrammed patterns being special favorites. In staple lines, too, the aggregate sales for the summer surpassed all previous records for this season, commencement and wedding gifts being a greater source of profit to the trade than ever before. Woman has been in all ages the unconscious confederate of the jeweler in his quest for trade, but never to such an extent as at the present time.

Important Bankruptcy Law Decision

A decision which will go far to strengthen the federal bankruptcy law was recently handed down in the United States District Court of New York. In the case in question a discharge from bankruptcy was denied by the judge on the contention of the creditors that the bankrupts made a false statement in writing to a mercantile agency, on the strength of which these creditors sold him goods, and also that the debtors made a

false statement in writing to another creditor. The judge discussed at considerable length the question of statements to mercantile agencies, and in the course of his decision said:

It has never been decided whether under any circumstances a false statement contained in a report to a commercial agency can be made the ground of successful objection to discharge. The conditions advanced in re Dresser & Co. are entitled to great weight, and in my opinion show that the usual commercial agency report obtained by an agency in order that it may give the merchant a "rating," and for general distribution among its customers, cannot be made the basis of successful action by an objecting creditor. If, however, such a report as is here shown be obtained from a merchant by a commercial agency at the request, disclosed or undisclosed, of one or more of the agency's customers, it seems to be incredible that the merchant furnishing such report can be supposed to have given it for any other purpose than of enlightening those persons who habitually deal with him on credit as to his true financial condition. It cannot be that a merchant may in bankruptcy avoid the consequences of making false statements by always making them to a commercial agency, even though such agency specially request him to tell the truth for a special purpose.

This ruling will doubtless have an important influence upon other cases.

Workshop Chemicals and Explosives

WE find it necessary from time to time to warn the trade against the careless handling of such poisonous chemicals and explosives as are necessary perquisites of the workshop. An unusually deplorable fatality occurred on August 15th, at Frederickton, N. B., which, while it cannot be justly attributed to the carelessness of the jeweler, is yet an object lesson to all members of the trade, in the labeling, placing and handling of these chemicals. On the occasion referred to, two prominent citizens of the town visited one of the local jewelers in his workshop. During this visit, the jeweler was called to the front of the store, and in his absence the visitors, in their search for a drink of water, discovered a jar from which they drank. The jar, it appears, contained cyanide of potassium, and despite the efforts to save the lives of the men, they died in a short time after partaking of the poison.

A few months ago there was reported in our columns an instance in which a jeweler was almost fatally injured by an explosion of gasoline, which became ignited by a spark from the cigar which the jeweler was smoking. We could point to many similar accidents, but these, which are among the latest, are sufficient for our purpose. Every jeweler and bench-worker should exercise the utmost care in the use and storage of such dangerous chemicals. Familiarity with them naturally leads many workmen to discount the danger, until some serious accident is the penalty of his negligence. All such chemicals should be accurately labeled and handled with care.

Assurance of Phenomenal Prosperity

WE have now arrived at the period of the year when it is customary to speculate as to the prospects of the fall and holiday trade. Conditions this year, however, actually eliminate the element of speculation, and we can offer to our readers the positive assurance of the most prosperous season ever vouchsafed to this or any other country. The crops, the great impregnable basis of prosperity, are now practically beyond danger, and the Government estimates of the yields are fairly amazing. The wheat crop is computed at 772,264,000 bushels, corn at 2,713,000,000 bushels, and cotton at about 12,006,000 bales. The railroad estimate of the total value of the principal agricultural commodities for 1906, gives an aggregate of \$6,012,000,000, the increase over last year being \$71,000,000. These figures are so vast as to be difficult to realize in their full significance. We can more easily measure the degree of present agricultural prosperity by taking the case of a single State. The agricultural department of Kansas which recently issued a crop report, states that the winter and spring yield of wheat alone for that State is 100,000,000 bushels. The accumulative prosperity which this means may be inferred from the fact that Kansas has raised over 700,000,000 bushels of wheat in the past ten years, and that at the present time the people of the State have on deposit in the banks sufficient money to give \$100 to every inhabitant.

STARTING with the crops, every other symptom is almost equally favorable. Railway reports for August showed an average gain of 12 per cent. over the same month last year, and the different lines are adding to their equipment as fast as possible to meet the impending tax upon their facilities for crop removal and fall trade. Bank clearings for the week ending August 23d aggregated \$3,230,277,000, which was 25 per cent. over the previous week, and 34 per cent. above the same week of last year. All the industries are as fully employed as labor supplies will permit, and there is no sign of reaction from the present activity in any of the manufacturing trades.

In that barometer of industry, the iron and steel market, demand for the finished product is well nigh overwhelming. The big steel corporations' August business broke all records for the month, and in some lines all records for any month. So great is the demand that orders are being prorated on all the finished products, and the *Iron Age* says: "The indications are that customers will be asked to take something less than their

specifications for a number of months." Under such universally favorable conditions the jeweler has no cause for misgiving, for the fault will lie with himself if the forthcoming season be not the greatest in the history of his business.

The Sway of the Diamond

NEVER in the traditional or written history of jewels did the diamond, the recognized monarch of Gemdom, monopolize so much of the attention of the trade, the public, or the press, as at the present time. During the past half dozen years the prices of the gems have advanced by leaps and bounds and have now reached a figure which would make their sale, to a great extent, prohibitive in any less prosperous country than our own. Yet here we have the anomalous condition of the demand increasing with the price, and the popular craze for the possession of the gems intensifying each year. A decade ago comparatively few of the retail trade had courage to describe themselves as diamond merchants, whereas to-day practically every jeweler regards an assortment of diamonds and precious stones as a necessary part of his stock. In a statistical paper, issued by the Government some weeks ago, an attempt was made to measure the increasing prosperity of the country during the past ten years by the record of diamond importations, and we know of no better way to arrive at an accurate conclusion. The official figures, as given out by the Treasury Department, are as follows:

Fiscal Year	Uncut Diamonds	Cut Diamonds	Other Precious Stones	Total
1897	\$47,865	\$1,937,944	\$686,789	\$2,672,598
1898	2,517,759	4,438,030	2,005,258	8,961,047
1899	3,678,266	8,497,284	2,181,034	14,356,584
1900	3,891,226	7,890,945	2,455,045	14,237,186
1901	6,574,630	11,680,823	2,170,283	20,425,736
1902	6,154,853	12,732,670	4,460,702	23,348,225
1903	10,933,188	15,574,598	4,971,437	31,479,223
1904	8,776,418	10,028,452	4,159,249	22,964,119
1905	10,390,917	17,019,533	5,903,481	33,313,961
1906	10,579,054	24,282,897	5,384,459	40,247,010

FORTY million dollars for gems alone is a startling expenditure, but does this amount represent the entire consumption of the country? Those who are in a position to be best informed on the subject answer an emphatic "No." Ludwig Nissen, of Ludwig Nissen & Co., New York, who is chairman of the customs committee of the Importers' and Cutters' Association, returned from Europe last month and gave it as his opinion that the value of precious stones and pearls smuggled into the country is fully equal to the value of the gems on which duty is paid. He said that his investigations while abroad led him to believe that the actual value of the dutiable gems during the last fiscal year was not less than \$60,000,000, and that most of the smuggling is carried on

by persons outside of the jewelry business. As Paris is the chief jewelry supply center for wealthy travelers, special investigations were made in that city. Mr. Nissen states that the jewelers on the Rue de la Paix in Paris and in other streets noted for jewelry shops, declare that more than one-half of their trade comes from wealthy Americans traveling in Europe. The value of the annual sales in the houses on the Rue de la Paix alone is conservatively estimated at \$30,000,000 to \$40,000,000. Besides what Americans buy in this street large quantities of jewelry are bought by them in other parts of Paris and in other European cities. Of the jewelry so bought, according to the New York importer, more than ninety per cent. is never seen by the customs authorities, notwithstanding their vigilance. It has been the custom to credit the Government authorities with wonderful ability and success in the detection of smuggled gems, but the allegations of the importers, if well-founded, show that the credit given them is far from being justified. Gem smuggling in this wholesale manner means an enormous loss to the home trade.

A NEW feature in the diamond jewelry situation, which will also have a tendency to stiffen prices, is the prevailing fad of platinum settings. As our readers are aware, the price of platinum has advanced at a rate that even outstrips the advance in the price of diamonds, and still higher rates for this much-wanted metal is a certainty of the future. Platinum at the present time is fifty per cent. higher than it was one year ago, and it is three times more costly than it was fifteen years ago. As much of the finer diamond jewelry is set in platinum, the manufacturers are watching with anxiety the upward course of the market, and the troubles in Russia, which are interfering considerably with the supply which mainly comes from that country. In an interview one of the jewelry manufacturers said that the advance in the price of platinum meant much more than might be supposed, inasmuch as there is more waste in working it than there is in other metals. The cuts or scraps, he stated, could not be used again by simply fusing them, as the metal melts at such a high temperature that special crucibles are necessary, and the manufacturer is at the expense of sending the pieces back to the refiner. During the last fiscal year the United States imported 9269 pounds of platinum valued at over two and a half millions. This was more than the world's entire annual production fifteen years ago, showing the remarkable growth in demand and production.

Government Disposes of Patent Office Models

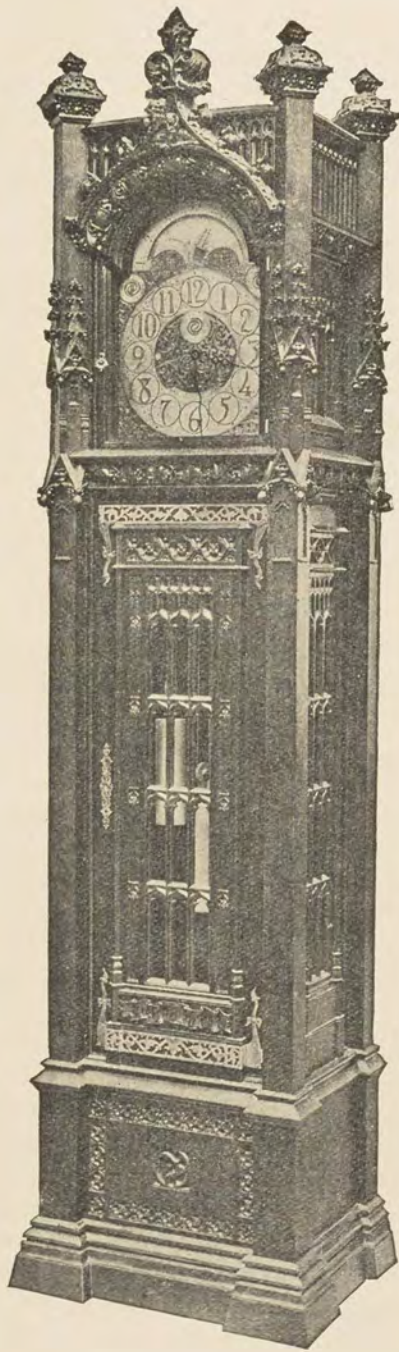
BY an act of Congress passed June 26th of this year, the secretary of the interior was authorized to dispose of a part or all of the models now stored in the patent office, either by sale, gift or otherwise. Economy in space and in the expense of preservation is given as the reason for this unusual and unexpected congressional action. The patent office at the present time has 157,000 models of patents, and under the act referred to, the vast majority of these will pass out of the possession of the government. Acting Commissioner E. C. Moore has issued a notice to the effect that requests from polytechnic schools and colleges giving technical courses will be considered for a share of these models, with the view to preserving them for a permanently useful purpose.

The act of Congress dispensing with the model-department of the patent office is greatly regretted, and has called forth the unanimous disapproval of the trade and technical press. Few things, indeed, in the possession of the government are so hallowed as this wonderful collection of models. It is in truth the visible history of the American people, showing the country's evolution from colonial crudity to its present position of pre-eminence as the world's greatest industrial nation. These models explain to us how by ingenuity and persistence our people conquered the continent and turned the forces of nature to account, and it is surprising that a Congress which appropriated in one session nearly \$900,000,000 could not find sufficient funds to preserve this treasure-house of American ingenuity. What could be more interesting than to study, by means of these models, the evolution, for instance, of the sewing machine or harvester, from the first crude models, to the present marvelously perfect machines? Such a study was made possible by the careful classification of the models by the eminent curator of the department, R. G. Gill, who made this his life-work. For instance, six cases are filled with sewing machine models, from the first crude machine made by Elias Howe, Jr., the claims on which were dated September 19, 1846, the models showing the development down the years until the complicated but perfectly smooth-running delight of the modern housewife was reached.

It is understood that inventors now living can have their own models on request, and if this be so, some of them can fix up an interesting museum of their own. Thomas A. Edison, for instance, has probably been granted close to a thousand patents by this date, and many other inventors' models would crowd a good-sized apartment.

HALL CLOCKS

The finest and most complete line on the market



“Banjo”

and

Marble Clocks

Regulators

and

Office Clocks

Our new catalog will be ready in a short time, which will be mailed to you on request

WALTHAM CLOCK COMPANY

WALTHAM, MASS.

The Smithville Jewelers' Trust: A Twelve-Month Experiment

Ninth Month

The Trust met at the house of Solomon Silverplate. A stranger was present and was introduced to the company as Mr. John Customer. Said Silverplate, "Mr. Customer, an old boyhood friend of mine, is visiting me for a few days and has consented to present to-night the point of view of the public, in the operations of the jewelry business. Mr. Customer hales from another State and from a town about the size of Smithville; so that while no one here need apply to himself personally any criticisms or comments which our guest will make, unless his conscience is sensitive on the points made, it is possible that what is done by jewelers in his town may now be doing by the jewelers in Smithville. I think, therefore, we shall certainly profit by Mr. Customer's frank statement of his observations and his comments on trade practices."

Mr. Customer: "I'm glad to feel entirely free to say whatever comes into my mind, because, as I have

From the Customer's Point of View

not known any of you heretofore, except my old friend Silverplate, I cannot be charged with any predetermination to step on any particular one's toes. I don't know the toes that are going to be stepped on, unless it is Silverplate's—his corns and bunions are the only ones with which I am personally acquainted; and if you *can* excuse my careless stepping he *must*, as he has invited me to speak."

"Go ahead, Mr. Customer," said Henry Hourhand; "we've no business to have corns, and if your stepping on our toes will make these unknown corns manifest to us we all should thank you for giving us knowledge of our weak spots, in order that we may mend them."

Mr. Customer: "I hardly know how to begin. My topic has neither starting-place nor end; so I'll just ramble around, and if ever I get too far off the road you can steer me back into the path by asking questions."

"When I enter a jewelry store I feel like a lost lamb in a bramble of thistles; or rather, like a primer-class boy in a great library. There's so much knowledge needed to comprehend things, and I've so little! If you jewelers fully realized the helpless ignorance of most of your customers you'd *have* to be honest with them out of pure pity!

"And in fact I think you *think* you are honest with them—or think you *mean* to be

honest. But really, now—I've learned to be a little skeptical, though I deal with a jeweler who has a splendid reputation for 'squareness' and carries the plate down the church aisle on Sunday in the entire confidence of the preacher that all the nickels this deacon gathers will be turned in to the church treasury.

"About five years ago I bought a filled watch case of this jeweler—same was 'guaranteed for 20 years,' he said; and *it* said; for it was so stamped in the case. Well, a year later that case showed brassy all around the edges. I took it to the jeweler. 'Here's another,' he said, 'for you're entitled to a new one, under the guarantee.' Two years after, the *second* case showed brassy, like the first. I reckon the jeweler would have again exchanged it, but I was sort of ashamed to ask him to do it; so I said nothing and have been carrying the brassy ticker ever since."

"May I see it?" asked Henry Hourhand. The watch was handed to him; he looked at the stamp inside, smiled, and handed it back. "You didn't buy the right make of filled case. There are filled cases that are so well known to be reliable, that no one runs a risk in buying or selling them," said Hourhand.

"I don't know anything about the different makes," muttered Mr. Customer; "I only knew the jeweler, in the transaction."

The Jeweler's Responsibility

"Now, gentlemen, this is the situation: That filled case was a fraud; the jeweler that I bought it of is *not* a fraud—but he sold me the case. The manufacturer *made* a lie, when he stamped that case 'guaranteed for 20 years'; the jeweler *sold* the lie. I knew nothing of filled case values; the jeweler *should* know—it is his business to know. Consequently, can't you see why I should have a doubt as to the quality of *other* goods which that jeweler—*any* jeweler—would sell me? Don't you see how such an instance, many times repeated with other buyers, would discredit the honesty of really honest jewelers? Well, I guess!"

"But you can see by the stamp, that the case was guaranteed to the jeweler by the maker," interrupted Ratchet, "and that lets the jeweler out."

"'Lets him out' nothing!" replied Mr. Customer. "I don't give a rap for the maker, whose factory is in Somewhere Land—I look to the *jeweler*, right at home. And the sooner you jewelers realize the extent of your personal responsibility in selling such stuff, the healthier it will be for your business prospects—that's what!

Respect the Customer's Judgment

"There's another thing that I want to talk about, in this connection," the stranger continued. "It is perfectly true that we ignorant outsiders know nothing as to the intrinsic values of most of the jeweler's goods, and that we've got to go by faith in the jeweler. So it is likely true, too, that our taste in such things is not as refined as the jeweler's; but we ought to have a right to exercise our own taste, however bad, in our purchases. Do we? Not by a jugful, if we let the jeweler have his way!

"A few years ago I made quite a tidy sum in a turnover of real estate, and I made up my mind I'd celebrate by buying a big diamond in a scarfpin—I know it was 'vulgar', and all that, but I just plumb *wanted* it! I went to the jewelry store and saw in the window just the thing—a sparkler big as a filbert, in a heavy gold setting. 'How much for that pin in the window?' I asked. The jeweler said, 'You don't want to wear a thing like *that*; *here's* something in much better taste—something that a gentleman can wear without being mistaken for a gambler'; and he fishes out of the safe a pin with a sapphire cut smooth and round, with a lot of little diamonds around it. 'There's something 'll let you sit down among gentlemen without making them want to edge away from you,' he said; and a lot more about 'good taste,' 'refined taste,' and so on. Well, he made it impossible for me to take the other pin without admitting that I had *no* taste and *no* consideration for surrounding 'gentlemen'; and I weakly and meekly paid out one hundred and fifty plunks for a pin that I did *not* want and which I have hated so much since that I wore it only twice. I saw *the* pin a week later in the necktie of a sporting man; and, say—it just looked *great*! I've never forgiven that jeweler. He'll never get another dollar of *my* money.

"I think that's all for to-night, I could say more but am hungry for Mrs. Silverplate's watermelon—it's on ice, as I happen to know!"

"Gentlemen," said Silverplate, "I hope it has been as profitable an evening for all of you as for me. I know *one* thing—some makes of filled cases will be dropped from my stock soon as I can close them out."

"And I," said Ratchet, "have had light on the question of influencing a customer's choice. I've been a chump heretofore."

"Let's discuss something sweeter—this way for the melon," said Silverplate, opening the dining-room door.

[TO BE CONTINUED]

"We never follow the Fashion, the Fashions Follow Us."

MAURICE L. POWERS



JOSH W. MAYER

FALL NOTICE

¶ Our exhibition has now come to a close, being the most successful one we have ever had, both in point of attendance from all over the country and the large amount of goods that was disposed of.

¶ Nevertheless, we desire to impress upon the minds of all Jewelers visiting this city during the months of September and October, not to fail to visit our offices and see the greater part of these exhibition goods, which may be seen at any time.

¶ Most of our representatives will leave for the road in the next few days, visiting the different sections of the country. If you are interested in viewing a line that is far superior to anything now on the market in excellence of original designing, quantity, quality and exceptional prices, make it a point to look thoroughly through this line, as it will be of the greatest interest to you. We beg to request, that if, in the meantime, there is anything that you may have calls for and which you have not got in your stock, to remember that our stock contains almost everything in the Diamond Jewelry line.

¶ We beg to advise that Mr. Archie Rutherford is now connected with this firm.

POWERS and MAYER

Makers of Diamond Mounted Jewelry THAT SELLS

258-260 Fifth Avenue

NEW YORK

"We are always pleased to ship goods on memorandum when satisfactory references are given"

Uniformity in Business Instruments

EVERY once in a while a subscriber suggests that manufacturers and jobbers would confer a boon on the trade by using order blanks of a uniform size. In this age of co-operation and systematization it is surprising that this suggestion has not yet been universally acted upon. Convenience for filing purposes alone is a sufficient reason for the adoption of a uniform blank, which could thus be more easily put away and preserved. It is encouraging to note, however, that this matter of uniformity in business instruments is now being given unusual attention. For instance, in the fire insurance business the New York Standard form of policy is now in general use, and a uniform life insurance policy will, no doubt, be one of the results of the recent insurance investigations. These are especially desirable from the legal standpoint, as the same court decisions would be applicable in all cases and much litigation and expense would thus be obviated. The transportation companies have a standard form of bill of lading, and through the efforts of the credit men's associations a uniform statement form is used by merchants seeking credit. From this it will be seen that the trend is in the direction of uniformity, and it is a moral certainty that in the very near future practically all business instruments will share in the reform. Here we have another matter for the consideration of the organized trade.

Two Types of Retail Jeweler

WE are gratified to notice in the latter-day correspondence from the trade, a stronger feeling of self-confidence and a gradual return of the healthy and hopeful spirit which prevailed before the advent of the department store or the mail-order house. Discouraged for a time by these new forms of competition, many of the special-line merchants regarded the full-page advertisement of the former and the illustrated bargain encyclopædia of the latter in the nature of death warrants; but time and the exigencies of existence have worked wonders, and the awakened energy, enterprise and resourcefulness evolved by the new situation, have gradually restored the trade to its normal self-possession. In many instances, however, the transition from the old to the new order of things has been slow and unsatisfactory, and not a few still regard the situation with misgiving, if not despair. It will be interesting and instructive to our readers to illustrate the two antithetic aspects of the case by the views of two jewelers located in the same State, close to each other, and doing business under practically similar circumstances. The following is a brief, despairing

letter just received from one of these jewelers, both of whom are located in Nebraska:

ED. KEYSTONE:—My trouble is with the mail-order houses. They scatter their catalogues broadcast over the land, and parties wanting anything in my line open the book, make their selections, and their money goes to Chicago. Now, if you can tell me how to stop that, I will send you a dozen subscriptions.

Truly yours, A. W.

Happy would we be if we could furnish our correspondent with a remedy which would instantly relieve him of his anxiety, but it is not for us to turn back the hands on the clock of time. A condition confronts us, and we must make the most of the situation. We live in a world of evolution, of obstacles and of effort, and we have at least the consolation of the accepted truism, that there is a remedy for every evil if we could but find it out. As proof that the condition created in Nebraska by the mail-order house is not quite so hopeless as our correspondent would have us believe, we print the following letter and advertisement sent us some time ago by another retail jeweler of that State, who was at the time of writing this letter located close to his brother jeweler quoted above, and in a town of a like population. The advertisement was as follows:

Important to Watch Buyers

I keep no discontinued watches, such as those the catalogue houses handle and defy the jewelry trade with, but if you want the same watch I can get it just as cheap and sooner than you can order from any catalogue. I know their prices and I am not afraid to compare with them.

This advertisement occupied in the daily paper a space of 4½ by 5½ inches and was well displayed. The suggestion of trickery in the mail-order methods no doubt had its effect, for the jeweler says:

The ad. I enclose has sold a number of watches, which I feel the catalogue houses would have had the benefit of. In this connection, I may state that I keep two of the most popular catalogues in my possession so as to compare their prices with mine. This gives the people proof that I mean what I say in regard to comparing prices. For instance, one of the catalogue house's price on a well-known make of alarm clock is \$3.65. I get \$4.15 and guarantee for one year, without guarantee \$3.65, making my price as cheap as theirs, and saving the buyer the freight. It is easy enough to explain the difference between my guarantee and that of the catalogue house. Customers are well aware that they would have to pay freight both ways to get the catalogue-house guarantee made good, while I generally get the \$4.15 for the clock and have a satisfied customer.

All jewelers ought to adopt the plan of studying these catalogues and their prices, so that they will know them without referring to the catalogue. There are very few things that I know of on which any jeweler cannot afford to meet the catalogue house and still have a 50 per cent. profit.

One of the well-known makes of teaspoons are the closest prices they give—\$3.24 per dozen. Now, that seems like a small profit to make. This

is my plan of profit: The catalogue house charges 2½ cents per letter for engraving, and there are very few who do not want the engraving done. On the one dozen spoons they would want, say, three letters on each spoon, which would make the spoons cost \$4.14. As I engrave free of charge all goods sold by myself, I make prices including engraving. If they do not care for engraving, I deduct the price of engraving; but do not understand that I carry only this particular make of goods. I keep a good supply of them only to do the catalogue prices with. I keep other reliable brands that the catalogue houses cannot get, and I get a good profit and guarantee them. The brand first mentioned I will not guarantee, which leads them to doubt the quality, and I sell the other brands at prices that pay well.

My advice to the jewelers, is to use means something on the line I have adopted. These are no dishonest methods, and you can get the trade if you use printer's ink freely.

It is needless to add, that this jeweler is a subscriber and a diligent student of THE KEYSTONE; that he became early alive to the gravity of the new form of competition, and took time by the forelock in devising means to combat it. That he succeeded, may be taken for granted; but the best proof of it is his recent removal from the small town to a fine store in one of the largest cities of the State, where he is destined to achieve a correspondingly greater measure of success. There is a moral in this story of the two jewelers that must be satisfying to our subscribers, and very suggestive to the few who are not yet on our list.

Novel Methods of Attracting Trade

THE jewelers in the large cities who have come to regard with some equanimity the formerly much-feared competition of the large stores, find much amusement nowadays in the strenuousness of the competition between the department stores themselves. It would seem that the bargain counter alone is no longer sufficient to attract the crowds, and the other attractions now devised equal in variety and novelty those on the bill of fare of a vaudeville theater. We reproduce the following, clipped from a recent advertisement of Gimbel Brothers, Philadelphia:

STORE ATTRACTIONS.

We have prepared a continual round of pleasure for visitors to the Gimbel Store for this month.

For this week:

Basement—Mme. Nata, the human fish, performs great feats in a large tank at 10, 11, 12, 2, and 3.30.

Slot Machines—Illustrated Songs and Moving Pictures started by attendant—no charge. Orchestral music all day.

On first floor and in the Mezzanine Waiting Room—Cecilian piano recitals.

Second Floor—Park tableau. Hires Root Beer served free.

Third Floor—Japanese Tea Garden. Tetley's Iced Tea served free. Moving Pictures. Spain's Royal Wedding. 10 to 4 daily.

Fourth Floor—Children's play ground with general bumps. Roller skating rink. We lend you the skates.

If going picknicking, ask in the House-Furnishing Store for free picnic plates. Only given to adults.

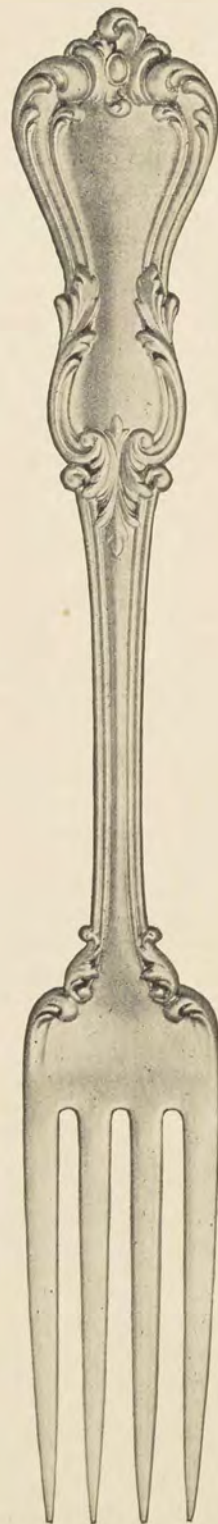
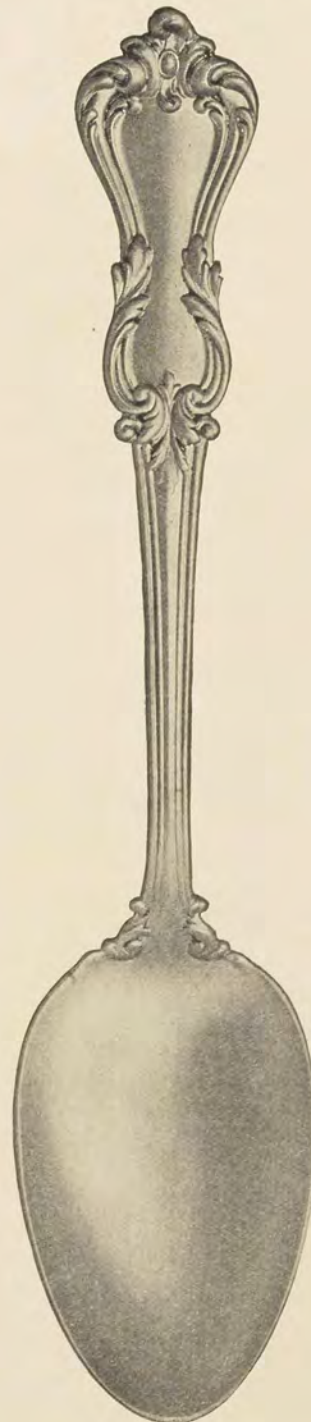
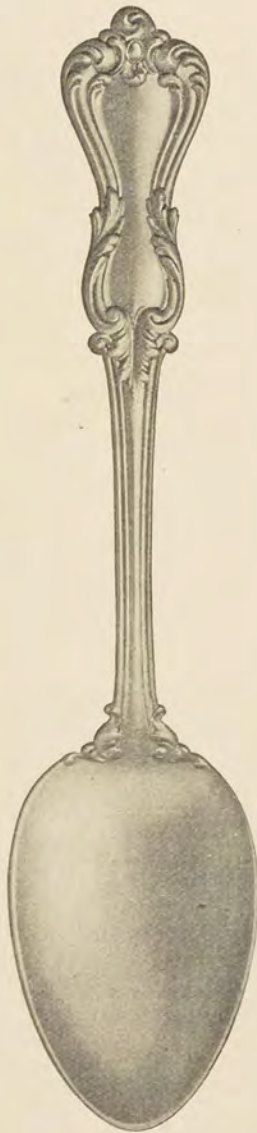
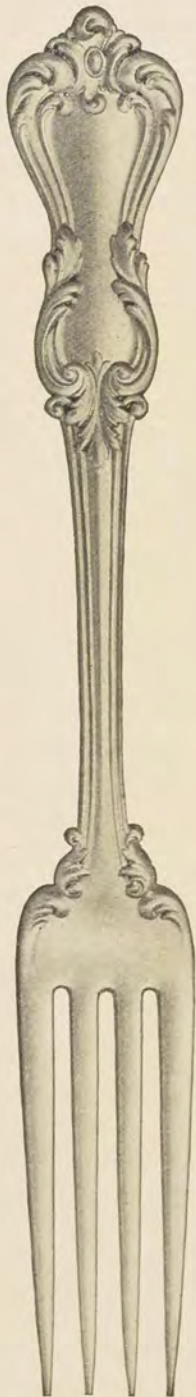
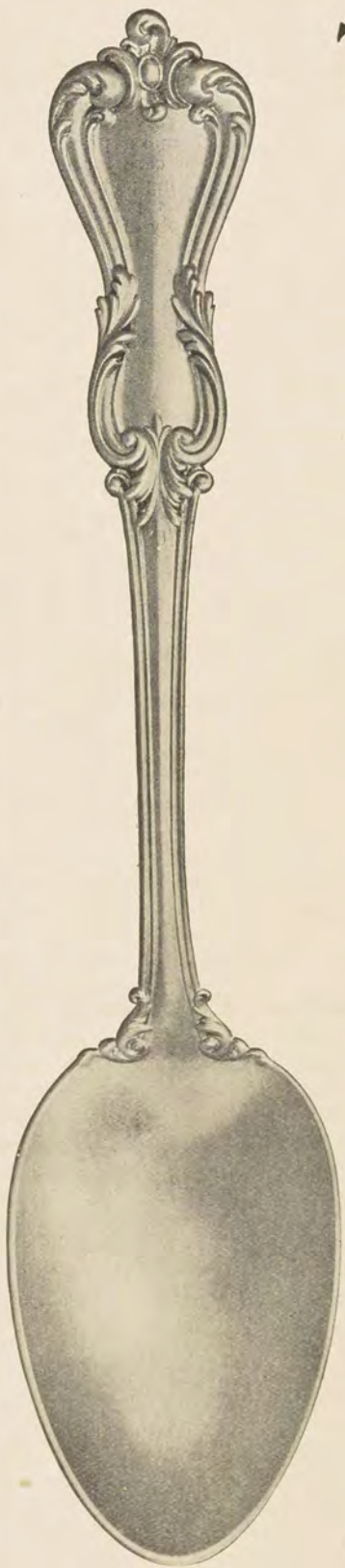
All for your enjoyment—and with our compliments.

THE MARLBOROUGH

Design Patented

Illustrations Exact Size

The newest Reed & Barton Sterling Pattern, here shown for the first time. A design of character and dignity, which has met instant favor with the trade.



Illustrations and prices of these and other designs, in both Sterling and Plate, furnished to the recognized Jewelry Trade.

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Established 1824. The oldest makers of Silverware of repute in America

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Offices and Factories, TAUNTON, MASS.

Enamels, Gem-cutting, and Metalsmithing*

The Work of Ednah Sherman Girvan

By IRENE SARGENT

In extending an acquaintanceship among the art-jewelers of our own country, two facts again and again present themselves to the mind of the inquirer. The first is that artistic work and the critical judgment necessary to support and encourage such work are no longer confined to a few cities of the East and of the Middle West. The second fact is that those who truly represent the now highly honored craft of the smith in precious metals, have prepared themselves for their work—each so differently and individually from all the others—that they have avoided the dangers of hard and fast rules and schools, against which the artists of any one European country are forced to contend.

In our present series we have dealt with men and women who have been attracted from other artistic professions and industries to become metalsmiths and lapidaries; also, with a number of persons who, although regarding their interesting craft as a pastime, rather than as a vocation, have yet advanced beyond the line which separates the good amateur from the professional. We have further treated the art of self-educated enthusiasts, as well as that of highly and widely trained workers, who have derived from traditional sources their intimate knowledge of design and technical process.

A Gifted Art Metal-worker

To this last class belongs the subject of our present sketch, Miss Ednah Sherman Girvan, who was born and reared in California, and who now, after prolonged studies pursued both in this country and abroad, has established her workshop at one of the most attractive points in the southern peninsula of her native state.

In her we find the patient scholar of her craft and art, as we might judge from reading a brief history of her experiences as a student, and without being able to examine any object of her design or workmanship. But when this is said, our judgment may not end; for we find in her work, as well as in her own words describing her efforts, an enthusiasm, a love of experiment and investigation, a close sympathy with the materials with which she deals, such as characterized the craftsmen of the Renaissance.

As we enter the very modern workshop of this woman metalsmith, and listen to the simply told tale of her labors, some mysterious thread of connection from the labyrinth of past centuries throbs within our touch. At certain moments even, we seem to hear Cellini himself describing "how to set a ruby," or "how you tint a diamond," or again, discoursing "about white rubies and carbuncles," or perhaps explaining "how to fashion vessels of gold and silver, likewise figures and vases, and all that pertains to that branch of the craft called *grosseria*."

Suggestive of the Italian Master

It is not clear why this quaint, long-vanished presence arises against a background of motors and generators; why the imaginative, superstitious old craftsman should seem to be telling the incredible story of his observations and experiences, in this workshop, where all results are closely calculated by the aid of mechanics and of science. But certain truths are to be felt rather than to be demonstrated. It is certain that he is here, and his presence is thus strong and vital perhaps because he finds in the owner of this modern workshop one who is enamored of the old masters, and who recognizes with the fine sense of a student the truth and stability of the principles by which they wrought their fine results.

Miss Girvan expresses her sane admiration for the work of the past, when she writes:

"In my journeys through Europe I had my sketch-book always with me; thus gaining many valuable drawings and notes of construction: ways in which the old masters cut their stones; how they set them; their methods of attaching one part of a chain to another; the relation of each part to the whole, which is always a unified, organic scheme—all these things I observed, and I have tried to incorporate into my own work."

Accuracy of observation and, better still, the power to assimilate, and the skill to execute after having observed, Miss Girvan attained after the very manner of the old masters whom she so admires: that is, by what may be best termed a long apprenticeship; not indeed in one place, and under the instruction of a single teacher, as her forbears served their long, hard years, but by progressing at the proper time from the studio to the workshop, and from the class to the museum. Her experiences preceding her travel period she summarizes as follows:

Our Artist's Experiences

"As one of the first craft metal-workers in this country, I began with the treatment of silver; spending eight hours of each day in the studio, or the workshop where I happened, for the time, to be under training. During these years I first acquired the principles of design and composition, and, afterward, I began my actual work upon metal in a private studio: engraving, enameling, making a chance object, such as a brooch, a clasp, a bowl—in a word, proceeding as an amateur. Then, discouraged by the crudeness and inadequacy of such attempts, I realized that I had not begun at the foundation of my craft; that it was artistically wrong to produce objects whose technical value did not compare with the beauty of the material out of which they were formed.

"Having reached this conviction, I was so fortunate as to find a rare opportunity of directing my course as I desired, through the opening of the Handicraft Shop in Boston, which I entered to study under the guidance of silversmiths who had devoted their lives to a single occupation. With such masters I learned to use hammer and anvil; to "beat up" a bowl as it should be done; to melt, roll, and otherwise prepare my metal for any special use; to make my own solder; to clean and polish articles in the proper way; and to do a thousand things, the knowledge of which can be acquired only in an actual workshop, whose products are constantly sent out upon the market.

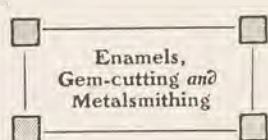
"From this most valuable place of instruction I passed to the Pratt Institute, Brooklyn, there to follow a special course in die-sinking and *repoussé* metal work. This latter ended, I went abroad, in order to make a thorough study of ecclesiastical art, as represented in the metal vessels and other objects used in the performance of the ritual.

"I selected England as the place of my instruction, and entered the National Art Training School at South Kensington, where, in addition to masters equal to any existing in entire Europe, I enjoyed the advantages of the great Museum, which are of inestimable value to a student of my special branches.

"As an essential of my course, I devoted much time to acquire the technique of the different methods of enameling: that art so well adapted to the service of the Church, not only because of the beautiful objects which



Necklace: old carved Chinese jade and jade beads; pink tourmaline almost opaque, with flaws; baroque pearls; gold mounting



it aids to produce, but also because it owes nothing to pagan antiquity; having taken its rise among the Celts of Britain and Gaul, and having developed through the Middle Ages up to its perfection during the High Renaissance."

At this point it is well to leave Miss Girvan's own narrative, in order to note briefly the characteristics of the branch of enameling in which she has attained a remarkable degree of success. This we can best accomplish by reference to a picture or plaque, in enamel, having for its subject "The Crucifixion," and intended for an altar-piece or as an adjunct to a private oratory. But as a photograph can not reproduce a beauty dependent upon the play of light and shade, we must dispense with an illustration of this fine piece. From the treatment and color it is apparent to the connoisseur that it is an example of the Limoges system, and these points of recognition may be quickly stated. Seen in the original, although at so great a distance as to obscure its subject, its color alone would determine its school; since the deep gentian blue of the background characterized the old enamels of Limoges, just as the cobalt blue marked those produced at Cologne, which was the center of a similar art.

A closer examination of this picture in enamel would show no flakes of gold or of silver foil placed beneath translucent colors and upon the copper basis, in order to enhance brilliancy of effect, and in accordance with a favorite modern system. Instead, in this case, the metal has been coated with white, and the subject overlaid, so that the figure projects in slight relief, owing to the difference in the number of layers of pigment used in the high-lights and in the shadows; the relief being palpable, as may be



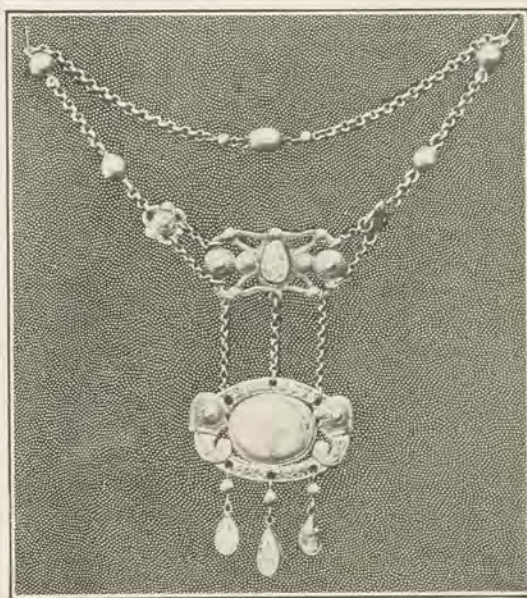
Necklace: vine and fruit design in gold; old jade beads, with pink tourmaline as central stone

determined by passing a finger over the surface of the plate. Further than by reason of its admirable technical qualities as an example of enameling, the picture claims attention for its fine treatment of the tortured human figure on the cross. Although slender and strained, the form has nothing of Byzantine dryness, and the hardness of the medium of execution is quite forgotten in the manner with which the limitations of enamel are turned to advantage: the downward weight being more truly felt than in a

painting upon canvas; while, on the other hand, undue stiffness is avoided by the slight and skilful turn given to the torso. The face too is interesting, and well fitted to the figure; being far more significant than the one usually seen in "Crucifixions," and quite removed from the Guido Reni, or Jesuit type, in which the aspect of physical suffering is used as an excitant for the emotions of the spectator. Here, on the contrary, the suffering is made subservient to the calm, mild expression of the modern type of the Christ.

In view of this object of ecclesiastical art, which is equally successful from the aesthetic, or from the technical point of view, it is to be regretted that Miss Girvan has largely abandoned such work. For we can imagine what she might have accomplished in pieces like the beautiful *grisailles* of the close of the fifteenth century, in which the surface of the copper was first coated black, and the subject then executed in white; the first coat giving a deep gray serving for the darkest shadows, while subsequent layers built up the picture, until the high-lights sometimes represented the use of twenty coats; scarcely any other pigments being employed, except faint pink for the face, hands, and other nude parts of the figure, and small, decided spots of color for the hair and the eyes.

Work of this kind, however, is not sought to-day, except by the infrequent connoisseur, and in the long struggle of the enameler against the goldsmith pure and simple, the latter has permanently won. Even in ecclesiastical art, the traditional enamel is of quite rare occurrence; beautiful design in the precious metals and their advanced technical treatment now supplying its place. In modern jewelry it can be regarded only as an adjunct or substitute, either to heighten the effects of more costly substances, or, in simple ornaments, to replace them; just as before the geographical discoveries of the fifteenth and sixteenth centuries,



Necklace: gold, set with opal and with emerald matrix

determined by passing a finger over the surface of the plate.

Further than by reason of its admirable technical qualities as an example of enameling, the picture claims attention for its fine treatment of the tortured human figure on the cross. Although slender and strained, the form has nothing of Byzantine dryness, and the hardness of the medium of execution is quite forgotten in the manner with which the limitations of enamel are turned to advantage: the downward weight being more truly felt than in a



Necklace: amethysts and green fluor spar mounted in silver

and the consequent greatly increased supply of gems, translucent pastes were used to imitate precious stones, and opaque composts to simulate the more costly marbles.

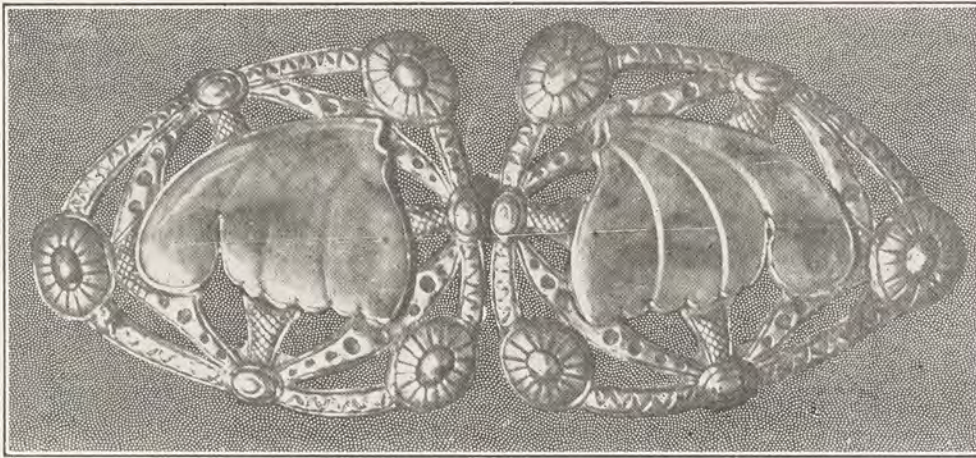
But if practical reasons forbid the extensive exercise of enameling in modern ecclesiastical art, surely there exists in this branch much opportunity for the skilful designer of objects in the precious metals,

and this distinction can not be refused to Miss Girvan, since she became a medalist in her course at South Kensington. It would therefore be well for her to seek the success which she would certainly attain in cases where so many designers produce nothing but the unworthy or the commonplace: the Anglican ritual being now served largely by objects marked with commercialism, while those ordinarily used in the Roman ritual still show the debased art of the eighteenth century.

Miss Girvan should recognize that her training peculiarly fits her for the service of the Church, because it was England which began the Gothic Revival, and it may be said for her further encouragement that the most successful designer of Church metal work now in the United States, is an inheritor of the impulse of that memorable art movement; he having worked at the architectural restoration of various cathedrals and secular structures, before devoting himself to his present production of chalices and croziers and alms-basons.

From ecclesiastical metal work and the processes of enameling, Miss Girvan has turned to specialize in gem-cutting. In this occupation she spends a great portion of her time; carefully developing the individual beauties of each stone which comes beneath her hands, and then finding for it a distinctive place in some personal ornament, in which no other could be substituted for it with equally good effect.

As might be expected in a person of her training, she prefers to work with semi-precious stones, since, according



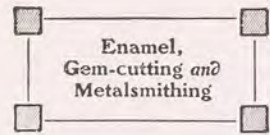
Clasp: gold, black enamel, and carved Chinese jade



Man's belt clasp in chased silver



Necklace: pink abalone pearls and rose-colored quartz; mounting in silver



to her judgment, they have a quality and a depth of color which overpower the advantage of brilliancy possessed by the true gems. In support of her opinion, she adduces the usage of the old craftsmen, whose methods she would wholly adopt, in view of their artistic worth and

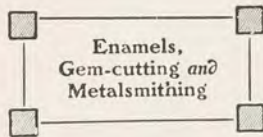
honesty. But it is curious to note that in this one particular she differs from the old master Cellini, who was given up to the worship of the four gems: the emerald, the sapphire, the ruby and the diamond, which he ingenuously imagined to be formed respectively by the four elements: earth, air, fire, and water, so crystallizing their prevailing colors.

As an example illustrating her theory of gem-cutting and gem-placing, Miss Girvan prizes the necklace here illustrated, which shows a combination of amethysts and green fluor spar, mounted in silver. From the pierced and very open metal work of the composition, it will be inferred that the designer intended it simply to hold the stones in position, and to serve as a soft,

neutral-tinted background for their agreeable colors and their glancing lights.

The same metal is used with equal effect and much greater delicacy in another of our illustrations. This is in a necklace, where it appears formed into rings and triple links, combined with a berry-and-leaf *motif*, the whole of extreme fineness. Here, the silver is a framework for irregular pink abalone pearls, accompanied by rose-colored quartz crystals; the brilliancy of the one substance chording with the iridescence of the other in a union to which the eye returns again and again with the same pleasure.

In a third necklace, shown on page 1478, the metalsmith becomes more prominent. This is a design suggestive of old Italian work, and composed of vine tendrils and



fruit, treated quite realistically, and yet with perfect regard for the ductility and other qualities peculiar to metal. This design is executed in gold, whose surface and color combine beautifully with the light olive of the Chinese jade bead-pendants, which themselves serve to soften the otherwise too intense rose of the tourmaline occupying the center of the composition.

In several other ornaments here illustrated, Miss Girvan makes a prominent use of jade, which is of quite rare occurrence in jewelry; its employment being much more frequent in precious articles of personal service, like bowls and vases. Such use would almost seem to be a reminiscence of study pursued in the South Kensington Museum, whose Oriental treasures in stone and ivory carvings, as well as in textiles and metal work, awakened the admiration of even the least critical visitor.

In the jade-and-gold ornaments made by Miss Girvan, the design and the material are, as it were, fused together, and they so interpenetrate each other that the finished object becomes organic and individual: no material or part seeming out of place, and the whole being accepted by the eye and the mind as if it were some product of Nature.

As a strong and final proof of Miss Girvan's assimilative power, we may take the man's belt buckle illustrated on page 1479, which is a piece of pure metalsmithing, without accessory of stones or enamel. In this ornament are blended the primitive art of several widely separated peoples, in so obscure and subtle a manner that one hesitates to decide whether it is Celtic or East Indian, and whether its details of chasing are survivals of the alligator, the dragon, or of the lotus-pattern itself. It attracts by its uncertainty, and holds the attention of the examiner because it refuses to give up its secret. It is one of the most interesting—although certainly not the most beautiful—productions of the metalsmith, who, among all



Interior of Miss Girvan's workshop, showing work bench and gasoline blow pipe

and allow them to fall from the fingers in glistening cascades. Here is the globe with all the countries of the world set in gems of inestimable value. Seventy-five pounds in weight of diamonds, rubies, emeralds, sapphires, entered into its composition. It was made during the reign of the last Shah out of his surplus of loose jewels. Here, too, is a bewildering profusion of arms and armor, all studded with stones; and here, ready for wear, lies the Daria-I-Nur, the sister stone of the British Koh-I-Nur, the value of which Fat-Ali-Shah lowered by having his name scratched upon it.

"The value of the Shah's treasure house has been estimated by many writers, but the most reliable figures are those given by Sir Henry Jones and Lord Polington, who reported to the British government that the value of what they actually saw could not be under forty, and might reach fifty, million pounds sterling, or about \$200,000,000 to \$250,000,000 in American money.

"On the walls of the throne room itself the same revolting jumble as exists in the treasure house detracts from what would otherwise be an imposing scene. The Garter and the Cross of the Legion of Honor hang alongside of a chromo of the Eiffel Tower, and an atrocious oil painting defaces the Gobelin tapestry, sent by the Roi Soleil. In the center of the room stands the famed Peacock Throne. It is a wondrous work of art, glistening with diamonds, rubies and emeralds, and studded with pearls. Its value has been estimated to be over \$5,000,000."



Interior of Miss Girvan's workshop, showing motor polishing and generator for plating

the artists thus far represented in our series, is the one most enamored of the work of the past.

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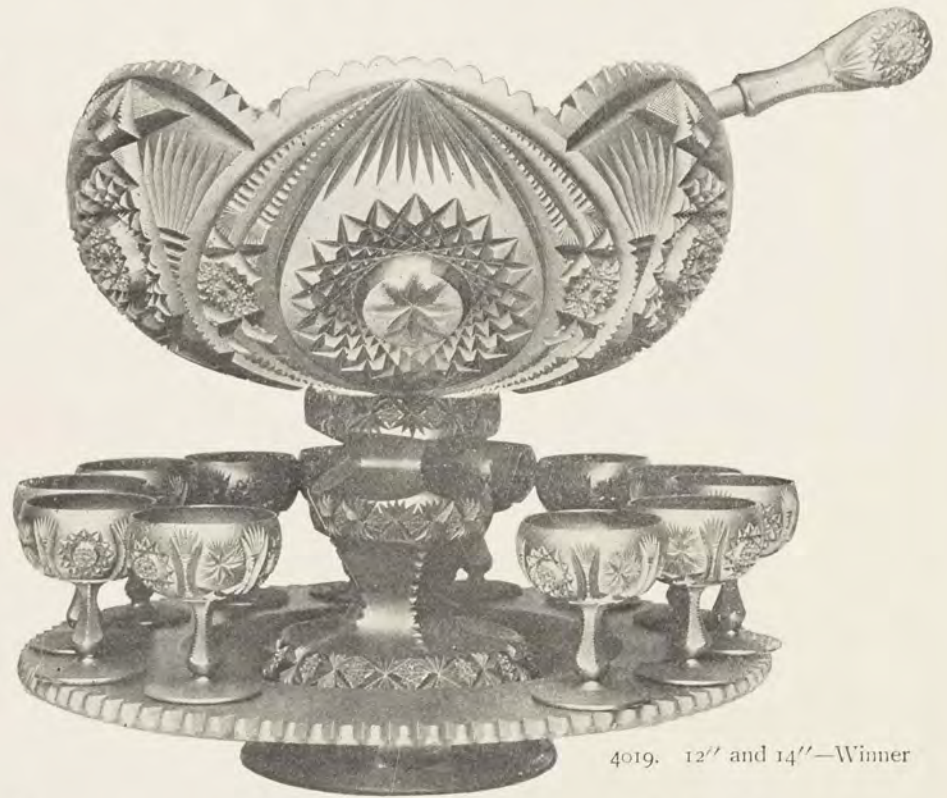
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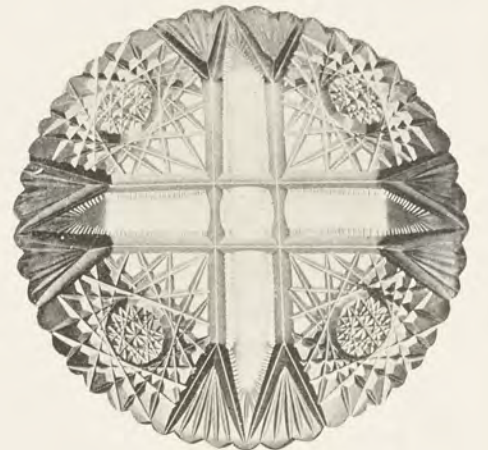


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S P A C E

1489



THE VOLUME of publicity planned for Community Silver the coming season marks an epoch in silverware advertising. Its range will sweep the whole magazine field. Pages and pages of space will force Community Silver on the attention of everyone.

For the dealer a de luxe Catalogue of Community Silver will be ready October 1st. The richest and most elaborate ever prepared. Trade helps of unusual excellence are being provided. Send for them.

ONEIDA COMMUNITY, LTD.
ONEIDA, N.Y.

Founded in 1848

New York Salesroom : 395 Broadway

Watchword of the Craft—

“STAND BY THOSE WHO STAND BY YOU”



Finest and in fact the ONLY line of

HOLLOWWARE

Made for and sold EXCLUSIVELY by the

Retail Jewelry Trade

WE NEVER SELL DEPARTMENT STORES NOR CATALOGUE HOUSES

Guaranteed to wear to purchaser's satisfaction. Only sensible guarantee we know of—and we give it.

Rockford Silver Plate Co.

Rockford, Ill.

World Brand Silver

The best dealers handle it because the best people ask for it.

Do not stock until you have sent for our trade catalogue and examined the many beautiful patterns that we make.

A careful comparison of World Brand with other makes will convince you that it is the best value in the market and the most satisfactory ware for you to handle

American Silver Co.
Bristol, Conn.

46 West Broadway
New York, N. Y.

Silversmiths' Building
Chicago, Ill.





S E P T E M B E R

with its cooler weather always brings a greater demand for merchandise of every description, and the jeweler shares with others the increased requirements of the trade. There is only one way that he can take care of the business that belongs to him, and that is to be properly supplied with the requisite amount and variety of stock.

We sell "Sellers," and therefore can assist you very materially. If we are given the opportunity we will show you that we are able to help you make money and succeed in satisfying and increasing your trade. Everything in the line of Diamonds, Watches and Jewelry. Elk and Fraternal Order of Eagle goods a specialty. Our representatives will be pleased to show you our lines, or we will send memo. packages on request.

ELK and F. O. E. GOODS
a Specialty
Our Trade-Mark "The Rose"



Stands for Quality and Excellence



Henry Freund & Bro.

DIAMONDS, WATCHES and JEWELRY

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Attractive
Design



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Quick
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No. 15-43 Baking Dish. \$7.50 List
French Gray and Burnished Combination Finish

A request will promptly bring our new Catalogue F, replete with up-to-date Hollowware suggestions of the right kind

THE QUEEN CITY SILVER CO.
CINCINNATI, OHIO

New York Salesrooms—350 West Broadway

Chicago Salesrooms—103 State Street

Fixed Prices on Standard Lines and Their Effect

AS the subject of a fixed selling price on standard goods has been much discussed at recent meetings of retail jewelers' associations, our readers will peruse with interest the following excellent paper on the subject read by O. J. Darling, of Detroit, Mich., at the annual meeting of the State Association of hardware dealers:

In taking up the question of fixed prices on standard goods and their effect, I realize that it is a question on which there is a wide difference of opinion by those who have given it any thought and study, and I believe that any movement that has for its aim the betterment of the distribution of the product of our manufacturer, should not be passed by lightly, but given the most careful consideration, as it is a matter of vital importance to both retailer, jobber and manufacturer alike. It will be interesting, I think, in the beginning of this discussion, to go back to the first attempt of the manufacturer to maintain a fixed price on his goods. In doing this, we find ourselves back to the time when the first trust was organized. The first law of nature is self-protection, and man as an individual and as a collective body are, and should be, on the lookout to protect their interest, either as individuals, or as a collective body, and in this they have the support of our laws.

The principal reason that any manufacturer has in maintaining a fixed price on his goods, is to make as much out of his production as possible, and the principal reason that any retailer has in pushing the sale of the goods that have a fixed price which he cannot cut, is to make as much money out of the sale of said goods as possible. Thus we find that their aim is identical.

If you will look at the conditions that surrounded the manufacturing industries at the time of the inaugural of the trust movement, you will find that the conditions that made the formation of such trusts possible, and have kept them almost a necessity, was the failure of the individual manufacturerers of kindred lines to maintain a price on their products that would insure them a reasonable profit on the money and time expended in their manufacture, and their failure to do this led to the ruinous cutting of price, and that in turn produced unsatisfactory business for all concerned.

And to protect themselves, and to secure a reasonable profit, the combination of the different manufacturers of kindred lines of goods, known as trusts, was the result, and by so combining they were not only able to maintain a price on their goods that would insure them a reasonable profit, but were able to secure and maintain a normal market as well.

This, I think, you will find was the first pronounced effort to fix a price on any product by the manufacturer. It is true, that the price set applied almost entirely to retailers and not to the consumers; but the principle, and the results sought for, were the same as those that we are discussing in this paper.

Retailers' Consideration

Has our price to the consumer advanced in proportion to the advance that we have to pay for our goods at the present time?

I think that after a moment of serious reflection you will agree with me that it has not. After taking into consideration the many phases of the retail

hardware business, and the conditions that surround it, have we and can we maintain a price on our goods that will be in proportion to the cost of handling those goods? I believe that we can, but only with the support of the manufacturer, through the medium of fixed prices.

In taking up the first part of the subject, "Fixed Prices," you will find that it has been settled beyond a reasonable doubt, that any manufacturer of a patented article, or any manufacturer who markets his product under a registered trade-mark, has the right to fix the price at which that article shall be sold.

At first thought, this to many may seem a hardship to the dealer and to savor of an unjust monopoly backed up by the government; but the more that you look into the matter, and from the many sides that you must consider it, you will find that it is right and proper that the manufacturer should be protected in this way.

When our government grants a patent to a person, it gives that person—in return for the time, thought and money expended in perfecting that article, which is for the betterment of mankind—a monopoly on the manufacture of that article for a given number of years, and he, and he only, can say how, and at what price, that article shall be sold.

This does not in any way injure, or work an injustice to the dealer; he has a perfect right to refuse to handle those goods, if he feels that he cannot agree to the terms of the manufacturer or if he feels that he would rather take a chance with goods of like nature, but on which the profit is not assured, by a fixed price, he has a right to do so. There is no compulsion on the part of the manufacturer; the retailer has a perfect right to use his own discretion in the matter.

Right to Fix a Price

A great deal more might be said in favor of the manufacturer's right to fix a price by law, but to take more time on this part of the subject would be, I feel, uncalled for. The question comes up, at this point, what per cent. of profit should the fixed price net the retailer? In arriving at a satisfactory answer to this part of the question, the manufacturer must take into consideration a great many things that to most of us do not seem to enter into the question. He must take into consideration the market in which his goods are to be sold, and the cost of getting them to this market. The nature of the goods that he is to manufacture, whether they are staple or seasonal goods, which are sold only during short seasons. The quality of the goods must be very carefully considered, and compared with those that will come in competition with them. The demand for the article, and the cost of advertising, and several other matters must be considered before the manufacturer can intelligently set a price that he can maintain, and that will be fair to the jobber, retailer and to himself. When we look at an article with a fixed price, we are apt to think that the manufacturer simply thought that such a price would be about right for it, and set that price without more ado; but you will find that the manufacturer has spent a great deal of time, money and energy to fix a price that would be just to himself, to the retailer and to the consumer, and we can rest assured that the price in most cases nets us a larger per cent. of profit than that which we receive from the sale of goods of like nature under the open market plan.

What do we class as standard goods? I think that if we take all goods that are manufactured under a patent, or sold under a reg-

istered trade-mark, that we will cover the larger part of this class of goods. I do not think that it would be possible or policy to attempt to set a fixed price on all the goods that we handle, but I do think that there are a great many more articles that the price could be fixed on that would be beneficial both to the manufacturer and to the retailer, and I am pleased to know that the number of articles that the prices are being maintained upon is increasing each year. I would like to recommend just here, that we look over our stocks as soon as we have an opportunity and see if we are carrying as many goods as we should, that have a fixed price and which insure us a good profit on their sale.

In preparing this paper, I have written to twenty-five manufacturers, asking them the following questions: 1. Are you convinced that it pays you better to have your goods sold under restricted price, than to have them sold at any price that the retailer may see fit? 2. Have you any serious trouble in getting your trade to maintain the price that you set on your goods? 3. What per cent. of profit does the price set on your goods allow the retailer for handling? 4. And in your judgment is it possible for all manufacturers of standard goods to maintain a fixed retail price on their product?

A reply was received from every one of the twenty-five manufacturers, in which they said that they were all maintaining a fixed price on their goods, and had been doing so for periods ranging from two to eight years. They have found no serious trouble in getting the dealers to maintain the fixed price, when the dealers had found that they must do so if they wished to handle their goods. The majority of the manufacturers believed that it was possible for every manufacturer to set and maintain a fixed price on any article that he might make if he really desired to do so. In reference to the per cent. of profit to the dealers, the per cent. of profit varied, as we must expect, from the varied lines of goods represented by these manufacturers.

The average per cent. of profit on the goods of the manufacturers that I have corresponded with is 48 per cent. to the dealer, while the average per cent. of profit on goods of like nature, but on which there is no fixed price is 36 per cent., showing an increase of 12 per cent. in favor of price-maintained goods.

Protection to the Dealer

I said before, that the principal reason that any manufacturer maintained a fixed price on his goods, was to make as much out of their production as possible, and the same can be said of the sale of these goods by the retailer; they are both first looking out for themselves, but we must not lose sight of the fact that, as a rule, the manufacturer is a man of broad business principles, and while the thought of protection to the dealer is a secondary one, as it would be with us were we in his place, he aims, I believe, as far as possible, to protect the dealer in the handling of his goods. You may call this simply a good business move, if you wish, but to me it reaches above a purely selfish motive, and rises to that brotherly interest and confidence which one business man should have for another, and which benefits both financially as well as socially. There is nothing so essential to business success as harmony, both in your own business and with the manufacturers or jobber with whom you are dealing. The manufacturer appreciates this, and we as retailers should endeavor to, as far as possible, follow their example.

Pairs of any size or quality

We keep on hand a large number of carefully-selected pairs of loose Diamonds for ear drops or two-stone rings.

If you want a good assortment of different qualities

- “ “ your order filled promptly
- “ “ goods guaranteed as to quality
- “ “ prices to meet any competition

Try us with your next prospective sale

HENRY GINNEL & COMPANY

CUTTERS OF DIAMONDS

Established 1835

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WONDERS NEVER CEASE

THE NEW COOPER DIAMOND

Has 100 Per Cent.

More Brilliancy Than Any Other Diamond

Call and be convinced

Estimates given for recutting under our patents

Any infringement will be prosecuted

COOPER DIAMOND Co.

Cutting and Polishing Industry of America

47 & 49 Maiden Lane, NEW YORK



New York Letter

Situation in the Diamond Market

Many buyers representing wholesale diamond merchants have returned to this city during the last month and say that the death of Alfred Beit has not affected in the least the market, which is stronger than ever, with a probability of still higher prices before the close of the present fiscal year. Announcement is also made that, for the first time in the history of the cutting industry in the United States, the trade of European jewelers is being sought. It is said that the diamonds handled in the shops of New York are the finest in the world. Leopold Stern, president of the Diamond Manufacturers' Association of the United States, who recently returned from a trip to the European diamond centers, said that the London syndicate, which sells rough diamonds, has applications for twenty-five times the value of the stones it is selling. There are half a dozen firms in New York that have the privilege of buying direct from the London syndicate controlling the output of the De Beers Consolidated Mines, Limited, which represents more than 90 per cent. of the world's supply. Other importers buy through brokers. Mr. Stern says that the "sights" accorded by the syndicate are getting more and more infrequent. When a New York buyer is notified that he is to have a "sight" on a certain day, usually a couple of weeks or more ahead, he must present himself in person or through a broker at the office of one of the six concerns which compose the syndicate. The package of diamonds is then handed to him to accept or refuse, but refusal is unknown, as it would result in his not getting another "sight" of the rough gems for some time. So the buyer takes the package or collection of stones in the tissue paper packages just as they are at the price fixed by the syndicate, which must be paid on the spot in cash. The transactions never involve less than \$200,000, and some "sights" call for even more money. The workmanship in the New York factories, Mr. Stern says, is now superior to that in Europe, especially in the mathematical accuracy with which the facets are cut. This is what enables the New York merchants, after buying the raw material abroad, to offer the finished product to European jewelers who demand perfect gems.

Prices Still Advancing

Ludwig Nissen, of Ludwig Nissen & Co., diamond importers, returned from Europe last month after a prolonged visit to the diamond market. In an interview, he confirmed the belief that diamonds and pearls will continue to advance in price. He recalled that about a decade ago he made a similar prediction, but at that time many doubted its truth; yet then as now, he said, his prediction was founded on facts that cannot mislead. He informed his interviewer that in diamond mining the same amount of labor now will produce only one-fourth of the output that it would yield ten years ago. As the diamond fields are growing less fruitful, it takes a proportionately greater amount of labor to

find them, and the cost of this labor is continually advancing. Consequently, he can see no prospect for any fall in diamond prices, but, on the contrary, every symptom points to a further advance. The advance in the prices of pearls he also attributes to an increasing scarcity of desirable sizes. The pearl oyster beds are being searched more thoroughly by reason of the higher prices, and the seed pearls are taken in such quantities that there is no longer an opportunity for large pearls to mature. Thus the supply is continually diminishing, while on account of increasing wealth the demand continues to expand. Mr. Nissen stated that the large prices offered for pearls, tempted many Eastern potentates to part with a portion of their treasures; but that in time this source of supply would also dry up, and the scarcity would become still more pronounced. Notwithstanding the care taken to prevent the smuggling of diamonds and other gems, Mr. Nissen considers that the smuggling done each year is of immense proportions. This is the only inference which can be deduced from the very large amount of gems sold to Americans in Europe, and the much smaller amount on which duty is paid on this side.

The unusual records in diamond importation made by the first six months of the year are quite likely to be broken by the records of the imports for the last six months. The greatest record so far made for any month in the year has been for July, when the importation of diamonds and precious stones amounted to \$4,739,996, a full three-quarters of a million above the figures for the month of July last year. The increased importation is best shown by a comparison of the figures for July of this year and the same month of the previous year, which are as follows:

July.	Cut.	Uncut.	Total.
1906 . . .	\$3,676,926.35	\$1,063,070.88	\$4,739,996.73
1905 . . .	3,149,735.89	843,096.01	3,992,831.90

A remarkable feature of these figures is the increase in the importations of uncut stones, principally diamonds, the totals showing an increase of about \$200,000 over the importations for July of last year.

W. Faustman, of Hammel, Riglander & Co., took a week off last month and enjoyed the first vacation he has had in twenty-three years' service with this firm. What a joy Mr. Faustman would have been to Russell Sage! The firm have urged him a number of times to take a vacation, but he has never cared to do so—giving as an excuse that his duties were so manifold that there would only be a great accumulation of work to clear up after he came back, and that would rob the vacation of all its pleasures. However, now that he has broken the ice and started on a new course of wild dissipation in taking a week's vacation, he may be induced to keep up the practice year after year, as most of us do nowadays.

The A. Hetzel & Son Co. was recently incorporated to manufacture ivory, celluloid and ebony goods, with a capital stock of \$25,000.

Alfred H. Smith & Co. announce that they will open their up-town branch, at 475 Fifth Avenue, near Forty-first Street, about September 1st.

Wm. H. Peckham, formerly a manufacturer of rings in this city, and lately the water registrar of Jersey City, died last month at his home in that place. Mr. Peckham was seventy-eight years old at the time of his death, and began his business career nearly sixty years ago. Early in his business life he made a specialty of the manufacture of rings, and was quite successful in inventing machines for the making of seamless rings, which machines became the property of the Peckham Seamless Ring Mfg. Co., which he helped to establish in 1892. The deceased was one of the forty-niners who gave up their business in order to hunt for treasures in the California gold fields. He also left his business for the more patriotic duty of fighting in the Civil War. Being a man of many activities, he was prominent in politics and a member of many fraternities. He was a thirty-third-degree Mason and the author of a work on Masonry. He was also a prominent member of the Elks, and was vice-president of the Elks' Building Association, of Jersey City. Two of his sons, Wm. and Harry Peckham, have charge of the ring factory.

Powers & Mayer held their annual exhibition of diamonds and jewelry last month at their store, 258 Fifth Avenue. The display was visited by a great number of jewelers, and the many beautiful exhibits were much admired. The cost of the preparation for this display may be inferred from the fact that several thousand different designs of pieces were shown, each of these entailing a vast amount of work and skill. Specimens of all kinds of jewelry were included in the collection. These comprised bracelets, collars, hair ornaments and diamond and pearl jewelry in great variety; also men's rings, handsomely cut and set with jewels of all kinds.

A. K. Sloan, of Sloan & Co., and E. C. Fitch, president of the Waltham Watch Co., returned recently from their customary two-months' summer trip to Labrador. Most of their time in the Northern latitude was spent in salmon and trout fishing, and their excellent physical condition on their return showed that the outing was thoroughly enjoyed.

Jas. H. Noyes, secretary of the Jewelers' Security Alliance, recently sent a check for \$100 to Frank Winkler, of Kansas City, Kans., to be given to the detective who arrested Henry White. The culprit in the case was a negro, who broke the glass in the front window of Winkler's store by hurling a brick through it. It so happened that the jeweler had on display at the time the shield of the Alliance, offering \$100 reward for the arrest and conviction of any person smashing the window or attempting robbery in this way. This reward scheme of the Alliance is having excellent results.

Moore & Son, Newark, N. J., manufacturers of gold jewelry, announce that they have opened an office in the Heyworth Building, 42 Madison Street, Chicago, in order that they may handle with greater facility their growing business in that section. The new office will be in charge of Frank E. Behrendt, who will call on the Western trade in the interests of the firm.

(Continued on page 1497)



SEAMLESS GOLD RINGS



Our registered trade-mark in a ring is guarantee that we have given expert attention to every detail of its manufacture; also that we can and do assume the responsibility that its quality, shape and finish are the very best. All our rings are made from solid gold discs and by our own special machinery.

Catalogue and Ring Blank on request

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



*If you need one or more
Diamonds,
loose or mounted,
write us for a
Selection Package.*

OUR GOODS ARE INSURED WHILE IN TRANSIT

Lissauer & Company
IMPORTERS

Established 1866

2 Tulpstraat, Amsterdam

12 Maiden Lane (one flight up)

P. O. Box 1625

NEW YORK



L & Co.
PANSY

14 K.
Gold Watch Cases

Elgin Movements
Waltham Movements
Howard Watches
New England
Watches
New York Standard
Chronographs

Leading makes of
Filled Cases

Complete line of
Gold and Plated
Jewelry

New York Letter

(Continued from page 1495)

The number of out-of-town buyers in the city during the past month has been as great as the same period last year, which was the banner year for out-of-town buyers. From advices received by many of the wholesale houses from their out-of-town customers they expect an unusually large number to be in the city during the reception to William Jennings Bryan, held during the last days of August. Many of the Western and Southern jewelers plan to come at that time to participate in the reception and do their fall buying and at the same time obtain the benefit of the special rate that many of the railroads are making for the big reception to the international traveler. Visitors who have been in the city during the past month or so have been buying unusually heavy and almost all of them bring reports of fine trade conditions from their several localities with indications of an exceedingly prosperous fall and holiday season to come.

Device for Separating Pearls

The development of the fresh-water pearl industry is responsible for the invention of a new device for the quick separation of pearls and slugs from the mussels. The description of the new machine which has reached the pearl merchants of this city is as follows: The device consists of an outer can with a capacity of about twenty gallons. Inside of this is a smaller can with a sieve bottom elevated about an inch. The meshes of the sieve are half an inch across. Inside the inner can is an arrangement much like the dasher in an ice-cream freezer, with a turning handle extending through the top cover. When it is desired to separate the slugs and pearls from clam meat, the clam meat is poured into the inner can and water added. The dasher is then set to turning and kept revolving for about ten minutes until the whole interior mass has been thoroughly stirred up. The pearls and slugs will thus become separated from the meat, and being heavier will naturally sink to the bottom and pass through the half-inch meshes of the sieve into the outer kettle. The inner kettle is then lifted out and the liquid in the outer kettle passed through a fine sieve, the pearls and slugs remaining. The inventor claims that by this device it will be possible to do in one hour what has heretofore required ten hours, and that the work is done much more thoroughly, many small pearls and slugs being saved, that under the old process of hand picking would not have been noticed.

M. J. Averbeck has added to his traveling force John C. Reis, who was formerly with Oskamp, Nolting & Co., Cincinnati, Ohio. Mr. Reis' territory will include Pennsylvania, Virginia, West Virginia, Maryland, New Jersey and part of the Empire State.

The Merker-Weinreb Co. is the name of a new concern recently incorporated for the manufacture of diamond mountings. The capital stock is given as \$5000, and the incorporators are Philip Morris, of Jersey City; Morris Wollner, John Stone and Joseph Cohn, of New York, and Samuel Markheim, of Brooklyn.

A recent addition to the traveling force of M. B. Bryant & Co. is C. H. Church, who was formerly for some time with the New England Watch Co. and later with C. G. Alford & Co. Mr. Church's territory will comprise the Eastern States. He succeeds to the position of W. Harmon, who died a few months ago.

An interesting manifestation of the sentiment and humanity which leaven business was the tribute paid to William I. Ferris, secretary of the L. E. Waterman Co., by that company and its employees on the occasion of the completion of his twenty-first year of service with the concern. The tribute took the form of a dinner and the presentation of a gold certificate for \$1000. Though the twenty-first anniversary of Mr. Ferris' connection with the Waterman interests did not occur until Sunday, August 5th, the celebration was planned for the Saturday preceding. At noon of this day Mr. Ferris had promised to take lunch with Frank D. Waterman, the president of the company, and the way led to the Republican Club, at Bryant Park and Fortieth Street, where Mr. Ferris had the first inkling of the significance of the occasion, when he met so many of his associates seated about the table. After he had been seated at the head of the table, two chairs at either side were



William I. Ferris

occupied by his father, N. B. Ferris, and his brother, Louis Ferris. An enormous floral horseshoe, placed in the center of the table, was tagged "Congratulations From the Ladies Left Behind." Frank D. Waterman had charge of the post-prandial exercises, which naturally were very informal. During his happily-worded address, through which, however, ran a strain of earnestness which could not be mistaken by his hearers, Mr. Waterman handed Mr. Ferris a gold certificate for \$1000. William E. Smith spoke for the travelers, and W. H. Kernan for the employees of the company. Mr. Waterman also presented on behalf of the directors of the company a copy of the following resolutions, which were adopted on the same day and read on the minutes:

Whereas, This fourth day of August, 1906, is the twenty-first anniversary of the connection of Mr. William I. Ferris with the business of the L. E. Waterman Company; and

Whereas, It is the desire of the officers and directors to extend to Mr. Ferris their heartiest congratulations upon attaining his majority in the service of the company; now, therefore, be it

Resolved, That it is the desire and purpose of the officers and directors of the company to record their high regard for the personal and professional qualities and attainments which has distinguished Mr. Ferris' business and personal relations with this company, and to express their admiration for those sterling qualities of character and disposition which in the depth and evenness of their genuineness and sincerity have bound us all to him in the strongest ties of friendship; and be it further

Resolved, As some slight token of our respect and high esteem, that these resolutions be recorded at length in the minute-book of the company as a memorial of the twenty-first anniversary of Mr. Ferris' connection with this company.

De Beers Company to Move

It is said that to escape an annual income tax amounting to \$700,000 a year, the De Beers Consolidated Mines, Ltd., which controls the diamond market, is about to move its headquarters from London to a city outside of England. Dealers say that New York may be selected as a headquarters for larger and finer stones, but Paris is more likely to be chosen. As nearly all the wholesale dealers, and even some of the retail dealers, go to Europe at intervals to buy diamonds, the change is a matter of much interest to the local importers. The profits of the De Beers Company in the last fiscal year, according to its annual report to the shareholders, amounted to nearly \$9,000,000, being realized on an output of diamonds weighing 2,210,314 carats and bringing gross receipts of nearly \$25,000,000. The De Beers Company already pays an income tax in Cape Colony and objects strenuously to paying a similar tax in England.

Among the trade visitors to New York last month were R. M. Whitford, vice-president and general manager of the Hofman Jewelry Co., of Columbus, Ohio, and C. W. Ernsting, of San Diego, Cal., who were exhibiting a collection of California gems for the benefit of the Metropolitan trade. Mr. Whitford and his business associate, O. S. Hofman, president of the Hofman Jewelry Co., have become greatly interested in California gems and have purchased a new tourmaline mine in that State. They have also become associated with Mr. Ernsting in the ownership of a kunzite mine, and contemplate the development of still other gem mines. The collection of California gems shown by Mr. Whitford and Mr. Ernsting was very beautiful and afforded conclusive evidence of the richness of the Golden State in gem material.

The new Alvin Building, on the northeast corner of Fifth Avenue and Twenty-fifth Street, is being hurried to completion, and it is expected that it will be ready for occupancy about October 1st. The store and basement will be occupied by the Alvin Mfg. Co., and it is stated that the upper stories will be largely occupied as offices by jewelry concerns.

The increasing diamond importations are overtaxing the facilities of the customs authorities. It is stated that it is not unusual at this time for the appraisers' warehouse to have more than \$1,000,000 in precious stones and pearls stored in the safe. So great has the rush of imports become, that Gen. Geo. W. Mindil, the veteran examiner of precious stones, has been obliged to employ two assistants in making the official returns. Secretary of the Treasury Shaw has warned the customs officials against the danger of thefts, in view of the phenomenal imports, and, as a result, heavy barriers of steel have been erected in the examining room. In the daytime an armed guard is stationed at the entrance to the examining room and only those personally known are admitted. So much romance has surrounded the diamond in all ages that the storage of them gives much concern to the authorities.

Allsopp & Allsopp, of Newark, N. J., manufacturers of fine gold jewelry, have just opened up a branch office at Los Angeles, Cal., in charge of Edmund F. Allsopp, of the firm. Mr. Allsopp selected Los Angeles as a desirable and healthy place to live in, but will visit the whole Pacific Coast trade from that point. The firm already have a very nice business on the coast, but expect to increase it greatly with their better facilities for looking after it and the presence of a member of the firm constantly on the ground.

(Continued on page 1499)

CARE

Genius has been defined as the "art of taking pains." This aptly illustrates the methods we employ in manufacturing to achieve the results we secure. Could you know the painstaking care we devote to the production of Larter goods, from the designing of the pattern and through the various processes of manufacture to the final touch by the finisher, you would buy more of our goods for your stock.

Every Ring, Cuff Button, Shirt Stud, Vest Button and Locket that we manufacture is stamped with our



this being our guarantee of correct pattern, careful construction, full quality and right price.

Our travelers, our mail order department and the Larter Gold Book are at your service. May we do business with you this fall?

LARTER & SONS

21-23 Maiden Lane

NEW YORK CITY

4
over
40
years
Ring Makers

No better Gold Chain made.

Z-K GOLD CHAINS

See that Z-K and the Karat-Mark is stamped on the chain.

Guaranteed not to break with natural wear in Twenty Years.

Z-K Neck Lorgnette Gen's **CHAINS**

Costs YOU no more than inferior makes.

If not carried by your Jeweler, order from us, Ziruth-Kaiser Co., 2 Maiden Lane, New York

This ad is greatly reduced from the September magazines. It is bringing customers to YOUR store.

FREE

Let us write your Ads

We will send you, charges prepaid, 52 Newspaper Ads that will INCREASE your business THIS Fall and SELL the many different articles that you may carry.

WHO'S YOUR JOBBER?

BYRON L. STRASBURGER & Co.

17 Maiden Lane, NEW YORK

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GUN METAL

New York Letter

(Continued from page 1497)

New York Merchants Work Together

Three or four times a year the merchants of all the cities and towns of the Middle West and the South receive a booklet or circular calling their attention to the attractiveness of New York as the nation's buying center. Sometimes these circulars are "prosperity sermons," giving specific facts about crops and industries that everybody ought to know. Often they are illustrated with pictures of places of interest in and about New York. But they never advertise any one firm or business. Publishing and distributing this literature is part of the work carried on all the year by the Merchants' Association. In 1897 some of the leading merchants met. They said, "New York is the greatest market in the United States, yet other cities are attracting the buyers. We must organize and protect the market." They formed an association and established headquarters. They secured cheap passenger rates on all the railroads entering New York during the spring and fall buying seasons. They asked the merchants to have their mail and telegrams sent to the offices of the association and they helped them in many other ways. For example, they printed and circulated the schedule of legal cab fares, thus preventing strangers from being overcharged. In one year they brought 10,000 merchants to New York. Now these visiting merchants not only had the advantage of a trip to New York, but their business vision was broadened by contact with a large market. They became better merchants; when they got home they were able to make their stores and windows more attractive. Often the merchant learns things that help his entire business. Although started with the idea of fostering New York's trade, the Merchants' Association has developed a broad field of civic usefulness. When the Ramapo Water Grab threatened to rob the taxpayers of millions of dollars the association organized the opposition and defeated it. The expense of this fight was \$40,000. It has secured a number of extensive harbor improvements, greater efficiency in the city postal service, and caused the State railroad commission to maintain a bureau in New York to regulate street railway traffic. It maintains a bureau of expert statisticians whose reports on the various activities of the association are valuable public records. Its membership comprises more than a thousand business men, many of whom give freely of their time and money to the association. Although many of the merchants are competitors, the work is free from commercial rivalry. For example, if a merchant in Georgia writes to the association that he wants to go to New York to buy crockery and wants the name of a reliable house, he receives a list of all the crockery manufacturers who are members of the association.

The Imported Necklace Case

Members of the Diamond Importers and Cutters' Association which seeks to protect the interests of the wholesale jewelry trade in this city, by seeing that the customs duties levied on imported gems of all kinds, including pearls, are up to the requirements of the law, have divided in opinion as to the wisdom of the complaint made in the name of the association against Bernard Citroen, of Paris, as a result of which he has been sued for \$110,335, the action being based on the importation of a pearl necklace valued at \$220,670. The attention of the law officers of the Custom House was first called to

the necklace by New York importers, who said that they represented the organization and that the wholesale dealers would like to see a test case brought against the Parisian. This accounts for the fact that the pearls had been delivered to Citroen on his paying \$22,067, the duty computed on the ten per cent. basis several days before the Treasury Department went after him for the much larger amount. It is foreseen that if the Government wins, the victory, while directly affecting only Mr. Citroen, will subject the American importers thereafter to the likelihood of paying the sixty per cent. duty on their strings of pearls, which for a year or so they have been importing on the payment of a ten per cent. duty, nobody raising any question as to their right to do so under the court decisions. According to one of the men who joined in making the complaint, the object was to deter wealthy Americans from buying necklaces and other jewelry abroad by insisting, whenever possible, on the maximum duty provided in the jewelry clause. It especially raspered the American importers to see a Parisian bring into the city at the ten per cent. duty as loose pearls one of the most costly necklaces sold in years and turn it over to a customer here, thus taking trade away from them under their noses. The court decisions under which the importers at New York have been getting all of their pearls from Europe on the payment of a ten per cent. duty, came in what were known as the Tiffany, Neresheimer and Coolidge cases. The law provides the sixty per cent. duty for "pearls strung." It was held that the expression "pearls strung" applies only to a necklace or article of completed jewelry. The mere stringing of the pearls on a thread or wire was said by the judges to be of no importance, and the court looked to the matching of the pearls as to color and size, also to the assorting and grading required for a necklace. There was a ruling that before the sixty per cent. duty can be collected the Government must show that there has been such a collection of gems as gives to the assemblage a greater value than the aggregate value of the pearls considered individually. This was held by the highest court in the Tiffany case and has since been followed by the customs authorities as a guiding principle. The rub comes in the fact that strings of pearls are rarely if ever valued by people in the trade above the total valuation of the individual gems in each string. A customs officer of long experience says that it is impossible to get an expert to put upon a necklace or string of pearls such a higher valuation, so that as a practical result of the court's rulings the pearls on strings had been getting through the Custom House without any trouble until the Citroen complaint was made. Importers say that the practice followed of late by the authorities is reasonable, for the custom now and for ages has been to drill pearls and carry them on strings in offering them for sale, and the placing them on strings does not make them a necklace. A complication in the Citroen case is in evidence that the completed necklace was actually sold by him in Paris as an article of jewelry and worn on several occasions in that city by Mrs. William B. Leeds.

Among the trade visitors to New York last month was H. A. Maier, of Maier & Berkele, Atlanta, Ga. Mr. Maier, who made his headquarters at the office of Ingomar Goldsmith & Co., states that the prospects of his State and section are excellent, and that his firm and the trade generally anticipate an unusually large fall and holiday trade. The Maier & Berkele store is one of the finest in the country and one of the sights of Atlanta.



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A

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in our famous copyrighted

B. P. O. E. design and many others in Scarfs and Links, diamond-set or plain.

14 K. **BROOCHES** 10 K.

Tempting in beauty, style and price.

Links in all weights and shapes.

BRACELETS

Hand chased, engraved, plain, oval, round. Set with diamond, ruby, sapphire, emerald and amethyst combinations.

Complete lines in

GOLD JEWELRY

DIAMOND-SET JEWELRY

FILLED JEWELRY

in Scarfs, Fobs, Locketts, Crosses, Hat Pins, Combs, Gold Knives, Gold Safes, Cigar Clips, etc.

Chas. L. Trout & Co.
MANUFACTURERS

15 Maiden Lane

NEW YORK

DIAMONDS

BENJ. ALLEN & CO.
CHICAGO.



A large importation of diamonds, purchased early this year by our foreign buyer in the European markets, is now in stock. Every jeweler should be interested in what we have to offer. The goods have never been better in quality and assortment—we are fortunate in having on hand an extremely good supply. Orders or correspondence in regard to precious stones will receive prompt attention.

BENJ. ALLEN & CO., Chicago



WESTERN BUREAU OF THE KEYSTONE
ROOM 1201 HEYWORTH BUILDING
CHICAGO, August 25, 1906.

The State of Trade and Conditions

The continual recording of uniformly prosperous and satisfactory business conditions become monotonous, although it is pleasant to have it so. It is the opinion of expert authorities that business is more promising at the present time than ever before in the history of the Western country. Nothing has occurred since last month to cloud the brilliant all-around crop prospects of the West and South. With few exceptions—and generally there are compensating circumstances there—splendid cotton or corn crops seem certain to follow the almost unprecedented yield of wheat. The Western and Southern farmer is greatly blessed this season. These conditions have led our wholesalers, manufacturers and retailers in all lines to make preparations for an immense fall and winter business. Present conditions give them every reason to feel gratified over the outlook.

Visiting Dealers Swamped Chicago Hotels

Country dealers have descended upon Chicago in droves during the past fortnight, and the hotels of the city have been swamped. Among the throng were a large number of jewelers and opticians, but of course these trades were not as well represented as other lines for the reason that the jewelers will be much more numerous later in the season. Our wholesalers and manufacturers agree that sales will foot up ahead of August last year; in fact they claim that it will be the best August in their history. Generally speaking the attendance of out of town merchants has been large and the buying brisk in spite of the hot weather. The buying has been generous and has reflected the prosperous times that all sections of the country are enjoying. It has shown a healthy growth over that of last year. At the same time, it has been marked with conservatism. Nobody is plunging or loading up excessively. The first two fall excursions, under the auspices of the Chicago Commercial Association, will be on during September and it is expected that they will bring more jewelers to market than have the August excursions.

Retail Trade Good as Can be Expected

Retail trade in jewelry and optical goods for the past two weeks has been good considering the season. The features

of the trade at present are the large demand for bracelets, necklaces and combs. The demand for the former is simply great, as no single article in jewelry has ever before sold like bracelets are now selling. Manufacturers tell us that it is impossible for them to keep up with their orders for solid gold bracelets and that high grade goods, as well as medium price, are selling wonderfully well in this line.

Chicago jobbers are optimistic these days. They universally concurred in the view that the prospect for fall business surpasses that of any previous year. Here is how they talk about the present trade situation:

Claude Seymour, of Otto Young & Company, a close observer and always conservative in statement said "I believe conditions were never more favorable. Our August business shows a good increase over the same month last year and there is every reason to look for the largest fall business in our history."

Max Ellbogen, of the Stein & Ellbogen Company said: "I have been over a considerable of the Western territory in the past fortnight, and I have never seen conditions more favorable for a prosperous fall and holiday business."

C. H. Knights, of C. H. Knights & Co., said: "I have never seen conditions covering the whole territory tributary to this market as promising as now. The demand for goods is exceedingly large, and heavier than ever before. We look for a splendid fall business."

A. C. Becken, of the A. C. Becken Company, said: "The outlook was never as good as now. The brisk demand in the West, Southwest and Northwest seems to prevail all over the United States, and the factories are pushed to the limit. About our only trouble is to get goods."

M. A. Mead, of M. A. Mead & Co., said: "Reports from all sections of every territory carry splendid crop indications, and every one is in a most hopeful mood. We look for a great trade this fall."

R. A. Kettle, Chicago and Western agent for the Waltham Watch Company, said: "I am very much encouraged to believe that the present season will be the greatest season for watches ever known in the history of the trade. Even now, high grade movements are growing scarce. What we need in this office, at present writing, is more watches."

Personal Mention

A. C. Becken, Chicago's widely known and successful wholesaler, has taken over the business of J. H. Purdy & Co. the pioneer exclusive tool and material house in this market, and has just incorporated the merged business under the name of the A. C. Becken Company. Mr. Becken has been thinking of incorporating his business for several years past, but mainly because of sentiment has continued it on as he founded it a little over twenty years ago, a personal enterprise. It has, however, grown to be so big that a further continuance on the old individual lines is unsafe and every way inadvisable. This is especially true when it came to merging two old established houses like his own and that of J. H. Purdy & Company. And still another argument in favor of incorporation was that he had no partner or partners. In a corporate form, and under the protection and guidance of the laws of the great state of Illinois, the business has an entirety of its own—a foundation and permanency that no individual business can have. The life of man is limited, but the charter of the State is perpetual. The business of A. C. Becken has had a steady and substantial growth in the little over twenty years since he established



A. C. Becken.

it in Chicago. In fact it may be said that for the past few years his business has had a phenomenal growth until it has now reached over \$900,000 in annual sales and is expected to reach the million mark by the end of the present year. The taking over of the Purdy business will give the merged concern one of the largest tool and material departments in the West. Nearly all of the J. H. Purdy & Co. employees have gone with the new corporation. The many friends of Mr. J. H. Purdy will be glad to know that he retains an interest in the new concern and that he will personally visit all of his old customers very soon in its interests. A. Hill, who traveled in Michigan for Mr. Purdy, will cover the same territory for the new firm. This deal has been on for some time. The Purdy stock has been removed the past week from the Heyworth Building to the Becken quarters on the eleventh floor of the Powers Building.

B. C. Allen, of Benj. Allen & Co., and Mrs. Allen, are enjoying a three weeks' outing touring through the New Hampshire hills in their auto car.

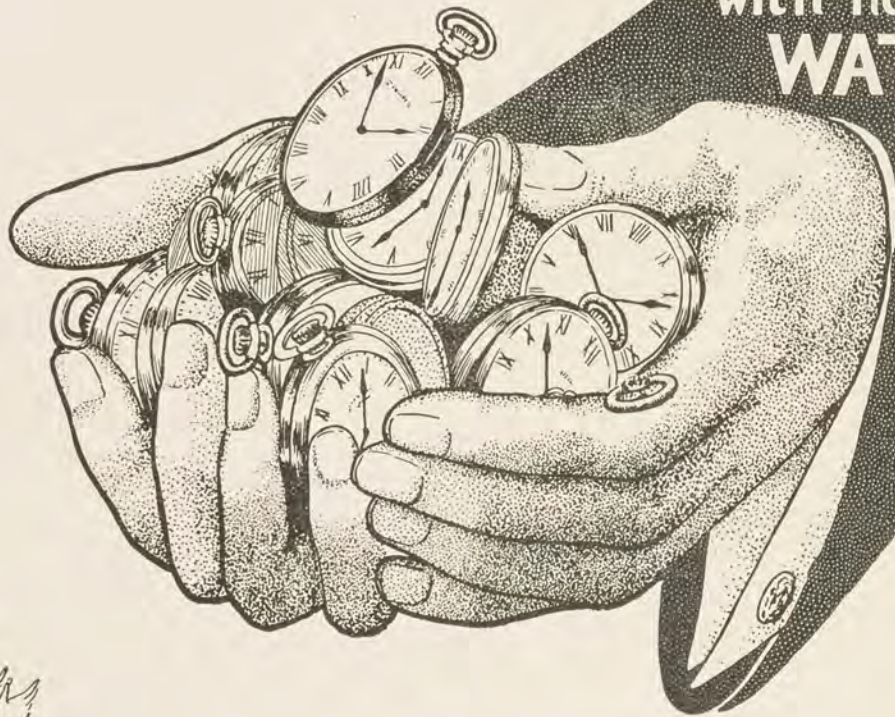
Fred G. Thearle, junior partner of C. H. Knights & Co., leaves to-day for a short business trip among the Eastern manufacturing centers.

W. M. Davidson, manager for J. W. Forsinger, has just returned from his summer vacation.

(Continued on page 1503)

HOWARD
WALTHAM
ELGIN
UNITED STATES
KEYSTONE GOLD
JAS. BOSS
CRESCENT
CROWN
NEW ENGLAND

Reaching
out everywhere
with nothing but
WATCHES



M. A. MEAD & CO.

Exclusive Jobbers of American Watches

CHICAGO

COLUMBUS MEMO. BLDG.

PITTSBURG

FARMERS' BANK BLDG

Chicago Letter

(Continued from page 1501)

Harry Kohn, of the Stein & Ellbogen Co., has recently returned from a two weeks' enjoyable vacation spent among the lake resorts.

H. W. Allen, of Herbert W. Allen & Company, accompanied by Mrs. Allen, returned from Europe last week. Mr. Allen tells us that they enjoyed a delightful trip during their ten weeks abroad. Mr. Allen is looking fine and says he never felt better in his life.

Fred L. Levy, president of the M. Schussler Company, one of the pioneer and leading wholesale jewelry houses of San Francisco, spent a few days in town recently calling on his friends in the manufacturing trade. Mr. Levy brought the news that San Francisco was rebuilding rapidly and that trade was simply phenomenal with his firm. He remarked that their July business was double that of their business for the same month last year, and that they expected their sales for August would show up equally as favorable. Mr. Levy further said that it might seem rather strange to some people to hear that a ruined city, one whose entire business district had been laid low within the short space of four months, and whose inhabitants are living in all manner of temporary shelter from tents to military barracks, is now buying so many goods that the various transportation companies, with all the facilities at their command that they had under normal conditions, and when a booming business was being done, are demanding additional room that they may handle the increased trade in an extra judicious manner. This is the case in San Francisco at the present time. The volume of business now being done by the railroads is so great that increased terminal facilities are absolutely necessary, and are being provided. Mr. Levy said that the jewelers, both wholesale and retail, with the energy and push which is so prominent a characteristic in the West, were starting up again in temporary quarters mostly until the erection of permanent structures. He said it was calculated that there were now engaged in the rebuilding of the city over 80,000 men whose wages amounted to a million dollars a week. The greater part of this vast sum goes directly into circulation and is making times very good for all classes of tradesmen.

Out-of-town Visitors

The Tucker Jewelry Co., of Higginsville, Mo., was represented in this market last week for several days by H. E. Tucker, the head of the firm, who was accompanied by Mrs. Tucker. Mr. Tucker was attending to the firm's fall buying and reported that crops were never better in his section of the country than they were this season, and that everybody was rejoicing over the bountiful harvests. Mr. and Mrs. Tucker spent a day at Elgin, the guests of the Elgin Watch Company, on a tour of inspection of the big watch plant.

J. H. Ramsey, of Aledo, Ill., spent a few days in the Great Central Market last week stocking up for fall trade.

Miss Kate Becks, of Michigan City, Ind., who is now manager of the store of the late John Becks, spent several days in this market recently on a purchasing trip. Miss Becks is proving quite a business young lady, and a worthy successor to her lamented father.

Joseph Doehrer, Beruqua, Wis., spent a day in town this week selecting his fall bills.

Joseph D. Lorenza, of Mishawaka, Ind., was

a welcome visiting buyer in the Chicago market recently.

C. W. Bollinger, of Oskaloosa, Iowa, accompanied by Mrs. Bollinger, spent several days in the Chicago market recently combining pleasure with buying of their fall bills.

O. A. Hesla, jeweler-optician, of Prescott, Ariz., who has recently succeeded to the business of George H. Cook & Company, of that city, is spending this week in Chicago on a purchasing and pleasure trip. Mr. Hesla is buying liberally in fall lines in anticipation of a lively fall and holiday trade.

T. E. McLean, of Fairfield, Iowa, is spending a few days in Chicago selecting goods for his fall trade.

H. W. Klopff, of Neillsville, Wis., spent several days in the Great Central Market recently on his fall purchasing trip.

C. F. Graff, of Elkhorn, Wis., was in Chicago several days last week on the lookout for late fall novelties.

J. J. Beale, of Rockford, Ill., always a welcome trade caller in this market, spent a day in town the early part of the week on a business trip.

A. H. Frandsen, the well-known and successful jeweler of Monmouth, Ill., spent several days in the Chicago market the past week selecting goods for his fall and holiday trade.

E. L. Overjorde, of Northwood, Iowa, spent a few days in the Chicago market recently doing some buying and selecting new fixtures for his store.

W. F. Kirkpatrick & Co., of St. Joseph, Mo., were represented in this market the past week by Mr. Kirkpatrick who was here on a business trip.

Claude Wheeler, of Henninger & Wheeler, Columbia, Mo., spent most of the present week in the Chicago market attending to his fall buying. Mr. Wheeler was a congenial caller at KEYSTONE headquarters, and reports that he has enjoyed a fine spring and summer business, and that they are anticipating an unusually good fall and holiday trade.

Henry Melliush, of Tucson, Ariz., and wife spent a week in Chicago the early part of the month combining business with pleasure. Mr. Melliush is a son of F. Melliush, the veteran jeweler, of Ottawa, Kans., and is well known in the Western trade. He reports that times are good in his portion of the great Southwest country and that business is good in consequence.

C. A. Clement, the well known and successful jeweler of Springfield, Mo., was in town this week for a few days, enroute home from a pleasant outing spent at Mackinac Island. When asked about trade conditions in his section of the country Mr. Clement said that they were never better in his recollection. Springfield is right in the heart of the Missouri apple and peach belt. Mr. Clement tells us that there is only one thing the matter with Missouri's fruit crop, and that is that it is so bountiful that the railroads cannot furnish enough cars to haul the peaches to market.

Charles G. Lord, practicing optician of Fort Worth, Tex., was in Chicago for several days last week combining business with pleasure.

George Porth, of Jefferson City, Mo., was in town for several days last week combining business with pleasure. Mr. Porth spent a day at Elgin while here, looking over the big watch plant.

Ed. L. Allen, the well-known jeweler of Trinidad, Colo., accompanied by Mrs. Allen, spent

last week in Chicago enjoying life in the Western metropolis and selecting goods for their fall trade. Mr. and Mrs. Allen favored KEYSTONE headquarters with a call while in town. Mr. Allen said that he had enjoyed THE KEYSTONE from its beginning and was always interested in each number as it appeared, and took great pleasure in perusing the great organ of the jewelry and optical trade. Mrs. Allen remarked that like her husband she always enjoyed reading THE KEYSTONE, and found it wonderfully interesting.

George M. Howe, of Wichita, Kans., spent several days in Chicago recently selecting fall goods for his home store.

P. H. McBride, of Kearney, Nebr., was a visiting buyer in the Chicago market recently on the lookout for late fall novelties.

Chris Jensen, of Davenport, Iowa, was among the many western buyers in the Great Central Market this month selecting their fall bills.

The Bohm-Allen Company, of Denver, Colo., were represented in this market recently by Frank P. Allen, who was here combining some fall buying with the pleasures of Chicago life.

Herman Crohn, and wife of Memphis, Tenn., were welcome trade callers in the Chicago market last week. They were on their way to the Wisconsin resorts where they expected to enjoy their summer outing.

I. F. Varney, the well-known jeweler of Wichita, Kans., spent several days in Chicago recently, combining pleasure with fall buying.

E. L. Allen and wife, of Trinidad, Colo., were welcome trade callers in this market for several days last week.

Fred H. Keller and Mrs. Keller of Ottawa, Ill., were trade callers in this market recently.

Frank Anshutz and wife, of Shenandoah, Iowa, spent several days in Chicago last week on a fall purchasing trip.

Charles Mauer, of Champaign, Ill., was in the city the early part of this week attending to his fall buying. While in town Mr. Maurer found time to call at KEYSTONE headquarters and report that trade was better with him than usual at this season of the year, mostly on account of the splendid crops in that section.

W. P. Walters, of Sheridan, Wyo., spent a week in Chicago recently selecting his fall bills. Mr. Waters reports that his section of the country is unusually prosperous this year and that they are anticipating a good fall and holiday trade.

F. A. Klass, of Hibbing, Minn., was a visiting buyer in the Great Central Market last week, buying liberally for his fall trade.

Lewis & Van Sickle, of Oskaloosa, Iowa, were represented in this market the past week by E. A. Lewis, the head of the firm, who was here on his fall buying trip.

A. E. Foster, of Creston, Iowa, was in town the early part of the week, looking over the market for late fall novelties.

Henry Copley, of Omaha, Nebr., spent several days in Chicago last week attending to his fall buying.

J. J. Hunt, of Covington, Tenn., is among the large number of Southern jewelers who have visited the Chicago market within the past fortnight selecting their fall bills.

Charles F. Dyer, of Caro, Mich., spent a few days in town last week on a buying trip.

Mr. and Mrs. R. N. Phipps, of Fulton, Ky., were welcome visiting buyers in Chicago the past week who were selecting their fall bills.

Will Warren, with Neal, Aden & Company, Paris, Tenn., spent several days in town the past week attending to the firm's fall buying.

(Continued on page 1505)

TRADE VISITORS TO CHICAGO

are cordially invited to call and inspect for themselves the thorough preparations which we have made for fall and holiday trade.

Every line is filled to overflowing and all the immense stocks have been selected with that instinct for our patrons' interest which comes from long experience, persistent striving and accurate knowledge of the trade needs.

As a rush season is now certain it is a wise precaution to tie to a house which can guarantee the satisfactory filling of orders and prompt delivery, however urgent the call, thus safeguarding you against delay or disappointment.

Mail orders given immediate attention and filled as received.

STEIN & ELLBOGEN COMPANY

WHOLESALE JEWELERS AND DIAMOND CUTTERS

COLUMBUS MEMORIAL BUILDING, CHICAGO


GEO. KUEHL & CO., Chicago, Ill.

Manufacturers and Importers of

Hand-Carved Genuine Black Forest
Cuckoo Clocks

with



and Sole Agents of 400-Day Clocks with  Trade Mark

announce their removal to more spacious quarters

80-82 Wabash Avenue

Chicago Letter

(Continued from page 1503)

Among the visiting jewelers who were guests of the Elgin National Watch Company at their works in Elgin the past week we will mention J. J. Hunt, Covington, Tenn.; Mr. and Mrs. R. N. Phipps, of Fulton, Ky.; L. W. Parrish and wife, of Paxson & Parrish, Chicago; Will Warren, of Paris, Tenn.; M. Nelson and family of Chicago; Charles F. Dyer, of Caro, Mich.; H. G. Weger, of Chicago, and George B. Elbe, of the same city.

J. W. Moseley, of Clarion, Iowa, is in town this week attending to his fall buying.

Fred B. Crane, of Mt. Pleasant, Iowa, has been spending several days this week in the Great Central Market selecting goods for his fall and holiday trade. Mr. Crane was a pleasant caller at KEYSTONE headquarters to-day. He reports that Iowa is blest with abundant harvests this year and that they are anticipating a record-breaking holiday trade in his section of the country this fall.

News from the Trade

Joseph S. Pieringer, optician with J. S. Pieringer & Co., of Bedford, Iowa, has been spending several weeks in Chicago pursuing a post graduate course in optics. Just before leaving for home Mr. Pieringer made liberal selections in new fall and holiday goods for the home store.

J. C. F. Cummings, of the Twentieth Century Optical Parlor, Papmona, Cal., has been spending some little time in Chicago recently in the interest of his business.

A. L. Wiffin in charge of the traveling force at Benj. Allen & Co., leaves to-day for a ten days' outing among the Wisconsin lakes.

George N. Steere & Co., is a new manufacturing concern recently organized at Pawtuxet, R. I., for the purpose of manufacturing their patent hold-fast comb which they will make their specialty. Two of the members of this firm are well known in the Chicago market; George N. Steere, the head of the firm was formerly manager of the chain house of Geo. L. Brown & Co., of Attleboro, and Frank T. Barton is the Chicago and Western representative of the Fontneau & Cook Company, Attleboro. They have the best wishes of their Western friends for the success of their new venture.

George W. Cook, who covers Southern Wisconsin and Northern Illinois for Norris, Alister & Co., reports an unusually good August business and says that his customers are buying liberally this fall in anticipation of a good trade from now on until after the holidays.

The following optical students have recently matriculated at the Northern Illinois College, this city: Milton Johnson, of Chicago; Hugh J. Davey, of Pennsylvania; William John McKay, of Oklahoma; I. H. Mettler, of Illinois; John K. Brunk, of Indiana; Paul F. Sass, of Wisconsin; R. A. Parrott, of Illinois; Charles A. Hoglund; Thomas A. Farmer, of Ohio; S. E. Brady, of Kansas; John Watson, of Illinois; Ida M. Wooley, M. D. of Illinois; Lily M. Hunt, of Nebraska; Geo. F. Townsend, of New Zealand; Harry S. Kurzon, of Illinois; H. H. Kellogg, of Iowa; Bennett M. Walkington, of Illinois; and Maximilian H. Doehner, of Minnesota.

A. P. Dupuis, for a number of years past connected with the jewelry section at Mandel Bros., and well known in the Chicago trade, is now buyer and manager of the jewelry department at Gimbel Bros., Milwaukee.

E. T. Ozment, for a number of years past with the Maxwell & Raiford Jewelry Company, of Tuscaloosa, Ala., has been spending the past week in Chicago selecting his opening bills for the new jewelry store of the Fincher & Ozment Jewelry Company, a new house that is just opening up in Tuscaloosa. Mr. Ozment is buying an entirely new stock and will open up a modern establishment in every particular, and he expects the new firm to do a successful business from the start.

George H. Thomas, for eight years past a salesman in the local office of the Mauser Mfg. Company, has resigned his position to act as western representative of Scharling & Co., Newark, N. J., and the Shephard Mfg. Co., of Melrose, Mass. Mr. Thomas has opened up an office in room 501 Heyworth building. Mr. Thomas will also co-operate with Mr. Morton Bernheim, of the Woodside Sterling Company, in handling their line in Chicago for the balance of the year.

Thomas M. Sparks, the pioneer jeweler of Shelbina, Mo., died suddenly at his home August 13th. Mr. Sparks had been engaged in the jewelry business in Shelbina for over thirty-five years. He was successful in his business and highly respected by all who enjoyed his acquaintance. He accumulated quite a fortune, which he leaves to his widow who survives him.

Charles F. Miller, the well-known and successful jeweler of Cario, Ill., has just finished remodeling his store by putting in new fixtures and otherwise improving it. Travelers inform us that Mr. Miller now has one of the modern and swell stores of his section of the country.

Frank E. Behrendt started out on his maiden trip around the "Western Circuit" last week with the solid gold line of Moore & Sons, Newark, N. J. Mr. Behrendt calls on the wholesale trade of the larger Western cities, as well as looking after the wholesale trade in Chicago.

C. E. Folsom, optometrist, with Julius R. Watson Co., of Atlanta, Ga., spent a week in Chicago the early part of the month combining business with pleasure.

C. W. Pixley, practicing optician, formerly with the L. Manasee Co., but latterly with the optical department of Marshall Field & Company, has recently succeeded to the retail optical business of Zimmerman & Company at 34 Monroe St., this city.

Announcement has been received by the Chicago trade that A. B. Griswold, the popular jeweler of Bay City, Mich., will be married to Miss Mary G. Wald of that city, on August 30th. The happy couple will spend their honeymoon on a trip to the Thousand Isles and down the St. Lawrence river. THE KEYSTONE extends congratulations.

Mr. Fessler, of Fessler & Demmel, the well-known jewelers of Waterloo, Iowa, spent the month of August sight-seeing in Colorado, much to his delight and pleasure.

Bennett & Quinn have recently purchased the business of R. N. Knight, at Waterloo, Iowa, and will continue same at the old stand.

C. P. Hall, the veteran jeweler of Saginaw, Mich., was recently confined to his home for several weeks by illness, but we are glad to say is again able to attend to business.

A. H. Meinger has succeeded to the business of John Messing at Burt, Iowa. Mr. Messing will open a music store in Algoria, Iowa.

R. D. Carstens, of Carstens Brothers, Grand Rapids, Mich., has recently returned from a visit to the Yellowstone Park, where he and his family enjoyed a delightful outing.

F. A. Mareau, the well-known jeweler of Belvidere, Ill., spent a pleasure vacation of several weeks among the lakes of Northern Wisconsin, where he put in the greater part of his time fishing for "big ones." He reports good luck in this line and some rare sport.

W. D. Werner and family, of Grand Rapids, Mich., spent a few weeks in August on a lake trip and down the St. Lawrence river.

Jeweler W. H. Kress, of Cheboygan, Mich., has just moved into a handsome new store, which is said by those who have recently called on him to be one of the finest and most modern in that section of the country.

O. R. Rohweder, formerly of Sherburne, Minn., has recently taken charge of the jewelry department of Jay Johnstone & Co., of Esterville, Iowa.

Mrs. A. T. Ward, wife of Jeweler Ward, of Saginaw, Mich., recently met with a serious accident in alighting from a street car. At last accounts, though a great sufferer, Mrs. Ward was recovering.

William H. Kress, of Cheboygan, Mich., was a very sick man for a month, suffering from pleurisy. We are glad to report that he is now able to be at his business again.

F. E. Hyatt, the Chicago and Western representative of the Philadelphia Watch Case Co., is being congratulated by his many friends in the trade upon the recent arrival of a little new jeweler at his home.

Harry E. Farquharson, representing E. A. Gilmore & Co., and E. A. Potter & Co., has recently returned from a visit to his factories and is now out among his customers on the Western circuit.

George M. Gill, well known in the trade as a practicing optician, who makes his home in Chicago, but practices his profession in the South for about ten months in the year, has been spending the summer in this city.

The following graduates have just received their degree "Doctor of Optics" at the Northern Illinois College, this city: Chas. S. Gorman, of Illinois; Harry M. Van Sleen, of Illinois; John W. Nosslette and Mrs. Nosslette, of Indian Territory; William Dorer, of Ohio; Miss Elizabeth Lepsch, of Ridgeway, Pa.; John B. Currie, of Illinois; Ed. Walker and Mrs. Maude Walker, of Iowa; H. C. Hampton, of Indiana, and Wm. M. Kennedy, of Pennsylvania.

"The Pacific Coast is to keep on growing," is the report made by L. L. Berrens, jeweler and optician, of Bellingham, Wash., who was met by THE KEYSTONE representative in one of our manufacturer's offices last week. "You cannot stop the growth, progress and development of the Pacific Coast for the entire stretch of country from Bellingham Bay on the British line to San Diego on the south. It is at the height of an era of development, such as the Golden Slope has never before known." Mr. Barrens further remarked that business in his section of the country was very good, in fact never better at this season of the year. This view of trade he claimed was not theoretical but was based on substantial growth and expansion. He expressed himself very enthusiastically over the bright future that was in store for the Pacific Northwest and believed that before many years his State would double its present population and wealth.

C. E. Range, the well-known jeweler of Trenton, Mo., has been making extensive improvements on his store the past month by putting in a new modern plate glass front. Mr. Range now has one of the most handsome and effective display store fronts that we have met with in some time. He is to be congratulated upon this improvement.

New Quarters, New Stocks Greater Facilities, Better Service

In our preparations for the fall and holiday trade this year, we have had the immeasurable advantage afforded by our magnificent new quarters, which have greatly increased our facilities, both for stock and service. This is now grandly in evidence in our immense new stocks in all lines:

DIAMONDS, WATCHES Clocks, Jewelry, Silverware, Cut Glass, Etc.

These comprise the cream of the markets of the world, selected with great care by expert buyers, who are well acquainted not only with the goods themselves, but with the needs of our patrons in each line. Many compliment us by the assurance that we have reached the limit of possibility, both in stock and service.

GEO. B. BARRETT Co., Corner Fifth Ave. & Smithfield St.
Second Floor, PARK BUILDING
WHOLESALE DIAMONDS, WATCHES AND JEWELRY PITTSBURG, PA.



One of the strongest lines this fall will be

GOLD BRACELETS

We invite your attention to our line of **Jointed** and **Bangle** Bracelets in 10 K.

Scofield & De Wyngaert

48-50 Walnut St.

Newark, N. J.

A TIP

A repair shop where skilled workmen are ready for any class of work at a moment's notice, is at your disposal.

Send in that bunch of work—engraving, cases and all—to-day, and we will return it to-morrow ready for your customer.

Your trade needs your time.

HALLEY & CO.

51-53 Maiden Lane

NEW YORK

PITTSBURG LETTER

Bright Fall Prospects

While August is one of the quiet months in the jewelry trade of Pittsburg and no special rush is looked for among the leading stores, most of the dealers are finding much to do with the preparation of the first arrivals of new stock for the fall and winter business. It seems a bit early for the retailer to talk of holiday trade, but it is the talk this season, and it seems as if the opinion has become quite unanimous that the coming holidays will be more than usually beneficial for the dealers. As an instance of this, M. A. Mead & Company report that the buying of watches for the fall and winter has already been started under favorable conditions. The fact is, the watch men regard the coming season as distinctly a "Watch Year" and one of the first that has come to them in some time. Last year the diamond merchants had the cream of the business and years before that other lines were favored, but this season the tone of every dealer is leaning strongly toward the "movement."

Watch men report from the South that the conditions are unusually favorable for the fall and winter. This is particularly the case in the agricultural districts, where crops are large and markets have improved. Road men report the small towns throughout the Pittsburg territory as prospering and money as quite plentiful. Besides the agricultural phase of the situation, industrial activities are on the broadest possible lines and thoroughly sound with every department of industry in the rush of a fall and winter season and no let up in sight on orders in advance.

The Steel and Iron Industries

With the iron and steel situation in the best possible shape, and labor well employed; with the glass, coal and coke trades in the same condition; with railroads spurred on to the utmost endeavors to prepare for the rush of fall crop movements; enlarging terminals, extending lines and increasing equipment, there remains but a single dark cloud in the business situation, and that is the building trades which have been made stagnant by the labor troubles. Ever since May, the carpenters have been striking and while the strike had been thoroughly broken so far as these men were concerned, the sympathetic strikes of the other crafts have followed, with the employment of non-union carpenters, and a continual struggle has been going on, holding up millions of dollars of new enterprises and keeping thousands of men idle that might be earning good wages.



Maud S. Beacom

Geo. B. Barrett Company, reports a good normal trade for August and reports from its salesmen indicating a large list of orders for the fall and winter. This house is mourning deeply the loss of one of its most estimable employes, Miss Maud S. Beacom, who for 15 years had been cashier of the company and one of the most faithful employes. Miss Beacom died from heart trouble. She had been in somewhat poor health for some time, and a few weeks ago was urged by her employers to take a rest and vacation. She went to the country but became so much worse that she had to return home and passed away at the family residence in Susquehanna Street, East End, early in August. Miss Beacom was known to hundreds of traveling men who visited the Barrett store and was held in the highest esteem by her employers and associates in business. Wilbur F. Ingham, head salesman for this house, is on a brief vacation trip, after a hard year's work.

Large Importations

Several of the tourists in the trade who went to Europe, have returned, and are talking of the fine array of imported stock that will be available for the Pittsburg buyers this fall and winter. Philip Gillespie returned on August

15th, after a pleasant trip abroad. He did some good work among the diamond dealers and brought with him a line of fine stones, which he had not time to open when seen. Mr. Gillespie said that during his trip he met a number of well-known members of the trade, and on the *Kaiserin Auguste Victoria*, the steamship that he returned on, was Frank Huff, of Mount & Woodhull, of New York, and many Pittsburg friends also. His trip this year took him into Spain and Germany and into parts of the Old World where he had never been before, and in all of them he sought for novelties and specialties for the coming holiday trade, and secured them too. Bronzes and art goods that are on the way he promises will be of exceptionally fine variety.

Roberts' new store has not had its formal opening as yet. It is likely to come during the early fall when the house is in shape to take care of its friends. At present hundreds of the friends of this house are making it a Mecca for inspection of the beautiful outfit and exceptionally superb stock, displayed as it was never displayed before. Generally the shop windows of Pittsburg are quiet and summer-like. The novelties are displayed with regularity and uniformity. But little new is being shown or discussed at this time. The best buyers are, of course, away from the city for the summer, and for this reason the trade is not putting its best foot forward. Short hours are the rule, with Saturday half holiday.

The Annual Exposition

The annual exposition of Pittsburg industries, which takes place under the auspices of the Western Pennsylvania Exposition Society, opened August 20th, at the Point and again arouses the interest of business men and also of the jewelry trade. Heeren Brothers & Company have a magnificent display for the exposition as usual, embodying many of the fine stocks of imported ware that are brought over during the summer from various countries of the Old World. The exposition draws nearly a million people to the city during its 10 weeks run and every line of industry of Pittsburg is represented in the two huge buildings during that time.

Some of Pittsburg's jewelers are predicting another transition of the trade in the business districts of the city next year. It is a little early to make any predictions of this kind, but there are so many of the dealers dissatisfied with their present location and the exorbitant rents charged for their stores that the feeling is becoming stronger every day that some change will have to be made. There was a time when the Fifth Avenue dealer was considered the best located for trade. Things have changed, however. Fifth Avenue is rapidly declining as a retail street. Many of the largest and best houses have disappeared and are taking up new locations in Wood Street, Penn Avenue, and Smithfield Street, and now Liberty Avenue, with its reconstructed buildings, removal of railroad tracks, fine broad asphalt pavements and generally convenient location, is coming to the fore. The changes on this street are an epoch-making incident in Pittsburg's history and it is predicted that not a few of the jewelers will be found there soon.

Plans for Winter Campaign

Careful plans for the fall and winter campaign for business are under discussion among many of the larger stores. Dealers do not stop at the printers ink to get trade. The subtle devices adopted to bring buyers to stores are always numerous and vary from year to year. Novelties in this line are numerous and some are cleverly conceived. Department stores are not enlarging their stocks much this season and the jewelry stocks have escaped the bargain counter sales more than usual. The usual fall influx of cheap dealers with mirror fronts has been absent and because of high rents many believe that they will not be so plentiful this season. Cut glass stocks promise some large additions during the season but the majority of the orders placed are for domestic ware, and the importations are not supposed to be extensive. Golf and tennis contests are holding well to the front at this time, and many prizes are being offered which are all of the jewelry line. Social affairs are of course on the quiet order. Weddings are all of the less important type, but the number of small ones is said to have been larger than usual and they have had a beneficial effect on the ledger accounts of the dealers.

DETROIT LETTER

A Unique Clock

For the last fifteen years Louis Meier, jeweler at Gratiot Avenue and Boulevard, Detroit, Mich., has been working to achieve his ideal of a clock and now there stands in his workshop a handsome product of his genius. The clock is made of solid mahogany and stands thirteen feet in height. It measures seven feet at its greatest width and weighs in the neighborhood of 2500 pounds. It is equipped with the gravity escapement and has the mercury pendulum.

Included in the big dial, which measures three feet six inches in diameter, are a number of smaller dials which register the time at other points on the globe, so that one can tell at a glance what time it is on every part of the earth. The points include Paris, Berlin, London, Rome, Pekin, St. Petersburg, Manila, Philadelphia, Washington, San Francisco, St. Louis and New York.

Beneath the dial is a calendar which gives the day, the month and the year. A feature of Mr. Meier's clock is the Westminster chimes, which ring every fifteen minutes. At the top of the clock a miniature moon is placed. This revolves in the same manner as the planet and shows all the moon's phases. The bust of Galileo, the inventor of the pendulum, and that of the maker of the most improved pattern, give the whole work an artistic touch.

Perhaps the most startling feature of Mr. Meier's clock is the march of the nations. At the base of the clock stand two miniature waiters who obsequiously open and shut doors to allow a stately procession of all the nations of the earth. A music box attachment plays an inspiring accompaniment. Uncle Sam bearing an American flag heads the procession, while the American Indian brings up the rear.

Visitors to the State Fair will have an opportunity to view this clock. It will be given a prominent place in one of the buildings.

After being engaged together in the retail jewelry business at 184-186 Wood Avenue, Detroit, Mich., for the last twenty years Roehm & Son dissolved partnership recently. Robert J. F. Roehm, the father, will continue the retail business, while Edward R. Roehm will devote himself exclusively to the manufacture of fraternity jewelry for college societies.

The Roehms have been making fraternity pins for the sons of President Garfield at Williams College and for John D. Rockefeller, Jr., while he was at Brown University. The S. A. E. pin presented to President McKinley shortly before his death was made by them as well as the Phi Beta Kappa key presented some time ago to President Roosevelt.

Benjamin F. Watts, ex-city treasurer of Ann Arbor, who died recently, was well known in the jewelry trade, having been in the jewelry business for over half a century. The funeral was largely attended and was under the auspices of the Masonic fraternity, in which Mr. Watts had long been prominent. Mr. Watts was for many years manager of the jewelry store of his brother, J. C. Watts, and succeeded the latter as proprietor to the business in 1882; four years later he sold out to J. C. Watts & Co., and from that time he devoted all his attention to repair work, in which he was noted for his skill and ability. Outside of his work in the jewelry trade his principal interests were in Masonic work and in this fraternity he had risen pretty high, having been elevated to the office of Grand High Priest of the Grand Chapter of Michigan in 1882.

Allan Garretson, aged 71, formerly one of Detroit's well-known jewelers, died recently after an illness of seven months. He was born in Logan, Ohio. After serving in the Civil War he came to Detroit and entered the jewelry trade with M. S. Smith & Co. Mr. Garretson in his younger years was active in politics, being a close friend and staunch supporter of Senator R. A. Alger.

A number of jewelers of Grand Rapids closed their places of business every Thursday afternoon

(Continued on page 1508)



Brightest Prospects

This is the time of year when fortune smiles on the great Southwest, and when jewelers, whether wholesale, retail or manufacturing, are calmly awaiting a fall trade that gives every indication of being a record breaker. Never before has this section of the country been in better condition. All through Kansas, Missouri and Oklahoma, prosperity reigns, and when the people who raise the crops have money, it is pretty safe to assume that they are going to spend some of it, with the result that trade will reach the high water mark in the early fall.

Business is rushing now with the wholesale jewelers. For this time of year business is little short of marvelous, and instead of a midsummer lethargy, there is an air of fall briskness about all of the big establishments. The manufacturing jewelers are as busy as they can be, and the big optical firms are working under extreme pressure to get out their orders.

The Fall Festivities

Kansas City is getting on its early fall look of anticipation. Preparations are well under way for the annual fall festivities, which bring thousands to Kansas City, and are an important factor in advertising the city. They will be held this year, as usual, the first week in October.

General conditions here continue to be good. There seems to be an increase in building, and real estate prices continue high. The new city directory gives Greater Kansas City a population of more than 305,000—a marvelous increase in the past few years that speaks volumes for the commercial growth of the city.

Handsome Jewelry Establishment

The remodeling process through which the Jaccard Jewelry Company's new headquarters is going, is a most elaborate one. The store at 1017 and 1019 Walnut street, has been transformed into a four story building, the upper stories entirely of Milwaukee brick. All of the beak and side windows are made fireproof by a new process. The lower floor, where the show windows will be, will have a front of plate glass. The work on the building is going forward rapidly and most of the construction work is already completed. It is likely that the Jaccard Jewelry Company will occupy it early in the fall. The upper floors are to be used to accommodate the Jaccard factories and the engraving departments.

An Appreciated Honor

Kansas City jewelers and opticians are more than pleased with the choice of this city as the meeting place for the American Association of Optician's convention next year. The choice is not alone a compliment to Kansas City, but a mark of the appreciation in which the hospitality of the city is held. Kansas City has entertained many conventions, and always in a way that makes each one glad of the choice. The last convention of the Missouri and Kansas optical societies was notably successful

and promises that the meeting of the American Association will be even more delightful.

C. L. Merry, of the Merry Optical Company, and Mrs. Merry, are spending a month at Mackinac Island.

Mr. and Mrs. C. C. Hoefler and family are at Plum Lake, Wis., for the month of August.

Mrs. W. H. Reed, of Golden City, Mo., wife of the jeweler at that place, was a visitor to Kansas City last month.

J. M. Scott, of the Woodstock, Hoefler Watch and Jewelry Co., is back from his vacation which was spent in New York.

Roy Redfield, of Tonkawa, Okla., was a recent purchaser at the Kansas City wholesale jewelry houses.

Harry Hughes, of Iola, Kans., was in Kansas City last month buying goods and preparing for the after harvest rush.

Many Trade Visitors

The Kansas City wholesale dealers have had a greater number of out-of-town jewelers as customers this month than usual. Many have come to Kansas City to replenish their stocks, and to prepare in a measure for the trade that seems to promise so well for the early fall. Among the jewelers from neighboring cities who were in Kansas City lately were: G. P. Roberts, McCune, Kans.; S. J. Huey, Excelsior Springs, Mo.; H. O. Woodbury, Olathe, Kans.; C. G. Morrison, Olathe, Kan.; F. C. Roeder, Higginsville, Mo.; Otto Burkland, Ossawatimie, Kans.; F. C. Rosenfield, St. Joseph, Mo.; A. Roenfield, Leavenworth, Kans.; George Killem, Pittsburg, Kans.; F. M. Dillon, Bonner Springs, Kans.; W. E. Hyde, Ottawa, Kans.; C. B. Libbey, Wier City, Kans.

The *Merry Idea* for August has the following interesting comment in regard to the trade situation in Mexico:—Herbert M. Campbell, the *Merry* representative in Mexico, having just completed a tour of that country, is quite enthusiastic over the trade prospects there for all sorts of American jobbing and manufacturing interests. The improved transportation facilities afforded by the railroads operating between the two countries is giving an added impetus to Mexican-American trade that will undoubtedly prove most advantageous to the merchants of both countries, and especially so to the jobbing interests of Kansas City.

Drs. S. W. and E. A. Lane, of the Southwestern Optical College, who went to Rochester to attend the meeting of the American Association of Opticians, are remaining in the East taking post-graduate and special work under some of the most renowned experts in the United States. They will return to Kansas City about September 1.

Mr. and Mrs. J. R. Mercer, are spending several weeks in the Adirondacks.

W. E. Huston, who was re-elected secretary of the American Association of Opticians at its recent meeting in Rochester, N. Y., has returned to Kansas City.

Gold, Diamonds and Iron

By combining the most trustworthy data obtainable, the French scientific journal, *La Nature*, estimates the total amount of gold that has been extracted from the earth within historic time at 17,000 tons, valued at \$12,000,000,000. The total amount of diamonds taken from the earth during the same period is estimated at about 20 tons, valued at \$700,000,000. Basing the comparison upon weight, the amount of iron daily produced is nearly equal to the total quantity of gold taken from all the earth's mines since they were first opened.

Detroit Letter

(Continued from page 1567)

during the months of July and August, giving their employees a half-holiday on those days. The success of the movement was due to the work of the members of the J. C. Herkner Jewelry Co., who were first to sign and circulate the petition. The jewelers who signed were J. C. Herkner & Co., E. J. Hervey, F. W. Wurzburg, P. J. Koke, J. J. Thompson, Jos. Siegel, A. Zierleyn, Vander Muelen & Son, W. D. Werner, F. C. Steglick, J. E. Ryan, A. Pruesser, Carstens Bros., E. O. Prange, R. J. Ware, A. Open Dyke, A. Siegel and Pritchard & Price.

William I. How, formerly of Potterville, Mich., is now located at Lansing, Mich.

Frank G. Smith, formerly of F. G. Smith & Sons, quietly celebrated his 78th birthday a short while ago. He is the only living Chapter member of Ashlar Lodge, No. 91, F. & A. M., which will celebrate its golden anniversary in January by issuing a gold medal bearing Mr. Smith's profile.

A chap who gave his name as Isadore Michall, Toledo, drifted into Detroit recently and bought liberally of local wholesale jewelers. At the Chas. A. Berkey Jewelry Co. his bill amounted to about \$400.00. He also placed a large sized order with Noack & Gorenflo. Then he gave his check, signing it Isadore Michall. He claimed to be a clothing dealer and gave his supposed business address. The goods were to be sent by express. Inquiry by phone developed the fact that there is a clothing dealer by the name of Michael, but he does not contemplate putting in a line of watches and jewelry. The checks were worthless and nobody was out anything but one of the jewelers who entertained at dinner.

D. B. Bancroft, of Detroit, Mich., has in his possession a rare relic in the form of two large copper spoons made from a mold. They are the kind of utensils in use among our forefathers. The spoons were handed down from Adair Mainwaring, grandfather of Mr. Bancroft, and they came into the possession of the grandfather in 1778, having been handed down from other ancestors.

Thieves recently broke into the store of W. W. Brigg, 132 W. Main Street, Jackson, Mich., making off with nine diamond rings, fifteen opal and diamond rings, six signet rings, one bracelet, several watches and watch cases and about a dozen ladies' chains.

Judson C. Moyers, Jackson, Mich., has purchased the Tomlinson building adjoining his present store. Mr. Moyers began his career in the jewelry business as a clerk in this old building sixteen years ago. He intends to raze the structure and erect a modern building on the site.

The town of Benton Harbor, Mich., has lost one of its oldest and most prominent jewelers, Chas. Teetzel, of the firm of Teetzel & Alger, having passed away quite recently. Death was due to paralysis and occurred at his home. Besides being the oldest jeweler, Mr. Teetzel had, with one exception been in business longer than any other man in Benton Harbor.

Deceased was fifty-five years of age and commenced business about thirty years ago. He continued alone until 1896, when he formed a partnership with Wm. Hayden, under the style of Teetzel & Hayden. The firm met with reverses and the business was sold to Mr. Hayden's father, under whose name it was conducted until 1899, when the latter sold out to E. A. Hamilton, with whom Mr. Teetzel continued as watchmaker. He then joined Mr. Hamilton as partner under the firm style of Teetzel & Hamilton, and a branch store was opened at St. Joseph, Mich. The firm dissolved in the spring of 1900, Mr. Hamilton taking the St. Joseph store and Mr. Teetzel remaining in Benton Harbor. Last year he joined forces with George D. Alger, who had formerly been in business for himself and later was watchmaker for Mr. Teetzel & Hayden.

Among the lately arrived pupils at the Landis School of Engraving, at Detroit, are Ed. F. Nicholson and Oliver Milburn, both of Toronto, Canada; H. H. Yeager, Des Moines; W. L. Wilkinson, Ida Grove, and W. E. Reeves, Newton, Iowa; Percy A. Ridley, of Chatham, Ont.; Ford Asetine, of Albion, Mich.; Henry Schengenga, of Grand Rapids, Mich.; John J. Bleich, Jr., of Paducah, Ky.; J. T. Cosgrave, of La Grange, Ind.



Antony & Cleopatra
 'll set thee in a shower of gold
 and hail rich pearls upon thee.

WE EXERCISE
 THE GREATEST
 CARE IN THE
 ASSEMBLAGE
 OF MAIL ORDER
 PACKAGES —
 YOUR HOLIDAY
 ORDERS SOLICITED.

SHAKESPEARIAN CHARACTER SERIES NO. 9.

Eisenstadt Mfg. Co.

St. Louis, Mo. U.S.A.



FISHER STEINSMFG CO. S.T.L.

The New **NORMA**
TRADE MARK
(Patented)

Adjustable Bracelets

Quality guaranteed. Are sold at popular prices, ranging from

\$16.50 to \$36.00 per dozen



No. 253



No. 265



No. 254



No. 271

Plain and Chased Link, Bright (No. 253) Finish. It fits the wrist with a velvet-easy grasp. No stiff spring but a flexible bracelet, and the most comfortable of any.

These bracelets may also be had with stone (close set, Rose, Amethyst, Sapphire or Aquamarine), signet and locket ornaments.

The trade can depend upon its possessing the most merit at the least price.

These are a few of the many styles we make.

The quality of these goods is fully guaranteed.

For detailed description and price-list, send for our new illustrated catalogue.

Made only by

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

NEW YORK OFFICE—180 Broadway, Room 43

Address all communications to Attleboro, Mass.

BENEDICT **GOLD CLOCKS**

50 NEW PATTERNS

PRICES? WELL!

Write for **Four New Catalogs.**

Will be sent by express prepaid.



Height 6½ inches

We make—

HOLLOWWARE
FLATWARE
GOLD CLOCKS
JEWEL BOXES, Etc.

We use Waterbury Clock Movements only

BENEDICT MFG. CO.
East Syracuse, N. Y.

New York Showroom, 409 Broadway



“THE COLONIAL”

A model that possesses all that the name implies.

Made in 16 size, 12 size, O size—Hunting only.

A great variety of patterns particularly applicable to this style of case.

The Colonial is made with plain centers only—contrasting well with the appropriate patterns ornamenting backs of cases.

Keystone 14 K. Solid Gold Cases Assay
585 thousandths fine

(14 K. Gold Assays 583 thousandths fine)

See this
Trade-Mark in back



Note this
Warranty in cap



The Keystone Watch Case Co.
Philadelphia

New York

Chicago

Cincinnati

San Francisco

King & Eisele

WHOLESALE MFG. JEWELERS

IMPORTERS OF DIAMONDS

Factory and Salesroom { 10-20 N. Division St.
342-344 Washington St.

BUFFALO, N. Y.

We are as busy as BEES in Clover time

OUR FALL LINE is Clover to the Retail Jeweler

Clover aids the BEES to make good honey

OUR FALL LINE will aid the Jeweler to make GOOD MONEY

You, no doubt, have heard the story
Of the busy little bee,
Who improved each shining moment,
So industrious was he.
This busy bee sought only CLOVER—
"No substitute," says he;
"Profit is my object,
I am a shrewd honey-bee."

Now, if you will be as particular
As was this busy bee,
And purchase your fall stock
From the firm of K. & E.,
You will then have Sought the CLOVER
And no substitute you see,
And carry out the object
Of the busy little bee.

Established



1870

K-E Factory and Salesroom. A Jewelry Beehive

OUR TRAVELERS are out with the best general line of **WATCHES, JEWELRY, RINGS, Etc.**, that has ever been shown on the road.

COMPLETE AND UP TO DATE

Do not buy your fall stock until you have seen the **K-E Line!**

The Adam Pattern



AN ORIGINAL NOVELTY IN FLATWARE

THE WHITING COMPANY take pleasure in confidently directing the attention of the Jewelry Trade to the prepossessing qualities of their radically new departure in flatware design, now introduced as the Adam pattern.

RECOGNIZING the insistent demand for a line of table silverware that shall fitly harmonize with the increasingly popular Adam Furniture and Decoration, the Company have originated a pattern designed in accord with the principles formulated by those celebrated Eighteenth Century architects, the brothers Robert and James Adam.

A FURTHER claim to consideration may be advanced on its behalf. The elegance of its form and the delicacy of its low relief ornamentation, emphasized by the simplicity of the back, unadorned save by the characteristic "swedge" combine to ensure its welcome by all people of taste and refinement.

A COMPLETE line of the Adam pattern, including Individual and Serving Pieces, is offered and ready for delivery Sept. 1st.

The Whiting Mfg. Co.

SILVERSMITHS

Broadway and 19th Street

New York



Reliable Watch Predictions



Two things are now certain :

1st—This fall and holiday season will be a much better watch season than last year—probably the best ever.

2d—There will undoubtedly be a great scarcity of the more popular grades of watches late in the season.



This suggests the wisdom of early and liberal purchasing while stocks in all grades and sizes are complete and available—Elgin and Waltham movements, New England watches and all standard makes of gold and gold filled cases

H. O. HURLBURT & SONS, ¹⁴ South Tenth Street
Philadelphia, Pa.

GOLD

RINGS

BROOCHES AND MOUNTINGS

Also GOLD FILLED RINGS, including the popular THREE CROWN

Ostby & Barton Company respectfully announce to the jobbing trade that their fall line comprising many new and original designs is now ready.

OSTBY & BARTON COMPANY

New York, 13 Maiden Lane
Chicago, 103 State Street

PROVIDENCE, R. I.

The Queen City Ring Mfg. Co.

»Q-C←



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

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



The Retailers
Harvest is directly in
front of him. His success
as regards sales depends upon
the completeness of his stock.
A comprehensive **HB** RING line
is essential to the success of any
Jewelry campaign. **HEINTZ**
RINGS sell—and that's the
important point to consider.

HEINTZ BROTHERS
BUFFALO, NEW YORK



Continued Prosperity

San Francisco's clearings continue to tell a story of prosperity, and the report for the first seven months of the year, according to computations made by the California Promotion Committee, makes a remarkable showing in view of the fact that since April 18th the city has been hampered by the results of the great disaster. For the seven months ending July 31st, 1906, the total clearings of San Francisco amounted to \$995,798,790, as against \$1,003,611,597 for seven months ending July 31st, 1905, being a decrease of but \$7,813,807, notwithstanding the fire and its consequent demoralization of business.

For the week ending August 9, 1906, the clearings were \$38,649,876.09, as against \$32,455,390.93, for the same week of 1905. This shows an increase of 19 per cent for that week.

The unburned district of San Francisco contains 40 per cent. more houses than can be found in any other city on the coast. It is a trifling mistake to assume that the city was wholly destroyed. It has only been a trifle hampered in its growth.

As long as the bank clearings of San Francisco aggregate more than those of all the other cities of the Pacific Coast combined, there can be no question of where this city stands in trade matters.

There are more mechanics and laborers engaged in the work of reconstruction and the clearing away of debris in this city than there are people in some of the ambitious burgs seeking to usurp the place held by San Francisco in the commerce of the Pacific Coast.

Immense Railroad Earnings

The gross income of the Southern Pacific system for the fiscal year ending June 30th, amounted to \$100,000,000, making it the second largest railroad corporation in point of earnings in the United States. It is a remarkable position to have achieved by a railroad system whose managers have been accustomed to put forth as an excuse for high freight and fare rates the alleged fact that it traverses a region which does not afford as much traffic relatively as other roads. If the claim is true about the scant traffic, the Southern Pacific managers display wonderful ability as squeezers, for they manage to extract out of their patrons nearly as much as the Pennsylvania.

A thoughtless critic in a letter to a New York paper states as a startling item of news that the ruins of this city are not all cleared away, and that we have not yet covered the burned district with class A building, although we have had three whole months in which to perform the job. He is in a bigger hurry to see the city resurrected than its own inhabitants, but he must not despair if we fail to do all he expects of us. Rome, he ought to remember, was not built in a day.

The Sacramento *Union* says "business in San Francisco is going on actively, although not on the same scale as previous to the fire." We are not informed as to where the *Union* gained this information. It certainly does not accord with the recorded figures and the statements of merchants, who declare that the community, in its desire to speedily replenish destroyed wardrobes,

furniture and other effects, is buying on a scale hitherto unapproached except in the weeks immediately preceding Christmas. There is nothing surprising in this, for every one that can work is working, and every worker is earning better wages than heretofore. As for the idlers, the people formerly in the enjoyment of good incomes, but whose dividends were reduced by the fire, they are about as liberal purchasers on the whole as they ever were and help swell the profits by their patronage.

Walter Green, the diamond representative of Carrau & Green, of San Francisco, left for the diamond markets of Europe on August 10th and expects to be away about six weeks. Mr. Green is forced to leave earlier this year owing to the large demand for high class stones for, notwithstanding the recent fire, the sale of fine gems is very large. Mr. Green will fill some large orders for his customers while abroad.

We regret to report the death of Mrs. S. Conradi, wife of S. Conradi, the pioneer retail jeweler of Los Angeles. After a lingering illness the deceased passed away at noon on July 24th. THE KEYSTONE wishes to join the host of friends in offering their sincere sympathy to Mr. Conradi in his bereavement.

Shreve & Co. are building on the northwest corner of Van Ness Avenue and Sacramento Street a large structure to be used temporarily as their store and factory. They plan to return to their old quarters in the Shreve Building, Grant Avenue and Post Street, as soon as possible, and believe they will be able to do so in about six months. The Van Ness Avenue structure will be in the style of the Italian Renaissance and the exterior will be finished in cement plaster. Every precaution has been taken by the architect to prevent the noise and vibration of the heavy machinery in the factory from being felt in the store, and great care has been exercised to make the large re-enforced concrete storage vault both burglar and fireproof. The cost of the building will be about \$25,000.

Roy A. Lee is now nicely located at 201 Fillmore street. Roy was fired from his old location at 126 Kearney Street. Besides doing an increased diamond setting business for his friends in the wholesale trade, he is making some big sales of high class goods in his retail store, at the above address.

Paul V. Garin is branching out and will open a new store on Van Ness Avenue, which in conjunction with his store at 1552 Fillmore Street, will keep him busy from now until after the holidays.

Contrary to all expectations, the new downtown store of Sorensen Co., at 715 Market Street, in the heart of the burnt district, is doing a thriving business in all kinds of goods from alarm clocks to fine quality jewels. We are pleased to see that this firm are meeting with the success merited by their progressiveness.

Traveling Man's Trunk Rifled A. Eisenberg, Jr., of the wholesale firm of Eisenberg & Co., wholesale jewelers of San Francisco, is the latest victim of a clever thief. While Mr. Eisenberg was calling upon a retail jeweler in Gilroy, Cal., his trunk was left in the store of the retailer, for the hotel accommodations in this town are poor and the young man felt justified in leaving his trunks in the store, according to the custom of several travelers who have labored late in recent trips. In the morning, Mr. Eisenberg having a presentiment that everything was not as it should be, hurried to the retailer's store and found his trunks had been broken into and some of the best of its contents made away with. The case is in the hands of the local representatives of the Pinkerton detective agency and they are very hopeful of landing the thief in the near future. The firm is bearing up under their recent misfortunes; all present smiling faces and push harder to make up for this temporary loss.

Bohm-Bristol Co., jewelers and diamond importers, resumed business on August 1st in their new store on Van Ness Avenue and Sacramento Street. The new location makes a welcome addition to jewelers' row. The new store compares favorably with their old Geary Street establishment, as it is fitted up in first class condition.

W. H. Mitchell, the leading retail jeweler of King City, was among the out-of-town tradesmen in this market recently, placing orders for his Fall business. Mr. Mitchell was very much impressed with the vast amount of work that has been done in clearing away the debris from the fire.

A. Englehardt, formerly in the employ of Hammersmith & Field, has opened a fine retail jewelry establishment at 443 Van Ness Avenue. The new store is on the edge of the new retail shopping district, and should get a good share of the prosperity that is now visiting this new avenue of trade.

Nat Mosk, the practical watchmaker who was formerly in the Kamm Building, has opened a small retail jewelry store on Van Ness Avenue at Golden Gate. This gentleman is reaping the rewards that are due him for undertaking his new venture.

The Keystone Jewelry Company have joined the host of retail jewelers who have resumed business on Van Ness Avenue. The new store is near Eddy Street, and only a few doors from one of our most famous restaurants. The proprietors are to be congratulated upon their new location and upon the appearance of their entire plant.

Castagnetto & Matteucci are now doing a nice retail jewelry business in their old neighborhood. The members of the firm were formerly in business separately but consolidated after the fire. The new store is at 533 Washington Street, which is the center of their old trade district.

The E. W. Reynolds Co., wholesale jewelers of Los Angeles, are now in their new offices and salesrooms, at 342 Broadway. We greatly fear, however, that their new quarters will not be large enough to handle their rapidly growing trade as they are making great strides in their chosen lines and are continually reaching out for new business. A short time ago it looked as though their old quarters would answer for their future needs. We don't wish to upset their plans, but hope that their future business will outgrow their present room.

F. R. Deremer opened a fine little gem of a jewelry store on Van Ness Avenue, No. 1341, on August 18th, and the floral display was very attractive, and caused a lot of comment. The store, while small, is arranged very nicely and is a fine specimen of what a perfect jewelry store should be.

A Daring Robbery

Diamonds valued at \$6,000 were stolen, on August 8th, from the salesrooms of Carrau & Green, wholesale jewelers at 1510 Buchanan Street. It was one of the boldest diamond robberies ever perpetrated in this city. The thieves secured the gems without exciting suspicion, and they were well under cover before the victims of the crime were aware of their loss.

It was only by the merest accident that the thieves did not get a parcel containing \$15,000 worth of diamonds and one valued at more than \$20,000. These two parcels, with that containing the \$6,000 worth of diamonds, were on display in the salesrooms of Carrau & Green at the same time. During the day on which the theft occurred the stones contained in each of the three parcels were viewed by at least a dozen purchasers.

According to the information in the hands of the police the jewelry that had been on display was all, or nearly all, safely returned to the firm's vaults. It was not until the jewelry was again taken from the vaults that the robbery was discovered. The \$20,000 and \$15,000 parcels were found intact, but there was no trace of the \$6,000 parcel. The members of the firm finally came to the conclusion that the \$6,000 parcel of diamonds must have been left exposed in the salesrooms for a moment, while the two more valuable parcels were being put in the vaults and that the theft of the \$6,000 parcel was committed during that time.

The firm has not the least idea of the identity of the thieves. They have endeavored to recall the names or descriptions of all the persons who visited their salesrooms on the day of the robbery, and they have fairly well succeeded in this. But from among all these persons the jewelers have been unable to pick a man and say that they suspect him of being the one who robbed them of their diamonds.



LAST MONTH on this page we advised you of an importation of diamonds direct from Europe, purchased while there by our Mr. H. W. Allen.

We are so favorably impressed with these goods that we again call them to your attention and consideration.

We know it would profit you to ask for details, which will be interesting both from quality and price standpoints.

We anticipate that you will avail yourself of the opportunity of an early selection.

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The past month has been such an unusual one, from a weather standpoint, that it produced a regular exodus of the city people to the resorts and lakes. It was a record-breaker in high temperature and humidity. In spite of adverse conditions the business of the jewelers has been very satisfactory. The fact is, this part of the country is so prosperous that there is bound to be "something doing" even though it be mid-summer.

The fall season will see quite a few changes in jewelry circles. There is to be another jewelry firm open up for business in about six weeks. This firm is to be composed of W. S. Gaines, for many years the manager of the retail department of the Webb C. Ball Co., and a Mr. Bamberger, recently of New York City, but formerly of this city and at one time associated with Scribner & Loehr Co. The new firm expect to occupy a room in the Lennox Building, and are arranging to carry a good line of goods.

Another change among the well-known manufacturing jewelers is the partnership of J. B. Ramp and E. Bock. Mr. Bock comes from Indianapolis. The firm have installed their plant and office in 654 Rose Building, and will make a specialty of emblem work and class pins as well as all manner of diamond work.

The jewelry trade seems to have their due share of robberies in this town. A few days ago the Brunner Bros. Co.'s street show case was robbed in broad daylight by a crook who had a key. He deliberately opened the case and made his selection and then escaped down a convenient alley. The loss was about \$500. There was no trace of the man left as a guide to aid the police.

A. T. Hubbard and family have returned from summer sojourn on an island in the river St. Lawrence.

Capt. R. E. Burdick has returned from his annual European trip, where he purchased heavily in anticipation of the business that is sure to come this fall. At present the captain is on the St. Lawrence for a few days of bass fishing.

M. B. Einig, the well-known watchmaker, is on a trip up the lakes. He expects to go as far as Duluth and will be away two weeks.

C. J. Kretchman, the manufacturing jeweler in the Garfield Building, is up in Michigan after the finny tribe.

W. C. Little, of the Bowler & Burdick Co., has just returned from a two-weeks' trip around the St. Clair Flats.

M. C. Sickles is a new face among the traveling force of Scribner & Loehr. He takes the place made vacant by the resignation of Mr. Knight.

Chas. Ettinger, the jeweler, on Ontario Street, will open another branch store about October, on Erie Street, between Euclid and Prospect.

F. E. Williams, watchmaker, has resigned from Bowler & Burdick Co., and gone to Uniontown, Pa.

A. W. Radde has removed to a new location on Woodland and Paddock Streets. Mr. Radde had occupied his old stand on Woodland, near Sterling Avenue, for nearly twenty-five years.

A. B. Sprosty, jeweler, on Broadway, is on a fishing trip to the St. Clair Flats.

Mr. Ridgeway, formerly with Swigart Co., Toledo, has joined the force of the Sigler Bros. Co.

Will Gilger, Norwalk, Ohio, has been appointed time inspector of the Lake Shore Electric Railroad, and is now going over the road in his official capacity.

Mr. & Mrs. Frank Mayworm and two daughters of Hancock, Mich., were in town the middle of the month on a pleasure trip.

J. W. Kirk, Adrian, Mich., was met in the city recently. Mr. Kirk reports good business conditions in lower Michigan.

W. G. Smith, Columbus, Ohio, was a recent trade visitor and buyer in our local markets.

Jas. J. Ernisse, jeweler, of Rochester, N. Y., was in town the middle of the month on a pleasure jaunt.

Harry C. Brock, Akron, Ohio, with J. P. Hale, was here for a few days the first of the month.

Philip Pitkowsky has opened a store in the old room formerly occupied by A. W. Radde, on Woodland Avenue.

Geo. Eroe, city salesman for Scribner & Loehr, has just returned from a sailing trip on his yacht. He attended the annual races at Put-in-Bay.

The following jewelers, from points in this State, were in town recently: J. E. Beck, Martins Ferry; Harry Downs and son, Bellevue; H. S. Sumner, Akron; L. J. Goddard, Ravenna; A. E. Kintner, Painesville; E. D. Davis, Kent; J. Ross Davis, Sebring; E. E. Critz, Elyria.



L. A. Breiting, president of the American Cuckoo Clock Co., returned from Europe on August 11th, on the *Kaiserin Auguste Victoria*. During his stay at the works abroad he equipped a new movement shop, which will enable the company to turn out not only more but better movements than heretofore. This shop is equipped with all the latest automatic machines and is up-to-date in every way. Mr. Breiting also visited the larger cities, from Paris to Vienna, returning via Dresden, Berlin and Hamburg, picking up en route quite a number of novelties, of which the company's customers will get the benefit this fall.

The business of Levi & Joseph, manufacturing and retail opticians, with quarters at 733 Sansom Street, was incorporated at Harrisburg last month.

Early last month a middle-aged man hurled a cobblestone through the show window of C. A. Longstreth's optical store, at 228 Market Street. The act was done with cool deliberation, the thief extracting a package of optical goods, and making but little effort to escape. To the policeman who arrested him he said that he was in such need of food and shelter that he did the act to get locked up. All the goods were recovered and the thief held under bail in court.

The traveling staff of M. Sickles & Sons has been reinforced by yet another well-known salesman, J. M. Kellar, formerly with M. J. Averbeck, of New York. Mr. Kellar will cover part of New York State, Pennsylvania, West Virginia and Virginia, in which territory he has an extensive acquaintanceship among the trade.

Percy Whitechurch, for many years treasurer of the G. S. Lovell Clock Co., of this city, died the twenty-eighth of July, 1906, at his home, 2378 North Park Avenue. Mr. Whitechurch's death was primarily due to an accident which he met with

some years ago, and from which he never completely recovered, ending in Bright's disease. The deceased was well-known among the trade and very highly respected. He was a native of Philadelphia, being born in this city in 1855. He was the son of Robert Whitechurch, an engraver of unusual skill. Mr. Whitechurch became associated with the G. S. Lovell Clock Co. previous to the death of his brother-in-law, G. S. Lovell, who was then head of the firm. He was interred at West Laurel Hill Cemetery, from St. John's Church, Cynwyd, and a large number of friends testified their esteem by accompanying the funeral to the place of interment. The deceased is survived by a widow and one daughter.

William Hance MacDowell, one of the oldest engravers of this city, died last month at his home, 2018 Race Street. He learned the art of engraving in this city and practiced it for seventy years, desisting from it only when compelled to by failing eyesight.

The annual clambake and mid-summer outing of the Philadelphia Jewelers' Club, which was to have been held on August 18th, at the Morrelton Club, Torresdale, was postponed until September 5th. The postponement was due to the impossibility of the caterer, who had been engaged to prepare the sea-food, to come from New York on that occasion. The members had no regret for the postponement, inasmuch as it is expected that the temperature would be much more comfortable in early September and that the function would be proportionately more enjoyable.

A recent exhibit in the windows of J. E. Caldwell & Co., which attracted much attention, was the prizes, designed and made by them, to be presented to the winning crews at the Middle States' Annual Regatta, which will be held on the Potomac River, Washington, this month.

J. Warner Hutchins was awarded the contract for designing and furnishing the prize cup to be competed for at the annual race of the Cape May Yacht Club.

The people of Harrisburg are regretting very much that the magnificent new capitol building is without one recognized essential of a great public building. They have only recently discovered that the structure has no clock, nor any place in which a public timepiece may be installed. As the city has no clock at present, which is visible to the public at large, the people are agitating the matter of providing one.

Utility of the Electric Fan

Electric fans at this season not only contribute largely to the comfort of the men behind the counter, and thus enable them to give better service in the most uncomfortably hot weather, but they give the store an atmosphere of comfort which is most refreshing to customers, and which will oftentimes cause them to linger on a hot day and make larger purchases than they would under ordinary circumstances.

The man who, on a sizzling hot day, steps from the hot street and the superheated pavements into a cool and comfortable store, is apt to be most favorably impressed by the contrast, and is apt to be in no hurry to return to the discomfort outside, particularly if he can find a reasonable excuse for remaining. This naturally leads him to look about, and gives the man behind the counter an opportunity to use his diplomacy in directing his attention to goods with a reasonable certainty of securing attention.

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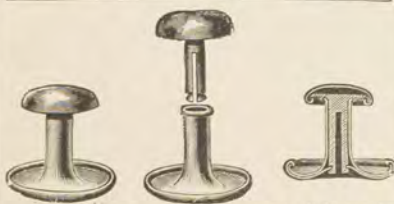
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INDIANAPOLIS LETTER

Charles B. Dyer has improved and re-arranged his manufacturing establishment on Massachusetts Avenue. The heavy and noisy machinery has been moved back behind a glass partition, allowing more space for the watchmakers and engravers. The office and salesroom have been redecorated. Mr. Dyer recently offered a copper trophy cup with pewter trimmings, of a tall and graceful design, to the champion of the Indianapolis Canoe Club. The firm also furnished a handsome bronze loving cup to Battery A, Indiana National Guards to be presented to a former captain.

Eugene, the oldest son of Charles W. Lauer, is learning the material business under the supervision of W. J. Hoffman, of Hoffman & Lauer, in the State Life Building.

E. M. Craft, of A. P. Craft Manufacturing Co., spent August with his family at Bass Lake, Ind.

A number of Indianapolis fishermen, among whom are Julius C. Walk, Charles Kiefer and Horace Comstock, have made a proposal to the city to establish a fish hatchery. If the city authorities will donate a few acres of ground at Riverside Park, these loyal and enthusiastic disciples of Nimrod will draw up a subscription to provide the necessary ponds, dams, buildings and to stock the hatchery.

Carl L. Rost, 15 N. Illinois Street, has returned from a delightful trip West, including the Yellowstone Park. He was accompanied by his wife and little daughter Helen.

J. M. Williams, watchmaker with J. H. Reed, divided his vacation between French Lick Springs, Ind., and his old home Mt. Carmel, Ill.

A handsome cashier's desk has been added to the store furnishings of Gray, Gribben & Gray. The desk is an enclosed affair of mahogany and brass. David S. Gribben, of the firm, has written that he finds European traveling so much to his liking that he will remain another month, reaching home some time in September.

Streng & Lux have removed their jewelry and loan business from 217 to 203 Indiana Avenue, where they have much more pleasant quarters, with two large show windows.

A. C. Joss has returned to the jewelry business after twelve years devoted to the cigar and tobacco trade. He has re-opened in the same room in which his father, George N. Joss, conducted a jewelry store for many years and which the junior Mr. Joss managed. The Joss family own the building, 330 Indiana Avenue, and their return to that location and business seems such a natural move that from the first day old customers began to drop in and welcome them back. A. C. Joss has been taking a course in optics and has added the optical branch to his business.

Wm. G. F. Schaefer, watchmaker with Leonard Schurr, 328 Indiana Avenue, has received his degree of Doctor of Optics from the American Optical College at Detroit. An optical department is to be added to the Schurr store as soon as space can be arranged for it.

Charles Burns, with M. F. Smith, exchanged his watchmaker's tools for a rod and line a part of last month and returned with a fine coat of tan and a good stock of fish stories.

Albert F. Lick, watchmaker, 918 State Life Building, closed his shop for a week in August and sought a much needed rest in the country.

John Scott, of Hollett, Scott & Co., 250 Indiana Avenue, spends a couple of days each week in Muncie, Ind., where the firm does a nice installment business.

J. E. Youngmayer, watchmaker and optician with Gray, Gribben & Gray, left August 1st for a trip East. At Boston he joined a party of friends and enjoyed an automobile trip along Long Island Sound, taking in the many fashionable resorts and seeing the sights.

Fred P. Herron, watchmaker with his father, F. M. Herron, accompanied by his wife, spent the month of August in Michigan.

Fritz Bonnett, watchmaker with Geo. A. Fogas, 546 Massachusetts Avenue, is anxiously awaiting the arrival of his family from Pfortz-

heim, Germany. Mr. Bonnett some time ago decided that Indianapolis, U. S. A., was a splendid city to live in and sent for his family.

O. H. Buhrman, of this city, is spending a few weeks in the jewelry store of E. P. Haug, Paris, Ill. Later he will resume his position in the manufacturing establishment of C. B. Dyer, on Massachusetts Avenue.

Fletcher M. Noe, 103 N. Illinois Street, accompanied by his wife, is touring through Canada. Mr. Noe will test his skill as a fisherman in Canadian waters, 400 miles north of Quebec. The itinerary included a visit to the historic old shrine at St. Anne De Bacupre.

John P. Mullally, Monument Place jeweler, was a delegate to the National Convention of Fraternal Order of Eagles, held in Milwaukee, last month. Mr. Mullally is Past Worthy President of the Indianapolis Aeries.

Ed. Gardner, manufacturing jeweler in the Cardova Block, returned from a fishing trip to the Kankakee river with a fine string of bass. The three Gardners, father, T. W. Gardner, and his two sons, John and Ed., enjoy an enviable reputation as watchmakers and jewelers and as skilled fishermen.

Fred W. Wright, well known through his long connection with Charles Mayer & Co., sailed for Europe September 5th, to be gone five years. His object is to study portrait painting, illustrating and art generally in Munich, Potsdam and Rome. Thus far Mr. Wright has received all his education in night classes at the High School and the Herron Art Institution. He recently finished a portrait in pastel of Mr. Charles Mayer that closely resembled an oil painting and that won him much praise from art critics. As a silverware engraver and designer Mr. Wright has gained considerable reputation.

R. C. Tremaine has opened a jewelry and repair shop at Elkhart, Ind. He formerly did business at Kendallville, Ind.

The business of Smith & Ward, at Greenfield, Ind., has passed into the hands of J. Henry Smith, who will continue it. W. C. Ward, who moved from Kentucky to Greenfield last February, is contemplating opening a jewelry and optical store in Indianapolis.

Among the ladies who arranged a highly successful lawn fête recently in the new and beautiful park of the Daughters of the Revolution, at Madison, Ind., were: Mrs. Chapman, wife of John J. Chapman, of Brooks & Chapman; Mrs. Todd, wife of Jeweler and Optician W. H. Todd, and Mrs. Gould, wife of H. M. Gould, engraver with J. C. Walk & Son, Indianapolis. Mrs. Gould was visiting friends in Madison, where her husband formerly conducted a jewelry store.

J. H. Ellis, South Bend, Ind., and Mr. and Mrs. Curtis, La Porte, Ind., were well-known Hoosier opticians who attended the Optical Convention at Rochester, N. Y.

J. W. Hansen, Princeton, Ind., has returned from a Western pleasure trip. He was accompanied by his wife.

C. H. Ankeny has recently incorporated his jewelry business at Lafayette, Ind., with a capital stock of \$30,000, the firm name to be C. H. Ankeny & Co. Directors: Charles H. Ankeny, Carrie L. Ankeny and Alys H. Ankeny.

Noah Bixler, son of David Bixler, of Berne, Ind., is back from Switzerland, where he went last February to take a two years' course in the Government Horological College at Biel. Young Mr. Bixler found the foreign schools far behind the times, very few modern methods were in use, and after a few months' experience he declares that he can learn more of the watchmaking trade in America in one year than he can in ten years in Switzerland. The old time bow-lathe used in the school was too antiquated for the enterprising Hoosier student. His instructor had a modern American lathe in his home, but the directors discouraged its use in the school.

Bauchert & Axline, of Noblesville, Ind., have bought out C. H. Gardner, who about a year ago removed there from this city. Mr. Bauchert was formerly watchmaker with Aaron Pursel, who has conducted his jewelry business in a part of the Axline Drug Store. The new firm will occupy Mr. Pursel's old quarters as soon as he can remodel a room in a brick business block he has just purchased. Mr. Pursel intends to furnish his new room in modern style, increase his stock and establish a thoroughly up-to-date jewelry store.

J. W. Thompson and family spent a part of last month in Southern Indiana visiting "the old folks." Mr. Thompson is a well-known jeweler of Danville, Ind.

H. L. Rost, of Columbus, Ind., was recently represented in this market by his son Carl, who was returning from a vacation spent in Chicago.

E. W. Leeds, Terre Haute, Ind., has added a complete optical department to his jewelry store and placed it under the management of his son.

Lee F. Dresser, who recently bought out N. V. Cole, at Michigan City, Ind., has been increasing his stock and getting in fine shape for the fall trade.

F. S. Bullington, manager of the S. Galeski Optical Co., Richmond, Ind., attended the Rochester Convention of the American Association of Opticians. Mr. Bullington is well satisfied with the profit and pleasure he derived from his attendance at the big meeting.

J. M. Bigwood and wife, of Terre Haute, Ind., made a recent pleasure and purchasing trip to Chicago.

George W. Pinchon has recently moved his watch repair shop into the jewelry store of J. C. Miller, at Ligonier, Ind.

Ashley R. Cooper, of A. R. Cooper & Son, at Mooresville, Ind., was met upon a recent purchasing trip to Indianapolis. He reported trade as very satisfactory and talked of taking a pleasure trip West as soon as his son Benjamin returned from the East and Niagara Falls.

H. V. Rogers has discontinued the jewelry business at Walnut, Ind.

The watch and jewelry store of H. D. W. English, at Dunkirk, Ind., has been sold to M. M. Johnson & Co.

L. B. Wakeman recently acquired by purchase the P. H. McCormick & Co.'s jewelry store at North Judson, Ind.

A change has been announced in the personnel of the firm of J. & H. Ostendorf, Vincennes, Ind., J. Ostendorf withdrawing. Henry will continue at the old stand.

Phil Diels has removed from the Glass Block at Marion, Ind., to larger and better quarters admirably located on the Public Square. The room has been handsomely fitted up and an increased stock installed.

Edward Conner recently disposed of his jewelry stock at Plymouth, Ind.

Edward E. Hill & Co. is the name of a new concern at 708 Massachusetts Avenue. The firm does a large phonograph business and is preparing to add a line of jewelry. H. G. Spencer, father-in-law of Mr. Hill, is a skilled repairer of art work, especially in marble, bronze, cut glass and bric-a-brac. He does much of this artistic repair work for the trade.

During a week spent in the Wabash pearl field Mr. Brower bought \$40,000 worth of gems. Since then there has been a rush of wholesale pearl merchants from New York to the Wabash, Mississippi and Ohio rivers.

Fred C. Urfer, watchmaker for Urfer Bros., 923 Massachusetts Avenue, has returned from a trip East, including a stop at Niagara Falls.

Geo. S. Kern, watchmaker in the State Life Bldg., has returned from a visit in Toledo, Ohio. During his absence his shop was under the care of A. O. Pickett.

E. M. Craft, of A. P. Craft Manufacturing Co., reports work as very heavy for the summer months. The company has but one complaint to make, and that is a shortage of good workmen. Several are needed in the shop.

Charles Lauer, of C. W. Lauer & Co., accompanied by William Beatty, jeweler of West Lebanon, Ind., enjoyed a ten days' outing at Russell's Island, Mich., last month.

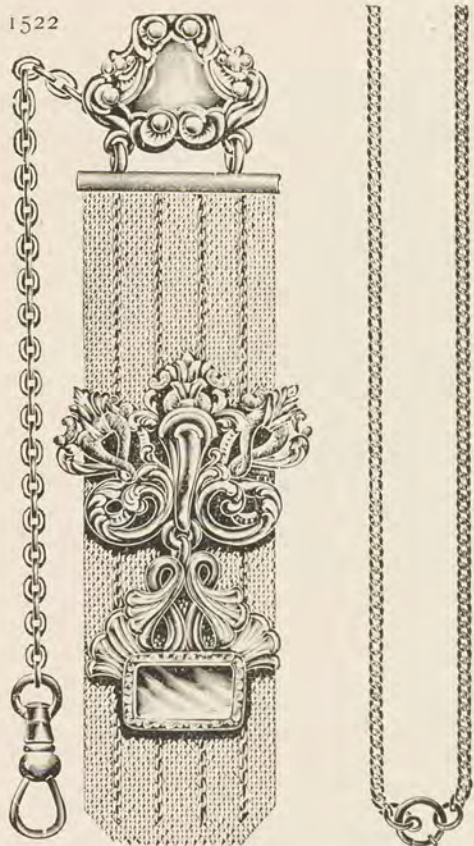
Walter A. Burhman, traveler for Baldwin, Miller Co., was met upon his return from the first five weeks of his fall campaign. He reported business very good. His customers all expect a splendid fall and holiday business, and were buying accordingly.

Perry Hatt, Hillsboro, Ind., was a recent buyer in the Indianapolis market.

S. M. Swain, Martinsville, Ind., has discontinued his watch-repair and jewelry business at that point.

I. N. Reitenour, of Union City, Ind., will return September 1st from the coast of Maine, where he spent the summer.

1522



C. A. MARSH & CO.

Attleboro, Mass.

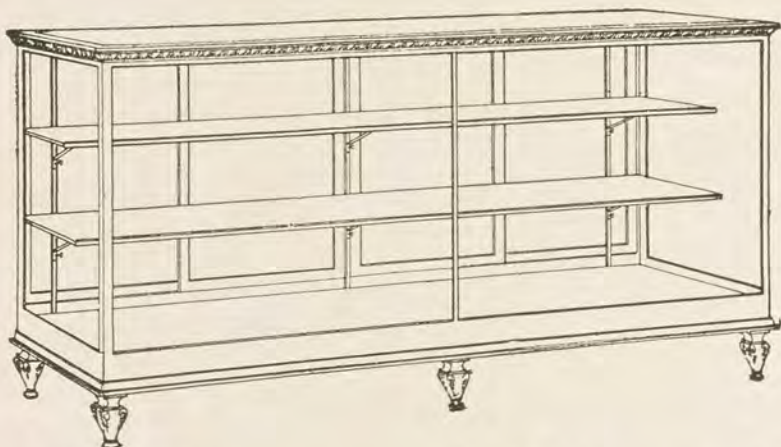
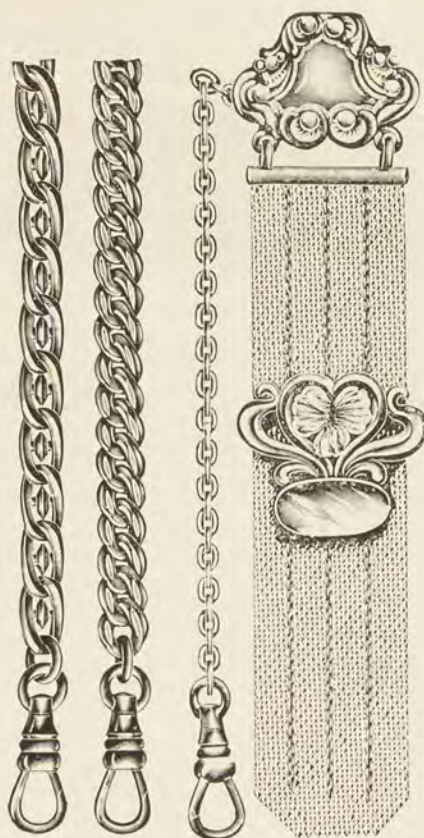
Makers of

**Chains that SELL, WEAR
and give satisfaction**

Also

BLIND-JOINT BRACELETS
CHAIN BRACELETS and CHATELAINE PINS
NEW STYLES CONSTANTLY

Ask Your Jobber for Them



*The Phenomenal Sale of this
Case Proves its Usefulness*

Jewelers with a keen eye in every case relating to their business, saw at once the beauty, utility and cheapness of our "IDEAL" CASE.

It is made of solid oak, or other wood desired, highly polished, beveled plate-glass top, double strength glass front, ends and doors, has two highly polished shelves of same wood as case, supported by Tom's adjustable brackets, metal legs six inches high, and doors run on steel tracks.

DIMENSIONS:—Length as ordered, 28 inches wide, 43 inches high, upper shelf 12 inches wide, lower shelf 16 inches.

The construction of this case is first-class. It has a nicely molded top, ornamented with egg and dart.

A BEAUTIFUL CASE

Made and sold by

Union Show Case Co.

105 E. Lake Street, CHICAGO, ILL.

FACTORY—56-66 Frank St. and 424-428 Maxwell St.



Wall Cases. Solid Oak. 8 feet long, 8 feet 4 inches high, 1 foot 4 inches deep inside. Doors slide up, fastened to Morton's steel chains and weights. Inside of case and shelves lined with black felt. Made to ship in the knock down.

Net price, \$58.00. Worth \$70.00



The fund to purchase a silver set for the battleship *Rhode Island* has now attained satisfactory proportions. More than \$8000 has already been collected, and it is expected that the \$10,000 figure will soon be reached. Much credit is due Senator George Peabody Wetmore for instituting the fund and pushing it to a successful consummation.

The H. F. Barrows Co., of Attleboro, have prepared plans for a new factory to be built at the corner of Washington and Chestnut Streets. As the business of the company grew, the old quarters have been continually added to but it is now found that further extensions of the old structure are impracticable, and hence the plan to erect an entirely new building of modern character.

The Holdfast Comb Co. has been incorporated with a capital stock of \$5000. It is the purpose of the company to establish a new factory at Leominster, Mass. The incorporators are George N. Steere, of Crandon; Alfred Burke, of Leominster, and William J. Brown, of Providence.

Fred. C. Somes, with Bates & Bacon, Attleboro, was recently operated on for appendicitis, at the Rhode Island Hospital. He was taken ill ten days previously while in Keokuk, Iowa, but finished his trip, arriving home August 5th. On the following day his illness became so serious that he was taken to the hospital for an operation, which was quite successful, and he expects soon to be able to attend to business as usual.

A building seven stories in height, to be used exclusively for the manufacture of jewelry, is to be erected at the southeast corner of Pine and Garnet Streets, Providence. The structure will be of brick, with concrete floors, steel frame and finished with fireproof materials. From the line of the sidewalk to the edge of the cornice the height will be 90 feet, and the ground dimensions 50 x 150 feet. The new structure will be provided with all the requisites in the way of power and other facilities to run manufacturing plants. It is said that sufficient applications for space have already been received to more than fill the entire structure.

The Paye & Baker Mfg. Co., of North Attleboro, contemplate the erection of an extension to their plant, in addition to elevating their present structure another story. The increased facilities are necessitated to cope with the growing demand for their specialties.

J. T. Inman & Co., Attleboro, have been incorporated under the laws of Rhode Island as the J. T. Inman Co., with a capital of \$25,000. John T. Inman is president, and James P. Burlingame is secretary and treasurer of the new corporation.

Chas. M. Robbins, of the Chas. M. Robbins Co. is again spoken of as a possible candidate for congressman from the fourteenth Massachusetts congressional district. A number of prominent politicians waited on Mr. Robbins and suggested to him the advisability of his becoming a candidate, but no decided answer has yet been given by Mr. Robbins.

Everett B. Bliss, of Attleboro, one of the founders of the firm of Bliss Bros., now Bliss Bros. Co., died early last month from an attack of paralysis. The deceased was sixty-seven years old and had long been a resident of Attleboro. With his brother Charles he founded the firm of

Bliss Bros. in 1873. About ten years ago he disposed of his interest in the firm to his brother and retired from active industrial life. Since that time he has devoted his attention solely to his large real estate holdings. About five years ago Chas. E. Bliss also retired from the firm of Bliss Bros., which later was reorganized as a corporation under the title of Bliss Bros. Co., now so well and widely-known to the trade.

A new corporation recently formed in Attleboro, under the laws of Massachusetts, is named the Jewelers' Building Association, with a capital of \$30,000. Wm. H. Riley is president of the new corporation and G. Herbert French is treasurer.

The annual outing of the Irons & Russell Relief Association took place on August 4th, nearly a hundred persons participating in the excursion, which was made by special car to the Warwick Club. An excellent dinner was served to the party who afterwards indulged in various sports. Among the events were a ball game between the married and single men, a foot race for ladies, a potato race for ladies, a race for men and a hop-skip-and-jump contest. There was also bowling, pool playing, dancing, etc. The day was one of extreme enjoyment and all returned tired but satisfied.

The Leominster Comb Co. is about to begin the erection of an addition to its factory on Lancaster Street, Leominster. The annex will be 56 feet long by 22 feet wide, and work will be so hastened on it as to make it available at an early date.

The Klingtite Comb Co., heretofore located at Worcester, Mass., has moved its plant to Providence and now occupies the factory of the Maitland Comb Company, at 63 Willard Avenue. The Maitland Company has been absorbed by the Klingtite Co., with E. C. Murphy, formerly the foreman for the Cutler Comb Co., in charge of the factory.

The fourth annual outing of the employees of B. A. Ballou & Co., took place on August 6th. At 10 o'clock, the excursion, headed by Mr. Ballou, marched to the steamer *Pontiac*, which brought them to Dighton Rock Park, where the day was spent in all kinds of festivities and merrymaking, including an excellent dinner and all manner of sports.

The Gorham Mfg. Co., of Providence, R. I., contemplate the erection of a two-story addition to the Casino, a building especially devoted to the use of their employees. The new addition will be of brick and wood and will contain shower baths and many other comforts and conveniences.

The Mutual Relief Association of the S. & B. Lederer Co., of Providence, gave their annual outing on August 18th. Several special cars conveyed the party to the place of rendezvous, and a baseball game and other sports were indulged in. There were about three hundred in attendance and all thoroughly enjoyed the pleasure of the occasion.

W. G. Clark & Co. recently purchased land from Henry F. Barrows, at the corner of Jefferson and Chestnut Streets, North Attleboro. On this land the concern will build a jewelry factory 160 by 35 feet. It will be one story in height, with the exception of the office front, which will be two stories. W. R. Walker, of Providence, is the architect and Malcolm McMillan has been given the contract to build the factory. Work will be commenced at once and the building, according to contract, must be completed within six weeks.

S. O. Bigney & Co., of Attleboro, are having trouble in discovering the individual who is selling inferior chains with the letters "S. O. B." stamped


on the swivels and a tag used similar to the one attached to the Bigney chains. The trade have been apprised of the fraud and are warned to be careful to avoid imposition by this unknown swindler.


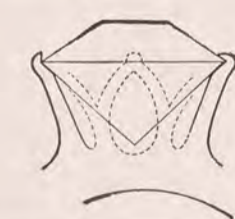
Horace Remington, of H. Remington & Son, smelters and refiners, Providence, is mourning the loss of his wife, whose death occurred last month. The deceased was highly esteemed and her demise was much regretted by a large circle of friends.

A daring daylight robbery was committed in Attleboro on August 22d, when three men knocked down Arthur Greene, a nineteen-year-old messenger boy employed by the G. K. Webster Jewelry Co., as he was returning from the Jewelers' National Bank with the company's weekly pay-roll amounting to \$3000. The incident occurred in broad daylight, on one of the principal thoroughfares of the town. The robbers, in order to escape, were forced to throw away the money and boarded a street car, which they abandoned later for the woods. Young Greene was riding on his bicycle with the money in a satchel thrown over the handle-bars of his machine. Soon after he left the bank three men jumped out into the street and forced the lad to dismount, at the same time demanding his money. Greene refused, but one of the men pointed a revolver at his head and the other struck him over the head with a blackjack. As the boy fell one of the men grabbed the satchel and with his companions ran away. The robbery all happened so quickly that people nearby did not realize what had happened until the men began to run. Young Greene was unable to give any accurate description of his assailants owing to the excitement of his experience and the quickness with which it was over.

EASY TO SELL—EASY TO SET

ARCH CROWN Completed MOUNTINGS
Bearing

<p>14 K. 18 K. PLATINUM PLAT. LINED PLAT. TIP</p>		<p>SINGLE STONE TWO " THREE " CLUSTERS</p>
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PRESS DOWN THE TIPS WE'VE DONE THE REST

WRITE FOR SAMPLES AND PRICE-LIST

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Cross & Bequelin, New York Kossuth Marx Jewelry Co., New York D. C. Percival & Co., Boston Jos. Noterman & Co., Cincinnati	Eisenstadt Mfg. Co., St. Louis Chas. Wathen & Co., Denver M. Schussler & Co., San Francisco Sehrader-Wittstein Co., Chicago Leonard Krower, New Orleans T. R. J. Ayers & Sons, Keokuk, Ia.
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New Quarters

We are now settled in our new quarters, and are in better shape than ever to promptly care for your wants in our line.

Our stock of standard makes of

Watches

Diamonds

Fine Jewelry

and Silverware

is entirely new, our former stock being a total loss in the recent fire.

☞ Make our office your headquarters when in the city ☞

LEWIS FINKELSTEIN

Wholesale Jeweler

521 to 537 Endicott Building, St. Paul, Minn.

OUR NEW AUTOMATIC BRACELET BOX

Very Handsome and Inexpensive



Our Silverware Cases will please and satisfy you

No one makes better paper boxes

Patented—made of STEEL, not wood or fibre
Satisfaction guaranteed Mail orders solicited

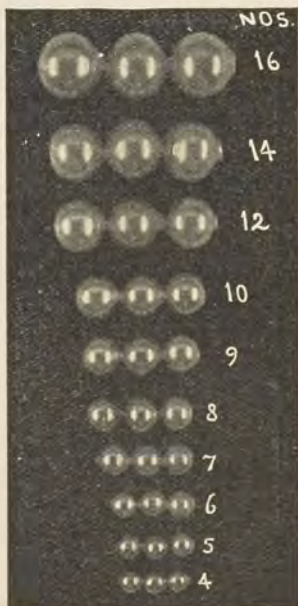
EMPIRE JEWELRY CASE CO.

Manufacturers and Patentees of the
"EMPIRE AUTOMATIC"
"THE IDEAL"
"THE DANDY"

105 SENECA ST.
BUFFALO, N. Y.

THE DEMAND FOR STRING PEARLS IS ENORMOUS

FASHION
DICTATES
PEARLS



Selection packages sent on request

Our stock is the largest and most complete in America of the finest Fish-Skin Pearls. Prices range from

30c. to \$25.00 per String

Chopard Frères, Makers of Art Jewelry Novelties

49 Maiden Lane, New York

Factory, 35 Rue Des Trois Bornes, Paris, France

LEADERS OF THE NORTHWEST

Kirchner and Renich

MAKERS & REPAIRERS OF
JEWELRY

**WE RETURN ALL REPAIR WORK
SAME DAY AS RECEIVED.**

SEND IN YOUR NEXT PACKAGE
AND OPEN AN ACCOUNT WITH US.

10-So Seventh St.
MINNEAPOLIS,
MINN.



Reports to hand from the various sections centering in the Twin Cities confirm our earlier prediction of a bumper crop in every respect. Quality is away above the average. The acreage has been increased and the yield is far better than last year. Harvest at this writing is in full swing, excepting in the northern district, where August 1st will hear the merry music of the binder and reaper playing in the fields. The weather this month has been very favorable. The hot weather has been beneficial, particularly to corn. True, there is a section here and there where grain has been lodged through local storms, but not enough to cut down the average to even normal.

A jubilant feeling is displayed in the jewelry trade, which has for the past six weeks enjoyed exceptional business. One jobber made the remark to your representative, "If the jewelry trade can't make money this year it's all up with it." Never, indeed, has business been in better shape or prospects for a banner fall trade as good as at the present time.

The natural accompaniment to "good business" is the scarcity of goods in certain lines, manufacturers being way behind in their deliveries and the wise dealer is laying in his supply early to avoid the rush and shortage sure to be felt ere the season is far advanced.

The jewelers and opticians' conventions were good drawing cards for Twin City jobbers and a number of good sized bills were sold. The attempt on the part of the retail jewelers to get the jobbers and themselves on better terms by inviting them to attend their excursion to Lake Minnetonka was met in the proper spirit and undoubtedly the wisdom of such a move will be proven in the future meetings.

Miss Laura Elithorpe, for several years with Haman & Co., St. Paul, has resigned and will leave September 1st for Montana.

An attempt was made to burglarize the store of Pederson & Waters, Leeds, N. D., on July 9th, but the burglar was frightened away and in order to escape jumped through the front window, leaving his plunder where he had gathered it.

E. A. Brown Co., St. Paul, expect to occupy their new store about October 1st.

The Northwestern contingent at the Rochester conventions have all returned home with glowing reports of a good time and a big bunch of knowledge which well repaid the trip and all are certain to attend the Chicago and Kansas City meetings next year.

South Dakota jewelers will do well to remember the meeting of the Retail Jewelers' Association, to be held at Mitchell, S. D., September 25th. Reduced rates to the Corn Palace Exposition will be in effect and South Dakota will certainly be in line to help boost the National Association next year.

Judson A. Beard, of Sischo & Beard, St. Paul, still continues his record-breaking business in the northern territory. "Jud" says his last years' big record won't stand a show this year.

B. F. Simpson, of B. F. Simpson & Co., Minneapolis, reports excellent trade on the road and prospects never better.

A. E. Paaget, Minneapolis, the popular President of the Minnesota State Retail Jewelers' Association, has returned from a six weeks' visit

East. He attended the Rochester Convention and won many friends by his grace and knowledge of Association matters. His future will bear watching.

A. H. Davis, Red Lodge, Mont., has added a second story to his building, which with a new steel ceiling and judicious use of paint and paper has added quite a little to the appearance of his store.

Miss Emma Dondlinger is the latest acquisition to the clerical force with I. M. Radabough, Hastings, Minn.

Leo Block is a new jeweler at Sanborn, Minn.

Tom Morris, Crookston, Minn., has returned from a two weeks' trip through northern Minnesota attending his duties as Grand Master of the Masonic Grand Lodge.

W. R. Blakeley, Grafton, N. D., has returned from a hurried trip to Rochester, Minn., where he took his wife for medical treatment.

A. E. Palmer, Grand Forks, N. D., is spending a three weeks' vacation in the East.

W. D. Wilder has quit business at Lyle, Minn.

The Geneva Optical Co. has opened a branch office at 4th and Hennepin Avenue, Minneapolis.

Ben H. S. Schonhoud, Dodge Center, Minn., has filed a voluntary petition in bankruptcy, liabilities \$1583.87, assets \$1783.15, of which \$715.00 is claimed as exempt. The principal creditors are in the East.

A. S. Christie, of J. D. Leys, Butte, Mont., has returned from a three weeks' visit at Long Beach, Wash., where his family is spending the summer.

Otto Wennerlund, Duluth, Minn., spent a few days in Chicago last month.

L. L. Berens, Bellingham, Wash., passed through the Twin Cities last month on his way East, where he will buy his fall stock.

Albert L. Haman, St. Paul, will have his catalogue of "Watches Exclusively" ready for delivery October 1st. It is a beauty and should be in every retailer's hands.

Wm. F. Drexmit, the genial representative of The Keystone Watch Case Co., accompanied by his wife spent a few days in the Twin Cities sight-seeing last month.

A. L. Madison succeeds J. F. Kingevy at Corning, Ia.

The C. B. Collins Co., Inc., succeed Chas. B. Collins at Groton, S. D.

The election of I. M. Radabough, Hastings, Minn., as Secretary of the National Retail Jewelers' Association was a pleasant compliment to the Northwest, also a wise selection, as Mr. Radabough is one of the most popular as well as one of the most progressive retailers in this section.

Carl Sischo, representing Sischo & Beard, St. Paul, through the northwestern territory, sends in very flattering reports of prospects in that territory and proves his statement by good-sized orders.

Ove Hoegh, Spring Grove, Minn., is looking for a new location for his business.

The Anchor Silver Plate Co., St. Paul, whose plant was destroyed by fire last year, have filed a petition in the district court asking that court to formally dissolve the corporation.

C. G. Conyne, Mandan, N. D., spent a few days in the Twin Cities in search of health, and we hope he succeeded in his quest.

The Alpha Jewelry Co., Rugby, N. D., are now nicely situated in their new store.

Pederson & Waters, Leeds, N. D., are building a new store.

S. E. Erickson succeeds Restrom & Erickson, Braham, Minn.

M. J. Selleck, Onawa, Ia., has sold out.

D. B. Bryan, western traveler for Albert L. Haman, St. Paul, lost a week by being taken sick at Pasco, Wash.

Visitors to Twin City jobbers the past month were: G. B. Ellistad, Lanesboro, Minn.; P. E. Foldoe, Boyd, Minn.; J. J. Birkebak, Lester Prairie, Minn.; Wm. Plackner, Benson, Minn.; C. G. Conyne, Mandan, N. D.; I. Reiner, Hutchinson, Minn.; E. F. Huhner, Stillwater, Minn.; Christ Aroeson, Sleepy Eye, Minn.; S. J. Vasaly, Little Falls, Minn.; H. T. Holverson, Alexandria, Minn.; G. F. Meier, Winona, Minn.; L. N. Lee, Ada, Minn.; Julius Anderson, Mora, Minn.; O. G. Wennerlund, Duluth, Minn.; F. W. Seaman, St. Croix Falls, Wis.; D. G. Gallett, Aberdeen, S. D.; Geo. H. Searle, Sibley, Ia.; I. M. Radabough, Hastings, Minn.; F. W. Harper, Renville, Minn.; E. E. Wentworth, Kasson, Minn.; E. F. Minder, St. James, Minn.; D. C. Spaulding, Wabasha, Minn.; L. O. Hulberg, Northfield, Minn.; Walter R. Blakeley, Grafton, N. D.; G. R. Simons, Langford, N. D.; J. H. Eggers, Jr., Painview, Minn.; Olaf Rygh, Glenwood, Minn.; A. M. Fargeman, Fergus Falls, Minn.; J. C. Verden, Wadena, Minn.; E. B. Woodward, Spring Valley, Minn.; F. W. Seagren, Cannon Falls, Minn.; F. M. Omodt, Caledonia, Minn.; L. H. Julsrud, Houston, Minn.; E. E. DeGroff, LeRoy, Minn.; B. H. Schonhoud, Dodge Center, Minn.; S. Olson, Kensington, Minn.; A. Swingsen, Moorhead, Minn.; J. W. Brown, Ortonville, Minn.; Frank B. Logan, Royalton, Minn.; C. W. Logan, Herman, Minn.; John C. Marx, Shakopee, Minn.; J. C. Herdliska, Princeton, Minn.; Geo. H. Lang, Mankato, Minn.; Albert J. Kreuger, North Branch, Minn.; J. M. Chalmers, Lake City, Minn.; C. H. Johnson, Marshall, Minn.; H. M. Hitchcock, Redwood Falls, Minn.; J. B. Pederson, Echo, Minn.; John Saxine, Prescott, Wis.; A. Palmer, Grand Forks, N. D.; Tom Morris, Crookston, Minn.; F. H. Straub, Fergus Falls, Minn.; Chris Jensen, Lake Nebagamon, Wis.; M. J. Ludwig, Spooner, Wis.; Swan C. Hillman, Murdock, Minn.; R. F. Lussier, Cass Lake, Minn.; N. C. Clemenson, Long Prairie, Minn.; W. S. Blake, Duluth, Minn.; P. L. Lillie, Spring Valley, Wis.; E. L. Hunkins, Billings, Mont.; H. C. Smith, Miles City, Mont.; B. T. Nedlund, Hillsboro, N. D.; A. L. Mealy, Delano, Minn.; L. L. Berens, Bellingham, Wash.

Wetting Lead Pencils

The act of putting a lead pencil to the tongue to wet it just before writing, which is habitual with many people, is one of the oddities for which it is hard to give any reason, unless it began in the days when pencils were poorer than now, and was continued by example to the next generation. A lead pencil should never be wet. It hardens the lead and ruins the pencil. This fact is known to newspaper men and stenographers. But nearly every one else does wet a pencil before using it.

The fact was definitely settled by a newspaper clerk away down East. Being of a mathematical mind, he ascertained by actual count that out of fifty persons who came into his office to write an advertisement or a church notice forty-nine wet a pencil in their mouths before using it. Finally he got some cheap pencils and sharpened them, and kept them to lend. The first person who took up the stock pencil was a drayman whose breath smelt of onions and whisky.

Then a sweet-looking young lady came into the office, with kid gloves that buttoned half the length of her arm. She picked up the same old pencil and pressed it to her dainty lips, preparatory to writing an advertisement for a lost bracelet. The clerk would have stayed her hand, even at the risk of a box of the best pencils, but he was too late. And thus that pencil passed from mouth to mouth for a week. It was sucked by people of all ranks and stations, and all degrees of cleanliness and uncleanness.

WATCHWORD for the
FALL SEASON of
1906

BIGGER
BETTER
BUSIER

THIS IS THE
SIGN OF THE
TIMES

BIGGER
BETTER
BUSIER

*L*IKE OURSELVES you are, no doubt, going to be Busier than ever this coming Fall. We would advise your selecting stock earlier than usual. The showings we have provided for you are Bigger and Better. Satisfactory Prices prevail. Don't fail to look here before buying Fall goods.

BIGGER
BETTER
BUSIER

D. C. PERCIVAL & CO., INC.
373 Washington Street
BOSTON - - MASS.

BIGGER
BETTER
BUSIER

IMPORTERS
MANUFACTURERS
AND JOBBERS

POST CARDS for the Select Trade

MUSIC, LEATHER, BROMIDE and VIEW CARDS
We can send you a good assortment for \$10.00
U. S. Souvenir Post-Card Co.
Dept. C 32 E. 23d Street, New York

Klein School of Optics
185 Summer St., BOSTON, MASS.

The best and most thoroughly equipped optical school in America. We train pupils to obtain a thorough knowledge of the optical profession. For this reason we want men and women who are anxious to learn, persons who are willing to devote all their time to study. We do not want any diploma-hunters—such persons do not need apply. We charge more for instruction, but you will find that it is the best investment you made in your life. Money may go astray, but knowledge is never lost. **Full course, \$75.00.** Address, **KLEIN SCHOOL OF OPTICS** 185 Summer Street Boston, Mass.

August F. Scherer
GOLD AND SILVER
ENGRAVER
ROOMS 71-72
373 WASHINGTON ST. BOSTON
JEWELERS BLDG
I employ eight engravers the year round. Can give prompt attention to mail and express packages.

ORKIN BROS.

373 Washington St.
Jewelers' Bldg. Boston, Mass.

Manufacturers of high-grade diamond mountings, and repairers for the trade. Importers of precious, semi-precious and imitation stones.

A Full Line Always in Stock at Lowest Prices

We aim to be the foremost Jobbing House of Boston

Send us your repairs, and let us demonstrate our Superior Workmanship at Reasonable Price, or write us for information.

CUTS FOR ADVERTISEMENTS
Send for sheets of illustrations with prices of attractive cuts specially prepared for jewelry advertisements. **The Keystone Publishing Co.,** 809-811-813 N. 19th St., Philadelphia, Pa.

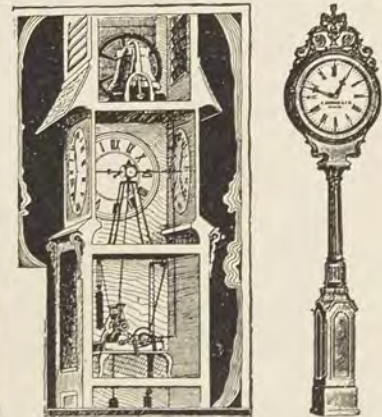


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CLASS PINS
CLUB PINS
MEDALS
BADGES, Etc.
All work done in our own workrooms
Wm. C. Dorrey
387 Washington St.
BOSTON
F. of A. Past Chief
Ranger Jewel
Like cut, \$15.00
Solid Gold

Send for Special Trade Price on our new leader for any size DIAMOND
HARRY SMITH
Diamond Mountings
Gem Setting
Fine Repairing
373 Washington St.
Jewelers' Building BOSTON

H. EALSTERLUND & CO.
Jewelers
Silversmiths
Stone and Metal Seal Engravers
Gold Plating
Lapidaries
Dealers in Jobbing Stones and Encrusters
Opera Glass and Fan Repairing
387 Washington Street
BOSTON



Makers of
TOWER and STREET CLOCKS
For particulars, write us, mentioning THE KEYSTONE
E. HOWARD CLOCK CO.
Est'd 1842 BOSTON, MASS., U.S.A.

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Best of Workmanship Right Prices
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NEW ENGLAND LETTER

Bright Fall Prospects

With August over and the influx of returning vacationists at hand, jewelers are stocking up with fall goods. August, during the first part of the month, was quite dull, undoubtedly due to the extremely warm weather. The latter part was a decided improvement and it is generally conceded that business was equal to the previous year. Manufacturers are months behind on orders and in most cases are taking orders from their oldest and best customers. The diamond market remains firm and with the outlook of a big increase in the price of both diamonds and colored stones, not only the jewelers but their customers as well see the advantages of an investment in those goods. The expected increase in price has had much to do with the big diamond business enjoyed the past few months.

D. C. Percival & Co. have completed their mid-year stock-taking in the diamond department, their rapidly-increasing business in that line making it necessary to take stock semi-annually instead of each year as heretofore.

John W. Boyce, the well-known jewelry manufacturer, of the Washington Building, has been obliged to make a number of changes in his office to make room in his shop to accommodate his rapidly-increasing business.

Everett Jennison, in the employ of H. W. Eager, of Marlboro, Mass., has resumed his duties after a most pleasant two-weeks' vacation.

James A. Harrington, of Spencer, Mass., has installed an automatic regulator clock connected with the Western Union wires.

L. V. Somes, of Portland, Maine, has opened optical parlors in the store of Henry Hutchins, on Main Street, Westbrook, Maine. Mr. Somes is a graduate of the Waltham School and a practical optician, having had several years' experience. His store is fitted up with all the modern conveniences.

Burglars recently attempted to enter the store of Benjamin Shogan, of Fall River, but fortunately were frightened away before gaining an entrance.

Some days ago a flashily-dressed stranger entered the store of Frank E. Davis, of Northampton, asking to see diamond scarf pins and rings. After looking them over he selected a scarf pin and ring both valued at \$25, and deposited the price of both, saying that he would return the one which he did not wish. Later he returned the pin. Shortly afterwards another party of the same type asked to see diamond rings, which were shown him by one of the lady clerks. He selected the ring he desired but did not purchase. A few days later when the tray was examined, it was found that three of the rings, which were quite valuable, were missing. Mr. Davis notified the police but has not as yet heard anything on the matter.

F. E. Bowman, who has for some time past occupied an office in the Jewelers' Building, doing optical work and photography, has purchased an established business at 200 Devonshire Street, Boston, where, beside the two above-mentioned lines, he will handle phonographs.

Carroll Easton, employed by S. W. Baker, of Rockland, Mass., has returned from a much-enjoyed vacation.

N. C. Squire, of Lynn, Mass., is recovering from a severe case of water on the knee. He has been confined to his home for a number of days past but is now about attending to business.

The business men of New Haven, Conn., have recently found it necessary to appeal to the postmaster of that city to eliminate the present conditions covering the delivery of their morning mail, claiming that their first delivery is not received until 11 A. M. This naturally tends to inconvenience the business men of the city. We are pleased to note that G. Fassano, a jeweler of that city, is actively engaged with the others in remedying the evil.

E. H. Cain, of Boston, is spending his vacation in Cherie, Maine, with his wife and family.

Abe Saloway, of Saloway & Olson, spent his vacation in Georgetown, Maine. John Olson, of the same firm, is spending his vacation at his home in Newburyport, Mass.

E. W. Martin, of Martin, Copeland & Co., of Providence, R. I., and his party have returned from their auto tour through England, Scotland and Wales. The trip was greatly enjoyed and most successful from a tourist's point of view. The auto, a "Thomas Flyer," stood the eighty-day trip of 2700 miles in fine form. The auto met with but one serious mishap, which was due to the interest of a night watchman in one of the garages to ascertain its hill-climbing abilities. After run-



Shakespeare's birthplace. E. W. Martin's automobile in the foreground

ning the machine fifty miles he met with a mishap, the machine being overturned and completely wrecked. Eight days and nights were spent putting the machine in running order. Many interesting photographs were brought home by Mr. Martin, one of which is the view we show of Shakespeare's house, at Stratford on Avon, the auto to be seen in the foreground.

Henry R. Arnold, of D. C. Percival & Co., is expected to return to work some time during the month of September. Mr. Arnold has had a most trying illness and has just rallied from the effects of the operation performed last January. Though about for a number of months past it has not been deemed advisable for him to perform actual duty until now.

T. E. Alexander, with A. G. McKenzie, was recently married to Miss Lillian B. Ladd, of Viennes, Maine. They will reside at the home of the groom, 99 Wheatland Avenue, Dorchester.

Mr. Wells, of Wells & Gunde, New Haven, Conn., has been in Boston, calling on his many friends in the trade.

The store of the Boston Optical Co., of Springfield, Mass., was broken into and watch chains to the value of \$30 were stolen. Entrance was gained by breaking glass in the rear door.

In an article from the Greenwich, Conn., *Graphic*, under the heading of "Burglars Tried ye Greenwich Shop," we notice that an endeavor was made by burglars to break into the store of John E. White, of that city. Fortunately the window was so securely fastened that the jimmy which was used was ineffective. Before any other method was used by the culprits they were evidently frightened off by a passer-by.

It is rather interesting to note that a Springfield jeweler has in his employ John Schumann Heinck, the young opera star, who is earning enough to pay for his education by working at the bench. Though his parents are well able to defray the expenses of a fine musical education, he prefers to do his utmost to assist in his studies. He learned his trade in Germany and is a fine workman.

The store of H. E. Wheeler, of Milford, Mass., was closed from August 13th to 23d, inclusive.

C. H. Worthington has moved from his former location to the store occupied by E. E. Morand.

Miss E. F. Southwick, of Smith's jewelry store, Fitchburg, has returned from a vacation spent in Southbridge, Mass.

T. L. Williams, of Quincy, was offered a check of \$7.50 in payment for jewelry purchased by Maurice W. Sinclair, of New York. On discovering that the check was worthless, Mr. Williams notified the police, after finding that several other local tradesmen had been visited by the same party. After a short search he was arrested in Wollaston.

In the August issue of THE KEYSTONE the statement in regard to the store of the New England Optical Co. being purchased by Mr. McEvoy, should have read as being formerly run by Mr. McEvoy in the interest of the New England Optical Co. instead of for the Globe Optical Co.

R. A. Nelson, who has recently opened an optical parlor in Malden, is reported as doing a fine business.

Wm. E. Clement, with D. C. Percival & Co., is spending his vacation with his wife and son at South Hope, Maine.

A. G. Barber, of the Globe Optical Co., has returned from Lake Oronia, in the Adirondacks, where he spent an enjoyable vacation.

Samuel Mendlesohn, who has for some time past occupied a room in the Washington Building, is soon to occupy the room on the sixth floor of the Jewelers' Building, formerly occupied by I. Alberts.

Wm. P. McEvoy, of the Boston Optical Co., has returned from a vacation to Petersham, Mass.


C. W. Wilcox, of Milford, Mass., is reported as recovering from his illness. He is attending to business daily, but his son, who is a most capable young business man, is doing the outside work and attending to the Boston trips.

Harry W. Deans, of Spencer, who has been so seriously ill, is about and attending to business.

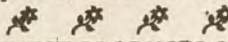
Shreve, Crump & Co., of Boston, exhibit in their window a decided novelty in a marine clock. The clock is mounted in a revolving turret of a miniature battleship, made of nickel and brass, about sixteen inches long. The clock is in the rear turret, while a barometer is fitted in the forward turret and a tiny thermometer is fitted on the smokestack. The little propeller of the vessel also revolves with the same movement that revolves the two turrets. The outfit is valued at \$200.

A most successful game of substituting an imitation diamond in place of a real one has been worked on a number of Boston jewelers, among them being one of the leading jewelers of Sumner Street and a well-known Hanover Street dealer. Frank Grace, alias Frank Lomba, a neatly-dressed colored man of about twenty-four years of age, has been arrested after a lively chase, and is charged with the theft. Grace was born in Portugal and has succeeded in establishing an unenviable reputation as a crook, having already served considerable time. His game was to look over the rings with the pretence of selecting one for a lady friend, meantime waiting for a favorable opportunity when the clerk's attention would be detracted, and then by clever manipulation substitute an imitation stone. He has also used the old game of dropping an imitation, later finding it and oftentimes selling it to the next passer-by for \$8 or \$10.

SCOURING



THE OLD WORLD!

Such has been the task of the head of our firm for months past; with the result that we offer  A BIG SELECTION OF THE FINEST PRODUCTS OF THE EUROPEAN MANUFACTURERS, IN THE LINE OF

**WATCHES • DIAMONDS
ART-JEWELRY • OPTICAL
GOODS ETC.**

WE INVITE YOUR EARLY INQUIRY AND INSPECTION.

I. ALBERTS.
709-10 & 11, Jewellers' Building,
373 Washington Street,
BOSTON, MASS.

THE Kenilworth Bracelet

Patented Jan. 2, 1906 No. 808,805



The phenomenal success of the **KENILWORTH** is caused by its extreme beauty and convenience, and is making it the leading make in the growing demand for perfection in bracelet making.

Differing radically in working principles from all other makes, having no catch or snap, and practically unbreakable with ordinary use, makes it absolutely certain to successfully and with perfect satisfaction meet all demands of first-class trade.

Made in a full line of beautiful patterns, both in **GOLD FILLED** and **STERLING SILVER** and in **all finishes**.

All leading jobbers now have a full line. Do not fail to see them at your earliest opportunity. Manufactured by

DORAN, BAGNALL & COMPANY

New York—194 Broadway
Chicago—42 E. Madison St.
San Francisco—126 Kearny St.

Successors to YOUNG, BAGNALL & CO. Established 1870
North Attleboro, Mass.



INITIAL MONOGRAM FOBS

reading either way A H or H A, which you can get for **75 cents**, each, complete with strap or ribbon, in gilt or nickel.

A neat fob for vacation or holiday gift.

No. 3
Half Size

Notice.—This

INITIAL FOB



is a great seller and cannot be duplicated for the money.

We are selling them with gilt trimmings and nickel letter, which makes it a beauty, and can be bought in dozen lots and upwards for **\$4.00** per dozen.

No. 1002
Half Size

We make and sell more **Initial and Monogram Fobs** than any manufacturer in the country.

All goods guaranteed.

In ordering, please send remittance or reference.

John A. Salman & Co.
21 Bromfield Street Boston, Mass.



CANDO SILVER POLISH

IS THE BEST

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

PAUL MFG. CO., Boston, Mass.

WATCH GUARD CHAINS

Nickel Plated, \$6.00 per gross
Gold Plated, \$9.00 per gross

Can be used with or without fob. Out of sight and better than ordinary chain. Displayed on lithographed cards.

Free sample in exchange for any buyer's card



EUGENE H. FERREE, Selling Agent, LOCKPORT, N. Y.



Population and Products of Texas

When Texas came into the United States she had about 100,000 people. To-day she has in the neighborhood of 4,000,000. In 1860 she had about 250,000 people, and about the same number at the close of the war, forty years ago, so that her growth in population during these last forty years has been about 1600 per cent. This makes her rank fifth among the States, only New York, Pennsylvania, Illinois, and Ohio being ahead of her, and still she has only about thirteen people to the square mile of her area. Give her the density of population of Massachusetts, and she would have over 100,000,000 people, more than the whole United States has. With England's density of population she would have 166,000,000 people. There is certainly room in Texas yet for everybody that wants to come, and Dallas is right in the center of the most rapidly populating section of the State. Within one hundred miles radius around Dallas more than half of the corn grown in the State is raised, and Texas is sixth in corn production of all the States and in this circle are the wheat and oat crops also principally grown, to say nothing of the fruits, vegetables, berries, etc., that are making Texas famous and rich.

Railroad Facilities

In the matter of railroad facilities Texas leads the procession of States, having 12,000 miles, while Illinois, Pennsylvania, Iowa, Ohio, Michigan, in the order named, follow on behind. Of the great railway system of the State, Dallas has ten roads reaching to eighteen points of the compass, the State thus being traversed from border to border, every section of her 266,000 square miles being reached by rail from Dallas. Over these railroads each day 86 passenger trains come into and leave the city. Last year these railroads handled 2,820,000 tons of freight for the city.

J. A. Martin, Jr., formerly with J. H. Greer, of Ft. Worth, Tex. has accepted a position with T. J. Hines, of this city, and will begin work September 1st.

W. F. Dodd, of Caddo, Ind. T., was a business visitor in the city last month.

Claude Scagg, formerly with R. C. Glover, of this city, has accepted a position with Roy Seastrunk, manufacturing jeweler of this city.

C. E. DeLong, of Denison, called on the wholesale trade while in the city last month.

H. G. Towle, of Snyder, Tex., was in Dallas recently consulting physicians, as he has been in bad health of late. While in the city he bought a few fill-in goods, for the Fall trade.

Mr. and Mrs. C. A. Randolph, of Huntsville, Tex., announce the birth of a fine baby girl.

J. P. Oliver, of Hearne, Tex., was among the visitors in the city recently.

Mr. Hearne, head watchmaker for J. E. Mitchell & Co. of Fort Worth, Tex., paid his respects to the wholesale trade while in the city lately.

A. E. Berger, head watchmaker for A. A. Everts, of this city, has been on the sick list last month.

Jno. Bucher, of Hillsboro, Tex., was a visitor in Mineral Wells, Tex., last month.

Valentine Hafner, Secretary and Treasurer of the Walter Hafner Jewelry Co., of Hillsboro, Tex., left for an extended trip, on July 31st, for the East and North, and will visit Nova Scotia before his return.

Fred. Studer, of Waco, Tex., is spending his Summer vacation visiting his old home in Germany, and on an extended tour in Europe.

L. H. Walter, President of the Walter Hafner Jewelry Co., of Hillsboro, was sent as a delegate to the Elks' convention in Denver, from the Hillsboro Lodge.

Jack Daret, with T. J. Hines, of Dallas, has just returned from an extended tour through the East.

G. A. Pfaeffle, of Greenville, Tex., was among the business visitors to the city last month.

J. T. Camp, watchmaker for J. E. Mitchell and Co., of Ft. Worth, Tex., was in the city lately.

W. B. Kinne, of Kainsville, Tex., is spending his vacation in Corpus Christi, Tex.

W. W. Mitchell of Dallas, Tex., has recently added new wall cases to his fixtures, quite an advantage to him in displaying his stock.

A. P. Bailey, has opened a jewelry repair shop, on Field Street, Dallas, Tex.

H. Wilson, watchmaker for H. W. Bounds, spent a week in Mineral Wells, Tex., last month.

M. A. Kelly, Dallas, after a few days' illness is able to be out and back to his business.

The family of S. F. Stewart, Dallas, is now visiting in Chicago.

H. Iverson, of H. Iverson & Co., of Corsicana, Tex., was in Dallas, this last month, buying some fill-in goods for the Fall trade.

W. C. Hilburn, of Henrietta, Tex., called on the wholesale trade while in the city, recently.

J. E. Mitchell, of J. E. Mitchell & Co., Ft. Worth, Tex., has just recently set sail from Galveston, for New York, to visit the markets in that quarter.

S. R. Glidewell, of Whitewright, Tex., paid his respects to the wholesale trade while in the city last month.

G. C. Newton, of G. C. Newton & Son, Waxahachie, Tex., was a business visitor in Dallas lately.

W. Y. Penn, of Georgetown, who for some time has conducted a jewelry business at that point, has sold out to Wilcox Bros., of that city.

J. C. Maag, formerly watchmaker for A. A. Everts, has resigned his position with that firm, and has opened up a watchmaking business for himself, here in the city.

Geo. Cook, of Muchert & Cook, of Sherman, Tex., is spending his vacation in Chicago.

Hamp Sanders, of Sanders Bros., of Paris, Tex., is on the sick list this month.

Grant Hood, formerly instructor in the Bradley Horological Institute, and afterwards with Noyes & Hubert, of Paris, has opened up a photo gallery in Paris.

J. W. D. Bryant, of the Bryant Jewelry Company, who recently opened a jewelry establishment at Laredo, Tex., was a business visitor in Dallas last month. Mr. Bryant is well pleased with his new location, and thinks that there are good prospects for a successful business future.

C. C. Murray, of Timson, Tex., is now in Dallas taking engraving instructions under H. L. Dickson.

J. H. Child, of Del Rio, Tex., suffered from a fire this last month.

T. H. Bennenger, of the Bennenger Jewelry Company, of Cleburne, Tex., mourns the death

of his baby, who died at Henderson, Tex., Their host of friends express their sympathy to the bereaved parents.

W. F. Dietrich, of Kaufman, Tex., was a business visitor in Dallas, this last month.

B. Booth, of Temple, Tex., spent part of this month visiting the principal parts of Colorado.

F. D. Bone, of Ft. Worth, was among the visitors in Dallas recently.

A. L. Jones and wife, of Llano, Tex., were business visitors in Dallas, recently. Mr. Jones has taken the contract to handle the school books for his city this year.

J. M. Caldwell, of Bryan, Tex., called on the wholesale trade while in the city lately.

Muchert & Cook, of Sherman, Tex., were represented in St. Louis last month for a few days by Geo. E. Cook, the junior member of the firm, who was there combining business with pleasure. He was accompanied with Mrs. Cook.

L. H. Walter, of the Walter-Hafner Jewelry Company of Hillsboro, Tex., was a trade caller in St. Louis early in July.

M. M. Gumbiner, of Luling, Tex., who also owns and operates a store at Lockhart, of the same State, spent a week in Chicago recently, visiting relatives and doing some buying for his fall trade. Mr. Gumbiner is one of the pioneer jewelers of the Lone Star State, having located at Luling over twenty five years ago. While in Chicago he told of the prosperity of Texas, stating that the State is enjoying great prosperity and expansion, and that times were never better than at present. A fine wheat crop has been harvested; the corn crop in the State is safe, and the cotton crop promises to be one of the best in several years. The State is rapidly filling up with new people, improvements are going on everywhere, and the outlook has never been so bright as at present.

L. Lechenger, the well-known jeweler of Houston, Tex., was in Chicago for a few days recently, enjoying the Summer resort weather and doing some buying for the home store.

C. L. Norsworthy is spending a few weeks in the East, where he will visit a number of the leading factories and importers. He will also visit Chicago.

Thomas Jarvis, head watchmaker for C. Cullman, St. Louis, has accepted a position with C. L. Norsworthy as head watchmaker.

Mr. Smith, a jeweler of Mineola, was a buyer in the Dallas markets this month.

A. T. Threadgill, traveling salesman for Shuttles Brothers & Lewis, has just returned from a very successful trip.

Mr. Abbott, a member of the firm of S. H. Abbott, McKinney, Tex., was in Dallas on business this month.

W. A. Wilson, head watchmaker for G. A. Pfaeffle, of Greenville, Tex., has just returned from his Summer vacation trip to Colorado, and he tells us that he had a most delightful trip. He also attended the Elks' convention at Denver.

Theo. Stallings, who is with H. H. Hawley of this city, was recently hurt in a wreck between Ft. Worth, of Bowie, Tex. The wreck occurred about four miles' distance from Bowie, Mr. Stallings' home, where he intended to spend a few days for recreation, the two rear coaches of the train leaving the rails just as they were making a curve. There were fifty-five persons injured, but no one killed outright, though some were probably fatally injured. A letter from Mr. Stallings, just received, tells us that he is able to be up for a few minutes, and hopes that he will soon be able to return to his work, which is also the hope of his host of friends.

Mr. and Mrs. H. H. Hawley, of Dallas, announce the birth of a fine baby boy, which arrived on the 14th of July. The young man bears the name of his father in full, Henry Houston Hawley, Jr. Hearty congratulations were extended to the parents.

W. Q. Bridges and Miss Florence McDaniels were united in marriage July 29th, 1906. Mr. Bridges has resigned his position with R. C. Glover, of Dallas, and has accepted a position in Houston, Tex.

Mrs. H. W. Bounds, wife of H. W. Bounds, of this city, has just returned from a very pleasant trip to the coast.

Simon Linz, of Jos. Linz & Bros., of this city, is building a \$25,000 home in South Dallas.

A. G. SCHWAB & BRO.

Wholesale Jewelers

31 East Fourth St., Cincinnati, Ohio

WE MAKE A SPECIALTY OF

DIAMONDS

Elgin, Waltham, Howard and

New England Watches

BOSS and CRESCENT CASES

Our ability to hold old customers and to continually add new ones is the surest proof that our work is satisfactory. Put your REPAIR and SPECIAL ORDER WORK in our care. We make a specialty of this branch of the jewelry business.

THE DORST COMPANY

THE SPECIAL MANUFACTURING JEWELERS FOR THE RETAIL TRADE

S. E. Cor. Fifth and Elm Streets

CINCINNATI, OHIO



Trade conditions are such as to lead to the belief that business for the coming winter season will be larger than ever. Traveling men in this and surrounding States report a large buying demand on the part of retailers. The latter in the rural sections in turn anticipate heavy business owing to the general abundant character of crops. The retail trade of the city has been good for the past month. Diamond houses report a continuance of heavy calls for good stones.

Optician E. Klein last month went to Rochester, N. Y., to attend the annual meeting of the American Association of Opticians, and on his return spoke highly of the results of the meeting.

The Cincinnati Fall Festival opened August 28th, and will continue until the latter part of the present month. Arrangements of a more elaborate character than were made in past years have borne fruit and the festival promises to be one of the largest and most noteworthy in the history of the organization. During the early part of the exposition many country buyers, who were brought to the city at the instance of the traveling men's organizations and the Merchants' and Manufacturers' Association, were guests of local wholesale people at the festival. It is expected by the management that the attendance during the four weeks of the exposition will exceed a half-million people.

Frank Herschede, the Fourth Street jeweler, accompanied by a party of friends, recently made a motor trip to New York and other Eastern points, covering a period of several weeks. The party arrived safely at their destination without any serious mishaps; traveling leisurely during the mornings, and, later, each day taking in the points of interest at their stops.

William Grosse and John Kappeler, retail jewelers, of Dayton, were recently defendants in the United States Court, in an action in which they were charged with contempt of the court's order. They were partners in the business, which went into bankruptcy about three months ago, the cause of arrest being alleged irregularity with relation to the disposition of some of their stock. It was charged that two days before the petition in bankruptcy was filed, Grosse bought out Kappeler's interest for \$100, and then sold the entire stock to Bert Shroyer, a pawnbroker, for \$400. The bankruptcy referee insisted that this money belonged to the creditors, but Grosse declined to surrender it, claiming he was entitled to it. Because of his failure to do this, the arrest was ordered at the instance of the referee. Both men were placed under a bond of \$300 to appear before the next Federal Grand Jury, which will investigate the case.

Cassie L. Chadwick, the Cleveland woman who is now serving a term in the Ohio penitentiary, is the defendant in the United States Court in an action in which she is charged with having smuggled a valuable lot of jewelry and precious stones into this country. The smuggled goods consist of rings, earrings, stickpins and brooches valued at something like \$25,000. According to Adrian H. Larkin, an attorney of New York City, the goods were pledged and hypothecated with J. W. Friend,

the plaintiff in the action, for money loaned to Mrs. Chadwick. Friend learned, as he alleges, that the goods were smuggled and at once reported the case to the secretary of the treasury. Later on the goods were seized and taken to Cleveland, near which point they were brought into the country. Attorney Larkin brought an action for their recovery on the ground that the court had no jurisdiction, as it could not be construed that the seizure had been made in the Forest City. The court upheld his contention and dismissed the case, the Cleveland collector taking an appeal to the United States Court of Appeals at this city.

The National Board of Metal Polishers, Molders and Silver and Gold Platers held a business session in this city early in August, at which considerable business relating to the trade was taken up and discussed. The meeting lasted several days, and was presided over by President A. B. Grout.

Joseph Pichel, the West Fourth Street jeweler, spent some days at Atlantic City early in the month, and, later, attended the convention at Rochester.

Charles Asmann, aged seventy-four, one of the oldest and best known watchmakers and jewelers at Covington, Ky., died at his home a few weeks ago of paralysis. His death was rather sudden, as his physician a few hours previously had pronounced him in an improving condition. Mr. Asmann came to Covington in 1852, and for the period of fifty-four years lived continuously in that city, where he lived in comfortable circumstances. He leaves one son and two daughters.

After having been in the retail jewelry business at Franklin, Ohio, for a period of about twenty years, A. E. Axman, on the first of August, closed up his business at that place and removed it to Middletown. The move was taken because of the fact that a considerable portion of Mr. Axman's business has, of late years, come from Middletown, which is growing rapidly.

Mr. and Mrs. Frank C. Taylor, of Carlisle, Ky., recently stopped over in the city while on their way to the great lakes. They put in two weeks in Michigan, and returned to Kentucky the latter part of the month.

Edward Bohmer, watchmaker for Ben Greenwald, was confined at his home during the past month, suffering from a complication of ailments.

Charles Zimmerman and family, of Memphis, were visitors in the city a few days early in August. Mr. Charles Wilms, also of Memphis, took a short stopover while on his way to New York and the East. Both gentlemen are connected with the large retail house of C. S. Byrd & Co., of Memphis, and were spending their vacations taking in the sights of this city and Gotham.

Charles Nurre took a three-weeks' tour through Eastern States, which ended the latter part of the month. His trip included a number of seaside resorts and the points of interest around New York.

J. W. White, of Clifton Forge, Va., was among the buyers from the Allegheny States to visit the city during the past month. He reported business in his section to be thriving, with indications that the fall and winter trade would be larger than for years past. The fact that crops promise to be abnormally large and the coal trade activity already on, are taken as the barometers for the coming winter's business.

The contract for supplying the new Sinton Hotel silverware has been awarded to Reed & Barton, of New York City, over a large number of competing bidders. While the exact price is not made known, it is given out that it was in the neighborhood of \$25,000. The order calls for

17,650 pieces of silverware, some of which will be very elaborate. The china and glassware contracts are now being considered and will be awarded shortly. The new two-million-dollar hotel is rapidly nearing completion, and will be thrown open to the public early next year. Electrical fixtures will be supplied by Horn, Brannen & Co., of Philadelphia, and include some beautiful patterns in solid bronze and crystal, to be used in the lobbies and dining-rooms.

George Korf, retail jeweler, spent several weeks at the Thousand Islands, resting up for the activity expected this fall.

In the neighborhood of two hundred employees of the Homan Manufacturing Company recently struck for an increase in wages and for the recognition of the Silver Workers' Union, which was organized a short time ago. The difficulty is said to have been started in the demands of polishers and solderers. The management declined to make the concessions asked for, and this led to employees from other departments joining with the strikers. The plant is now being operated as an open shop, and the management declares that this policy will in the future be adhered to. The Silver Workers' Union is an independent local body, the members being employed exclusively in the Homan factories. Two years ago it withdrew from membership in the National Union of Brass and Metal Workers and Polishers.

The traveling forces of most of the wholesale houses are now making their territory, and from the orders which are coming in, the indications are that a large holiday business of a good character will be enjoyed. The vacation season has about come to an end, and a number of people, who are still abroad or in the East, are expected home this month.

S. A. Burgoyne, of Mobile, Ala., was in the city several days, and while here left orders for a number of large consignments of jewelry and novelties.

The following visitors were in the city during the past month: Mr. and Mrs. Frank C. Taylor, Carlisle, Ky.; A. E. Axman, Franklin, Ohio; G. H. Becker, of Blumenthal & Becker, Murfreesboro, Tenn.; W. H. Mueller, Stanford, Ky.; H. A. Rohs, Cynthia, Ky.; A. Zoellner, Portsmouth, Ohio; Mr. and Mrs. Charles Zimmerman, Memphis, Tenn.; Joseph Drake, Lebanon, Ohio; J. W. White, Clifton Forge, Va.; Charles Wilms, Memphis, Tenn.; S. A. Burgoyne, Mobile, Ala.; Philip Horr, Aurora, Ind.; Leonard Baldwin, Winchester, Ky.; I. N. Pollock, Ashland, Ky.; F. A. Schweeting, Oxford, Ohio; G. H. Hansgen, Bethel, Ohio; J. A. Simpson, Ripley, Ohio; Samuel H. Sterchi, Terre Haute, Ind.; J. H. Sherwood, Kentucky.

Alcohol Engines

Prof. Elihu Thomson says that experiment has proved that alcohol, provided it can be made cheap enough, is entirely suitable as a fuel for internal combustion engines. Although the heating value of alcohol is much less than that of gasoline, yet a gallon of alcohol will develop substantially the same power as a gallon of gasoline, because of the greater efficiency of operation. Less heat is thrown off in waste gases from the alcohol, and a mixture of alcohol vapor with air stands a much higher compression without premature explosion than does a mixture of gasoline and air. In fact, Professor Thomson says, the efficiency or the ratio of the conversion of heat units into power, is probably higher in the alcohol engine than in engines operated with any other combustible.



St. Louis Ready to Advertise

Nearly \$100,000 toward St. Louis' \$400,000 advertising fund has now been pledged, it is said, and the Kastor Advertising agency of this city is to have charge of newspaper advertising that will begin early in Autumn. Efforts will be made to bring trade from a distance, and also to increase it right around home, within the shopping radius of one hundred minutes.

The South's Rapid Advancement

Both in the amount of capital in manufacturing and in the value of manufactured products the South has advanced during the past five years at greater speed than the rest of the country. Commenting upon this, *The Manufacturer's Record* of Baltimore says that figures of the factory census of the United States, those for New York and Pennsylvania being estimated, indicate that between 1900 and 1905 the capital invested in factories increased from \$9,019,903,013 to \$12,928,139,503 or by \$3,908,236,490, equal to 42.4 per cent. and the value of the products increased from \$11,480,095,570 to \$15,063,443,330, or by \$3,583,346, equal to 31.2 per cent.

St. Louis Banks Prosperous

In preparing for the extraordinary demands of enormous trade and big crops, the St. Louis banks are following a very conservative policy. Trade and crop prospects are so assuring as to indicate exceptional financial requirements, and St. Louis, as one of the leading reserve cities is preparing to meet the wants of the Southwest, the Southeast and the West with facility. Bankers say that this year will prove to be the best in the history of St. Louis and the Southwest.

The predictions of the wheat crop of 1906 range from 700,000,000 to 740,000,000 bushels. These are based on acreage and on the conditions since the harvesting of the crops. In 1901 the crop was 748,000,000 bushels. This is the only time that wheat has passed the 700,000,000 mark. The yield for 1906 is certain to be next to the largest ever gathered. As corn gives promise to break all records in magnitude, the American farmer continues to be in clover.

Condition of the Crops

The latest crop reports of Missouri and Illinois are interesting, as they give the returns for the season of the principal cereals. The yield per acre of wheat was much larger than last year and the crop is 35,832,000 bushels in Missouri and 28,458,000 in Illinois. The condition of corn is fully as good as it was a month ago, and the recent rains have greatly benefitted this cereal and the prospects for a record breaking corn harvest are improving from day to day. Oats threshing is under way, but it is said that only about one-half of the original acreage, which was small on account of unfavorable weather at seeding time, will be threshed; the remainder have either been pastured, mowed for hay or fed in the sheaf. Timothy and clover meadows will yield a smaller crop of hay on the average than for some years. The fruit crops promise well in both States and the yield will be above the average.

Theodore F. Gerlach, the well known west-end jeweler, has just returned from a two weeks' vacation spent among Eastern resorts.

S. Ruby, retail, at 511 North Sixth Street, is enlarging his store and making other extensive improvements. The improvements are noteworthy and have added greatly to the appearance of his store.

J. P. Morgan & Co., wholesale tools and materials, for a number of years past located at Dallas, Tex., are moving to St. Louis.

Dr. Gustavis Moritz, retail optician, has secured the optical department in the new Grand Leader Department store.

J. A. Bauer, of Moulton, Tex., spent several days in St. Louis last month buying stock for a new store that he is just opening at the above point.

Albert Gerne, retail jeweler at 1103 Salsbury Street, returned the middle of August from a river trip to St. Paul.

Otto Engelland, of the Geneva Optical Company, returned last month from a ten days' outing spent on a trip up the Mississippi River to St. Paul.

F. S. Buckey, of De Soto, Mo., was a visiting buyer in the St. Louis market last month.

Mrs. J. M. Friede and daughters returned the latter part of August from a delightful summer trip spent among the Eastern resorts and the mountains of Virginia.

Jack A. Jacobs, the genial assistant manager of the factory of the Eisenstadt Manufacturing Company, has just returned from a delightful outing of two weeks spent at Atlantic City, New York and other Eastern resorts.

George J. Hess, of the Hess & Culbertson Company, has recently returned from a most enjoyable vacation, spent at Eureka Springs, Arkansas.

Ed. Zurwick, of the Zurwick-Frech Company, is at home again after a three weeks' vacation spent among the Eastern resorts.

Alvin Bauman, head of the L. Bauman Company, returned the early part of August from a three months' trip to Europe. Mr. Bauman visited the leading diamond marts of the Continent while abroad, making liberal purchases of diamonds and precious stones for his firm's fall trade.

The Eisenstadt Manufacturing Company now expect to get located in their new quarters in the Star Building at Twelfth and Olive Streets by the first of October.

Edwin Massa, of the Bauman-Massa Company, accompanied by Mrs. Massa, has just returned from an enjoyable three weeks' outing spent among Colorado resorts.

E. H. Meade, manager and buyer of the silverware department of the Mermod, Jaccard & King Company, has just returned from a month's vacation spent among the Northern Lakes.

Ben Barnett & Company have removed from their old time Pine Street location to 203 North Sixth Street.

C. R. Hettle, of C. R. Hettle & Co., wholesale, has just returned from a pleasant outing spent among the Northern Lakes in company with his family.

Fred W. Drosten, head of the F. W. Drosten Jewelry Company, sailed from New York early in last month for a two months' trip in Europe. Mr. Drosten will combine business with pleasure and sight-seeing while he is abroad.

Otto Kortkamp, of the E. H. Kortkamp Jewelry Company, has recently returned from a pleasant outing spent among the Michigan Lake resorts.

Jim Behen, with the Hess & Culbertson Company, returned last month from a month's trip to the Pacific Northwest, where he visited Seattle, Portland and Spokane. Mr. Behen reports a delightful outing and says that the northwest coast country is enjoying a wonderful expansion and that times are quite prosperous in that section.

Simon Van Ralle, the well-known loan agent, is enjoying a two months' trip of travel and recreation in Europe.

Emil Niehaus, of the Hess & Culbertson Company, has just returned from his summer vacation spent on a boat trip up the Tennessee River.

T. H. Vahlman, of Vahlman & Jacobs, the well-known East St. Louis jewelers, returned last month from an extended trip to Europe.

Shanahan & Mitchell, of Vinita, Okla., were represented in this market for several days last month by Mr. Mitchell, who was here selecting the firms Fall bills.

Leo Braun, with S. Ruby, returned last month from his Summer's vacation.

H. D. Leffel, of San Angelo, Tex., was a welcome visiting buyer in this market for several days last month.

Mike Misch, the well-known jeweler of Muskogee, Okla., spent several days in St. Louis last month selecting his Fall bills.

J. E. Parry, of Galion, Ohio, spent several days in St. Louis the early part of last month combining business with pleasure.

J. E. Walz, of Booneville, Mo., was among the many out of town buyers in this market last month.

George Payne, of Walnut Ridge, Ark., was a welcome visiting buyer in this market for several days last month.

Bichsel Brothers, the well-known jewelers of Sedalia, Mo., were represented in this market for several days last month by Emil Bichsel, who was here on a Fall buying trip.

Klein & Fink, the widely known and successful jewelers of Ft. Smith, Ark., were represented in this market the early part of August by John Fink, who was here selecting the firm's fall bills.

Gerhard Eckhardt, the North Sixth Street retailer, has recently returned from an enjoyable summer vacation.

W. F. Kemper, Secretary of the Retail Jeweler's Association of Missouri, announces Jewelers' Night at Forest Park Highlands for Wednesday evening, September 5th. The occasion will undoubtedly bring out a large attendance and there will be good times galore.

Henry Holtz, manager of the jewelry store of J. L. Freund, of this city, recently spent a week at Buffalo and Niagara Falls, where he was the guest of Jacob and Herman Freund, of the former city.

J. W. Barber, of Meridian, Miss., was a welcome visiting buyer in this market for several days last month. Mr. Barber says that times are good in his section of the country and that the outlook for a prosperous Fall and holiday business was never better. He was buying liberally with these expectations.

R. A. Dunlap, of Festis, Mo., was a recent visiting buyer in this market.



Stern Bros. & Co.

NOW READY

AN ENTIRELY NEW LINE of MEN'S JEWELRY

Fobs, LOCKETS, CUFF BUTTONS, RINGS,
SCARF PINS and TIE CLASPS

in original and exclusive designs
POPULAR PRICES

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Manufacturers for the Jobbing Trade Exclusively of

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| Fobs | Studs | Crosses | Locketts | Thimbles |
| Bracelets | Rings | Hat Pins | Pendants | Baby Pins |
| Tie Clasps | Screw Earrings | Scarf Pins | Link Buttons | Festoons |
| Ring Mountings | | Bead Neck Chains | | |

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Bracelet Size Sticks will be furnished on application

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WABASH AVE. & MADISON ST.
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THE LARGEST—HANDSOMEST—BEST EQUIPPED
WHOLESALE JEWELRY HOUSE IN AMERICA



View of Main Aisle—Otto Young & Co.

Buy From Headquarters and Save Money

We sell everything the jeweler needs—BUT ONLY TO JEWELERS. The largest stocks and the lowest prices. Write for our new 1907 Catalogue—IT HAS NO EQUAL.

DON'T FAIL TO VISIT US WHEN YOU COME TO CHICAGO

Retail Jewelers' Associations

American National Retail Jewelers' Association (1904)
 Max Jennings, President, St. Clair, Mich.
 I. M. Radabaugh, Secretary, Hastings, Minn.
 Next meeting, July or August, 1907, at Chicago.

Missouri Retail Jewelers' Association (1889)
 Herman Mauch, President, St. Louis, Mo.
 Wm. F. Kemper, Secretary, 2326 Franklin Ave., St. Louis, Mo.

Connecticut Retail Jewelers' & Opticians' Association (1895)
 George H. Ford, President, New Haven, Conn.
 S. H. Kirby, Secretary, New Haven, Conn.

Minnesota Retail Jewelers' Association (1904)
 A. E. Paegel, President, Minneapolis, Minn.
 J. C. Herdliska, Secretary, Princeton, Minn.

Iowa Retail Jewelers' Association (1905)
 J. N. Nabstedt, President, Davenport, Iowa.
 J. H. Lepper, Secretary, Mason City, Iowa.

Michigan Retail Jewelers' Association (1906)
 Fred. Russell, President, East Tawas, Mich.
 S. D. Thompson, Secretary, Shepherd, Mich.

Massachusetts Retail Jewelers' Association (1906)
 W. F. Newhall, President, Lynn, Mass.
 Edward H. Dunbar, Secretary, Norwood, Mass.

Illinois Retail Jewelers' Association (1906)
 S. M. Strain, President, Nokomis, Ill.
 H. C. Watts, Secretary, Forrest, Ill.

Nebraska Retail Jewelers' Association (1906)
 Ed. J. Niewohner, President, Columbus, Nebr.
 D. L. Davies, Secretary, Nelson, Nebr.

North Dakota Retail Jewelers' Association (1906)
 E. P. Sundberg, President, Fargo, N. Dak.
 C. E. Tilton, Secretary, Carrington, N. Dak.

Wisconsin Retail Jewelers' Association (1906)
 A. J. Stoessel, President, Milwaukee, Wis.
 F. O. Thompson, Secretary, Milwaukee, Wis.

Missouri Society of Retail Jewelers (1906)
 R. D. Worrell, President, Mexico, Mo.
 C. E. Range, Secretary, Trenton, Mo.

Kansas Retail Jewelers' Association (1906)
 Walter Sperling, President, Seneca, Kans.
 Frank E. Pirtle, Secretary, Council Grove, Kans.

South Dakota Retail Jewelers' Association (1906)
 H. G. Nichols, President, Mitchell, S. Dak.
 O. B. Tripp, Secretary, Aberdeen, S. Dak.

Pennsylvania Retail Jewelers' Association (1906)
 A. C. Gaul, President, Sharpsburg, Pa.
 C. S. Wiley, Secretary, 3602 Forbes St., Pittsburg, Pa.

North Carolina Retail Jewelers' Association (1906)
 R. C. Bernau, President, Greensboro, N. C.
 A. P. Staley, Secretary, High Point, N. C.

Oklahoma Retail Jewelers' Association (1906)
 J. M. Floyd, President, Pond Creek, Okla.
 E. W. Eisenfelder, Secretary, Lamont, Okla.

Tennessee Retail Jewelers' Association (1906)
 J. B. Carr, President, Nashville, Tenn.
 R. B. Herzer, Secretary, Nashville, Tenn.

South Carolina Retail Jewelers' Association (1906)
 Stephen Thomas, President, Charleston, S. C.
 R. H. Allan, Secretary, Charleston, S. C.

Alabama Retail Jewelers' Association (1906)
 P. H. Linnehan, President, Birmingham, Ala.
 Max Robinson, Secretary, Birmingham, Ala.

New York Retail Jewelers' Association (1906)
 Samuel Tappin, President, Troy, N. Y.
 Henry J. Plantz, Secretary, Albany, N. Y.

West Virginia Retail Jewelers' Association (1906)
 T. A. Westmeyer, President, Wheeling, W. Va.
 C. E. Baab, Secretary, Parkersburg, W. Va.

Call to South Dakota Jewelers

The officers of the South Dakota Retail Jewelers' Association wish to remind the jewelers of the State, through our journal, that the members of the association will hold a meeting at Mitchell, on September 25th. A special invitation is extended to those who have not yet joined the association and an excellent programme has been planned for their entertainment and instruction. Cheap railroad rates will also be an inducement.

Officers of the American National Retail Jewelers' Association



Max Jennings, St. Clair, Mich.
President



E. H. Dunbar, Norwood, Mass.
Treasurer



I. M. Radabaugh, Hastings, Minn.
Secretary

The American National Retail Jewelers' Association

High Hopes for the New Association—General Trade Endorsement—Interesting Views on Organization

The formation of a national organization of jewelers under the title "American National Retail Jewelers' Association," has aroused widespread interest among the trade in all sections of the country. Even the name "American National," despite its tautology, seems to appeal to the craft as emphasizing the comprehensive character of the movement. It is gratifying to us to announce that our correspondence during the past few weeks leaves no doubt as to the attitude of the trade at large towards the new organization. The feeling in favor of the "get together" policy is as ardent as it is universal, and many see in the association, if properly directed, an instrument for the regeneration of the trade and for the rectification of the vexatious abuses of which the jewelers now justly complain.

Many Hopeful Views

The harmonious termination of the Rochester convention, despite the earlier differences of opinion which threatened the project, seems to have reassured the trade, and all are looking forward to a future of achievement for the new association. The fact that those who took part in its formation contrived to steer clear of some of the rocks which helped to wreck previous organizations of this character, is very favorably commented on. Speaking of this feature of the convention, R. C. Bernau, of Greensboro, North Carolina, the delegate of the jewelers' association of that State, and one of the vice-presidents of the new organization, said: "I am certain that a great deal of good will come out of this National Association of Jewelers as organized in Rochester. My convictions from the start were that it would have been a death-blow to this association to have an official organ that was not owned entirely by itself and run without advertising, and, of course, this we could not afford. In my homeward journey from Rochester I talked in New York City with several persons interested in the jewelry business at large, and the views of these parties, as well as letters received after my home-coming, all indicate that the various interests are pleased with what was done, and all of these promise to support us in our efforts, and I am certain that no one having the interest of the trade at heart will work against our plans. We, here in North Carolina, will see if

we can't get every jeweler into our State organization, and will rely on THE KEYSTONE to help us."

In a letter of thanks to THE KEYSTONE, C. S. Wiley, the energetic secretary of the Pennsylvania Retail Jewelers' Association, says: "I believe we can all feel satisfied with the work accomplished at Rochester, and I believe there has been a good foundation laid for a truly national organization which will be a credit to our trade." This embodies briefly the views of many other jewelers who have written us on the subject.

Building Up the Association

S. Kronholtz, of Stamford, Connecticut, one of the vice-presidents of the new association, says: "I believe the new American National Retail Jewelers' Association is going to be a permanent, useful organization, and that it will do a lot of good for the individual retail jeweler and the jewelry trade generally. I have great faith in the officers elected at Rochester. They are intelligent, upright and experienced men, and with the support of your valuable paper, and the trade press in general, I am sure they will accomplish all they have set out to do. What the National Association ought to do first, is to appoint an official organizer and organize local and State associations. Such an organizer, if he be a capable man, can get every legitimate retail jeweler to join this worthy association, and in my opinion, this is the only way to get a strong organization."

Mr. Kronholtz's views have a practical ring to them, and all will agree with him as to the most effective way to build up the association. Similar endorsements have reached us from the most distant points. A type of these endorsements is the following from Jos. Rittigstein, Los Angeles: "I wish to congratulate you on the great undertaking of protecting the retail jewelers. It is a very important and needful thing to do at the present time. If I can render any assistance as a Western man, call on me and I will be willing to offer my services to help along the new movement."

Mr. Rittigstein is actuated by the proper spirit, and we can only suggest that he and all others who think similarly, will best aid the cause by organizing first in their own State, and then affiliating with the national body.

The New Stamping Law

Space does not permit us to publish all the letters which we have received on the subject, but the following has a special interest as representing a view on the new stamping act, not generally entertained by the trade. J. G. Grainger, of Twin Falls, Idaho, says: "You can rely on my aid in the movement for organizing the craft. It is necessary for us to get together for

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This house has long been famous as headquarters for diamonds. Our stock is noted for the choiceness of its selection and its correct prices when quality is considered. We give personal attention to this branch of our business and can fill your orders with promptness & satisfaction.

DIAMOND IMPORTERS AND WHOLE

& COMPANY

*Are you coming? If you
do come to the Great
Central Market this fall
see our stock before you
buy your fall and holiday
bills. T took us over
whether you buy or not.
Depend upon it we will
make you feel at home.
Wholly aside from your
purchases your welcome
will be a warm one.*

SALE JEWELERS ~ CHICAGO.~

NOW IS THE TIME

FOR JEWELERS TO BE SURE THEIR STOCK OF

STURDY GOODS IS COMPLETE

A GOOD LINE OF **STURDY CHAINS** IS
BOUND TO PRODUCE GOOD RESULTS
FOR YOUR FALL BUSINESS.

THE **“STURDY LINE”** OF

STANDARD CHAINS COMPRISES EVERYTHING
PERTAINING TO THE CHAIN BUSINESS.
THIS LINE IS HANDLED BY ALL OF THE
LEADING JOBBERS

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ESTABLISHED 1865—INCORPORATED 1906

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WORKS—ATTLEBORO FALLS, MASS.



L. M. Derby, Albion, N. Y.



J. P. Archibald, Blairsville, Pa.



A. E. Paegel, Minneapolis, Minn.



R. C. Bernau, Greensboro, N. C.

Vice-Presidents of the American National Retail Jewelers' Association

American National Retail Jewelers' Association

(Continued from page 1535)

our own self-protection, but there must be a little better judgment used than there was by the jewelers who favored the stamping act, recently passed, which I do not think will prove an unmixed pleasure to the trade. For instance, what is the reason that people buy more, in fact mostly all of their jewelry from a jewelry store? Is it because they love the jeweler more, or because they think he knows best what the goods are? In my opinion, the stamping law is only good for the catalogue houses, and I could soon convince any one of this fact, but they will find it out before long for themselves." Mr. Grainger is not the only jeweler who has thus expressed himself in regard to the stamping act, but we believe with the majority of the trade in all its branches that the jewelers will find in the new stamping act a protective agent of great effectiveness, and that the sufferers, if any, will be the mail-order houses and the department stores. The act has practically the universal approval of the trade, and we have confidence that in its operation it will amply justify this approval.

Mail-Order Competition

The pressure of mail-order competition seems to be specially efficacious in creating interest in the new organization, as many hope that a united trade will be able to devise methods which will effectively offset this new form of competition. Interviews with the delegates who attended the Rochester convention

showed that while all regarded the mail-order house as quite a formidable competitor, many expressed themselves as confident that the adoption of up-to-date methods, aggressive advertising and a campaign of popular education would greatly minimize the competition, besides being a material benefit to the trade in the creation of a new business.

Jeweler D. G. Gallett, of Aberdeen, S. Dak., the enterprising delegate from the Retail Jewelers' Association of that State, favored us with the following very interesting and instructive views on the subject:

"It is important to-day," he said, "that the jewelers know something—as much as possible, in fact—of the merchandise which competitors are offering. If one can honestly say that he has better goods than a competitor, it goes a long way toward beating out the other fellow. This procedure is important to-day, because the retail mail-order houses are offering to the public inferior merchandise. Let me give one or two illustrations of the kind of 'troubles of our own' that retail merchants have to contend with out in the great plains country where I came from. A mail-order house desired to contract with a manufacturer for windmills. In order to secure what they could sell for a certain price, below competition, they asked the manufacturer to reduce the weight of several of the castings, and also to supply an inferior quality of material. When they had accomplished this, they found that an actual reduction in the cost of manufacture to the amount of \$12.00 had been made. This fact illustrates well the necessity of retail dealers everywhere being thoroughly conver-

sant with the merchandise which such competition as the retail-catalogue house has to offer.

"Another illustration is regarding stoves. The weight of the castings in many stoves offered by this class of competition is light. Sometimes as much as two hundred pounds is the reduction made in the specially manufactured stove for the catalogue house. One merchant in our State has on exhibition a stove which was shipped in from a retail-catalogue house for a farmer who refused it because at the depot a hole was broken in the casting, and it was found that the stove castings had been filled with sand which escaped through the hole broken in the stove. The farmer refused to accept the stove, whereupon a local merchant asked him to sell it to him. The dealer bought it, and has it on exhibition in his store to-day as an example of the inferior class of goods often sent out by the retail catalogue houses.

"A large percentage of the merchandise advertised by such competition is not equal to the test which any ordinary customer can make. To the average customer much of this merchandise looks alike, but when the facts above named are known, the inferiority of the goods is quickly understood. I might describe other methods of the retail-catalogue houses whereby they secure, or attempt to secure, certain staple merchandise—watches, for instance, through irregular channels offering them in their catalogue as a bait. They sell enough of their own merchandise to enable them to realize a handsome profit; while the staple merchandise which they secure irregularly, is offered to the public as leaders. There are many deceptive

(Continued on page 1577)

Vice-Presidents of the American National Retail Jewelers' Association



H. M. Rymar, Calvert, Texas



A. B. Hull, Belding, Mich.



S. Kronholtz, Stamford, Conn.



H. C. Cook, Knoxville, Tenn.

THE WESTERN CLOCK MFG. CO.

Sole Makers of the "America" Alarm

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La Salle, Ill.

CHICAGO
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THE ALTERNATING

Rings and stops alternately for 15 minutes at intervals of 20 seconds

THE ALTERNATING is the clock you have all been waiting for; a good reliable low-priced intermittent alarm. The movement is SIMPLICITY itself—no extra wheels, nothing to get out of order, and all the advantages of the Western Casting Process: FRICTION-LESS Pivots, SELF-CENTERED Wheels, HARD-STEEL PALLET Escapement.

4½-inch dial

7 inches high

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TECHNICAL DEPARTMENT

Lessons in Horology

COURSE IN MECHANICS AS APPLIED TO CHRONOMETRY

By JULES GROSSMANN, Director of the Horological School, of Locle, Switzerland, and
HERMANN GROSSMANN, Director of the Horological and Electro-Mechanical
School, of Neuchatel, Switzerland.

Authorized translation by JAMES ALLAN, JR., Charleston, S. C. Former pupil of the
Locle Horological School.

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(Continued. Part XXXIII.)

Let us still seek for the form of the teeth which appears on the interior plane LQ parallel to the plane BCM (Fig. 88).

On the side elevation, the point Q represents the point of the teeth. Project this point on the front elevation, at Q'' , and describe from O'' as center the circumference which passes through this point and which gives us the point of the teeth. To obtain the point T'' of the base of the teeth, draw the radius ON , cutting the plane LQ at T and project this point on the front elevation, we will thus obtain the point T'' through which one passes the circumference of the base of the teeth.

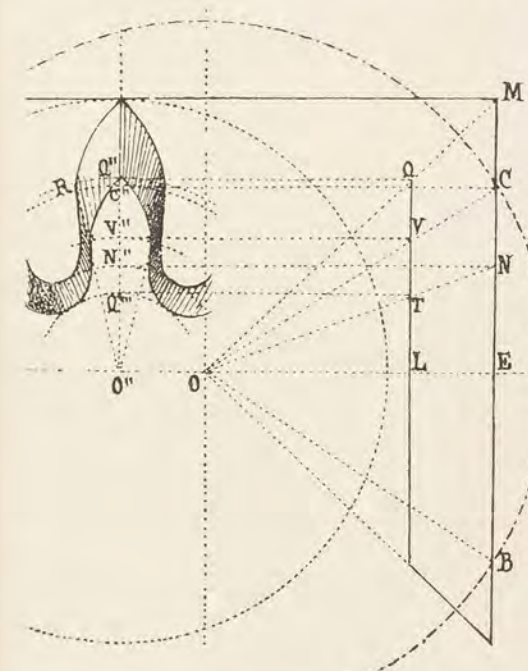


Fig. 88

points whatever, for example, those which are found on the primitive cone, one draws the radius OC , cutting the plane LQ at V , projects this point on the front elevation, at V'' and describes the circumference from the center O'' . One afterwards draws the radius $O''R$; the points determined by the intersection of this radius with the circumference passing through V'' , are points of the curve of the teeth. One can thus determine as many points as one desires and represent in this manner the complete form of the tooth.

Let us remark that, compared with the form determined for the teeth on the plane FG (Fig. 87), the form obtained on the front elevation having O'' as center, is elongated. One should, therefore, take account, in practice, of the elongated shape of the teeth in these wheels compared with those of corresponding plane gearings.

The drawing of the front elevation of the wheel is made in exactly the same manner.

Defects which Present Themselves in these Gearings

320. When, in a gearing, the normal to the point of contact does not pass through the point of tangency of the primitive circumferences, the transmission of the force is irregular.

The faults of construction which most often produce this effect, are:

First—A relative disproportion between the total diameters of the two wheels.

Second—A gearing too close or too slack.

Third—A bad teeth range.

According to the case, one will then find in the gearing a "butting" or a "drop."

321. The *butting*, also called *binding*, is the irregular contact of two teeth before the line of centers. If, for example, a is the point of tangency of two primitive circumferences O and O' (Fig. 89) and c the point of contact of a tooth and a leaf, one will find on drawing the normal to this point that in place of passing through a it will cut the line of centers at a point a' situated between a and O' . There will result a diminution of force transmitted at this instant for the two following reasons:

First—In place of a force $F' = F \frac{O'a}{Oa}$, one will have only $F' = F \frac{O'a'}{Oa'}$, as much different from the first as the point a' is found nearer to the center O' .

Second—Increase of the re-entering friction.

The causes which can produce this defect are generally:

- (1) Two slack a gearing;
- (2) A pinion proportionally too large;
- (3) A bad teeth range.

Fig. 89* shows the case of too large a pinion; the pitch of the gearing is longer than that of the wheel. The tooth B has ceased to conduct the leaf and the tooth A enters too soon into contact with the succeeding one. As we have said, the moment of the force transmitted is, therefore, diminished.

Fig. 90 shows the case of too slack a gearing. In place of entering into contact with the straight flank of the leaf, the tooth conducts, first, the excess, the normal cuts the line of centers between the point a and the center O' of the pinion.

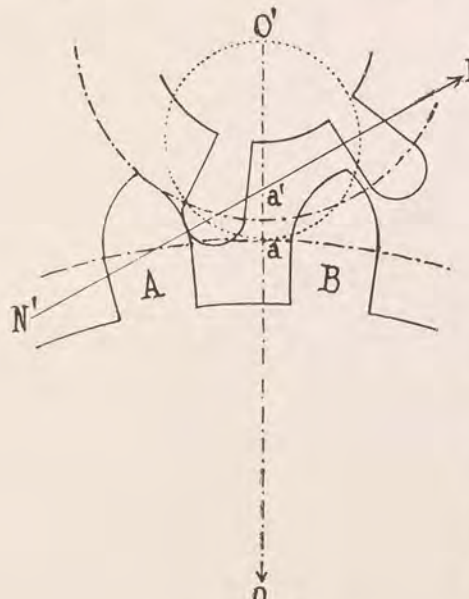


Fig. 90

Fig. 91 shows the case of a bad teeth range; the tooth, too short, for example, has its contact with the leaf, as in the preceding case: the normal passes between the point a and the center O' and one has a diminution of the force transmitted.

When the above defects are not too much accentuated, it is possible to remedy them, in order to obtain a passable gearing; but, at least in the first case, it is impossible to arrive at absolute perfection.

If the pinion is slightly too large, one can touch up the wheel in such a manner as to free the teeth range at the base ab (Fig. 92) and make it less pointed, after the manner of the English teeth range.

If the gearing is too slack, one increases the diameter of the wheel by careful forging.

*Figs. 89, 90, 91, 93 and 94 have the defects that they should represent generally exaggerated, in order to make them better understood. One sees also that by the use of a semi-circular excess for the leaf, such defects are often rendered more appreciable for pinions of low numbers; these excesses should be of semi-elliptical form.

(Continued on page 1543)



For Beauty of Design, Perfection of Finish and Reliability, combined with Moderate Price

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Are Unequaled

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No. 100. Bridge Model, O Size, 7 Jewel, Hunting and Open-Face, Pendant Setting



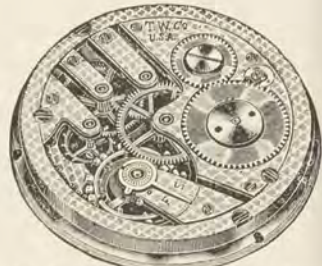
No. 310. "FORTUNA," 6 Size, 7 Jewel, Hunting and Open-Face, Pendant Setting



No. 130. Bridge Model, 16 Size, 7 Jewel, Hunting and Open-Face, Pendant Setting



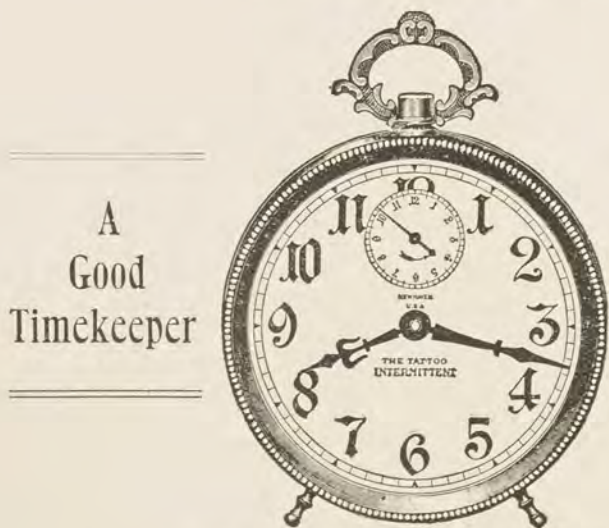
No. 140. Bridge Model, 16 Size, 15 Jewel, Hunting and Open-Face, Pendant Setting



No. 320. "FORTUNA," 12 Size, 7 Jewel, Hunting and Open-Face, Pendant Setting

THE TATTOO

(Trade-Mark Registered in United States Patent Office Aug. 29, 1905)



A Good Timekeeper

A Sure Alarm

4 1/2-INCH NICKEL-PLATED SEAMLESS CASE

Alarms INTERMITTENTLY every twenty seconds for fifteen minutes on a four-inch bell-metal gong on back of clock. Alarm can be stopped by turning a switch.

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The New Haven Clock Co.

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The Perfect Shape Umbrella

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It is now nearing the time when the jewelers are looking towards purchasing their stocks for fall and holiday season in UMBRELLAS and CANES, and we are prepared with our line, which we have specially designed for the Jewelry Trade, consisting of rare novelties and things entirely new and exclusive.

Our Detachable Handle Umbrella has met with great favor and will increase your umbrella business, and is the only one on the market without levers, springs or screws.

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BALTIMORE

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Lessons in Horology

(Continued from page 1541)

If the teeth range is defective, one can try to rectify it by means of a suitable ordinary cutter, or, still better, with an Ingold cutter.

322. If the first contact of the tooth with the leaf commences after the line of centers, it may happen that at a certain moment of the movement the angular speed of the wheel becomes proportionately greater than that of the pinion which it conducts. This defect is the *drop*; it is produced by

- (1) Too close a gearing;
- (2) A pinion proportionally too small;
- (3) A bad teeth range.

Fig. 93 shows too small a pinion; the pitch of the gearing of the wheel is greater than that of the pinion. When the tooth *B* should cease the contact on the generating circle, the tooth *A* is still found removed from the leaf that it should conduct. The tooth *B* will slip along the flank of the leaf and at this instant the normal to the point of contact will not pass through the point of contact of the primitive circumferences, but will cross the line of centers at a point nearer the center of the wheel. One will, therefore, have, in this case, an increase of the force transmitted. For a uniform movement of the pinion, the wheel will take an accelerated movement; this is, technically speaking, a "drop."

Fig. 94 represents too deep a gearing, the tooth *B* conducts its leaf farther than the generating circumference; there is, therefore, produced a slipping of the point of the tooth against the flank of the leaf, the accelerated movement which the wheel takes terminates by a drop of the tooth which follows on the leaf which it will conduct. The direction of the normal at the point of contact shows that one has, in this case, also an increase of the force transmitted.

Fig. 95 represents the case of a bad teeth range of the wheel. The teeth, which are too long, drive the pinion leaves farther than they should geometrically; one can thus recognize the drop which will be produced.

A gearing presenting the above defects can be corrected by diminishing the height of the ogive in such a manner that the teeth drive the leaves a less distance or, otherwise, by forming the teeth in such a manner as to give them a greater breadth on the primitive circumference.

323. On proving, as we have just done, that the gearing of a wheel in too large a pinion produces a butting, that, on the other hand, too deep a gearing produces a drop, one sees that it is best to make a deep gearing when the pinion is too large.

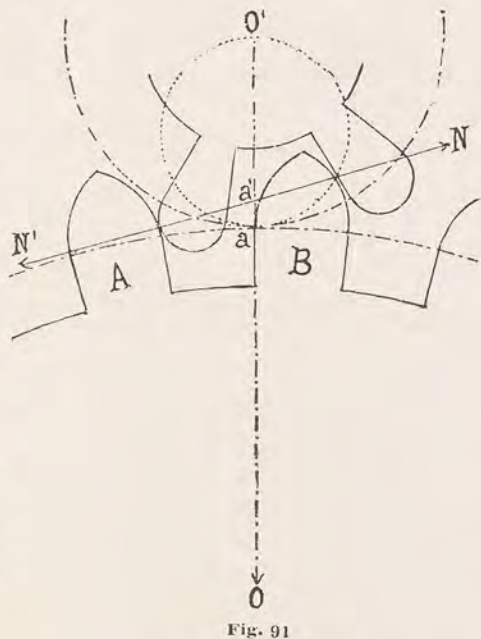


Fig. 91

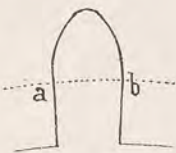


Fig. 92

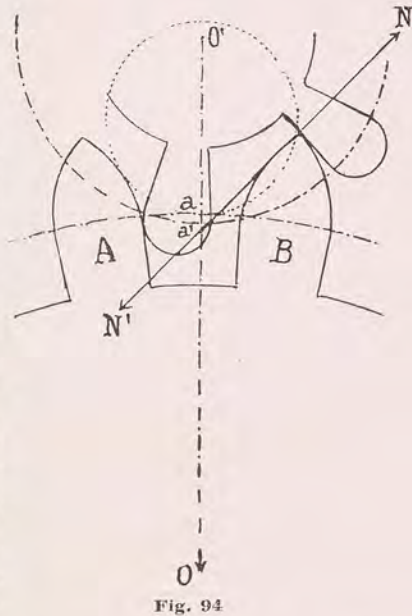


Fig. 94

Reciprocally, a gearing whose pinion is too small should be relatively shallow.

324. A defect which one encounters often enough in gearings is that which is occasioned by pinions whose leaves are not long enough, that is to say, pinions which are not cut deep enough. If the teeth of the wheel are correct, one finds very often the point of the tooth in contact with the bottom of the leaves (core of the pinion). If one cannot change the pinion, which is the only means to obtain a perfect gearing, the ogives of the teeth must then be shortened, either by cutting off the points or by modifying the shape. One understands that in these cases absolute perfection exists no longer, especially if the number of pinion leaves is small; since then the contact should commence before the line of centers.

325. One encounters very often, also, pinions of ordinary quality in which the flanks of the leaves are not directed toward the center, but are diverted more or less from it. Such pinions should be rejected as much as possible if one wishes to preserve in the gearing the quality of a flank gearing; if not, the tooth of the wheel would have to be formed by means of a curve described as we have indicated (215).

In a gearing, defective either on account of the shape or direction of the pinion leaves or the wheel teeth, if one modifies one of the two profiles it might happen that one arrives at a correct gearing fulfilling all the conditions of a uniform transmission of the force, even when the essential characteristics of the flank or epicycloidal gearing no longer exist. In this case, the entire theory of the determination of the forms of contact is there in order to make us understand that one has luckily been able to find a combination of forms fulfilling the condition established, that the normal to the successive points of contact passes constantly through the point of tangency of the primitive circumferences. We know that this condition suffices for the gearing to be perfect, whatever may be the shape of the profiles established.

Passive Resistances in Gearings.

326. General Ideas. We have already indicated that the passive resistances are forces which naturally present themselves in all machines in motion (46).

These resistances are of diverse natures: some proceed from the bodies themselves, from their weight, their form, their dimensions, and also from the relativity of the movements which animate them. Such are friction, and its congeners, inertia and shocks. Others arise, more properly, from the medium in which these bodies are moved, such as, especially, the resistance of the air.

Among these, the principal cause of the absorption of work which is to be considered here is the *friction*, of which we will first take up the general study before applying the laws to the particular case of the gearings.

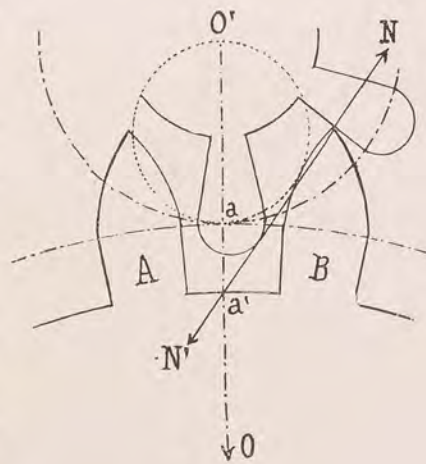


Fig. 95

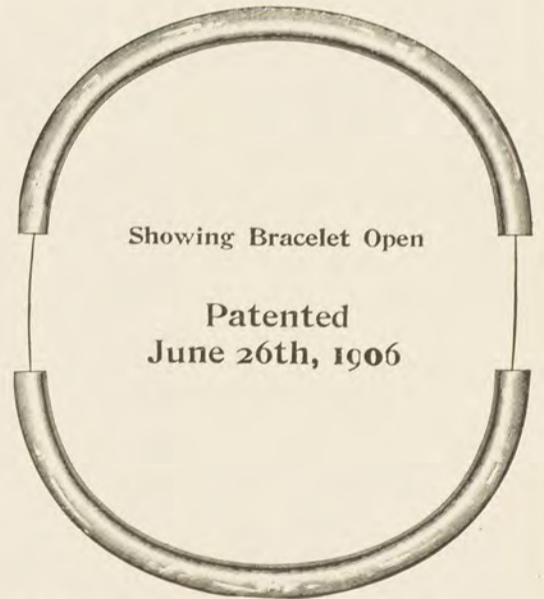
[TO BE CONTINUED]



Showing Bracelet Closed

Patented
June 26th, 1906

DIRECTIONS
To Open—Take hold in center of both sides and pull evenly.
To Close—Press in from the center of both sides evenly.



Showing Bracelet Open

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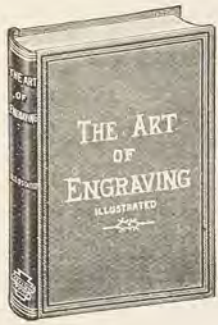
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(Continued. Part XLIII. Begun in March, 1903)

Initials for Ciphers

In considering the subject of ciphers it is our first duty to learn the correct form of letters for such work. The cipher initial varies from the regular script letter which we have illustrated and described, in reference to the loops more particularly. The letters, of course, in ciphers are usually vertical and are made with all loops complete, and wherever a loop can be made on the letter it is made complete. The letters are usually made a little fuller than the regular script, an illustration of which is shown at Fig. 172, August, 1906, issue, where we show at *L* the monogram style of B, and at *M* the regular style of the same letter. The student will observe that it will be an easy matter to entwine script letters made in this manner. The trouble with most of our engravers, who have not been taught the art thoroughly, in doing monogram cipher work, is that they have not the correct form of the initials. If the student will bear in mind that the letters are all to be made with all loops complete, and a little fuller than the regular letter, and vertical as shown and illustrated at Fig. 172, he will experience little difficulty in entwining the initials. We will first consider entwining, and then proceed to complete cipher work.

We will first entwine the initials in what is called running or entwined script. We begin by making the first letter complete; then the second, and hook it into the first as closely and at such points as the form of the letter will make convenient, illustration of which is shown at *N*, Fig. 172, where we have the initials B, M, R, entwined in what is known as running or entwined script. The engraver, in learning cipher or script monogram work, should practice designing initials in this manner until he has become so skilled in the work that he can entwine them as rapidly as he could design them separately. Then the student should commence closing the letters up, and by so doing gradually work into a regular monogram.

At *O*, Fig. 172, we illustrate the same letters designed closer together. Of course, it requires some more skill to design the letters as close as this which makes what we might term a cipher or script monogram, yet the same initials can be made more compact than here shown, and can be engraved after the same style, either round, oblong or full in design.

Specimen Showing Completed Capital

At *P*, Fig. 172, we show a complete cipher of the same initials. Now the student is especially cautioned in reference to engraving a complete cipher at the start. He should have patience in the work and practice after the style shown at *N* and *O*, Fig. 172, until he is complete master of any initials that he may desire to engrave in this design before he attempts to set them as close together as shown at *P*, Fig. 172. The trouble with most of our monogram engravers is that they are not sufficiently skilled in designing, thinking that the great test of skill is in the cutting. There is really more skill required in laying out the cipher after the style here shown than in cutting it. For this reason the student is advised to diligently practice designing.

This work can be done in the evening, or at such leisure time as the student may have outside his regular business or studies. One who will practice the designing of ciphers diligently will experience little difficulty in mastering the art providing he follows the plan here described. It confuses a student very much if he launches out from plain letters into complete monogram as shown at *P*, Fig. 172, at first; while if he will practice entwining the initials as described and shown at *N* and *O*, Fig. 172, he will gradually master the work before he realizes it, and the work as he advances will seem much easier to accomplish.

After the student has become familiar with designing the ciphers, he must consider the method of cutting them. We have

said in the early part of this work that in cutting script letters the graver should always be thrown out in the center of loops or at the top or bottom of a loop. In monogram engraving this advice in reference to script is to be ignored. Indeed, it is almost impossible to lay down any set rules by which the student can be guided. One of the most important points to be borne in mind is the method of procedure after the monogram has been designed. If it is a large one the monogram should be scratched on with a stylus very delicately, so that it could be easily polished off if it were necessary to do so.

Some engravers will commence a monogram by beginning at the extreme right of the last letter and work to the left, and others will begin at almost any point convenient for them, which is entirely wrong. We should go about our work systematically in order to insure a successful end. We should start a monogram by commencing at the beginning of the first letter at the left and cutting the loop of said letter around to that point where it may cross another loop, or where said loop terminates in a line of beauty; and if said line of beauty have a loop of another letter curving around it, we should, when arriving at that point, throw out the chip in front of the graver, stop the cutting of the loop or line and cut the loop around the line. In other words, loops should be cut first where they curve around vertical or angular lines. This is necessary, as a loop is more difficult to cut than a straight line, and usually in a hair line, where the vertical or angular lines getting nearly straight are shaded, if a shade stroke were cut first, a loop around the shade stroke would have to be cut by cutting up to the shade stroke, then throwing the graver out and raising it across the incision of the shade stroke, inserting it on the opposite side and continuing the curve of the loop around in this manner. By proceeding in this way it will be an easy matter to make a letter untrue. In other words, it is difficult to insert the graver on the opposite side of an incision where it has been previously thrown out, and begin it so as to curve around on exactly the same arc as the line on the opposite side of the incision.

The student must not misunderstand this point and get the idea that it is his duty to cut all loops first. It is only his duty to cut such loops as come in contact with the vertical and angular portions of the first or any other letter that he may be cutting. After he has cut such loops, he then proceeds with the letters in rotation and cuts as far as he can without coming in contact with other loops. Whenever a loop crosses a shade stroke, or vertical stroke, or a stroke nearly vertical, such loop should be cut first—whether it is the first, middle or last letter of the monogram. By doing the work in this way our loops are cut by a continuous stroke, it not being necessary to throw them out in the center or at the top or bottom. Thus the highest degree of accuracy is attained.

Letters on Spoon Handles and Locketts

At *E*, Fig. 172, is illustrated a spoon handle, such as has been previously mentioned, with a cipher engraved thereon, with the initials L, T, P. The illustration is intended to show the student how a little cut at the top and bottom of the monogram will add to its beauty, and also to show the student the size the monogram should be for a spoon handle or a space on a spoon handle. It is not to be understood that such little cuts as are shown at the top and bottom of this monogram should always be made, but in a space at the top and bottom such as this, the engraver will see that such cuts add to the beauty of the monogram and make the work appear more complete.

At *F*, same figure, we illustrate a two-letter monogram, showing how a loop of a B can swing down under the E and the first portion of the B in order to fill in the space below, it being formed in such a way that the little cut at the bottom will fill in the space below the monogram after the style shown at *E*, same figure. Monograms are sometimes engraved on spoon handles horizontally, but usually they are engraved vertically, as here shown.

At *G*, Fig. 172, we illustrate hanging initials. This style of entwining letters on spoon handles is very popular and is not difficult to do, and the student who will practice this class of lettering will find that he can, after a little experience, throw the letters together in this way as quickly as he can design them perfectly plain and separately, and he will also find that this class of lettering will please his customers much more than the plain letters. It would not be safe to say that this class of work could be done as quickly or quite as easily, but the difference between the amount of time and skill required to do the work and the plain letters is so slight that it is advisable in most cases to engrave spoons, where they are sold singly, after this style, unless otherwise ordered.

(TO BE CONTINUED)



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Safeguards for the Store

(Continued. Part IV)

If the wires have to be spliced, they should be well soft-soldered, if possible. Bare each wire for a couple of inches from the end, twist them around each other like two corkscrews run together endwise, and fill the joint thoroughly with solder. Wipe off the soldering solution clean, then wipe with an oily rag. Cover well with paper, then wind rubber tape over the whole splice.

Parallel wires should be at least half an inch apart, and may be put under hollow mouldings, or simply held in place by wire staples driven into the wall. But no staple should ever be used to hold more than one wire, as it will lead current from one wire to the other. Do not let the wires come in contact with gas and water pipes, columns, girders, and other metal, as that would cause escape of current. When the wires pass over metal, extra insulation should be put under them, and care taken to prevent rubbing and injuring the insulation.

When wires are run out-of-doors, as with telegraph and telephone lines, steel or iron wire is used—generally about No. 10 galvanized wire. It is to be strongly supported wherever necessary on glass insulators, in the well-known style of telegraph lines. The spans may be 200 feet or more between supports. In this kind of work the jeweler will do well to employ skilled help, as previously remarked. Special arrangements (such as hard rubber tubes, etc.) are also necessary where the wires enter buildings, to secure proper insulation. You can have a line run between your house and store, with a bell and push button at each end, so that you can be called from the house when you are at the store, and vice versa. And anything wrong at the store in the night will automatically give an alarm at the house.

For these long lines a battery is used at each end, *i. e.*, both at the store and the house. For lines less than one mile long, 6 cells in series, at each end, may generally be considered sufficient. But if the bells ring too feebly, more battery should, of course, be used, and vice versa. The cells must all be arranged in the same order (zinc pole of one to the carbon pole of the next), at both ends of the line, the same as they were all together. For long lines only one wire is used, the earth being utilized and saving the cost of return wire.

Fig. 12 will illustrate this system. At each end of the line is a bell *A*, battery *B*, and a key *k*, for pressing to give an alarm. This is a "double-contact key." Its principle is shown in the cut, but

there are many forms of it. The spring *l* (see Fig. 5 and description), in its normal position, presses against the metal strap *c*, over it, and there is an electrical connection from *l*, through *c*, and its wire, to the ground, marked *G*. When the key is pressed down, by bearing on the knob *k*, the spring *l* leaves

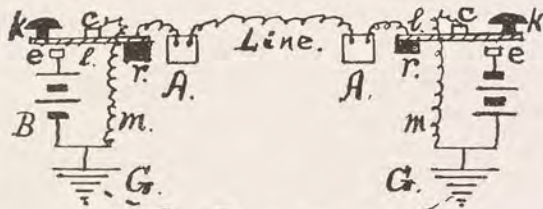


Fig. 12

c and is pushed down in contact with the point *e*, which is connected by wire to one pole of the battery *B*, the other pole being connected to ground at *G*.

Whenever the left-hand key is pressed down, therefore, a path is opened for the current to flow, from battery *B*, through *e* to *l*, then through the bell *A*, and over the line to the other end or "station," where it flows through that bell, and rings it, then to *l*, to *c*, through the wire from *c* to ground at *G*, then through the earth to the first station, as indicated by the dotted line from *G* to *G*, and through the wire from the latter to that battery, thus completing the circuit. When the other key is pressed down the same thing occurs, only the current comes from the other battery, but the same letters will show its course. No matter which key is pressed down, both bells ring.

It will be observed that the battery is in use only while a key is pressed down. At all times the current flowing over the line has a path to earth at each end, either through the battery or through the wire from *c* to *G*. But no current can flow from a battery unless its key is pressed down. One pole is permanently connected the ground *G*, but there is a break or opening between its other pole and the key, so that no current can flow till *l* touches *c*, and thus provides a complete circuit for it to flow through. Each station uses its own battery and sends its current over the line. If both keys were pressed down at the same time, both batteries would be called into operation at once, and the bells would ring very loudly.

If desired to have it arranged so that both bells would not ring, but only the bell at the other station from the person calling, it can be very easily done by putting the bells in the earth wires between *c* and *G*, as indicated by the letter *m*. If the bells were at *m*, it is evident that, when a key was pressed down, its own bell would be cut out of the circuit, by the break between the strap *c* and the spring *l*, preventing any

current from flowing through that way. The current would flow over the line and through the distant bell, however, first to *l*, then to *c*, then through its wire to *A*, and to ground at *G*.

But it is generally better to have both bells ring whenever a key is pressed down, as it informs the caller whether the line is in good order or not. Then, if he should press down the key, and his own bell did not ring, he would know that his current did not get through the circuit for some reason, and something must be wrong about either the line or the apparatus and connections, and he would set about discovering where the trouble was. But by the other arrangement, he might press the key down and suppose that the distant bell was ringing when it was not. And he would have no means of telling whether it was or not, if his own bell was not arranged to ring with the other one.

When this system is used as a night-burglar alarm, the bell at the store could be put in the line during the day, so that both bells would ring. At night, when closing up, that arrangement could be used for sending a call to the house, to see whether everything was in working order. Then the bell could be taken out of the line and put into the ground wire at *m*, to remain so during the night. Then, if burglars set off the alarm, the bell at the store would not ring and frighten them away, but give the proprietor a chance to get help and capture them before they knew that any alarm had been given.

Window Burglar-Alarms

One of the most valuable electrical safeguards is the window spring. This is a sort of push-button or key so arranged that if the window is opened an alarm is automatically given by the window itself, the same as by pressing the button or key by hand.

Fig. 13 shows one form, *b* being a base-plate which can be screwed to the window frame in any convenient position, say, let into



Fig. 13

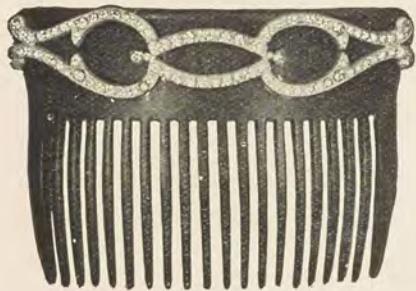
the frame in the groove just above the lower sash—*r* is an ebonite block to hold the spring *S*², which is, consequently, insulated from the other parts. *S*¹ is another spring, fastened at one end to the base-plate *b*, while the other is near to but not touching the spring *S*². The middle part of *S*¹ projects out through a slot in the base-plate, as shown, far enough to rub against the window sash when it is raised.

The sash, when rising, presses against the bow of the spring *S*¹ and forces it down

(Continued on page 1549)

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Safeguards for the Store

(Continued from page 1547)

so that it touches S^2 . The current can then flow from wire w , through b and S^1 to S^2 and out through the wire w^1 to the bell or bells, the line and the rest of the circuit. The bell continues to ring as long as S^1 is pressed down, *i. e.*, pressed through the slot of the base-plate and into contact with S^2 . This arrangement serves as a break in the circuit, which prevents current from flowing, and the object is to place and arrange it where the sash will be sure to bring S^1 and S^2 into contact whenever it is raised. The wires w and w^1 are the usual circuit wires, and must be connected to S^1 and S^2 by clean and tight contacts.

Fig. 13 is but one form, which costs 25 cents apiece. Another has a rubber roller instead of the projecting bow in the spring S , which revolves and avoids wearing the spring by the sash rubbing over it. Many other forms are sold by the dealers in electrical supplies, and the jeweler could doubtless invent something of his own, if so disposed, to suit the conditions in his own case. The form shown allows the upper sash to be lowered for ventilation, without giving an alarm. But if it was necessary to protect that also, a similar spring could be placed below the upper sash. A modification of this would be to let the spring into the window frame in front of the sash, instead of at its side, and to screw a projecting lug on the sash, which, in passing the spring, would press against the bow of S^1 , and force it inward, as just described.

Another way would be to fix a spring on the top of the lower sash, to be operated by a projecting lug on the upper sash. Then, if either sash is moved—the lower one moved up or the upper one lowered—the alarm will be given. Many other arrangements will occur to the ingenious workman, as the idea is perfectly simple—there are two springs or pieces, which are normally insulated from each other by the rubber or ebonite block. No current can pass till these springs are forced into contact. The object to be accomplished is to so arrange the parts that, if the window sash (or any other object protected) is moved, the springs will be brought together. Of course one circuit wire is connected to one spring, and the other to the other spring or part.

The remainder of the circuit (including the battery and bells) can be arranged in any of the ways previously described (see Figs. 1, 2, 10, 11, 12), by substituting this spring device in place of the push-button, keys, etc. The wire w is run from one pole of the battery, say the positive pole, and w^1

from the negative, to every room where a window (or door) is to be protected, and one spring at each window is connected to w , the other to w^1 . When there are several windows or doors protected in a room, all the wires from spring S^1 are connected together and to wire w , and all the wires from spring S^2 are bunched and connected to w^1 . In a residence, where a number of rooms are to be protected, an annunciator should be used, to indicate which room the alarm comes from. But in a store that is not necessary, as, in case of an alarm being given, the proprietor would at once go to the store and see for himself what the trouble was. When a dealer lives in the same building as the store, or adjoining, this system will be an almost perfect protection from robbery during the night.

Equalizing the Resistances of Branch Circuits

When the alarm is to be given at the owner's house or some other place at a distance, the directions just given for long-distance call systems should be followed. When the bell is on the same floor or in the same building, the instructions in previous articles, especially article IV, will tell how to arrange the circuits. If more than one bell is to be rung at the same time, arranged in parallel—say, one in the back shop and one up-stairs or in the adjoining building—the branches or parallel circuits between w and w^1 should have *equal resistances*, so that the same amount of current will flow through each cross wire. Otherwise, one branch might not get current enough to ring its bell, and the other might get too much, causing too much sparking and burning at the contact points.

A good way to equalize the resistances of two (or more) bell circuits is to consider the most distant bell as the standard, and make the resistance of the nearer bell circuit the same as that. This is done by taking the length of wire (same size) by which the former exceeds the latter, wind it into a coil or hank, and make it a part of the circuit of the nearer bell, so that the current will have the same length of wire to go through in both cases. For instance, in Fig. 11, suppose that only bells 1 and 3 are in use, and 1 is much farther away than 3. We take as much wire as will reach from the cross wire of bell 3 to that of bell 1, on both sides, and make it into a coil to be inserted in the cross wire of bell 3. Anybody can do this, without calculating or knowing the resistance of the wires. Thus arranged, each bell will get the same current from the battery and ring alike. Of course, when the wires are short, say less than fifty feet, it will not be really necessary to make this adjustment of resistances.

(TO BE CONTINUED)

Gems in California

Never in the history of California, says a San Diego journal, has any one county faced a greater future than that which looms before the county of San Diego. Time was when our back country attracted little attention. Now it is one of the industrial wonders of the far west.

Practically all this great change has come over us since the government census was taken in 1900. Simultaneously with the discovery of kunzite and other gems in the mountainous regions to the north and north-east of the city enterprising men and corporations began the exploitation of Imperial Valley. The development of the county along these lines has been remarkable during the past five or six years.

Where, but a little while ago, there arose bald and rugged mountains, apparently good for nothing, are now located wonderfully rich gem and mineral deposits from which tourmalines, kunzite, beryl, hyacinths and lithia are extracted in great quantities. The attention of the world was directed San Diegoward when in 1892 it was announced that a new gem, the first in fifteen years, had been discovered near the historic old village of Pala. Other gem mines were located in the same region as well as in Mesa Grande, Rincon, and other ledge-bearing sections of the county. So great has been the gem industry that San Diego county found little difficulty in walking away with the best medals at the St. Louis and Portland expositions. This county is now regarded as the treasure-trove of Uncle Sam.

More Trouble

A clerk in one of the leading Washington jewelry stores was showing his line of clocks to an Irishman who wanted to present one to his wife on the third anniversary of their marriage. The salesman had exhausted all of his stock except some cuckoo clocks on a shelf near by. The Celt asked to see them and the clerk took them down, thinking that at last he would make a sale. After telling Pat the price, the latter asked if they struck the hours. Instead of answering directly, the clerk wound the timepiece and set the hands at a few seconds to twelve. As the little door opened Patrick's eyes bulged with interest, but when the chirping ended he plainly showed his disapproval. The man behind the counter, not to be daunted, said:

"Well, how do you like it?"

Pat thought a moment and then replied: "Faith an' it's all right, except on one point. It's trouble enough to remimber whin to wind it without havin' to think of fadin' the bird."



U. S. Mint, Philadelphia

THE UNITED STATES GOVERNMENT ACCEPTS



at its mints and assay offices, large consignments of old gold, refines same and remits proceeds by express.

About 6 to 8 days' time is required to get returns from which refining and coinage charges are deducted and return expressage to pay.

The value placed by the U. S. Government on a consignment is absolute and final, from which there is no recourse.

Wendell and Company accept at their assay offices and refineries small lots of Old Gold (\$1 to \$250), remit full value at once by draft, before refining, and hold consignments until valuations are accepted.

If there is any doubt about the valuation placed upon a consignment by them, it is immediately returned in its original condition, express charges prepaid.

Their large business requires complete assaying, smelting and refining departments. They handle without additional expense and use in their own factories all old gold and silver consigned to them. The difference in the value of old gold (before refining) and fine gold (after refining) is their profit, which is very much smaller than it would have to be if they conducted a separate refining business with a large investment in plants and expenses ranging from 15 to 25 per cent. of the value of old metal received.

THE UNITED STATES GOVERNMENT DOES NOT BUY OLD SILVER

It accepts same for refining, and returns the fine silver in bars, less the refining charges, by express.

Wendell and Company buy old silver outright at the full market value, which is governed by the price of fine silver.

DO NOT PAY YOUR BILLS WITH OLD GOLD OR SILVER

Sell it to Wendell and Company for full cash value and pay your bills with the returns. You will save much by so doing. Most of the firms that take gold and silver on account do not use it themselves; nor have they any means of ascertaining its exact value, but depend on others, who place a value on it that will afford two profits.



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57 Washington St.
Chicago

The Flat Polishing of Steel

By F. R. CUNNINGHAM, Boston, Mass.

[An abridgment of this paper was delivered before the New England Watchmakers' Club]

Part II

The art once learned you will have no further use for Vienna lime or any other sloppy method of polishing. After the "knack" is once acquired, it will not be found necessary to use the bread on every little job, such as end-stone caps, screw heads, etc. Frequently on end-stone caps a good polish may be quickly had by simply laying it on the lap and moving it by means of the clean rubber tip of a lead pencil.

Many small articles, such as regulators, may be quickly polished with sapphirine by laying on a cork held in the vise, first grinding with a strip of ground glass and oilstone, or a flat Arkansas stone slip, cleaning carefully, also a clean cork and applying a bell-metal strip with a "dim" of sapphirine. The bell-metal strip should be filed flat and stoned smooth with a Scotch stone, clean carefully and finish with a tin strip. A tin strip may be made for this purpose by melting tin onto a brass strip, as described for the lap. It may be provided with a handle like a file. Diamantine may be used the same as sapphirine, with satisfac-

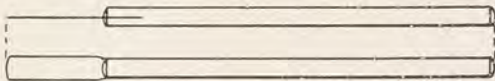


Fig. 5

tory results, but it is not quite as quick in its action. It will be noticed that it is recommended to move the work on the tin lap as nearly as possible in straight lines. This is correct. You will, I think, find that a deeper black polish is produced than will be the case if the work is moved with a circular stroke. It is true that a polish when highly magnified is seen to consist of exceedingly fine lines crossing and recrossing, but these lines are of such fineness that they are crossed even when we move the work as straight as possible by hand. Anyhow, if you follow these instructions success is yours. A small spatula, shown in Fig. 5, is very convenient for mixing the polishing material.

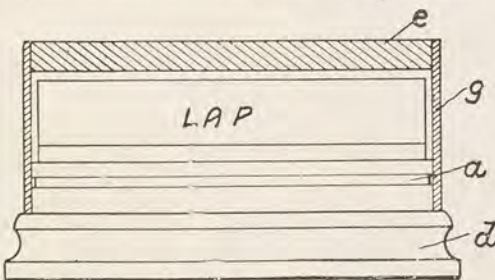


Fig. 6

It consists merely of a piece of brass wire $\frac{1}{8}$ " thick by about 3" long, with a slit sawed in one end and a wide piece of mainspring inserted and soldered in place. The end of the steel blade should be somewhat curved, as shown, and ground down quite thin but not sharp. Do not use the same spatula to mix the oilstone powder. Every precaution must be taken to avoid the presence of grit of any kind in our polishing material.

A very convenient case for our tin lap is shown in Fig. 6, the cover being shown in section. It is simply a wooden block turned as shown, the upper surface being provided with holes to receive the

screw plug and legs of the lap. The groove *d* in the base is to afford a hold for the fingers in lifting it. The groove *a* is for the reception of a few turns of common cotton string which completely excludes the dust when the cover is applied. The top *e* of the cover may be made of wood and the sides *g* of several thicknesses of tough paper glued together, or the cover may be made of metal. When we have such a case, in using the lap, we remove the cover and leave the lap in position on the wooden block, as it affords a stable base and is convenient to handle. A substitute for the scraper shown in Fig. 2, may be made by softening the ends an old 5" flat file and bending about $\frac{1}{2}$ " of it at right angles, file up the angles as shown, harden and temper.

Polishing Round-Bottom Recesses

In finely-finished steel work, involving screw holes, there is usually a round-bottom recess around the hole, as shown in Fig. 7. To be able to finish these quickly yet perfectly, is very desirable. It should be the ambition of every real watchmaker to be able to finish his work equal to the very best. To polish these round-bottom recesses with the utmost ease, we will need the simple arrangement shown in Fig. 8. It consists of a steel center fitting the tailstock spindle of our lathe, the projecting end being about $\frac{5}{8}$ " long and be turned down straight and $\frac{1}{8}$ " diameter, and the end should be hardened and ground smooth, with a pulley made of brass and a running fit on the outer end of the steel cutter. The hole goes entirely through the pulley, the outer end of which is covered by a steel disk having round-bottom countersinks in its outer face. These countersinks are disposed at varying distances from the center, as shown at *a*, Fig. 8. The steel disk may be attached to the pulley by soldering or by screws, as shown. In making a new piece of work we would countersink the holes when the steel was in the soft state. The wheel countersinks which may be bought are suitable for the larger sizes; for very small holes we may make them of the shape shown in Fig. 9, which is simply a piece of steel wire with the end rounded, hardened and tempered and then slightly less than one-half the diameter ground away. Countersinks made in this manner do perfect work. The laps used to grind and polish out these round-bottom recesses are pieces of brass wire about $\frac{3}{4}$ " long, rounded at one end and pointed at the other, as shown at Fig. 10. Of course, the rounded end must fit the recess we intend to polish. The pulley is driven by a small belt or cord from the countershaft. We will now proceed with a job. The work is cemented up in a lathe, with the recess we propose to polish centered. We then apply a small quantity of oilstone dust and oil to the rounded end of a suitably-sized brass piece, Fig. 10. With the tailstock in position carrying the pulley we move the spindle forward until the pointed end of the brass piece rests in one of the eccentric round-bottom countersinks in the face of the steel disk on the pulley. In the beginning we will use a hole quite near the center. The belt from the countershaft which drives the brass pulley should be crossed so

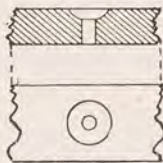


Fig. 7



Fig. 8

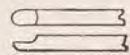


Fig. 9

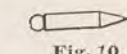


Fig. 10

the motion will be opposite to that of the lathe spindle. When we have the brass piece in position we gently press the tailstock spindle forward while we impart motion to the work and the pulley. It will be seen that as the outer or pointed end of the brass piece is carried in a circle around the lathe center, and the rounded end remains at the center, the result is a movement of the rounded end in the recess we are to finish, which rapidly grinds it out smoothly and of perfect form. When ground to our satisfaction we will wash away the oilstone powder with benzine and with a knife we scrape the rounded end of the brass piece to remove any oilstone dust that may be imbedded therein, apply a little sapphirine and oil and proceed as before. A very few seconds is sufficient to bring up a satisfactory polish. It is not necessary to use such exceeding care in this operation as in flat polishing. Unless the recess is very large a third or fourth rate polish on a concave surface really looks first-class. A small piece of tinfoil pressed down with the fingers over the rounded end of the brass piece serves a good purpose when we come to the sapphirine on jobs where we desire a really excellent finish. Those having a pivot polisher may fix the steel disk to the end of a lap. All things considered the little device described is most convenient, as the tailstock spindle is always on the center line, where if we use the pivot polisher we have to adjust the spindle on the center line. If the tailstock spindle moves very hard, it is best to wipe it dry, also wipe out the hole with a strip of chamois skin by drawing it through; closely fitted sliding spindles move easiest when dry. Keep them oiled when not in use.

It will doubtless be noted that many details are omitted in these articles. It is the writer's intention to give details necessary to the success of the work in hand. The articles are addressed to men having some knowledge of watchmaking and mechanical processes. However, should there be any points upon which any reader would like further information, it will gladly be given.

In our next we will consider the poising of balances, discussing the relative merits of the parallel jaw tool versus the caliper more fully perhaps than it has been done before. We will explain just why a poised balance will rotate in the caliper when the caliper arm is slightly rubbed. We will show that there is no sliding friction when the balance rotates, and a new design in poising calipers having some very decided advantages over the ordinary type.

(TO BE CONTINUED)

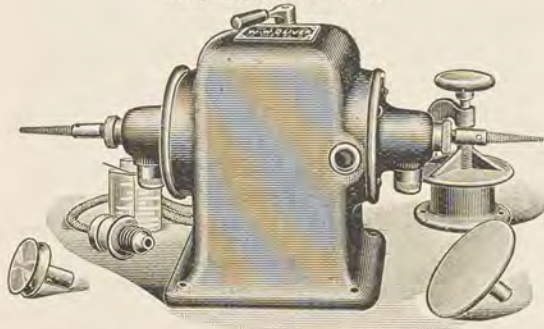
Phonograph Post-Cards

To enable people to send their voices to their friends through the mails, is the ambition of three French inventors, who have united their ingenuity in the production of a wax-like material called "sonorine," which may be spread upon a post-card. Spoken messages may be impressed upon the prepared cards by placing them in a phonographic apparatus, into which the sender speaks, and the receiver of such a card has only to put it through a receiving phonograph in order to hear the voice of his friend as in a telephone.

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The Jewelers' Motor Polishing Heads

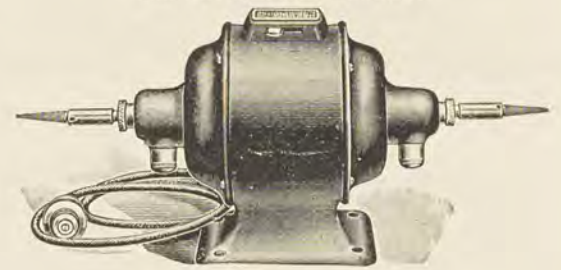
FOR DIRECT CURRENT



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

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

FOR ALTERNATING CURRENT



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

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

HAGER & HETSCH
Manufacturers of Fine Jewelry and Diamond Setters

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

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

Very respectfully,

Louisville, Ky., Jan. 9, 1906.

HAGER & HETSCH.

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

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If worn or damaged, return to me with 25c. You will get it back with all the latest improvements

CULMAN BALANCE CHUCK



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

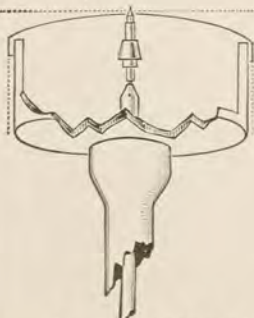
OVER 1000 SOLD THE FIRST YEAR

Tom says "It's worth its weight in gold."
Dick " "It's worth five times its cost."
Harry " "Just what he has been wishing for."
Bill " "As good as a wax chuck and ten times quicker."

Above are extracts from letters received.

ORDER FROM YOUR MATERIAL JOBBER
Good value and one price to all, \$3.50

Cut shows how the complete balance is placed in chuck. You have the work in front of you on your bench. No twisting of balance, hairspring or your neck to get it in place.



This cut shows

- The staff held between centers.
- The bulge of front plate from tension.
- The new style front plate, snapped on (no edge).

The only way for practical watchmakers who want to do fine work, good, fast and safe.

No watchmaker who adjusts watches to position can afford to do without one.

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Learn Engraving



Ability to Engrave makes money every hour for the Jeweler who does his own work.

A watchmaker who can also engrave has twice as many positions (always open to him) as one who knows nothing about engraving.

We teach engraving by methods entirely our own; many of the finest engravers of to-day have mastered the art in our school.

Write for information and catalogue; you will be surprised at the quickness with which we can teach you engraving.

THE EZRA F. BOWMAN TECHNICAL SCHOOL
OF WATCHMAKING AND ENGRAVING
Lancaster, Pennsylvania



Subscribers wishing inquiries answered in this department must send name and address—not for publication, but as an evidence of good faith. No attention will be paid to anonymous communications. Questions will be answered in the order in which they are received.

An INDEX to the questions answered in Workshop Notes department for each year accompanies each December number. Subscribers are requested to preserve these indexes, and, before mailing questions, to refer to them, as similar questions may have been answered in previous issues. These indexes are arranged alphabetically, according to subject covered in each answer, and tell the issue and page on which the information may be found.

"Cracked Dials."—*I have several watch dials which are cracked, and the cracks get filled with dirt. How can I remove the dirt? Is there any cement which can be filled in to keep out the dirt?*—A well-worn cleaning brush can be used to wash out the dirt from the cracks in hard watch dials; the dial should be held in the left hand and the fingers and thumb so disposed as to spring the dial in such a way as to open the crack as much as possible and not endanger its breaking. The brush should be perfectly clean and used with warm water and soap. If you will examine the bristles of a well-worn brush with a magnifier you will see that they come to delicate points, which enter the crack and remove the dirt while the crack is opened as wide as possible by the strain put upon the dial. We know of no cement which is used to fill up such cracks—you might try white celluloid dissolved in a mixture composed of $1\frac{1}{4}$ ounces of alcohol and $2\frac{1}{2}$ ounces of ether. The dissolved celluloid contracts greatly on drying; but one might succeed in filling the cracks in a dial by tying such dial to a piece of board in such a way as to open the crack as we did in the operation of washing, and while the crack is distended paint said crack over with the white celluloid solution, which should be allowed to become as thick as it will work. After the celluloid is dry, shave off all excess above the crack with a sharp knife. If now the stress on the dial is released and it springs back to shape, the crack should be filled with white celluloid.

"Dark Green."—*Will you kindly inform me how the dark green or black finish is produced on optical instruments? If there are several methods please give me that which affords the best service.* We presume you mean on brass instruments, although you do not say it, and will answer you with this understanding. As you remark, there are many substances which give a dark olive-green, approaching black, on brass. The best and most durable dark green color on brass we have seen is produced by boiling the brass parts in soft soap, to which a little sulphate of copper (blue vitriol) and sal ammoniac have been added. Soft soap is a potash soap made of rancid oils or animal fats. Brass articles so bronzed stand handling well without lacquer, but they should in no instance be subjected to such a test. The best lacquers are the celluloid lacquers, made by dissolving celluloid in amyl acetate (pear oil). Gun cotton can be dissolved in the same solvent and forms a hard, transparent lacquer. The most permanent black on brass is obtained by first dipping the brass article in a solution of nitrate of mercury and then into a solution of liver of sulphur.

"Barrel."—*The barrel of an English fusee watch runs untrue, how can I true it up?*—Usually such barrels get out of true from the mainspring breaking and spreading the barrel. To close in a barrel of this kind, a block of brass with several countersinks in the form of hollow cones, and known to the trade as Clackner's barrel-closer, is the tool to use. To use one, remove the barrel cover and mainspring and place the open side of the barrel downward in a recess in the brass block. The barrel should not go to the bottom of the recess, but rest against the flaring sides of the sink. There is a disk, with a handle, which belongs with a Clackner tool, said disk being placed on the bot-

tom of the barrel. A hammer is applied to drive the barrel into the flaring countersink, which closes it (the barrel) in and reduces it to the normal size. If the barrel cover has been stretched to make it fit the spread barrel, it must be reduced in size so as to fit the barrel after it is closed in. Truing a barrel of this kind is a job which requires some experience and a good deal of patience. To true one, first put in the barrel arbor, and then, by compressing the barrel, reduce the end shake as much as possible. Attach a pin-vise to the square and test the barrel as to its being true in the flat. To bring the barrel true, stretch the cover on the side running high, and, if necessary, file the edge of the cover opposite to where you stretch it. Usually, the stretching will still allow the cover to snap on. If the holes for the bearings are worn badly, and the bearings on the arbor is also worn, smooth up the arbor bearings, and, after closing the barrel in a Clackner tool as above directed, screw a bush in the barrel and another in the cover, insuring their security with soft solder. Place the barrel in a step chuck, bore out the holes a trifle small, so as to finish with a reamer, and you will have a perfect job. If you have no Clackner tool, bore out a taper hole in a thick sheet of brass and drive the barrel in with a round piece of wood cut square across at the end.

"Breakers."—*I have had several mainsprings break on my hands recently after being repaired. As yet I have not made any charge for the springs to my customer, but they are coming pretty thick of late and I feel that I should get at least half-price of the spring. Please state what you would advise in such cases. The repairs I am referring to are such as cleaning, pivoting, jewelers, etc., when a new spring was not put in.*—What you should do is to try to find out what causes the mainsprings to break. As you have had quite a number to break, it looks as if the fault lies with you. Nothing will break a mainspring quicker than being put into the barrel with sweaty fingers or forgetting to oil it. As far as charging for a mainspring is concerned, that is a very delicate question to handle. Every jeweler must handle each case separately and on its own merits. For example, if you have just repaired a watch and the charges were \$2.50 or \$3, and after two days the mainspring should break, the customer being one of the cranky kind, rather than lose his trade or have his ill will it would be better to put in a new spring and say nothing. On the other hand, if you have a customer you can reason with, charge him for the mainspring—that is, if you feel sure that it was not your own fault. The following "Mainspring Don'ts" compiled by the Waltham Watch Company, should be carefully observed by every watchmaker: Don't fail to provide yourself with the best mainspring winder than can be obtained. See that the hooks on all arbors of the winder are no longer than the thickness of the thinnest spring, and thus avoid kinking, and therefore unnecessary breaking of mainsprings. Don't use a mainspring that is too long, because it fills the barrel and prevents that part, or the mainwheel, from making the required number of revolutions, with the consequence that the watch will not run as it should after each winding. Don't use a mainspring that is too strong, because it will set, increase the percentage of breakage and injure the watch. Don't use a mainspring that is too wide, and be sure that the tip and brace do not extend beyond the limits of the cover and barrel. Don't forget that a mainspring should not occupy more than one-third the diameter of the barrel, thus leaving two-thirds to be divided between the arbor and the winding space, to enable the watch to run about thirty-six hours. Don't expect a mainspring to be flat if you put it in the barrel with the fingers. This method usually injures the spring, gives it a cylindrical form, and thereby increases the friction in the barrel. Don't bend the inner or outer end of the mainspring with flat-nosed pliers, but provide yourself with specially made round-nosed pliers which will give a circular form to these parts, prevent short bends, contract the inner coil, and thus secure a closer fit to the barrel arbor without injuring the spring. Don't expect other than a properly-fitted flat mainspring with rounded edges to produce the least friction in the barrel, allow the greatest amount of power to the train, and give the best results as to time, service, etc. Don't expect a mainspring to always endure extreme

changes in temperature, or electrical disturbances, or straightening at full length, or neglect from lack of cleaning and oiling. Don't expect a watch that needs cleaning or other repairs to run satisfactorily by merely putting in a new mainspring. Don't expect a mainspring to plough through too much dirt.

"Newbal."—(1) *Will you give me direction for putting in a new balance staff?*—This question has been answered quite often in this department. Consult the index that accompanies each December issue.

(2) *Would you advise putting in a new staff when one pivot is broken?*—This depends upon the make and model of the movement. If a new staff cannot be bought, then I would pivot it; but if it is an up-to-date American movement, a new staff is the proper thing.

(3) *What kind of calipers would you use in truing a wheel, those that are jeweled or not?*—Use a figure 8 caliper with steel ends that holds the pivot by the cone. See answer to "Trubal" (No. 2) page 1347, August, 1906, KEYSTONE.

(4) *Would you advise using soft pivot wire in putting in new pivots, so as to be turned easily? I have trouble in turning hard wire. How would you temper the pivot after it is in?*—Never use soft wire for pivot plugs. Get a package of Robert's gold-eye needles; they are good ones. Take a needle and draw it to a good blue, when you will find it will have the proper temper and can be filed and turned with tools in proper shape.

(5) *I have just received a new bottle of clock oil (Nye's) and it is red. Will it do to use?*—Good clock and watch oil is too cheap to use poor oil. Get another bottle and order it from some other material house. More damage is done to oil by allowing it to stand around in the sun and light than in any other way.

"Friction."—*Many thanks for your advice in regard to clock pallets. I intend to have some one cut the pallet stones and make the balance of it myself. Should pallet stones be set with shellac like the pallet of an American watch, or are they made like Swiss watch pallets? Please give me a few brief hints by mail if possible.*—If we were changing the steel pallets for jewels we would make a new pair of steel pallets and have the steel thick enough to allow them to be slotted and the jewels set in friction tight or clinched the same as the pallet stones are set in Swiss watches.

"Teeth."—*For three years I have had the care and repair of a 16-size, 20-jewel Vacheron & Constantin high-grade movement. It came in recently because of stopping, which was caused by a slight accumulation of red oxide on pallet and roller jewels. The teeth of the steel escape wheel are beveled down very thin on the edge. It has a triangle roller jewel with slightly rounded edge. The first time it came for repair a slight pit was worn inside of fork where jewel strikes. I polished out the pit, but it has reformed since. I did not neglect oil on the pivots, also dampened roller jewel with oil the last time previous to this, using good watch oil. Is it the kind of oil used or the kind and shape of escape wheel and roller jewel which prevents oil from remaining on jewels? I set stop work on barrel to use weakest part of mainspring. If spring was too strong, would it cause this oxide to form in time? It is one of the finest finished movements I have had and has a fine motion and a good rate when in order.—The cause is nothing more or less than the oil is poor or you did not put enough on. We think too little oil was used. The amount of power on the train would have nothing to do with it.*

"Chlorine."—*In making tin salts, I have experienced considerable trouble in dissolving the tin to advantage. Can you suggest a method for doing it?*—In making chloride of tin or "tin salts," the tin should be dissolved in strong, hot muriatic acid. The tin does not dissolve readily in dilute muriatic acid, and in strong acid the action is slow if the acid is cold. The tin should be granulated by melting it and pouring it into water.



I Will Guarantee to Increase Your Salary

if you will give us the chance to teach you Watchmaking, Engraving and Optics; increase it 50 per cent. It won't take long either, and we will find you a position to do it in. There is a greater demand to-day for good, practical workmen than there has ever been in the history of the jewelry business. We have ten positions for every graduate. When you have finished our course, you will be able to do more work in the same time than ever before; do it better; do it right; do exclusive work that you now can't do at all.

Remember, the kind of instructions that we give you cannot be had at any other college. Send for our prospectus. It gives full information, but do it to-day.

The Philadelphia College of Horology

F. W. SCHULER, Principal

Broad and Somerset Streets, PHILADELPHIA, PA.

Established 1894



The **WB & C** Glasses WATCH GLASSES

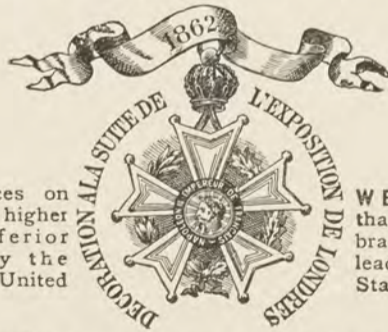


are known to be the BEST

They are guaranteed to be strictly first quality glass without bubbles or scratches



The only medal at the Chicago World's Fair for watch glasses was awarded to the W B & C brand.



The prices on are not higher much inferior sold by the of the United follows:

WB & C glasses than other and brands, and are leading jobbers States as fol-

Genevas	per gross, \$3.60
Mi-Concaves	" " 4.00
Mi-Concaves, Extra Thick	" " 9.00
Flat Parallels	" " 7.20
Lentilles	" " 12.00
Flat Concaves	" " 12.00
Flat Concaves, Extra Thick	" " 15.00
Patent Genevas	" " 7.20
Lunettes	" " 3.00



The only medal at the Paris Exposition of 1900 for watch glasses was awarded to the W B & C brand.

Over 25 Silver and Gold Medals awarded to the W B & C Glasses at the Different Exhibitions of the World Since 1826

Everybody knows that the W B & C glasses HAVE BEEN, ARE, AND WILL ALWAYS BE the leading brand of glasses in the market. Their finish, clearness, flexibility and correctness of size make them so that the leading jobbers in the United States will use no others at any price. Four-fifths of the case manufacturers are using them on account of their accuracy and perfect roundness. They used to buy a cheaper grade of goods, but soon found out the wisdom of the old proverb, "The Best is the Cheapest at the End."
WATCHMAKERS!! If you wish to save time and money and give good satisfaction to your customers (if you are not using them), try the W B & C and don't be deceived by bluffing and humbugging advertisements, showing, a lot of nonsensical figures. The W B & C glasses are in existence over sixty years, and during that time a great many brands have sprung up in one day, and never heard from afterwards. **IT IS A GOOD AND RELIABLE GLASS YOU WANT, WHICH IS THE W B & C**



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.

"Marine Chronometer."—What methods are usually adopted by chronometer makers in quickly determining the daily error of a chronometer, and in how short a time is it practically possible to determine such error close enough to comply with marine purposes? In determining error of chronometer for a vessel that remains in port but a few hours, what is the charge for same? Please give the address of some good chronometer manufacturer.—In determining the rate of a chronometer, we must first have a chronometer or regulator that keeps accurate time, also some means whereby we can get the correct time from the observatory at Washington. It is impossible to do much, if anything, with a chronometer that is left with us only a few hours, except to set it correctly and then let the captain note the error if he has any way of doing so. It takes at least two days to properly determine a chronometer's error. The charges for chronometer repairing and adjusting depends upon the ability of the workman. If you are thorough in this branch of the business you should not hesitate to charge a good price for your work; just what price we are not in a position to say. Thomas Mercer & Sons, of London, England, manufacture nearly all the modern chronometers that are used.

"Sketcher."—The enclosed sketch will perhaps explain itself. It is intended to represent a seconds pendulum. The bob is composed of two cylinders of iron and lead and attached in the middle to the rods which are attached to the cross-piece. I wish to know (approximately) the length of the zinc and of the steel rods that would produce compensation for temperature. Would also be pleased to receive any information or suggestions which might occur to you regarding the construction of such a pendulum.—The sketch which our correspondent sent us closely resembles a compensating pendulum made by the Seth Thomas Clock Co., a drawing of which can be seen in their movement catalogue. We cannot see how you intend to carry out your compensation by attaching the steel rods to the center of the lead bobs. A better plan is the method used by the Seth Thomas people. The compensating length of the zinc tube is between 22 and 23 inches.

"Allowable."—(1) In poising a balance, is it allowable to increase or decrease the weight of any balance screws except the four timing screws? I have the impression that to tamper with any but the timing screws, in poising or lining, will destroy the factory adjustment; but frequently I find the balance without the quarter screws, which seems to require weight added or subtracted somewhere between the four above-mentioned points to poise it, and I can see no way of doing it without changing some of the adjustment screws. How should I proceed in such a case?—When it is impossible to bring a balance to poise by the mean-time screws, then there is nothing else for us to do but alter one of the other screws until the balance is in poise. But before poising a balance it is necessary to see that our wheel is absolutely true in the round and that there are no bent pivots. There are more balances out of poise caused by them being out of true in the round than anything else. If the balance of an adjusted movement is true in the round and flat and has not been handled carelessly, it should require very little to poise it. The changing of the weight of a screw would be so small that it would not be noticed in the adjustment.

(2) Is it correct to designate all four timing screws as mean-time screws, or are the two at the arms of the balance mean-time, the other two quarter screws?—The proper name is "mean-

time screws," whether the balance contains two or four.

(3) I find in reply to "Broken Screws," page 799, *The Keystone*, October, 1897, an explanation of how to bush a pivot hole and preserve the proper depth of the train. I cannot understand the explanation and believe the reference letters used do not agree with those in the cut. You speak of establishing "two points" and then setting two pairs of dividers so the free leg will pass over the true center of the pivot. I do not see how it is possible to determine the true center, which is the point desired, except by the eye (guessing), and if this is the case, why not take a scale and simply draw two lines at right angles, intersecting the point where the true center was supposed to be, thus doing away with the two pairs of dividers? As I wish to bush a clock plate, I would like to make use of the above-mentioned method if you will help me understand same.—You are correct; there is somewhat of a guess in getting the exact pivot center, and no doubt by your method you could get the center as correctly as by the method we described.

(4) After determining the exact location of the pivot holes, what is the most workmanlike way to proceed to bush the wooden plates of old-fashioned wooden-works clocks? What material should be used for the bushing and what kind of a tool used to enlarge the holes in the wooden plates to receive same?—In bushing a clock of this kind, after establishing the arcs or lines which define our true center, we enlarge the hole in the plate with a round file, filing the hole in such a way as to keep it round, or, in other words, the pivot center in the center of the hole. For the bushing, either brass or ivory can be used. This is fastened in the plate friction-tight. If ivory is used, we lubricate the pivot with graphite instead of clock oil.

"Missing."—When a table roller is found to be missing and a new one is needed, which is the best way to make it, and to get the right measurement from the center of the balance staff to ruby pin?—See reply to "Investment," page 1735, November, 1903, *KEYSTONE*.

"Invisible."—Can you inform me how to make invisible ink? I once had formula for making such inks, where the writing would be invisible until the paper was heated or dipped in a solution, but have lost them.—Invisible, or, as they are more properly termed, sympathetic inks are those which leave no trace of color on the paper, but when exposed to heat or chemical action of some kind, become more or less distinctly apparent. The following are a few of the principal kinds of this class of compounds: On writing with a solution of sugar (acetate) of lead or of ternitrate of bismuth and washing the paper with a solution of hydrosulphuric acid (sulphuretted hydrogen), the letters come out black. On writing with a solution of nitrate of cobalt and washing the paper with a solution of oxalic acid, the letters come out blue. On writing with a solution of subacetate of lead and washing the paper with a solution of iodide of potassium, the letters come out yellow; or on writing with a dilute solution of chloride of copper and gently heating the paper, the letters previously invisible assume a beautiful yellow tint, which disappears on cooling. On writing with a solution of arsenite of potash and washing the paper with a solution of nitrate of copper, the letters come out green.

"Caster."—How do jewelers cast rings, etc., in cuttlebone?—Casting in cuttle-fish is especially suitable for single small articles, as a ring or a charm, as it can be done much more quickly than with the sand mould, and at the same time a smaller quantity of gold is needed. A good-sized cuttle-fish should be selected, sawn into two parts, and the soft parts rubbed or filed perfectly flat; three small wooden pegs inserted on the one side forms the peg-side of the mould; and when the two sides are firmly pressed together, the eye-side is obtained. When it is found that the two surfaces come in perfect contact, the article is placed in the position for casting, the two sides pressed firmly together with the article between them, and a perfect impression obtained. The pattern is then carefully removed, a channel made for the molten

metal, and the parts of the mould tied together with iron binding wire. A cavity is then made in a piece of charcoal sufficiently large to hold the metal, the quantity of which may be, say, 3 or 6 pennyweights. The charcoal is tied to the cuttle-fish with the cavity close to the mouth of the mould. The metal is then fused by the direct impact of a blowpipe gas flame, and when quite liquid is gently tilted into the mould. The mould is then taken apart and the perfect casting obtained. It is well to remember, that an article that is undercut cannot be cast by this process.

"Determined."—Please answer through your *Workshop Notes* how to determine whether a watch is adjusted to positions, and how many.—The only way to tell is to try it in the several positions and note the error.

"Adjustment."—What does a workman in a watch factory do to watches that are marked "adjusted" to make them adjust? If an adjuster finds that a watch gains 30 seconds, pendant up, in 24 hours, what does he do? If it loses 30 seconds, pendant down, in 24 hours, what does he do? If it runs fast in heat or cold, what does he do, saying that balance is in poise?—To answer this question intelligently and satisfactorily would require more space than would fill every page of this issue of *THE KEYSTONE*; therefore, it is too long for this department. The most satisfactory method for you to pursue is to read some good books on this subject. One of the very best, thorough and yet simple works on the subject is "The Watch Adjuster's Manual," which can be had at this office; price, \$2.50.

"Running."—I have a French clock (time only) which, after cleaning, runs about three hours fast in twenty-four. Can you explain in your next issue? The hands are tight and, as far as I can see, it is in perfect running order.—We are sorry, but we don't see how we can help you very much with the little information you give us. If it is a pendulum clock, don't you think the ball has become raised in some way? If it is a clock with a balance wheel, look at the hairspring carefully: see whether it rubs or contains two coils in the regulator pins, or see whether any screws are lost out of the balance. The trouble is just a simple one and should be found somewhere around the pendulum or the balance wheel.

"Hamilton."—After cleaning some 18-size 17-jewel movements I have a terrible time to get them to run fast enough. At present I have two movements in the shop that I have cleaned and that run too slow—will lose 30 to 60 seconds in 24 hours. Movements have got good motion and from all appearance are in good shape, but for some reason or reasons not apparent they will not run fast enough.—The fault lies, we are sure, around the hairspring, curb pins, etc. Do you know that if the curb pins are opened just a little it will make the watch lose at least a minute a day? Here is where we think the trouble lies. Close your pins as tight as you can without squeezing the hairspring, then regulate the watch. You will find that if the curb pins are placed in this position you will get better results in every instance.

"Lever."—I have read a lot about the draw a lever should have to hold it against the banking pins but when there is no draw I cannot make any. I cannot see how two surfaces rubbing together will create a draw. Is it in the pallet jewels set at an angle to give it that draw? I wish you would make that subject clear to me.—What causes the draw in the escapement is both the angle of the locking face of the pallet stone and the locking face of the tooth. Experience has taught us that if we give the pallet an angle of 12° and the tooth 24°, we will have what we term "draw," that is, provided everything else is correct. Read answer to "Banking," page 721, July, 1901, *KEYSTONE*.

"Vienna."—What do the watch factories use for polishing pivots?—Vienna lime and pivot polisher.

Some Curious Properties of Gold Alloys

What we commonly call "gold" in the arts is always merely an alloy of gold, in which the pure metal plays a larger or smaller part according to the "fineness." The properties of such alloys are therefore of great importance, and the recent methods of micrometallography—the microscopic study of thin sections of metals treated with acids—have thrown interesting light upon them. Especially curious is the analogy that has been established between gold and steel, which is also an alloy. The alteration of qualities exhibited in the phenomenon of tempering or annealing has been shown to be common to the two substances, and to be due in both cases to alteration of internal crystalline structure. The following from the *Literary Digest* is a translation of an article on the subject contributed to

La Nature by Maxime Forest. Says this writer:

"Gold is the most malleable and ductile of metals; it loses these valuable qualities under the influence of very small quantities of foreign substances, which take away its tenacity to such a degree that it breaks easily by bending; the fracture, instead of being of homogeneous texture, is observed to be crystalline. This brittle gold, when alloyed with pure copper—which is the form in which it is always used—retains these objectionable properties, which are even increased, and the alloy is unsuitable for the manufacture of jewelry, coin or anything else.

"In 1868 Peligot found that traces of lead make gold brittle. Later, in 1902, Kirke Rose, of the London mint, noted that the breakage of coin in stamping was attributable to traces of tellurium, lead or bismuth. . . . These very slight quantities of impurities, often less than one-fourth or one-half a part to the thousand, affect the malleability of pure gold very little, but when alloyed with copper, such gold becomes unsuitable for use."

The ordinary assaying methods, we are told, do not suffice to detect such small proportions of foreign substances, but by having recourse to the new processes of micrometallography they are easily discovered. The writer goes on:

"Micrometallography enables us to differentiate clearly the structures of these alloys that appear so similar to ordinary analysis; thus, the native gold of Madagascar,

very crystalline and brittle, shows nothing abnormal when treated by the usual methods of assay; but, examined under the microscope after treatment with *aqua regia*, it gives the photogram (Fig. 1) in which may be perceived very characteristic crystals separated by lines of silver chlorid. Subjected to complete chemical analysis, this gold is found to contain about one-thousandth of lead with a little silver. . . .

"Perfectly pure gold . . . gives a very different result (Fig. 2). It shows a mass of fine and regular points. . . . This purified gold, when alloyed with copper, gives a very malleable and ductile alloy, quite different from the useless one obtained with the native metal. It is evident that the presence of lead, even in such small amount, has modified the physical properties of the gold. If we examine microscopically, after the same treatment with *aqua regia*, gold alloyed with

and copper that was brittle before annealing, and the same when it had become flexible and malleable after such treatment. These show that this gold, containing ten per cent. of copper, is comparable to ninety per cent. pure gold. If the grouping of molecules be destroyed by heating and slow cooling, the small crystals are changed into a system of polygonal crystals that are clearly seen in Fig. 3, and are identical with the crystals of gold containing lead. The gold, in fact, did contain about a half-thousandth of lead. The analogy between these forms of gold, containing traces of other metals whose constitution varies with the treatment of the metal, and steels, whose properties change under similar conditions, is curious and noteworthy. These phenomena, which can be studied only by the methods of micrometallography, may lead to practical and useful applications."

A method of applying the knowledge obtained by the methods described in the foregoing is much to be desired by the manufacturing jeweler. As our readers are aware, the most difficult alloy of gold to work is 18 K., or 75 per cent., and unless strictly fine silver and copper is used in the alloying no end of trouble results in the subsequent rolling and working. The same is true, though to a

lesser extent, in all the alloys employed by the trade, who will hail with delight the fact that eminent scientists have undertaken to solve the problem.

Amethysts in Favor

A London dispatch says: The gem of the season is undoubtedly the amethyst, and almost every lady of fashion is now wearing the pretty purple stone.

Queen Alexandra first set the fashion. Her example was easy to follow, as amethysts are by no means expensive. Stones the size of an almond nut can be purchased for \$15 of the best quality, but those of a lighter color can be obtained for \$2.50 or \$3. Set in the form of a pendant or brooch is the most becoming manner to wear the gem.

"Our sale of amethysts has been remarkable this season," said a well-known London jeweler. "The only reason I can assign for its popularity is its cheapness, some of the smaller stones being within the means of a shop girl. Strangely enough, the best quality of amethyst comes from Ireland, where large quantities of the quartz are dug up in the Ulster district."

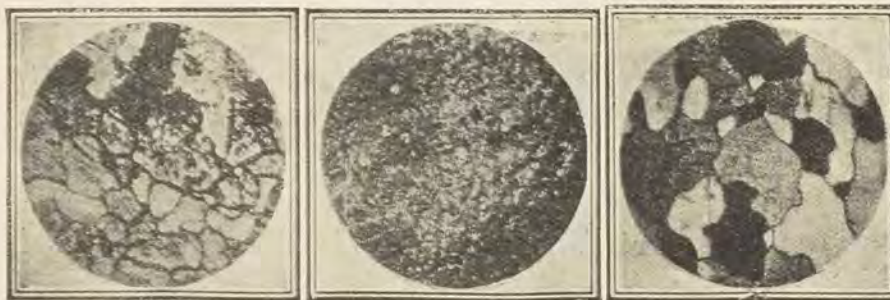


Fig. 1. Gold containing lead; brittle. Fig. 2. Gold, 90 per cent. pure; malleable. Fig. 3. Gold, 90 per cent., tempered; brittle.

copper in the proportion of 900 thousandths, for example, we find a system of small crystals formed by a special combination of gold and copper. If to this alloy we add half a thousandth of lead, we transform its physical properties, and the metal thus obtained can no longer be hammered into sheets without splitting or cracking; examining it under the microscope we see that the crystals have increased in size; thus we may easily distinguish one form from the other.

"It is very difficult, industrially, to purify gold that contains such slight proportions of foreign matter. An attempt has been made in England and France to remedy the fragility of the gold by heating, and in certain cases it has been diminished by annealing at various temperatures; but sometimes the trouble has increased under this treatment, instead of being lessened, without apparent explanation.

"These thermic actions modify the internal structure of the gold alloyed with such small quantities of other metals, just as they modify the properties of steels that contain only traces of carbon or of other metals than iron. Industrial use of this fact has been made, and the photographs 2 and 3 show the difference between an alloy of gold

To the Jewelry Trade in General

Gentlemen:

Are you out to build up a reputation for handling reliable goods? Do you wish to handle chains which have more gold on them for the money than any other make?

The S. O. Bigney & Company's Chains Fill the Bill

We give you below an exact copy of an assay of the chains manufactured by the leading chain makers of the United States.



1-10 GOLD FILLED WATCH CHAINS, MINUS BAR AND SWIVEL

Number	Gross Weight		Fineness Gold 1000ths	Value	Maker	Chain Number	Cost
	Ounces	Dec.					
15	1	71	29½	\$0.43	S. O. Bigney & Co.	1155	\$2.85
16		75	50	.775		482	3.08
17		81	34	.57		3005	2.73
18		76	23½	.37		9533	2.97
19		00	16½	.34		83	2.14
32		52	49½	.53		213x	2.83
34		73	34½	.52		733	2.41
46				.58		5011	3.82

1-8 CHAINS, MINUS BAR AND SWIVEL

Number	Gross Weight		Fineness Gold 1000ths	Value	Maker	Chain Number	Cost
	Ounces	Dec.					
35		57	68	\$0.80	S. O. Bigney & Co.	1604	\$3.96
36		60	65½	.81		7015	3.75
37		60	63	.78		4324	4.00
47		49	79	.80		2726	4.00

S. O. Bigney & Co.

Factory, Attleboro, Mass.

New York Office: 3 Maiden Lane





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Why, Mr. Jeweler, why do people eat breakfast foods? Advertising—zestful, appetizing and educational, made the public eat. Advertising forced the non-advertised cereals into well-earned retirement and created the demand for the new breakfast foods. But, reason it out as well as you will, Mr. Jeweler, it's *always* the *advertised* goods that sell. The advertising that created breakfast foods is now at work with watches—is now working for you—if you work with us along the easy, profitable lines of least resistance.

New England

ADVERTISING IS YOUR SALESMAN

We are appealing to more than *one-third* of the entire population of the United States with honest, convincing selling arguments for the New England Watch. The results are showing in doubled sales—but don't you wait until the campaign gets its full momentum this fall. Get in now. Let us send your share of intending purchasers of the New England Watch into your store. Let us refer all inquiries from your locality to you.

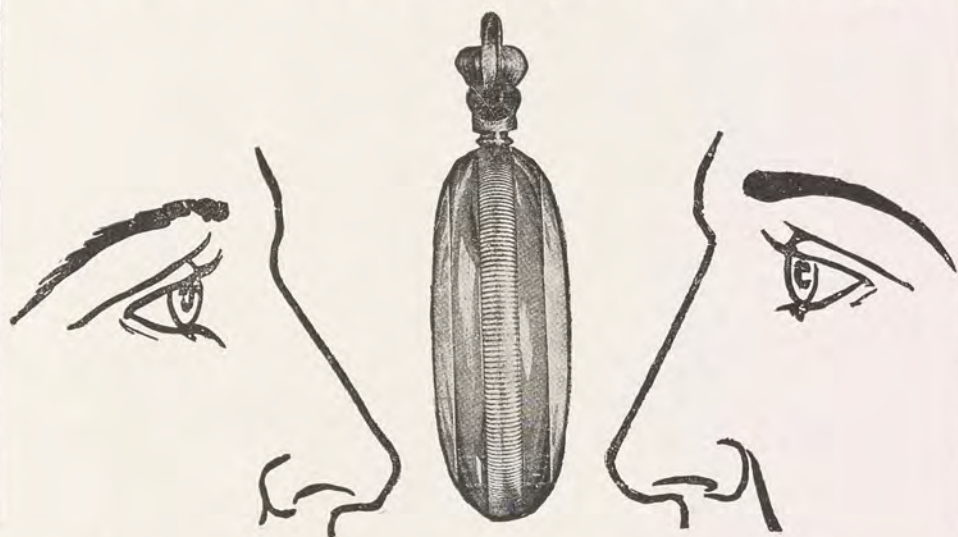
In the interest of increased business, Mr. Jeweler, in your own personal interest, sit down now and write us. Ask us for details of our advertising campaign; what we are doing to make customers for you and to make the New England Watch the advertised "seller" of the watch trade.

It's a mighty profitable story for a postal.

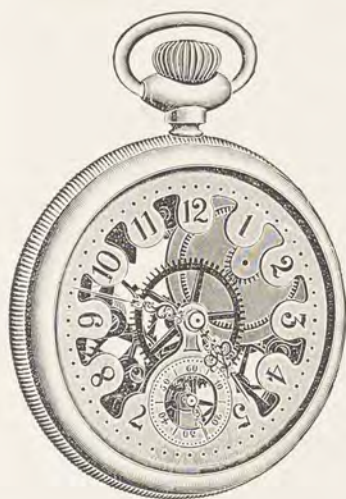
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NEW ENGLAND WATCH CO., Waterbury, Conn.

You Can Look Right Through



The Skeleton Watch



FRONT VIEW



BACK VIEW

The Skeleton Watch is a novelty that sells; that will attract unlimited attention if displayed in your window. The movement is skeletonized throughout so that all the working parts are distinctly visible. You can see right through it.

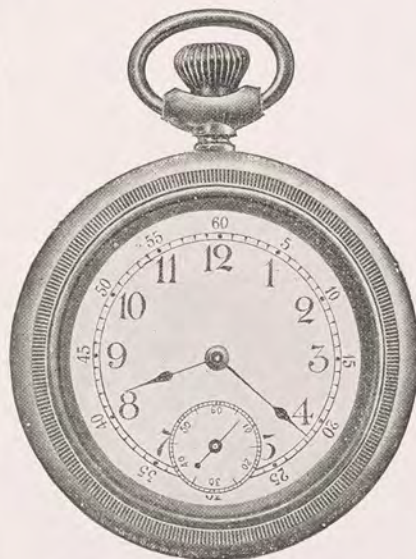
The case is thin model; made with fine, clear crystals, front and back, these being especially ground to make a graceful contour of case. This makes a light, practical, pleasing and most fascinating timepiece.

The Skeleton will prove a profitable novelty for you this fall.

TRADE PRICES

No. 981.	Nickel Silver	.	Price, \$2.50
" 2581.	Sterling Silver	.	" 4.50
" 181.	Gun Metal	.	" 3.00
" 4981.	10 K., 20-year Case	.	" 6.50

THE
COWBOY



The very latest in a strong, finely finished case.

Open-face, nickel silver, screw case. Stem-wind and set. Six jeweled movement.

Flat parallel crystals; 10 K. gold filled crystal ring, and gold filled crown.

The Cowboy is in every way a desirable timepiece; durable, stylish and one of the best sellers in the New England line.

Trade Price, \$3.00
Retail Price, 5.00

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Jas. Boss

C A S E S

are the only gold filled watch cases that have behind them the experience of over fifty-three years of successful construction. They are the "Tried and True" kind. The sort that are not found wanting.



FREE! a Jas. Boss Felt Counter Mat to protect your show cases from breakage and scratches. Write for one at once.

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When a watch gives satisfactory service,
it is worth careful consideration.

Betsy Ross Watches

have proven their time-keeping qualities. They carry with them an individuality and sentiment in design and quality. No better value exists in a complete O size timepiece, than in **Betsy Ross Watches**. If you are selling **Betsy Ross Watches**, you can bear out this statement. If you are not handling them, you are missing an opportunity to sell the best ladies' watch that can be had for the money.

**HUNTING or OPEN-FACE, 7 Jewels,
JAS. BOSS 20-year Case, Pendant Set,
Nickel Movement**

We have an interesting folder on Betsy Ross Watches for the consumer, and telling how and where Betsy Ross made the first U. S. flag. Your name on a quantity for the asking. Write us and send business card.

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Every
Roy
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is made
from
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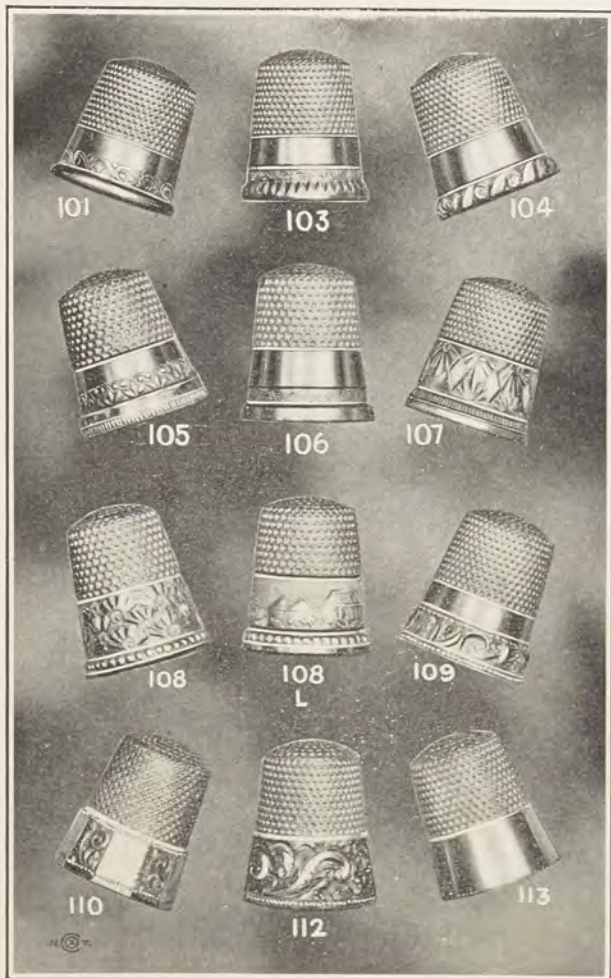
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ESTABLISHED 1832
KETCHAM & McDOUGALL
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AUTOMATIC EYEGLASS HOLDERS
37 AND 39 MAIDEN LANE, N. Y.
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The Automatic Eyeglass or Pencil Holder



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

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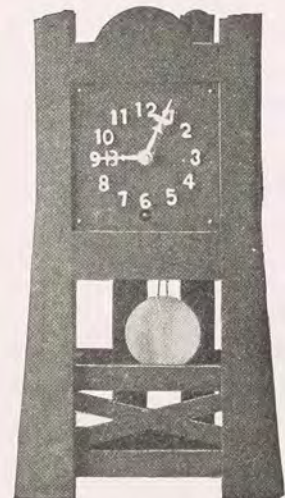
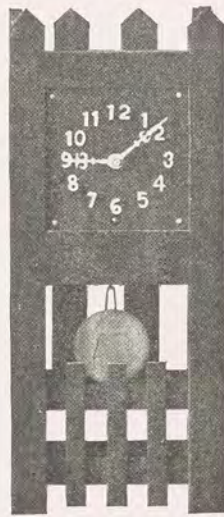
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NOTE—"Villa" and "Para" are made *eight-day* time and eight-day time ALARM, and can be sold at a popular price.

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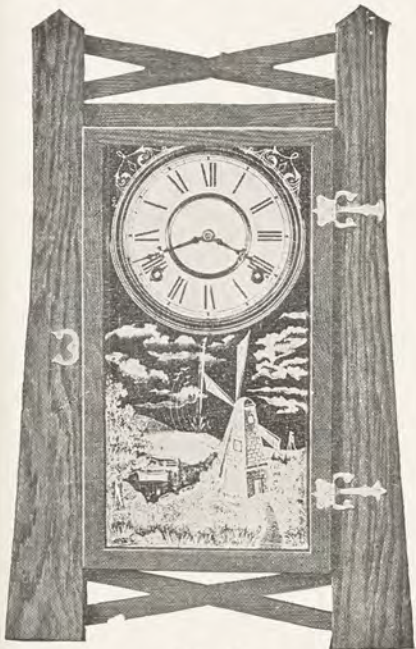
"PARA"



14½ inches high
3½-inch dial

14½ inches high
3½-inch dial

8-Day Time or 8-Day Time Alarm
Mission Oak Finish



No. 43

Packed three in a case. Assorted patterns
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OUR HAND-MADE CASES

CONSTRUCTED in the old reliable way, entirely turned by hand, giving proper stability, extra finish, shape according to style of movement.

SELLING QUALITY. Individuality. High-tone execution, standing on its own merits, non-competitive. All cases bearing this mark are strictly hand-made:



MANUFACTURED BY

DUBOIS WATCH CASE CO.

Makers of Fine Solid Gold Watch Cases

Main Office and Factory

316 Herkimer Street, Brooklyn, N. Y.

New York Office
21 Maiden Lane

And each reason for the "BESTNESS" has a story.

It is the PARENT of ALL AMERICAN watches.

SINCE 1842 the HOWARD has maintained its supremacy as a TIMEKEEPER of unerring accuracy and superior ADJUSTMENT.

The name "HOWARD" is synonymous with the very highest effort in timepiece construction.

We fix the RETAIL selling price of each watch assuring the DEALER an ATTRACTIVE profit. No Cutting allowed. No publishing of TRADE PRICES permitted.

E. Howard Watch Co.

Waltham, Mass.

SEND FOR BOOKLET



MODERN MERCHANDISING

The Passing of the Page Advertisement

IN an article on page 1475 we refer to the page advertisements of the department stores, which in days ago inspired special-line merchants with so much fear. As with all things mundane, however, time has deprived these immense announcements of much of their glamour, and it is a question just now with many department-store proprietors whether the large space is not, to a considerable extent, a useless expense. Only recently in New York City the big dry goods stores suspended their advertising simultaneously in one of the leading journals of the city, which is admittedly the best advertising medium, and it is shrewdly suspected that this step was taken as an experiment, rather than by reason of any dissatisfaction with the medium, its rates or its circulation. There is no doubt that to keep up interest to the big daily announcement, is a tax on the talent of even the most original advertisement writer. It is generally conceded that the advertiser who best succeeds in sustaining public interest in his daily page announcements is John Wanamaker, and these advertisements are in many respects a revelation of unique advertising genius. A portion of the space is given from time to time to all manner of interesting matter which would arrest public attention; but this apparently extraneous matter is always of much advertising value. In a recent issue of the daily papers of Philadelphia, the introduction to the Wanamaker advertisement was a little sermon to the salespeople of the store. It seems anomalous that space in the public press should be used to convey a message to the employees of an establishment, but this message was really a very shrewd piece of advertising, inasmuch as it impressed on the public in a very seductive way the policy of the store. The little sermon to employees was used as an introduction to a big furniture sale and was as follows:

TAKE NOTICE!

Put yourself in the customer's place in waiting upon him.
 Say and do exactly what you would like a salesman to say and do to you if you were a stranger visiting a trusted store.
 Find out, without rudeness, what your customer wants and if you do not have it tell him so.
 Offer to show him what is on the floors that come nearest to the thing he calls for; but do not laud your goods as better, or vaunt your store.

Let the customer first see that the goods are better, and then say your say or answer questions.

Have nothing to say about the faults of other stores. We have enough of our own. Merits and prices must sell our goods. It is the furniture alone that the customer is interested in.

When you are ignorant of what the customer wants to know say so right off. Do not guess at the truth, but get the exact truth about what you are selling and give it fair and square to the man whose money comes to your door.

You are an average man, and the way you would like to be treated yourself is the way you should treat others.

Though this admonition was nominally addressed to the employees, it was really intended for public consumption.

Keeping Money at Home

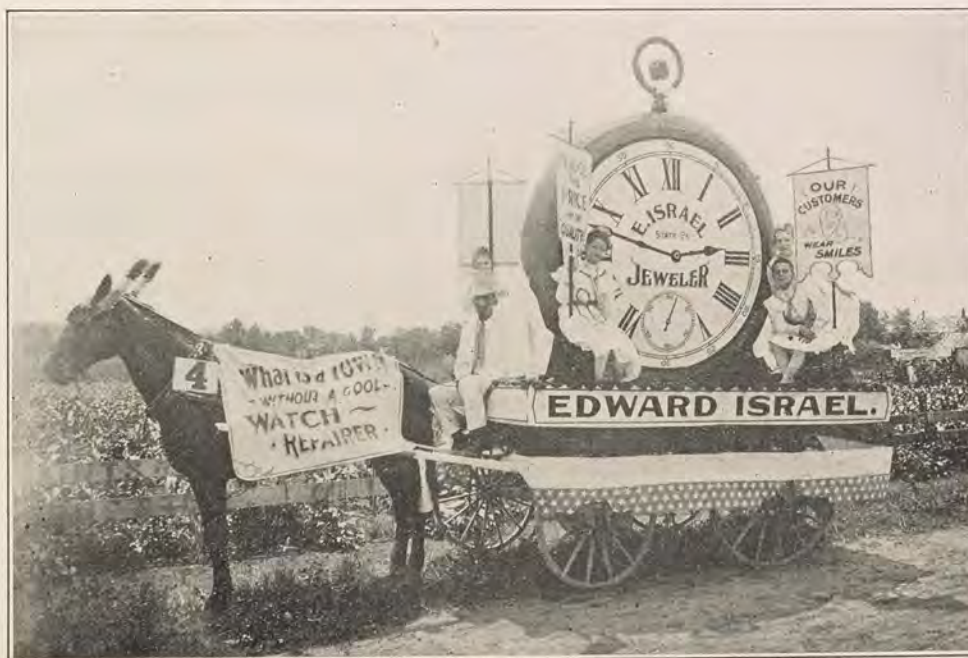
THE following item has recently been going the rounds of the press:

An Iowa jeweler inaugurated what proved to be a very successful campaign against mail-order competition, and as an object lesson of how money spent with the local dealer stays at home, pinned a slip to the back of a dollar bill, and at the top of it printed the request that every person receiving the bill should sign his name to the slip, to see how often it changed hands. He then paid it out on some item of store expense.

In two weeks that bill came back to him again in the course of business, and it had changed hands twenty-four times. He got out a circular telling of the experiment, and gave a list of the names signed to the slip, and he placed one of these circulars in every house in his section of the country. He also received the aid of the publisher of the local paper, who was only too glad to show the people the advantage of keeping their money at home, and there was a long article in the paper. The idea appealed to the people. It was a good example of what one dollar will do in the way of keeping something going right in the neighborhood.

Jewelers' Floats

THE article on page 1357 of our last issue, giving suggestions for appropriate floats for jewelers, has brought us considerable correspondence on the subject; also several photos of jewelers' floats used in parades, at fairs and during celebrations of different kinds. One of these, which seems quite effective and which can be constructed at an inconsiderable expense, is shown in our illustration. This float was used by Edward Israel, of Harrison, Ohio, in a parade held in his town on July 4th. Banners were prominently placed on the float, the inscriptions on which read as follows: "We slice the price, not the quality," "A square deal for a round dollar," "Our customers wear smiles," and "The store that's making a good record." In addition to the float, the jeweler had a large imposing sign prominently displayed on his store, which served to connect the float and the store in the minds of the spectators. On the rear of the wagon was a banner with the suggestive question, "What is a town without a good watch repairer?" In this parade there were, in all, fifty-seven displays, and Mr. Israel's was generally considered to be one of the best. The entire expense of the float to the jeweler was \$35—a comparatively small sum for the advertising received. Mr. Israel is well satisfied with the results of the investment and his word is final.



An effective and impressive jeweler's float



A GAIN we say—if you haven't a full showing of Simmons Chains, stock up NOW and let your customers find you ready when fall business starts.

The jobbing trade are prepared now to supply almost any demand that may be made for Simmons Chains—practically every prominent wholesale jewelry house is showing a wide assortment of beautiful patterns, selected for the coming season's selling.

Don't fail to put in a selection of the smart new Dickens styles—and of the Simmons guard chains with enameled slides.

R. F. SIMMONS CO., MAIN OFFICE AND WORKS ATTLEBORO, MASS.
 Salesrooms, 9-13 Maiden Lane, New York; 42 Madison St. (Heyworth Bldg.), Chicago



Mystery Devices for Show Windows

Sometimes one's ingenuity is taxed to the utmost to devise attractive features for the show windows. Sameness in decoration should be avoided and often it is hard work to find something out of the ordinary.

There are many mechanical devices to be had for window use.

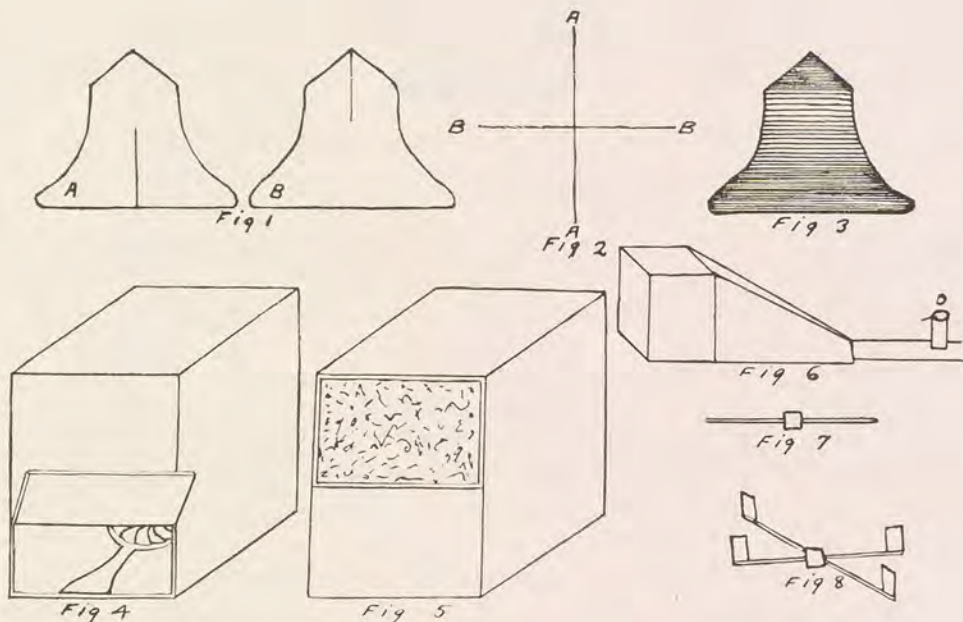
but some of them are pretty expensive, while those that are not are usually common property of any retailer who cares to order them. But mechanical devices are good window features, for they attract eyes that as a rule before leaving take in the goods and prices displayed. One of the firms that have used mechanical devices most persistently and with the most flattering success is the National Cash Register Company, and most of their displays are of the "mystery" order. Four of these mechanical devices are described herewith, and rough drawings show how each may be made. They are simple, inexpensively and quickly rigged up, and may be made attractive mysteries. The chief requisite in each case is a small electric fan.

The Animated Bell

The animated bell costs only time necessary in rigging it up, and possibly, twenty-five cents. Buy a big tissue ball, or make one in the following manner: Cut out of heavy pasteboard two pieces like A and B in Fig. 1, each about eight inches high by twelve inches wide. Slit them as shown in the diagram, and set them together, so that the bottoms will set as in Fig. 2. This is the framework for the bell. Now get from some friend who has a stock ticker a roll of ticker tape. Carefully remove a few feet from the center of the roll, so as to loosen up the roll. Set the hole over the peak of the bell, and very slowly and carefully, turning the roll as you proceed, press it downward, moulding the tape as you go to the shape of the bell. The tape should have a uniform lap of about half its width all the way from the top to the bottom of the bell. Next, coat the tape with mucilage, outside and in. Then cover with tinfoil, both out and in. Make a light, foil-covered clapper, fasten it to a string, run the string through the top of the bell, knotting it to hold the clapper, and hang the bell up in the window. See Fig. 3. Set the electric fan where it will be out of sight, both

from the street and the store, and the wind from it will strike the bell in such fashion as to make it swing easily to and fro. The mysterious motion of the bell will cause much wonderment. It will be easy to hide the fan with the stock if care is used.

The mysterious paper storm is a good mystery device. Take a good-looking box, say three feet high by two wide. Fix a trap door, as in Fig. 4.



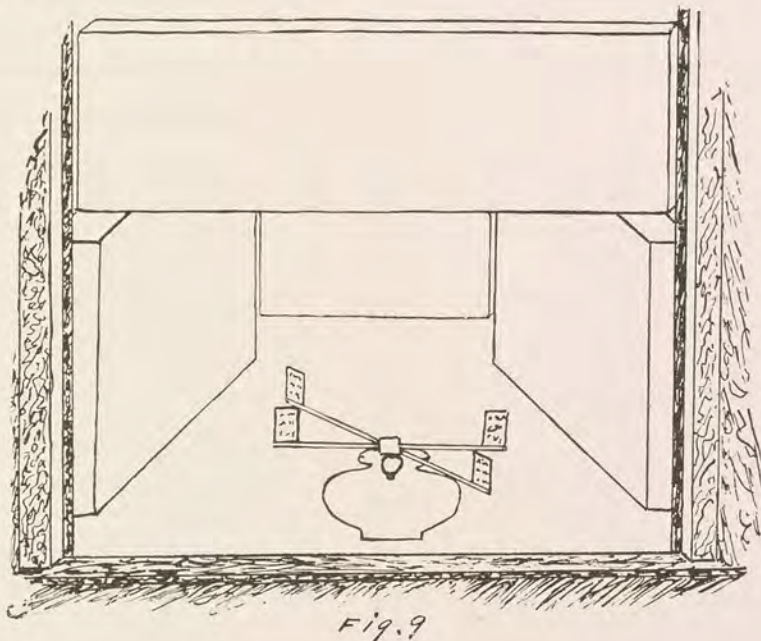
This door is in the back of the box. Put glass in the upper half of the front of the box. Taking care that your wire is properly insulated, put your fan through the back door into the box, laying it down on its back. Throw in a couple of handfuls of fine tissue paper. Cigarette paper is best. To separate it, put it in a dish and gently go through the motion of washing your hands in it. Start the fan going and the imitation snow storm will be seen through the glass. In this, as in the other displays,

the speed of the fan must be carefully gaged. The fan should be removed every day and freed from particles of paper, and the motor plate should also be removed to permit of cleaning; or, if a wire screen is set in the box just above the fan there will be no need of cleaning. Care should be taken that the fan cannot be seen from the outside, and the cracks in the box should be tightly papered up to make it as nearly airtight as possible (Fig. 5).

The Old Water Wheel

Many theories will be advanced to explain the mysterious water

mill. Out of a long cigar box cut two strips, thin and narrow, like Fig. 7. Mortise them together in the center, setting them at right angles, and split the ends to hold cards, like Fig. 8. Fill a small aquarium almost level with water. Drop some sealing wax, at one end of a three-inch celluloid ball, fastening it thereby to the underside of the arms described above. Then, with sealing wax, fasten from one to five or six pennies on the other side of the ball, to keep it plumb. Set the ball in the globe, having just enough water to permit the arms to barely touch the rim. On both sides of the cards in the ends of the arms may be printed signs relating to the display. The fan, which is set out of sight, may be adjusted so as to send just enough of a current to keep the mill revolving. The completed mill is shown in Fig. 9.



-B. A. Chambeau, in Boot and Shoe Recorder

**Pouyat
China**

Look for the Pouyat Marks

Some of the reasons why dealers in Art-Porcelains should be interested in Pouyat China :

It is a notable ware historically ; famous since 1783.
It is recognized as the finest modern product of the celebrated Limoges potteries.
Its unflinching supremacy is certified by a long series of medals and awards, including five bestowals of the Cross of the Legion of Honor upon successive heads of the Pouyat house.
It offers the widest choice of artistic designs, the widest range of prices.
Finally, all Pouyat ADVERTISING is designed to stimulate the business of LOCAL DEALERS.
If your jobber does not handle Pouyat China, we will inform you where to obtain it.

Write for Illustrated Booklet

PAROUTAUD & WATSON
Representing J. Pouyat
37 Murray Street, New York City

MARK ON DECORATED
J. POUYAT
Limoges

MARK ON WHITE
J. P.
L.
FRANCE

Morris Rosenbloom & Co.

HOLD YOUR ORDERS

for our salesmen, who will call on you soon with a complete line of

WATCHES, DIAMONDS

and a large variety of **SELLERS** in

JEWELRY AND NOVELTIES

Our stock of Bracelets and Combs is complete.

Send us your orders.

Rochester, N. Y.

LOCKETS

Buy Better Than The Best

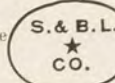
“VERIBEST”

There are Three Things necessary to produce the “Veribest” Locket

- FIRST: The knowing how—“That’s knowledge.”
- SECOND: The necessary facilities—“That’s equipment.”
- THIRD: Wanting to do it—“That’s disposition.”

THAT’S OUR PART

There is One Thing necessary to the purchase of the “Veribest” Locket

Look inside for the  when you buy

THAT’S YOUR PART

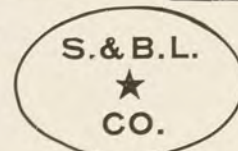
These FOUR factors give you the “Veribest”

Locket with every purchase



As illustrated, Nos. 3885 and 3886
Smaller size, Nos. 3687 and 3688

Every Locket stamped on inside with the



Insist on “Star Quality,” this trade-mark



MADE IN HIGHEST-GRADE GOLD FILLED QUALITY

For the Jobbing Trade Exclusively

S. & B. LEDERER CO.

NEW YORK CITY
9-11-13 Maiden Lane

PROVIDENCE, R. I.
100 Stewart Street

CHICAGO, ILL.
131 Wabash Avenue

Content: Its Private and Public Aspects

BY JOHN TWEEZER

I suppose no one will dispute the fact that the nearest approach to perfect happiness is found in those who are content with what they have—whose estate, mental, moral and material, satisfies all their wants. A Persian poet put the sentiment in this form:

Let this plain truth those ingrates strike,
Who still, though blessed, new blessings crave:
We can have all things that we like,
Simply by *liking what we have*.

The virtues of content have been preached by the wise from the earliest dawn of recorded philosophy; the literature of all lands, in all times, abounds with proverbs which show the universality of the belief that content spells happiness. He is a daring man who would argue against this consensus of opinion.

But private happiness, alas, does not always contribute to the public good. For content may lead to business paralysis, political degeneracy and the obstruction of that necessary continuous progress which is essential to the preservation of the human society. Moreover, the contented man himself fails to reach his growth or to live his life to its full possibilities; he defeats the demands of nature. It is a question whether the happiness which he acquires through his content is not merely a dangerous form of moral degeneracy. It is indeed worthy the contented man's serious thought as to whether he enjoys the *right kind* of content.

But whatever the issue between the individual and his conscience concerning the quality of virtue in his personal content, there is no doubt that certain forms of content are destructive to the higher interests of the State. Certainly that content which falls into sloth—the peace of mind which has expression, for instance, in a Mississippi darkey lying asleep in the sun on a cotton-bale—can find no justification; and the greater the capacity of the individual the greater the injury to the State from the non-exercise of the physical, mental and moral powers of that man who hugs his content with selfish happiness.

The community always benefits from "the divine discontent" of the individual citizen. The citizen himself grows and broadens, of course, in the furtherance of all his proper ambitions; but the State is the final beneficiary. It is the individual ambition, multiplied in a thousand forms by ten thousand other individuals, which make the glory of the State; which bring government to its most perfect development, trade to its fullest fruition, law and morality to their highest

efficiency, and the whole social order to its best condition. Content is sacrificed thereby, but a noble discontent in the measures which it evolves makes life the better worth living.

All that has been accomplished in the world that makes for the good of humanity was achieved by men who put aside the lazy virtues of contentedness. The field of invention called to some, the strenuous work of reform to others, and others again turned to high endeavors in literature, science and the arts. Surely there must be a content even in discontent, to justify the labors of those who thus make the State great and powerful; and how vastly finer the quality of *that* content than the content which stands for the mere satisfaction of "living on"!

The Jeweler's Self-Discipline

It isn't hard to discipline your clerks—to require them to keep to your standards of conduct, your rules of business and the routine of your providing. But it often *is* hard for you to hold to the same strict demands upon *yourself*; yet it is vital to your success.

It is a fact that the largest number of men—probably seventy-five per cent.—can do easily for another man what they cannot do on their own initiative. In other words, there are more can follow (and follow faithfully and well) than there are those who can lead; and even among those who are skilful and effective in governing others, many there are who fall short in *self-government*. Too many employers lack the ability to direct their *own* movements and work as hard for themselves as they require their subordinates to work for them, or as they in turn would work for a superior. It is hard for them to do for themselves that which they are not *compelled* to do at the moment. It is so easy to *personally* "loaf along," while yet requiring the best of their subordinates.

These conclusions are the result of my observations extending over many years. A decade ago I took to analyzing the reasons, in individual cases, why the business of certain retail jewelers seemed to be decaying from "dry rot"—or at least not sharing in the general progress of their competitors. I found, to my surprise, in instance after instance, that the clerks in these stores were unusually capable; conscientious in the performance of their duties, eager to advance the store's interests, industrious, systematic, faithful in every way. *They did their part*; the jeweler himself failed to do his personal share. He idled while they *wanted* to be busy; he withheld from them their needful inspirations and starved them of the fruits of

good example. He could not bring himself under the discipline of his own store-rules.

Make no mistake: I do not say that the jeweler should have been busy at the bench, or polishing the show cases, or cleaning the stock, in order to excite enthusiasm on the part of his clerks. Quite the contrary—for there were those whose work this was, and the jeweler required these things to be done; and they *were* done, and well done. But these clerks could see with half an eye that the "boss" was deficient in needful attention to the larger questions which are concerned in the success of a business. They could see that drafts were presented to him for overdue accounts; that he was moved by his prejudices, in the matter of buying, rather than by study of values and the trend of trade; that he neglected his reading of current trade publications—never opened a journal—and so did not keep abreast of the movements of trade; that he gave no painstaking to the preparation of his infrequent advertising; and in all ways fell short of that mental discipline which marks the successful merchant.

The effect is immediate upon any merchant's concerns. Clerks cannot alone make a business prosperous; the clerk who can will not long remain a clerk. The jeweler himself must be the genius of his store, otherwise he is a subordinate in his own business. It is not enough to intelligently command others; one must command his *own* capacities, and bring them into highest service at all times. It therefore is urgently necessary for the jeweler to bring *himself* under discipline, if he would develop his powers; to require of himself all that he requires of his subordinates; and to escape the constant temptation, in those in authority, to "loaf along" when there is no higher authority than themselves. A successful merchant is the personal example of his own disciplinary rules.

A pleasanter thing than going on a vacation is getting back from it. Loafing is all right for a time, but the sterner delights of the struggle for business surpass the joys of idleness, with the healthy-minded man. The memories of the summer outing cheer us the winter through, but the real joy is in the work, not in the play.

Better be late than not get there at all.

Better be ignorant than know too much.

The Czar's lot is an unhappy one, but he might have been a baseball umpire. Even the Czar has some things to be thankful for to Fate.

J. T.

¶ Do you know that it pays to sell patterns of which the buyer won't tire?

¶ Did you ever stop long enough to realize that the pattern of the Cut Glass you sell must have good "lasting powers?" There are patterns that make a good first impression, but which don't continue to please. That isn't the kind you should sell. That isn't the kind we produce.

¶ It may seem a small matter to you—a matter for your customers rather than you to be concerned with. But that's not so. A pattern that proves unsatisfactory to your customer will in the end prove unsatisfactory to you—unless you are not looking for future dealings with that customer.

¶ Our patterns in **AMERICAN CUT GLASS** are the kind that continue to satisfy. They're not the kind of which you tire.

¶ When in New York make our warerooms your headquarters, whether you buy or not.

INTERNATIONAL SILVER CO.

9-11-13 Maiden Lane, NEW YORK

FACTORIES

THE BARBOUR SILVER CO.
THE HOLMES & EDWARDS SILVER CO.
THE WATROUS MFG. CO.
THE MERIDEN CUT GLASS CO
1847 ROGERS BROS.
ROGERS & BROTHER
MERIDEN BRITANNIA CO.

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



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

Alabama

Felix Thoma, the well-known jeweler, of Mobile, died suddenly in his store last month. His dead body was discovered by his chief clerk, who found it lying on the floor. His eyeglasses were still held between the fingers of his left hand, and the indications were that he dropped dead as he started to leave the store. Mr. Thoma was one of the most highly respected citizens of Mobile, a man of fine character, and an active worker in all the movements for the benefit of his city. His death is greatly regretted by his host of friends.

Alaska

I. J. Sharick, Juneau, who has achieved a gratifying measure of success in the northern territory, has recently improved his store. Among the additions to the fixtures are two new upright show cases, one of which will be used for the display of cut glass and the other for a handsome stock of hand-painted china.

California

The jewelers of Santa Rosa manifested their appreciation of the efforts of their brother jeweler, John Hood, of that city, in their behalf after the earthquake destruction, by presenting him with a handsome weathered oak table cabinet and chair. Our readers will remember that subsequent to the earthquake, when a number of jewelers had lost their entire belongings, through Mr. Hood's efforts they were furnished with new tools and some financial aid to help in re-establishing their business. The present was an agreeable surprise to Mr. Hood, who appreciated it very much.

Indiana

Kelly DeFur has withdrawn from the firm of DeFur & Williams, Wadesville, having purchased the jewelry department, which he will run on his own account.

Iowa

G. D. Elliott, formerly of Iowa Falls, was the victim of a peculiar accident while removing from that place to Ackley, where he is now located. The railroad car which carried his stock of jewelry, millinery and household goods, was burned at New Hartford Island and the entire property destroyed. Mr. Elliott has started in the repair business at Ackley, and will branch out on a wide scale after settlement with the railroad authorities.

Louisiana

The contract for the silver service for the battleship *Louisiana* was awarded some weeks ago to Coleman E. Adler, of New Orleans. The service was designed and will be manufactured by the Frank W. Smith Co., Gardner, Mass., a firm which has a high reputation in the field of art metal work. The design is very beautiful and appropriate and the service will be of a very elaborate character, the centerpiece alone weighing 2000 ounces.

Maine

G. W. Palmer, of the firm of G. W. Palmer & Son, Rockland, died on August 6th, at the advanced age of eighty-seven years. Mr. Palmer

was one of the oldest jewelers in the State of Maine and was well known among the wholesale trade, both in Boston and New York, enjoying to an exceptional degree the respect and esteem of all with whom he had business dealings.

Samuel Freeman, Oakland, has arranged to build an addition to his present quarters. This addition will be devoted to his jewelry and phonograph stocks, and he will retain the present store solely for cigars, tobaccos and smokers' articles.

Michigan

W. R. Austin, Port Huron, is closing out by auction the cheaper class of goods in his stock, and will replace the same by a larger stock of higher quality. Besides installing a comprehensive stock of jewelry goods of all kinds, Mr. Austin will make extensive improvements in his store, these including a new tile floor and a handsome front. The new stock and improved store and fine location, together with capable management, should assure a still greater measure of success than in the past.

Minnesota

H. K. Lee, Fosston, has purchased the stock of K. K. Lee, of that place, and is now located in his new store which is well stocked and prettily fixtured.

New Mexico

The business heretofore conducted under the management of Vann & Son, at Albuquerque, has been incorporated under the name of Vann Mercantile Co., with Samuel Vann as president, Samuel T. Vann as vice-president, and Florence C. Vann as secretary. The corporation will assume all liabilities of the old firm and will collect all the outstanding accounts.

New York

R. S. Conner, recently watchmaker and engraver for Schwarzschild Bros., Richmond, Va., has opened a store in Schenectady, this State.

Ohio

Charles Sederberg, of Milford, is rejoicing over the arrival, at his home, of a bouncing baby boy. The newcomer's name is Charles Bishop Sederberg, and he comes into the world with the distinction of being the great-great-grandson of Governor Bishop, of Ohio, whose name he will bear. THE KEYSTONE congratulates the proud father and trusts the son will achieve a measure of greatness equal to that of his distinguished ancestor.

J. D. Rowland, who has been located in Van Wert for several years, has removed to Toledo, where he has opened a jewelry and optical department on his own account in the big general store of Tiedtke Brothers Co.

Shibley & Hudson, Wooster, have purchased the Mrs. A. Shibley Jewelry Store, and will continue the business. Mr. Shibley, of the new firm, is a son of Mrs. Shibley, and had charge of the store for the past five years. Mr. Hudson, the other member of the firm, had charge of the repair and optical department for the past three years. This is the oldest established jewelry store in Wooster, having been founded in 1859, nearly a half century ago.

Pennsylvania

W. T. Lane, Bradford, will open about September 1st a diamond, watch, jewelry and optical store at 57 Main Street.

Robert M. Barnitz, for many years in the jewelry business in York, this State, died on August 6th, after a brief illness. The deceased, who was

fifty years old, began business with his father, and for a time the firm-name was Barnitz & Son. In recent years he has conducted the business under his own name. He was a capable merchant and an excellent worker and was highly esteemed by all who knew him.

Tennessee

D. A. North, Cleveland, who was obliged to discontinue some time ago, by reason of ill-health, has again fully recovered his strength and resumed business.

Texas

D. Lerner Jewelry Co., formerly of St. Louis, Mo., has located in El Paso, this State, where the business will be continued.

West Virginia

The Stanley J. Peters Company, of Kimball, have opened another branch store at that place, in which they have installed tools to do all kinds of repair work for the trade. The new branch is in charge of experienced men and is already meeting with gratifying success.

Wisconsin

P. N. Nelson has purchased the stock and business of T. Johnson, Neillsville, who has conducted a jewelry business in that place for the past thirty-five years, but is now located at Eagle River. Mr. Nelson formerly had a jewelry business at Galesville, and is now conducting a similar business in Whitehall. This latter is in charge of his brother-in-law, and he himself will manage the new business purchased from Mr. Johnson.

Value of Gems

The qualities for which precious stones are mostly prized are lustre, transparency, refraction and dispersion of light; although, of course, scarcity and demand are the principal factors in determining the market prices; for instance, the emerald to-day is treble the value it was only a few years ago, says *Mines and Mining*.

The emerald mines of Columbia at Muzo and Coscuoz, near Bogota, have been worked almost continuously since 1568, and have been the means of supplying the world with most of the emeralds in modern times. There were mines in upper Egypt which yielded this gem to the nations of antiquity, but were lost sight of from the time of the Mohammedan conquest until quite recently, when some attempts at working them were made.

The emerald mines in the Urals were not known until the eighteenth century, and though they yielded fairly good material for a time, their importance is not great, as the stones found are not of good enough quality to pay the rate demanded by the government from the lessees, but they were reopened in 1900 by a syndicate with little success, so far as can be learned.

There are many stones holding the qualities first mentioned in high degree, but they are little known, because, in the first place, they are to be obtained in larger quantities and the people engaged in the stone trade cannot, therefore, make the profits they are able to do with the scarcer gems, while because of their abundance and presumably lesser value, they have been given to native cutters, who do not understand the laws of refraction and reflection, to operate on, with the result that they are put on the market and eventually mounted in jewelry, looking like various colored acid drops and entirely lacking brilliancy and those sharply defined facets which give that reflection which is the chief charm and makes evident the great difference between the real stone and its imitation.

TWO SPLENDID LINES!

Apollo Silver Plate

AND

**Apollo Studios'
"Metal and Glass"**

MADE BY

APOLLO SILVER CO.

**BERNARD RICE'S SONS
PROPRIETORS**

542 BROADWAY, NEW YORK



COFFEE SERVICE No. 1238
BURNISHED, BUTLER OR FRENCH GRAY FINISH

WORKS:

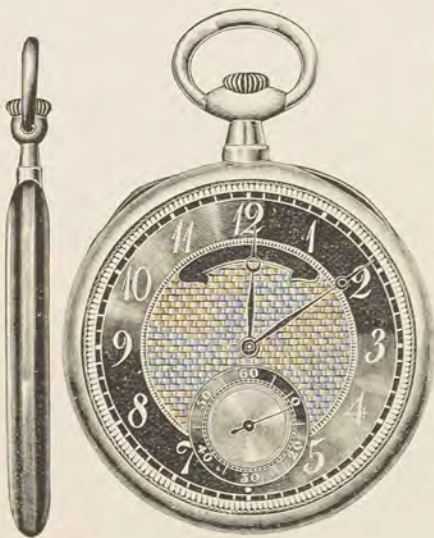
4-6 MARION ST.
187-189 ELM ST.



TRADE-MARK
Registered in U. S. Pat. Office

Vacheron & Constantin

GENEVA, SWITZERLAND



Makers of every variety of
High-Class Adjusted
Watches
Complicated Watches
Extra Flat and Ultra
Flat Watches
Enameled, Carved and
Jeweled Watches

EDMOND E. ROBERT, Sole Agent

3 Maiden Lane, NEW YORK



TRADE MARK



No. 568. RADIANT

Write for illustrated sheet
ready for distribution
September 1st

25 Leaders
Having no Equal



No. 568. RADIANT

OHIO CUT GLASS CO.

Factory, Bowling Green, Ohio

SALESROOMS

CHICAGO
35 E. Randolph Street

NEW YORK
25 W. Broadway

ST. LOUIS
404 N. Fourth Street

LETTERS
from the
TRADE

Readers are requested to send for publication new ideas on any subject, technical or mercantile, of general interest to the trade. As this page is for the use of individual readers, we do not hold ourselves responsible for the views expressed.—Editor The Keystone

Use of the India Oilstone

ED. KEYSTONE:—There are many things designed for special purposes which are partial or utter failures, their utility sometimes depending upon the skill of the user. Every watchmaker using an American lathe knows that its closest companion is the turning graver, and no matter how perfectly the little tool is prepared for cutting, or what method is used to get it in proper condition, it is at any moment subject to fracture and rapid dulling at the extreme point, and to restore the point quickly and at the same time preserve the angle, is the question that confronts you quite too frequently to improve your temper or that of the graver.

The undersigned has found the greatest expediency in the use of the India oilstone, the satisfaction obtained from its use is most complete. The surface of the stone is beautiful, hard and durable, more so than that of the Arkansas stone, and its cutting qualities are marvelous. Any watchmaker in possession of the three grades of this stone, is equipped to rapidly whet out a broken point from his graver; using the coarse stone first, with a few rubs on the medium-grade stone and finish on the fine stone, which gives you a cutting edge that leaves scarcely any marks on your jewel setting, and all with a rapidity that puts you in the best of humor.

A workman providing himself with the India oilstone, at my suggestion, will have occasion to remember me with favor the balance of his days at the bench. Your material and tool house keeps the stones.

Very truly,
Port Washington, Wis. CHAS. F. ECKEL.

A Useful Suggestion

ED. KEYSTONE:—I have noticed in Workshop Notes the query from "Nickel." I have had similar trouble with same make of clock, and found that the real cause was the hairspring sliding in the collet. Let Brother "Nickel" punch the edge of collet over hairspring, and the trouble is ended for a year, unless the mainspring breaks.

Truly yours,
Greenwich, Conn. R. H. BURGESS.

On Taking the Power off Chain and Fusee Watches

ED. KEYSTONE:—While it is a fast-passing design, there are still enough of chain and fusee watches in circulation to warrant the following hints on how to take off the power and how to put in the chain when the watch is put together. I have tried many, and read of many more I should not care to try, but I think the following method which I have adopted for many years is by far and away the best. I have often been surprised at how few are aware of this method—men who have wrought long years at the trade never having heard of it—and it is to give it widespread pub-

licity that I submit it to THE KEYSTONE. Having taken off the cock, balance and the bar which covers the barrel (the watch is fully wound up, but, of course, the bar can be taken off without any fear), you have the barrel exposed as in Fig. 1. The heavy black line *c*, on the edge of the barrel, is the chain which is in the usual position when

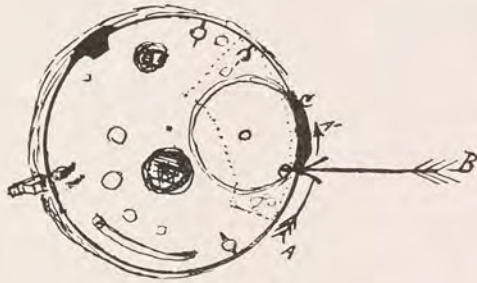


Fig. 1

the watch is fully wound. Next, insert the point of a fine screwdriver or other handy tool, represented by the arrow *B*, into the hole in the barrel lid, holding the tail end of the tool in the mouth. Now put down the thumb and pressing against the screwdriver move it in the direction of the arrow *A A'*. This will take the pressure off the chain and leave it with a little hump, as *c*, in Fig. 2, which shows the watch with the screwdriver removed from the hole in the barrel. It is now an



Fig. 2

easy matter to remove the chain-hook from the barrel, and with the pressure of the thumb allow the mainspring to unwind. This it does so gently, as to make any sudden shock on the barrel impossible.

Should the watch be partly run down, and the hole in the barrel not as shown, it is an easy matter by winding the watch a little to get the barrel into the desired position.

Fig. 3 has reference to putting the chain on, and almost explains itself. Having got the watch

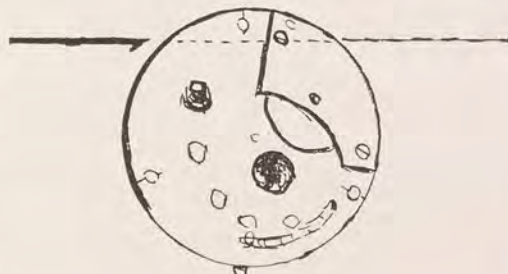


Fig. 3

together and the barrel screwed into position, get the chain and drop it through from the fusee to the barrel, as shown by the dotted line. Then insert the hook in the barrel and coil the chain round in the usual way. This does away with the difficulty of getting the chain through the plates, which is such a trouble if the chain is coiled on the barrel first.

Truly yours,
Glasgow, Scotland. A. G.

Debates at Local Associations

ED. KEYSTONE:—The jewelers of this town and section have formed a local association, and contemplate meeting weekly, if possible, for the discussion of various business subjects and for mutual improvement. In accordance with your suggestion in a recent issue, can you furnish us with some subjects suitable for discussion, or on which we could have papers written by the members to read at the meetings for our instruction.

Very truly yours,
C. S. G.

[Our correspondent will notice in the last two issues of our journal reports of several meetings of retail jewelers, at which papers were read on a number of subjects such as he refers to. There can be no difficulty in finding suitable subjects for discussion, as almost every issue of our journal will furnish these in abundance. Among those which we would suggest at random are:

- Store Arrangement and Furnishing.
- Attracting Custom.
- Conducting a Retail Jewelry Business.
- Window Construction and Display.
- The Care of Stock.
- Fire Insurance.
- Safeguards Against Thieves.
- Getting Rid of Old Stock.
- Treatment of Employees.
- System in Bench Work.
- Advertising the Repair Department.
- New Tools and Improvements on Old Tools.
- Labor-Saving Devices.
- The Cash Discount and its Advantages, etc.

These are but a few of the many subjects valuable for intelligent and instructive discussion. Interesting talks can always be had at such meetings on personal experiences alone—experiences at the bench or behind the counter, in repair work, in buying or in selling. In a serial now running in THE KEYSTONE, entitled "The Smithville Jewelers' Trust," our readers will find a number of suggestions which they could utilize for discussion purposes. The local association for instruction and improvement is an excellent idea, and THE KEYSTONE will give all possible aid to the members of such associations. By the use of the index to back numbers of our journal, our readers can find in a few moments abundant material on almost any subject.—ED.]

Liquefying Natural Gas

Wolski, an Austrian experimenter, has recently patented a process of liquefying natural gas, which, it is reported, has been successfully employed in the Karpathian oil-fields. The liquid can be safely kept for storage or transportation in ordinary soda-water siphons. Among the uses suggested for liquefied natural gas are the lighting of isolated houses and the driving of small engines and motors.

Beautiful Pearls

The pearls found on the gulf coast of Lower California are said to exhibit a greater variety of colors than those of any other part of the world, and the business of pearl-fishing there is growing. The chief colors are black, gray, red, bluish-green and yellowish. The red pearls rank among the most valuable. They possess a fine luster, and many of them are large and of the most perfect shape. They are, however, found only occasionally.

"I do not know how The Keystone could be improved. It is surely a very fine publication. I am most interested in how to run a jewelry store and articles on optics."—H. W. Dexter, Jeweler, Springfield, Vermont.

JUERGENS & ANDERSEN Co.

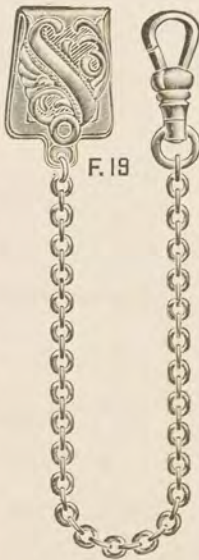
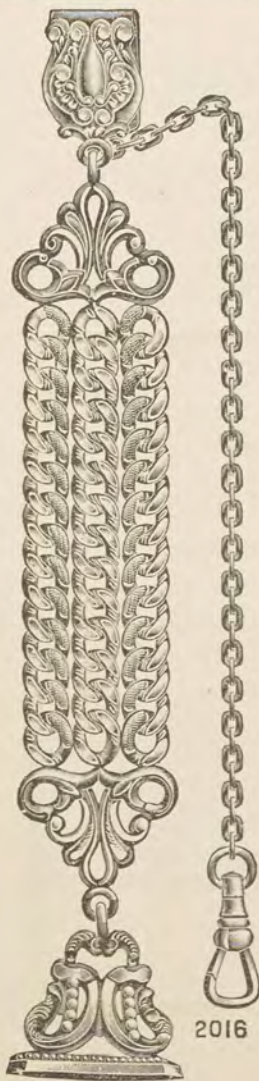
DIAMONDS, PEARLS

MAKERS OF FINE JEWELRY

92 TO 98 STATE STREET

CHICAGO

23-25 LOOIJERSGRACHT, AMSTERDAM, HOLLAND



New York Office
9 Maiden Lane

BATES & BACON

ATTLEBORO, MASS.

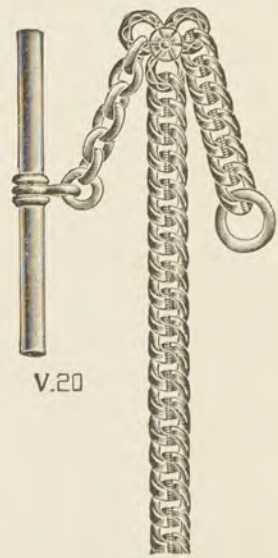
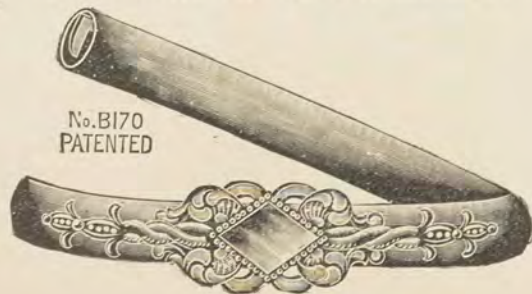
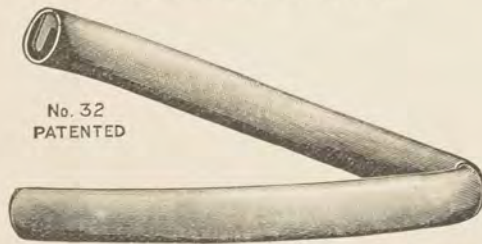
Makers of **High-Grade Chains**

The BEST SAFETY FOB is one of our specialties ;
Gent's Vests, Dickens, Lorgnettes, Secret Locket
Chains, Lockets and Chatelaines.

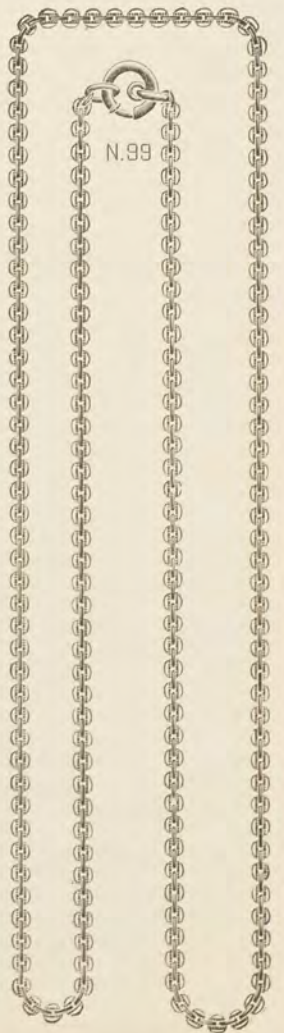
THE NEW "BATES" BRACELETS

"Kant-Kum-Off"

MADE IN SEVEN SIZES



Chicago Office
103 State Street



Ask your jobbers for THE "BATES" BRACELETS and you get the BEST

Among Jewelry Advertisers

There is much concentrated common sense in the following aphorisms of an advertising man :

A half page of plain talk is better than a whole page of puzzle pictures.

Take nothing for granted in business. The very point that you think a buyer ought to know may be the one he doesn't know, and if you fail to indicate it you may lose the order.

When everybody else is selling similar goods by use of the same methods, go thou and do it in just the opposite fashion, and you will win glory, renown and profit.

To get real returns, in either salesmanship or in advertising, we must be specific ; we must say what, and when—to close the deal.

Advertising a thing doesn't always mean selling it, but selling it always means advertising it.

Advertising ten things in one letter, you confuse the reader, but advertise one thing in ten letters and you determine his choice.

Samples of Newspaper Advertisements

Fashionable Hair Ornaments



Fancy mounted combs play an important part in present-day hair decoration.

To procure a moderately priced assortment of Back and Side Combs that are of uncommon and exclusive style has been our successful endeavor as shown by our present display.

Light and Dark Colors. Some Jeweled. Others Plain. Nearly all with Gold Filled Mountings.

We invite you to come and see.

D. A. REESOR



Art Pottery

is being chosen by many tasteful buyers of wedding gifts.

The styles shown in our Art Rooms are absolutely free from the tawdry and in-artistic elements that make some collections so hideous to the discriminating purchaser.

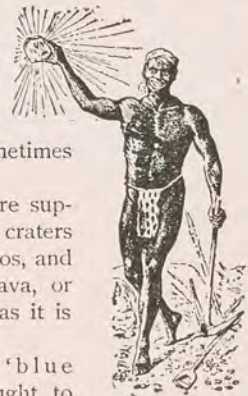
Come in and see the kind we consider worth while—you'll agree with us.

MAIER & BERKELE

ATLANTA, GA.

DIAMONDS

are usually found in mines at a depth of from a thousand to fifteen hundred feet and sometimes even more.



These mines are supposed to be the craters of extinct volcanos, and are filled with lava, or "blue ground" as it is called.

When the "blue ground" is brought to the surface it is exposed to the weather for six or eight months. After this long period, when sun and rain and wind have disintegrated the "blue ground," the first real search for diamonds begins.

This week and next we will show stones in the rough—a very interesting exhibit to any one interested in diamonds.

JACCARD JEWELRY CO.

WHY WE EMPHASIZE QUALITY

We know the chances that the casual diamond purchaser takes in selecting a stone.

And we have seen so many diamonds that have been bought for "firsts" and are not, that we are constantly emphasizing the fact that a "Reesor" diamond is absolutely a perfect stone guaranteed.

A "Reesor" diamond is far above the competitive level as regards both quality and price.

D. A. REESOR



A Bracelet Season

¶ This Summer will be a popular Bracelet season. Why? Because of the short sleeves and long gloves now so fashionable. And nothing so much adds to the charm of a woman's arm as a pretty Bracelet.

¶ We have a beautiful line of Bracelets, in solid gold, in scores of styles and patterns, plain, engraved and jeweled.

¶ We have a very pretty Bracelet, solid gold, as low as \$4. Richer styles up to \$20.

¶ Gold Filled Bracelets, \$2.25 to \$5.50.

¶ We're famous for selling just the right kind of Wedding Rings in 14 and 18 K. Engraving free.

¶ And our reputation for quality is your perfect assurance of worth.

A. DAVIDSON

Silver Instead of Diamonds

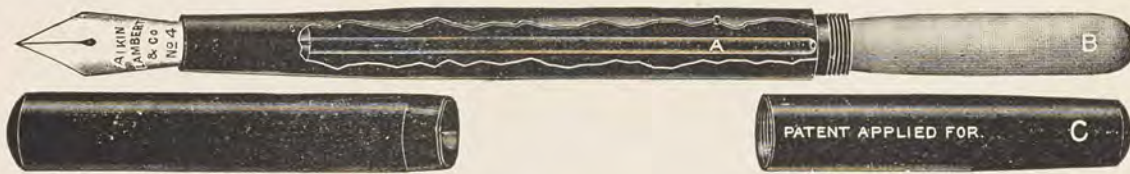
Sterling Silverware is now within the reach of nearly all. The present is a good time to furnish the home with a good stock of family silver. Our stock is one of the best in Canada in quality, in finish and for value. The price of Diamonds is absurd.

Wanless & Co.

AIKIN=LAMBERT CO.'S

Self-Filling Fountain Pen

Retails 3A, \$3.00 4A, \$3.50 5A, \$4.50



We offer to the trade a new self-filling device in Fountain Pens that we believe for convenience, durability and simplicity to be the best yet invented for this purpose, and shall be pleased to furnish samples to dealers with prices and discounts.

It has no ink joint to soil fingers or clothing. Holds three times as much ink as any other self-filler. Ink is held in a hard rubber reservoir instead of soft rubber sack. Pressing the bulb expels the air and ink flows into the barrel.

NEW and GOOD

Mercantile Fountain Pen

Made and fully guaranteed by

AIKIN-LAMBERT CO.

19 Maiden Lane
NEW YORK

WRITE FOR SAMPLES AND PRICES

STEEL DIE EMBOSSING

AND

COPPER PLATE ENGRAVING

& PRINTING TO THE TRADE

WM FREUND & SONS.

174-176 STATE ST. CHICAGO.

EST. - 1865

Our New
Wedding
and
Society
Stationery
Fall Sample Sets
now ready.
Write for
particulars

THE "CLEAN-TO-HANDLE" FOUNTAIN PEN

Moore's Non-Leakable Fountain Pen

Retails from \$2.50 up



THE FOLLOWING CLAIMS WE GUARANTEE:

1. That the pen is filled without unscrewing the section, thus avoiding soiling the fingers with ink when filling.
2. That the pen is drawn back into the barrel or reservoir after using, and when the cap is turned on is absolutely AIR and INK tight.
3. That it can be carried in any position in any pocket and cannot leak.
4. That the pen is always ready to write the instant it touches the paper.

5. That the barrel being AIR-TIGHT, the ink never thickens or dries up, and if the pen is not used for a year, it writes just as readily.
6. That we have the ONLY desirable fountain pen IN THE MARKET for LADIES' USE.
7. That our "Tourist" or Military Pen is the best pen made for travelers' or military use.
8. That we use nothing but the highest grade gold pens.
9. That we use pure gum rubber, and the superior finish and luster of our holders is very noticeable when compared with others made from common stock.

Sectional View of Pen Closed for Carrying



American Fountain Pen Co.

Boston, Mass.

R. W. SPENCE, New York Agent, 152 Broadway
I. P. PATCH, Philadelphia Agent, 1029 Chestnut Street

JOHN HOLLAND FOUNTAIN PENS

Lately improved with a PATENTED FEEDING DEVICE

THE SUCCESS OF THE PEN AGE

Also makers of Gold Pens, Fine Pen Holders, Pencils, Toothpicks, Thermometer Cases and Stylographic Pens.

THE JOHN HOLLAND GOLD PEN CO.

Established 1841 127-129 E. Fourth St., CINCINNATI Eastern Sales Dept., 66 John St., New York City

The "MODEL" Fountain Pen



THE MODEL OF PERFECTION. Retail Price, \$1.00 to \$10.00. Made of finest grade rubber and fitted with a 14 K. Gold Pen. No extra charge for special imprint. Every pen guaranteed. Write for samples and prices. All makes repaired and returned same day received.

HERING & CO., 47 Ann Street, New York

CUTS FOR NEWSPAPER ADVERTISING



These illustrations were specially designed for the use of jewelers and are sold at a mere nominal price. Send for sheets showing samples and stating prices.

The Keystone Publishing Co., 809-811-813 North 19th Street, Philadelphia, Pa.





Fountain Pens as a Side Line

The fountain pen is one of the articles of merchandise which might almost as appropriately be classed with jewelry as with stationery, and for this reason it has become an accepted portion of the jeweler's staple stock. It is also a very profitable portion if given the attention which its growing popularity merits. A writer in the *Western Druggist* gives some excellent suggestions on the subject in the following article:

Few lines offer the advantages or as profitable returns as fountain pens, which with the least effort has been made one of the best-paying departments in our store, adding greatly to our yearly profit both directly and indirectly. Very little space is required for a good assortment of pens; the amount invested is small, retail prices are protected by all leading manufacturers and each sale represents a profit of from one to four dollars and even more on the more elaborate pens. The business is not limited to one short season of a few days or weeks in the year, but the stock is salable the year around with no dead or unsalable goods accumulating to lessen the margin of profit, as all over-stock or unsalable goods are exchangeable at any time for goods that are salable. Direct results are obtained by the retail dealer from the large amount of magazine and other advertising done by the manufacturers, which has created an increasing demand for fountain pens, as few, if any, do a direct business with the public.

Methods of Handling

In this short article it is the writer's intention to give a brief description of some of the methods we have employed in building up a very successful business in this line amounting to several gross each year. A neat show case, loaned us by the manufacturers, containing an assortment of six dozen pens, is given a prominent position in the front of the store. Every pen in the case is filled with ink and in writing order, ready for use the instant it comes in contact with paper, a liberal supply of which is kept in a convenient place so that no time will be lost in inducing a customer to test them.

Many opportunities are offered for bringing up the subject of fountain pens in an indirect way through the sale of steel pens, penholders, pencils, memorandum books, souvenir postals and many other articles sold daily. We have traced several fountain pen

sales from the unprofitable and despised postage stamps, through loaning a pen for the purpose of addressing an envelope. A customer's curiosity is quickly aroused and he is readily induced to look at something new in the line which has just been received, and the pens in the case are tried with much interest. If a sale is not made, a desire is created to purchase at some future time. If we are able to interest a customer with whom we are acquainted and know to be reliable, but to whom we cannot sell, he is asked to take a pen and try it for a few days. We find where customers use a fountain pen for five or six days and become accustomed to it, they will not be without one and, with rarely an exception, a sale is made. Two books are kept near the case, one in which a record is kept of every sale made, with date sold, kind and price.

Each Pen Guaranteed

Every pen sold by us is guaranteed; if not satisfactory in every respect, or if it does not suit the hand after a thorough trial for a few days, we replace it with another. By keeping a record of the sales we not only protect ourselves from exchanging a pen sold by some other dealer, but are often successful in selling the same customer a better pen by taking the cheaper one in exchange as part payment if it is in good condition. If a pen becomes soiled or scratched it is forwarded to the manufacturers, who repolish it and put it in good order free of expense. In the other book is kept a list of prospective customers, which makes a valuable mailing list, and is forwarded to the manufacturers each month and a personal letter sent by them to each one on the list directing him to our store. The small amount of time consumed by us in making displays and demonstrating the pens has been our only advertising expense; this being done in unoccupied time without interfering with our regular duties, can hardly be considered. We credit our success to four methods employed by us, which are: personal efforts, enthusiastic customers, window displays and mailing lists.

Pleasing Customers

More sales have been traced through enthusiastic customers than by any other method. We try to make every customer an enthusiastic customer; every detail of the pen is explained. Our personal guarantee is impressed upon them and pains are taken to fit the hand correctly, so that a pen is neither too fine nor too coarse, too flexible nor too stiff. Frequent inquiries are made as to whether the pens are working satisfactorily, and if the least fault is found with it another pen is given them in exchange without a question. We have traced the sales of as many as eight pens through one customer

showing his pen to his friends and directing them to us.

Next in importance is our window displays, which are made about every ten weeks and allowed to remain a week. Very neat and attractive displays can be made with fountain pens and no display has attracted greater attention or produced more profitable returns than our fountain pen window, as a direct result of which we frequently sell from one to two dozen pens with an average profit of a dollar and a half on each sale.

Mailing Lists

The mailing list which is made up of prospective customers only, is productive of good results, and pays us well for the trouble and time required in keeping it.

The indirect business brought us through fountain pens in other lines, such as inks, blank books and office supplies, is of no little importance when the year's business is figured up. And some revenue is derived from repairing pens on which a trade discount is allowed by all manufacturers.

Pens that will not Wear Out

One of the properties of tantalite, a new metal discovered in Germany not long ago, is that it can be utilized in the manufacture of a pen which will be practically everlasting. The metal is so hard that a diamond drill working at the rate of 5000 revolutions per minute hardly makes an impression upon its surface, and it can be rolled so thin that the pen will have all the desired resiliency. This pen will, therefore, withstand a great amount of hard usage. It will really be a difficult thing to put it out of business. No character of ink will affect it; in fact, it will resist all chemicals to a very great degree.

Business Stationery

Business stationery of the present day has been elevated to the same high quality which has so long been used in heraldry and art—by intaglio engraved plates. Elegance in commercial stationery gives your business the same favorable introduction into business circles as does the engraved card socially. Recent improvements have been made in methods and machinery, and one can now secure a steel engraved die, beautifully printed and embossed at a much lower cost than ever before. Stationers who handle a general line can add to their income by introducing a department for this class of stationery. It may require some educating of large users of business stationery to convince them that the best is the cheapest. Innovations of this character are sometimes difficult to introduce, but once consumers of stationery can be taught the importance of having the best, a continuous trade is assured.

When in New York

A VISIT TO THIS HOUSE

will pay you, for here you will find the direct proof of all that is claimed for



173 Broadway, Cor. of Cortlandt St. and Broadway

Waterman's Ideal Fountain Pen

The pen with  the Clip-Cap

TELL YOUR BUYER to be sure and call, for he can learn methods where and how to sell business men our pens and establish a most profitable trade.

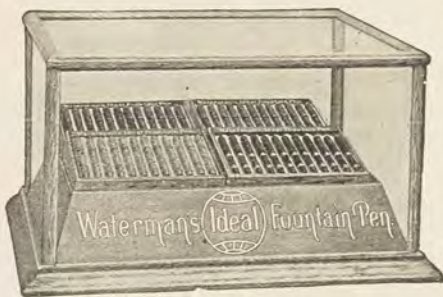
TELL YOUR BUYER if he will call on us we can show him fancy and especially made pens for women, that sell on sight with handsome profits.

TELL YOUR BUYER to be sure and see us, for we have pens artistically mounted in gold and silver, some bearing fraternal emblems of all kinds, for which there is a constant demand and a beautiful profit for you.

AND IN SUMMARIZING

we would say that your buyer, whether he has ever bought fountain pens or not, will feel that this line deserves the attention of every live, up-to-date Jewelry store in this country, when he once learns how easily this stock sells, and that the profits are truly guaranteed.

"The" Favorite Case



No. 8—(Four Dozen) Cherry or Oak Show Case and Cabinet Combined.

Dimensions—21¼ x 18½ x 12 in. high; capacity of trays, 48 pens. Fitted with drawer, partitioned and labeled to hold additional stock, repairs, aids and other accessories.

You Can Turn This Over Eight or Ten Times in a Year



Cut and out mail

L. E. WATERMAN CO.

173 Broadway, NEW YORK

Corner of Cortlandt Street

L. E. WATERMAN CO., of Canada, Limited

136 St. James Street, MONTREAL

Our Pacific Coast Office is now re-located at
742 Market St., SAN FRANCISCO

L. E. WATERMAN CO.
173 Broadway, New York.
Gentlemen:
We are on the lookout for profits.
Send your catalog that tells all about a good fountain pen—Waterman's Ideal Fountain Pen—and with that catalog send us description of a plan that'll make money for us.
Yours for profits,

How Lead Pencils are Made

The History of the Lead Pencil—Where Graphite is Found—Processes of Pencil Manufacture

As the so-called "lead" pencils are now so common and their manufacture so important an industry, a description of the modern processes of manufacture cannot fail to be interesting. The story of the lead pencil was vividly told in a recent address by John A. Walker, vice-president and general manager of the Joseph Dixon Crucible Co., Jersey City, N. J., U.S.A.

In the course of his remarks Mr. Walker pointed out "the first thing about a lead pencil is that there is no lead in it; that is, no metallic lead. The heart and soul of a lead pencil, commonly known as lead, is properly called 'graphite'. The mineral has three names: graphite, plumbago and black-lead. It is called 'graphite' in scientific circles, 'plumbago' by the Custom House people and 'lead' in ordinary parlance.

"There is not a very remote antiquity to the lead pencil. Some old parchments are known that were marked with lead ruling, but this must have been metallic lead. Le Moine speaks of documents marked with graphite. Other writers have found papers which were evidently written with a piece of graphite inserted in the end of a stick. This shows the evolution of the pencil, beginning with the use of a piece of graphite in connection with a stick.

"The first pencil factory in America was founded by a school girl. There was a graphite mine in England at that time, called the Barrowdale Mine. This school girl, from somewhere, obtained some of these pieces, and anticipated quite closely the pencil method of modern days. In some way she crushed the graphite, either with a hammer or a stone and then employed gum, mixing the two together, and then cut an alder twig, dug the pulp out, and stuffed the little cylinder full of the gum and graphite, and thus produced the first lead pencil made in America.

"To go back to England, the Barrowdale Mine was the source of the graphite, and the pieces of graphite quarried were said to be in such form that they could be sawn and pressed into the wood. It could easily be foreseen, however, that pieces of this kind were not very numerous. It then occurred to a Frenchman by name of Conte to powder the graphite and put it altogether with a binding material, and he worked at it until he produced the graphite part of the pencil, substantially as it is made now. Not much, however, was done with it, either by Conte or by any other French-

man. The Germans then took it up, and while this Frenchman was the originator of this system, to the Germans belong the credit of working it out and putting it into its present shape.

"Concerning the coming of the Germans to America, Faber came first in 1861; the second American factory was founded by what is known as the American Lead Pencil Company. They started in 1864. In 1868 the Eagle Pencil Company transferred their interests here, and in 1872 the Dixon Company started. The Dixon Company sold their first pencils in 1872.

"The work of pencil making is picturesque. All the visitors to the Dixon works say that they had no idea it took so many processes to make a pencil. The work is ingenious and attractive, and a nice exhibit of mechanical talent. The number of raw materials used is between forty and fifty, and the whole world contributes to the assembling of the raw materials. Most of the processes are done by automatic machinery.

"The graphite is carefully separated from the rock before being sent to Jersey City. The first step in Jersey City is to get all the grit out of it. It goes through the process of washing and sifting, through many machines, until it is passed upon as absolutely perfect. The clay, which is the binding material, is treated in the same way. The clay is mined in Germany. It is cleaned and made ready for the mixture by an elaborate cleaning and sifting process. By a combination of the two, the so-called lead is produced, and by the blending of the two the grades are produced. The more graphite and the less clay, the softer the pencil; the more clay and the less graphite, the harder the pencil. In this way the various grades are produced, running all the way from very, very soft, until you reach the very, very hard. The soft leads are made larger than the hard ones, to obtain in that way the necessary tensile strength. When the mixture is perfected it is put into a very heavy hydraulic machine, the bottom of which is full of holes. Heavy pressure is brought to bear and the mixture is forced through these holes and falls into a tub below. This is repeated time after time until judgment assures the worker that it is well kneaded. Then it is put through a similar machine with a single hole in the bottom. As it is passed through this single hole it comes out as strong as a shoestring. The next step is laying these leads out on a board twenty-one inches long, and when dry they are cut into lengths seven inches long, placed in a crucible, sealed up and baked in the kiln, where the temperature reaches 2200 or 2300 degrees Fahrenheit. After being taken from the kiln they are ready then to be placed in the wood.

"The colored leads go through the same process, with the exception that a China clay is used for the binding material and the pigments are used instead of graphite, to give the different colors. It is the same way also with the so-called copying leads, where aniline is substituted for the graphite.

The Wood used in Pencils

"The wood is cut in Florida. The logs grow there. The consumption of cedar logs suitable for pencils is going on at a greater rate than the growth. One of these days cedar will be a thing of the past. The pencil people have to be forehanded in supplying themselves with a large quantity of cedar to protect themselves against any contingency.

"The product of the sawmill is what is called a slat, which has the width of six pencils, the thickness of a half pencil, and is seven inches long. Where the wood will not produce six pencils it is cut into five, or if necessary four, or three or two. The expense of gathering the cedar and cutting the slats is immense. The next step is removing the pitch from the cedar. This is done by a system of boiling, and after the boiling they are thoroughly kiln-dried. Coming from the kiln, the slat is sent to what is called the grooving machine, where in one motion it receives six grooves. From there it goes to the table, where the leads are laid in, after which the glued other half is fitted, and then they are confined in certain clamps, screwed up tight and left over night. In due time the blocks are released, and are now ready to go to the shaping machines. These glued blocks, as they are called, are fed in at one end of the shaping machine, and the pencils, perfectly shaped, come out at the other end, and they can be either hexagonal, round, or any shape that one pleases. The knife cuts them exceedingly smooth.

The Finishing Touches

"From the shaping machine they go to the varnish machines, to which they are fed with a hopper. Each pencil, as it passes through the varnish machine gets itself coated with varnish, is picked up and returned, to get a second coat, etc., until it receives as many coats as the system call for. It will be observed that the varnish in this way varnishes also the end of the pencil as well as the sides, so they then go to another machine that trims the ends. A preliminary trimming is done first, and then the partially trimmed ends are submitted to a very sharp knife, which finishes them.

"One of the most troublesome rooms in the pencil factory is where the gold leaf is laid on. It has to be a room where the air is necessarily excluded. The gold leaf is laid on, and great skill and care is exercised in getting the gold leaf cut and laid on properly on a round or hexagonal pencil. The pencils are then conveyed to stamping machines, and the letters of the die are stamped into the gold. After the impression is made on the gold leaf, the surplus gold is rubbed off, and then we have the stamped letters as you see them on the ordinary pencil.

"After this comes the sorting, labeling of the boxes, and the pencils are ready for the market.

"Florida cedar is used because it is straight-grained and cuts like a piece of cheese. In California there are millions of trees of the so-called redwood which have been tried for the purpose but have not been found suitable. As long as the supply of the Florida, Georgia and Alabama cedar lasts, the California redwood will not be used for this purpose."

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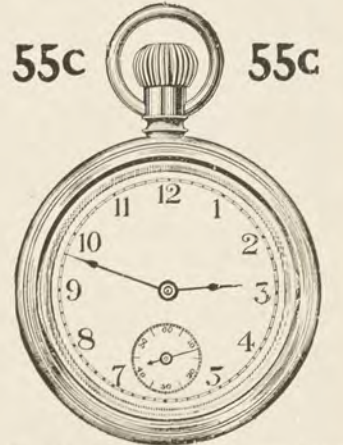


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CHICAGO, ILL.

Modern Detached Lever Escapement

Address of C. T. HIGGINBOTHAM, superintendent of the South Bend Watch Factory, before the convention of the Retail Jewelers' Association of Illinois.

When, four hundred years ago, Peter Hele, of Nuremberg, essayed to manufacture watches, the best available device he could find for regulating the motion of the train wheels was a verge escapement carrying a steel balance, to which was attached a piece of catgut, or its motion controlled by a projecting bristle against which one of the arms struck. This crude contrivance was little better than a mechanical toy, comparatively useless as a timepiece. It carried but a single indicator—an hour hand; the minute hand would have been a useless superfluity. It was not until twenty-five years later and the fusee was invented that the minute hand was added. About 150 years after the fusee had been applied the hairspring was invented, and it was now discovered that the verge escapement was too sensitive to the slightest variation in power to be satisfactory as a governing device; still, up to the middle of the eighteenth century nothing better had been devised. In fact, the celebrated chronometer with which John Harriman took the English prize of £20,000, had an improved form of verge escapement, and it would have been impossible for him to have secured the results recorded had it not been that he introduced a remontoire attachment to the train, which wound the third or fourth wheel at short intervals.

The possibilities for accurate timepieces for use at sea, turned the attention of horologists to the subject of escapements, and many inventions followed each other in rapid succession, many of which have gone entirely out of use. The principal escapements were the cylinder, the duplex, the detent or chronometer and the lever. Of these the detached lever has stood the test and proved itself best adapted to a pocket timepiece. It is this form of escapement to which I desire your attention.

The Lever Escapement

The lever escapement has undergone many changes since its first introduction by Mudge in 1763. In these changes certain fixed principles have been established: The number of the escape wheel teeth has been fixed at fifteen; the extent of the span of the pallets at $3\frac{1}{2}$ teeth; exposed pallets have been almost universally adopted. The lift of the pallets or oscillation of the fork has been fixed approximately at 10° of a circle. The old controversy as to the respective merits of the long and short fork may be considered virtually settled, the roller impulse having been determined at approximately 30° . That is to say, the distance from the center of the balance staff to the face of the roller or impulse pin is about one-third the distance from the center of the balance staff to the center of the pallet arbor. There are, however, still a few points in dispute. I shall endeavor in a fair and impartial manner to present the arguments for and against these disputed points, allowing you to judge of their respective merits.

First, I would call your attention to the question of equi-distance lockings as compared with equi-distance centers. In the former the locking faces of the pallet stones are equally distant from the center of oscillation, which in this case is the center of the pallet arbor, the advantage claimed being that an equal draft is thus secured. To

secure an equal impulse it is necessary to form the impulse faces of the pallet-stones at widely different angles, the discharging stone forming the most obtuse angle with respect to the locking face. The disadvantage of this form is that there is a somewhat greater loss of power from sideshake owing to the conditions produced by the impulse of the receiving stone commencing, as it does, at the



Fig. 1

same distance from the center that the discharge does, but unlike it, approaching the center in receiving its impulse. This loss is in proportion to the diminished distance of the impulse face of the receiving stone as compared with the discharging stone. In the equi-distance center's escapement the center of the impulse faces are equally distant from the center of oscillation. This secures the advantage of an equal loss of power from sideshake. To overcome the disadvantage of unequal



Fig. 2

draft the stones are set at different angles in the pallet. Either of these forms are capable of excellent results.

Best Form of Impulse Faces

Another point of dispute is as to the best form of impulse faces, both for the pallets and for the escape teeth. One method is to make the pallet stone impulse face a perfectly flat plane, and to curve the impulse face of the escape teeth transversely with the face of

the wheel. Another method is to curve the impulse face of the pallet stone transversely with the face of the pallet and fork and to make the impulse face of the escape wheel tooth a flat plane. Still another method is to make the impulse face of the escape wheel curved longitudinally with the face of the wheel, the impulse face of the stone being curved transversely. The object of all these forms is to present as small a contact of surfaces as possible—not, as may be supposed, to lessen friction, as friction has nothing to do with extent of surfaces, but to lessen cohesion caused by oil between the surfaces.

Another disputed point is the table roller as compared with the double roller, and here let me say that the double roller is by no means a new device. We are all aware that it was in use more or less fifty years ago, but it is not generally understood that the earliest lever escapements were of this type. In considering the merits of the two devices it must be remembered that the guard pin and roller action is entirely one of safety. It is a misuse of this action to employ it for the correction of other errors that may exist in the escapement. A correctly-designed and properly-adjusted escapement will produce just as accurate results as to time without as with safety action. In ordinary use if the escapement is so designed and adjusted, the guard pin or guard piece will not touch the roller twice in the course of a year except when the train is reversed by setting the second hand backward.

By Way of Illustration

I have here a watch without any safety device. The guard pin has been removed. This watch was not especially prepared in any other particular for the test to which it was subjected. It was merely selected from stock and the guard pin broken off. It has been carried for a long period in the pocket in ordinary use, on street cars, bicycles, horseback and railway trains. It has just completed a journey of 2500 miles, one night having been spent by its wearer in an upper berth immediately over the trucks of a sleeping car. During this time it has never gone out of action even though it has dropped to the full length of the chain by which it was attached to the wearer's vest, three or four times. I have used the term "out of action" instead of overbanked, as is sometimes done, for the reason that the terms are not synonymous. A watch that overbanks is one where the extent of vibration of the balance is so great that the roller pin passes entirely around and strikes the outside edge of the fork, thus causing acceleration of time. When the guard pin passes the edge of the roller so that the fork slot will not be in position to receive the roller pin, it is said to be out of action.

The claim for the double-roller escapement is additional safety against going out of action. This is secured by a deeper penetration of the guard piece into the path made by the outside of the roller and as a consequence less wedging action when the guard piece impinges against the edge of the safety roller. Its disadvantages are that it becomes necessary to make the fork somewhat heavier to form this guard piece. Thus by increasing the weight of the fork increases the loss by impact. It must be borne in mind that the fork comes to a rest immediately on delivering its impulse to the balance and remains in this condition until released by the roller pin on its return. The inertia of the fork is overcome by the balance striking it while at its greatest speed.

The difference between imparting motion to a piece by applying gradually increasing power or by sudden impact, will be readily understood if you

(Continued on page 1575)

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Modern Detached Lever Escapement

(Continued from page 1573)

will imagine attempting to move a train of cars by bringing a locomotive at full speed against its rear end. This, on a small scale, is what a balance has to accomplish in imparting sufficient motion to the fork to provide the unlocking of the escapement. Another disadvantage in the double roller is that for an extent of 15 to 20 degrees at each side of the impulse, the safety action does not take place between the edge of the roller and the point of the guard piece, but between the jewel pin and fork horns.

Advantages of Table Roller

The advantages claimed for a table roller is that the safety action, under all circumstances, takes place between the guard pin and the roller edge. The horns of the fork may be entirely dispensed with without impairing its efficiency, also the fork may be made lighter than in the other form. The disadvantage is that the guard pin penetrating a less distance into the path of the roller edge, will, when thrown against it, impinge with a more wedging action, and for this reason it requires more careful adjustment.

I will now ask your attention to simple instructions for the adjustment of a detached lever escapement. We will assume that the escapement being treated, has been originally correctly designed, and has simply become deranged by accident or otherwise, first try the action of the escape wheel tooth as it passes over the impulse face of the pallet stone. When it slides from the locking face both impulse faces should form a slight angle of the divergent, the locking corner, only, of the escape wheel being in contact with the pallet stone (see Fig. 1). As it passes along the impulse face, this angle should gradually decrease until the faces are practically parallel (see Fig. 2), and before leaving, the other corner, only, of the escape-wheel tooth should be in contact with the pallets (see Fig. 3). As to the locking, there should always be an angle of divergence between the locking face of the escape-wheel tooth and that of the pallet stone, the locking corner, only, of the escape-wheel tooth being in contact with the locking face of the stone (see Fig. 4). Drawing out the receiving stone increases the angle of impulse and draft. Drawing out the discharging stone decreases the angle of impulse and draft, and vice versa. This point should be steadily borne in mind. Having secured the proper action of impulse, see that the locking is just sufficient for safety, the usual amount being three-quarters of one degree of a circle, also, that as the escape-wheel tooth is released from one pallet stone and another tooth drops to the other stone, that the drops on the receiving and the discharging are equal. This will be the case if the escapement has originally been perfect, if not, a slight alteration can be made by pressing one or the other stone toward the inside or outside in its slot, care being exercised that the amount of movement shall not be sufficient to derange the impulse or draft action. Now, close the banking so that the instant the escape wheel drops the slide of the fork shall strike the banking pin; now, try the draft by lifting the fork slightly from each banking to see that it returns promptly.

Fork and Roller Action

Having thus secured the proper adjustment of the escape wheel and pallet action, we will proceed to the fork and roller action. First see that the guard pin is perfectly central with the fork slot, and upright. Now by moving

the banking screws adjust the fork so that when it strikes each pin there shall be just sufficient freedom to allow the edge of the roller to pass the guard pin. If it is found that in this condition the escape wheel will escape from one pallet stone and not from the other, swing the pallets on the pallet arbor, changing their position with the fork so that it will escape on both sides. Should it be found that it escapes on neither side, move the guard pin slightly forward and open the bankings. If it is



Fig. 3

found that after the escape-wheel tooth has dropped on the locking face it still slides up a distance on that face, move the guard pin backward and close the banking. You will now have what is known in watch-factory parlance as "a watch banked to drop." It will be necessary finally to determine whether the roller pin is at the correct distance from the center of the roller. To determine this move the balance slowly until an escape-wheel



Fig. 4

tooth drops on the locking face, then move it slightly backward but not quite sufficient to unlock. Holding the balance in this position, grasp the fork with the tweezers and try the shake. If the roller pin is fairly embraced by both sides of the fork slot this shake will be found normal. If it is not it will be found excessive. In this case move the roller pin slightly forward until the desired result is secured. If it is found that the roller pin will not pass out of the slot of the fork, move the pin slightly backward. By no means attempt to remedy this defect by opening the banking.

Finally, open the bankings just sufficient to give about the same amount of slide on the locking faces of the stones that there is lock, and the escapement will be perfectly adjusted.

First American Town Clock

An old clock that has done duty in the town of Guilford, Conn., for more than a century and has been recuperating in a belfry for nearly a hundred years since, was brought out for exhibition to testify that Guilford was the first town in the United States to own a town clock.

This little town was founded by the Rev. Henry Whitfield in the fall of 1639. He was a clergyman of the Church of England and came to this country for more religious liberty. He founded the First Church of Guilford, and the members of his flock met with him at his home. In 1643 the first church building was erected on the Guilford green and stood until early in 1700, when a new edifice was put up to replace the old building, torn down. Just as soon as the new church was finished members of the congregation began to make plans for a bell. The bell was secured, but then a steeple had to be built to put it in. In 1726 the steeple was completed, but the church tower looked lonely to the Guilfordites without a clock. There was no such thing as a town clock in the colonies. Ebenezer Parmelee was the mechanical genius of Guilford, and the church called upon him to see what he could do in the clock line. After considerable experiment, Parmelee turned out the clock which has since borne his name and which made him famous in the colony. It is a big, cumbersome affair, made entirely of wood. It was wound by means of a big crank, which the sexton of the church had to operate every Monday morning. Dials were placed on the four sides of the steeple, and the town had the only town clock in the country and the only tower and bell in the colony.

Whenever the clock got out of order Parmelee was called upon by the church committee to repair it. After some years of labor of this kind his services as clock tinker were rewarded by the citizens of Guilford, who voted, on December 15, 1741, to free him from service in town offices so long as he continued to keep the clock ticking. The old clock did service until a new one replaced it in 1830.

Amid the cobwebs and owls it was left neglected and forgotten for years. Then somebody asked what had become of the old time-piece, and searching parties found it, covered with the dust of a century, in the church tower. With it were the weights, composed of barrels of stones, that had been used for many years to run it.

Very Thin Nickel or Cobalt Sheets

A method of making very thin films out of nickel or cobalt has been discovered by Thomas A. Edison, says the *Brass World*. A thick film of zinc is deposited upon a polished copper plate. The merest film that it is possible to deposit is plated upon the copper. This is nothing but the merest blush of zinc. A nickel or cobalt deposit is then deposited over the zinc by electro-deposition. When a suitable thickness has been obtained the plate is removed and treated with weak muriatic acid. The acid attacks the zinc and liberates hydrogen gas. This gas forces off the nickel or cobalt deposit. In this manner it is possible to obtain a nickel or cobalt film .002 of an inch in thickness.

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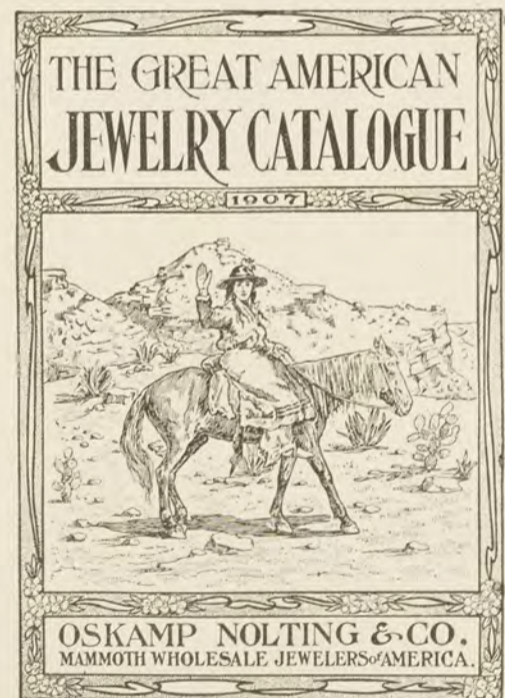
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American National Retail Jewelers' Association

(Continued from page 1539)

methods practiced by the retail catalogue houses to-day, because of which I urge upon all jewelers the need of being thoroughly conversant with the character of goods they handle, and be able at all times to conduct a campaign of education regarding quality."

Mr. Gallett is a firm believer in organization and its efficacy to remedy, at least to some extent, most of the grievances of which the trade now complain. He was quite enthusiastic over the formation of the National Association, and gave the assurance that the jewelers of his State would do everything possible to help along the national organization.

A Correction In regard to the excursion to Newport given to the delegates, and the enjoyable fish dinner there provided for them, we should have stated in

stream, the dead ones will float down. We want, and must have, the name of every live jeweler on our membership list."

H. M. Ryman, Calvert, Texas, another vice-president of the association, writes: "I hope and believe our organization will be a success. All the better class of retailers realize the need of such an association, and though a great many may hold aloof for a time, all will come in as soon as they are satisfied that the association is being run on rational lines. This, each State association will have to demonstrate. It is generally understood that only through unity of action can we hope to accomplish any reforms. To this end we must form strong State organizations all over the country, and to make these successful, a code of ethics should be adopted to bring about a better feeling and harmonize the members, thus overcoming the jealousy and other sources of friction that frequently exist. With strong State organizations to back us, it will not require much argument to induce the manufacturers to establish a just and

ARTICLE II

Section 1. The officers of this association shall be a president, one vice-president from each State when organized in a State association; secretary and treasurer, who shall be elected by ballot at the regular annual meeting, and shall serve for one year, or until their successors are duly elected and qualified.

Section 2. The president, vice-presidents and secretary and treasurer shall constitute an executive committee.

ARTICLE III

Section 1. It shall be the duty of the president to preside at all meetings of the Association; to sign all orders drawn on the treasury by the secretary; to appoint all committees, not otherwise provided for in this constitution, and perform such other duties as usually devolve upon such officers. He shall be ex-officio chairman of the executive committee.

Section 2. The vice-president, first in alphabetical order by States, shall act in case of absence or incapacity of the president.

Section 3. The secretary shall keep a record of the proceedings of all meetings; a complete record of membership; collect all dues from State

Vice-Presidents of the American National Retail Jewelers' Association



W. B. Aukeny, Corning, Iowa



F. C. Newhall, Lynn, Mass.



D. L. Davies, Nelson, Nebr.



A. J. Stoessel, Milwaukee, Wis.

our last issue, that the expense for the excursion and dinner was contributed by the Hamilton Watch Co., Lancaster, Pa., in connection with Philip Present and the Van Bergh Silver Plate Co., of Rochester, N. Y. Other contributions were offered, but as there was no need for them they were thankfully declined. The delegates appreciated very highly the treat prepared for them.

Conditions of Membership Several jewelers, located in States which have not now State associations, have asked us whether they can become members of the national organization without being members of any State body. In reply to these and others who may desire information on the subject, we announce that they can become members of the National Association, as provided by Section 2, of Article IV, of the constitution. This section says: "Active membership shall consist of all retail jewelers of America who are members in good standing of a supplementary State association, or where no State association exists, who have been approved by the executive committee, and have complied with the constitution and by-laws governing the association."

A. B. Hull, the enterprising young jeweler, of Belding, Mich., one of the vice-presidents of the association, says: "My advice to the new organization would be to keep on hustling, ever pushing forward their own business as well as the cause of the organization. Make the live fish swim up

reasonable minimum price for their product and compel all dealers to adhere to the same. Once adopted, this would prove of inestimable value to all concerned. There is a great deal of work for each State association to do, which will require tact, time, patience and perseverance to accomplish; but we have plenty that have these qualifications, and all they need is a little encouragement."

Constitution and By-Laws

As so much interest has been manifested in the new organization, and by way of reply to many questions, we print in full the constitution and by-laws as adopted at the Rochester convention:

PREAMBLE

As there are in the jewelry business many trade evils that should be abolished, and many trade abuses that need to be corrected, and as we believe that the only way in which these reforms can be brought about is through a well-organized and united effort on the part of the retail jewelers, therefore we respectfully ask that the following constitution and by-laws be adopted, and the constitution shall be the fundamental law of this organization.

CONSTITUTION

ARTICLE I

Section 1. This organization shall be known as the American National Retail Jewelers' Association.

Section 2. The object of this association is to promote and develop the retail jewelry business of America.

associations, or individual members where no State association exists, and issue receipts for same and pay same promptly into treasury. He shall also draw orders on the treasury, only when ordered to do so by the association, or the executive committee. He shall make a full report of his office to the regular annual meeting, and whenever required by the executive committee, and shall perform such other duties as usually devolve upon such officers. He shall give bonds, at the expense of the association, and in such sum as the association may require. He shall be ex-officio secretary of the executive committee.

Section 4. The treasurer shall be the custodian of all the funds of the association. He shall issue receipts for all money coming into his hands, and shall pay the same out only on orders drawn by the secretary and countersigned by the president. He shall make a report of his office to the regular annual meeting, and whenever required by the executive committee. He shall give bonds, at the expense of the association, in such sum as the association may require.

Section 5. The executive committee shall have general charge of and transact business for the association during the intervals between the meetings of the association. They shall have full charge of the work of organizing and use every legitimate means within their power to extend the association into every State, and assist the State associations in attaining a solid organization. They shall cause to be printed a uniform membership certificate, bearing the name of the State where used, the facsimile signature of the president and secretary of said State and the president of this association, and a blank space for the signature of the secretary when issued. These certificates shall be sent direct to the members upon receipt of dues. They shall act upon all applications coming from States having

(Continued on page 1579)



THE NEW BADGE FOR "EAGLES"

¶ There's nothing ordinary about our new "Eagle" insignia for the coat lapel. It has originality and character in its makeup, and it is striking without being garish.

¶ There's only one other device for a secret order to compare with it in compatibleness and suggestiveness. That's the Elk Head Badge of the B. P. O. E.

¶ They both tell at a glance what they stand for.

¶ Samples sent to jewelers for examination gladly and promptly.

LOUIS KAUFMAN & CO. RINGMAKERS

82-84 Fulton St., New York



SHORTHAND FOR
RING SUPERIORITY

20th Century Revolving Display Stand



Especially adapted to the jewelry trade. Nothing ever offered before like it. This is not an ordinary revolving stand, but each mirror and glass shelf revolve in different directions and at different speeds, making not only a handsome display of your goods, but an attraction that will cause every one passing to stop and admire your beautiful window. We also manufacture a variety of other attractive displays in revolving and stationary. Get our catalogue at once and let your window do your advertising.

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FORT SCOTT, KANSAS

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CLOCKS
400-DAY
CLOCKS**

Our Cuckoo Clocks are
the best and cheapest

Write for our new Catalogue

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Enamelled on
WATCH DIALS,
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Everything in
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Repairing,
Gold and
Silver Plating,
Satin Finish,
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and
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English and Swiss
Cases to take
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Importers of

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Precious
Semi-Precious and
Imitation Stones**

Fine Series of Scientific
RUBIES

When writing to advertisers kindly mention *The Keystone*

American National Retail Jewelers' Association

(Continued from page 1577)

no State association. They shall represent the association before any manufacturer or jobber with whom it may be deemed advisable to treat for their business. They shall approve the officers' bonds when satisfactory. They shall provide a place and arrange a programme for the meetings of the association. Fill vacancies and perform such other duties as may be required by the association. They may use such funds as they deem necessary, subject, however, to the approval of the association.

ARTICLE IV

Section 1. Membership of this association shall consist of active and honorary members.

Section 2. Active membership shall consist of all retail jewelers of America, who are members in good standing of a supplementary State association, or, where no State association exists, have been approved by the executive committee and have complied with the requirements of the constitution and by-laws governing the association.

Section 3. The privilege of voting shall be confined to duly elected delegates from each State association; provided, that when members from unorganized States are in attendance at any meeting, the delegates present may seat one from each such States, who will then have all the rights and privileges of a duly elected delegate.

Section 4. Each State association shall be entitled to one delegate for each twenty members, or fraction thereof, in good standing.

Section 5. In absence of a full delegation from any State, the delegate present may vote the full number of votes their State is entitled to.

Section 6. Honorary members may be elected by a vote of the association, but shall be, only, because of their friendly attitude towards, or because of some special service rendered the association and shall first be approved by the executive committee.

ARTICLE V

Section 1. It shall be the duty of each member to be watchful for cases where either manufacturer or jobber sells, or sends their catalogues to any other than a legitimate jeweler, and to promptly report every such case to the secretary of the State association in writing. And if grievance is not promptly removed, the secretary shall report to his State representative of the American National Retail Jewelers' Association.

Section 2. The term "retail jeweler" used in this constitution shall be construed to mean any person, firm or corporation having an established place of business, and who make the retailing of watches, clocks and jewelry their principal business, and who is a practical watchmaker or jeweler, or regularly employ one, and who maintains a bench for repair purposes.

ARTICLE VI

Section 1. The regular annual dues shall be \$1 for each member of State association, payable in advance January 1st.

ARTICLE VII

Section 1. The regular meetings of the association shall be held annually in the months of July or August, on such days and in such places as the executive committee shall designate, unless otherwise provided by the association in regular convention.

Section 2. Special meetings may be called at any time by the majority of the executive committee.

Section 3. At least thirty days' notice of any meeting shall be given by publication.

Section 4. Fifteen delegates shall constitute a quorum for the transaction of business, but a less number may meet and adjourn from time to time.

ARTICLE VIII

Section 1. Such by-laws for the government of this association as may be deemed necessary, and in conformity to this constitution, may be adopted by the association at any meeting.

ARTICLE IX

Section 1. This constitution may be amended by a two-thirds vote of the delegates present at any meeting.

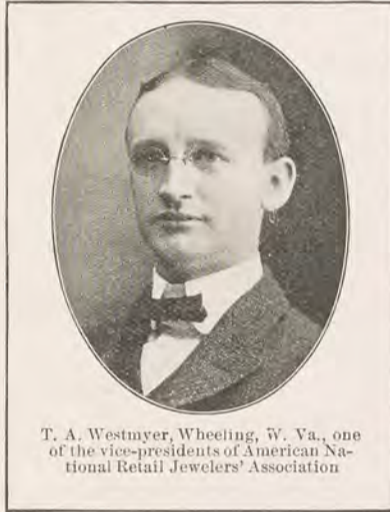
BY-LAWS

ARTICLE I

Seven members of the executive committee constitutes a quorum to do business.

ARTICLE II

Meetings of the executive committee may be called by the president, and shall be called, upon



T. A. Westmyer, Wheeling, W. Va., one of the vice-presidents of American National Retail Jewelers' Association

written request of a majority of the executive committee, at any time, provided that notice of such meeting shall be given in writing at least ten days prior to such meeting.

ARTICLE III

The president shall within thirty days after the annual meeting appoint the following committees: On Trade Interest, on Legislature, on Assaying,



D. G. Gallett, Aberdeen, S. Dak., one of the vice-presidents of American National Retail Jewelers' Association

on Membership, on Deceased Members, on Transportation, on Credentials.

ORDER OF BUSINESS

Call to Order; Reading of Minutes; Roll Call; President's Address; Report of Secretary; Report of Treasurer; Report of Committee of Credentials; Reports of Standing Committees; Unfinished Business; New Business; Election of Officers.

The First Jewelers' Organization

As supplementary to our history of jewelers' organizations as published in our last issue, W. C. Sommer, of Springfield, Ill., has kindly furnished us with the following account of what seems to have been the first association of the retail trade:

"In 1877, at the Leland Hotel, in Springfield, Ill., a Jewelers' League was formed, and a resolution agreed to, that no member of the league would patronize any firm that sent out catalogues to other than those engaged in the jewelry trade. E. R. P. Shurly, of Chicago, was elected first president, and, if my memory is correct, served two years. Mr. Boynton, of Jerseyville, Ill., succeeded him for one term. W. C. Sommer was elected in 1880, and served one term. The association met in '81 and '82, but gradually faded out of existence."

With this beginning, the history of jewelers' organizations, as told in our August issue, is complete and accurate, and makes interesting reading.

Pennsylvania Retail Jewelers' Association

The officers of the above association have issued the following call to the retail jewelers of the State:

"Retail jewelers of Pennsylvania who believe in abolishing trade abuses, are earnestly urged to join the Pennsylvania Retail Jewelers' Association. Committees are now at work gathering statistics, watching legislation, taking note of quality marks and encouraging the efficiency of the organization. The State Association is affiliated with the American National Retail Jewelers' Association, and indications are that soon the retail jewelers will gain the respect to which, as a class of intelligent men, they are entitled. Copies of the constitution and by-laws will be sent to any jeweler on request. Those desiring to become members should make application to any one of the following members of the committee on membership: P. C. Yester, 404 Fifth Avenue, McKeesport, Pa.; Vet Cowles, Port Marion; Wm. Haines, 1224 Columbia Avenue, Philad. Iphia, or to A. C. Graul, president, Sharpsburg; C. S. Wiley, secretary, 3602 Forbes Street, Pittsburg."

It is announced that the association will hear the reports of delegates to the Rochester convention at the meeting to be held on September 12th, at the Hotel Schenley, Pittsburg, 1 P.M. At this meeting a local organization of the trade for Pittsburg and vicinity will be formed.

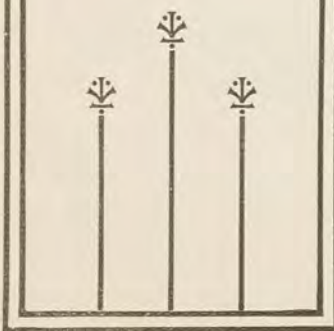
Time and the Telephone

A recent proposal to construct a telephone line between New York and San Francisco has called forth an interesting criticism, which shows strikingly how modern methods of practically instantaneous communication all around the globe make the sun, in his daily progress, appear as an extremely slow coach. The criticism was that, even if the technical difficulties affecting so long a line were overcome, the proposed telephone line would possess very slight importance, because the business hours of San Francisco and New York would coincide for only a single hour each day. It is one o'clock afternoon in New York when it is ten o'clock forenoon in San Francisco.

"We couldn't keep up with the times without *The Keystone*!"—Boughton Bros., Jewelers, North Fairfield, Ohio.



St. Louis'
reputation
as a
jewelry
center
is
growing
stronger
every
day



S A I N T

The Great Central

Offers unequaled opportunities to the Jewelers of the West, the South, the Southwest and the Northwest. We invite you to St. Louis the great and growing commercial center to make your fall and holiday purchases. St. Louis exhibits to buyers large and complete stocks, insuring the latest and best selling novelties.

A Special Rate of One Fare and One-Fifth Has Been Granted

WESTERN PASSENGER ASSOCIATION
and
SOUTHWESTERN EXCURSION BUREAU

THIRD MEETING

Purchase Dates: September 1st to 9th inclusive
Return Dates: September 3d to 19th inclusive

FOURTH MEETING

Purchase Dates: September 15th to 23d inclusive
Return Dates: September 17th to October 3d
inclusive

The territory of the two Associations taking the above dates and the one fare and one-fifth, includes as follows:

All of Arkansas, Colorado, Indian Territory, Kansas, Iowa, Minnesota, Missouri, Nebraska, Oklahoma, South Dakota, Texas, Wisconsin, the northern peninsula of Michigan, North Dakota east of the meridian at which the Missouri river crosses its southern boundary line, points in Wyoming west to and including Cheyenne, Louisiana west of the Mississippi river, points in New Mexico and Arizona, on lines controlled by the Santa Fe and Southern Pacific, including the Pecos System, Santa Fe, Prescott & Phoenix Railway, and Southern Kansas Railway of Texas.

A Special Rate of One Fare and One-Fifth

PURCHASE AND RETURN DATES

Tickets can be Purchased Only on These Dates
You can Return at One-Fifth Fare Only on these
Return Dates

Has been granted in the State of Illinois by the Western Passenger Association, and all points on the Illinois Central Railroad and Mobile & Ohio Railroad, for the following dates of purchase and return only.

THIRD MEETING

Purchase Dates: September 1st to 9th inclusive
Return Dates: September 3d to 19th inclusive

FOURTH MEETING

Purchase Dates: September 15th to 23d inclusive
Return Dates: September 17th to October 3d
inclusive

PLEASE NOTE EXCURSION RATES AFFORDED BY THE SEPTEMBER MEETINGS OF THE INTERSTATE MERCHANTS' ASSOCIATION—

Eisenstadt Manufacturing Company
Bauman-Massa Jewelry Company
St. Louis Clock and Silverware Company

LOUIS

Market for Jewelry

Before buying your fall and holiday bills, you are invited to take advantage of the opportunities afforded by the several firms whose names appear in this announcement. Buying from these houses will undoubtedly mean greater prestige, larger sales and increased profits for you and assurance of liberal treatment.



A Special Rate of One Fare and One-Third

PURCHASE AND RETURN DATES

Tickets can be Purchased Only on These Dates
You can Return at One-Third Fare Only on these Return Dates

For the States of Indiana and Ohio

THIRD MEETING

Purchase Dates: September 1st to 7th inclusive
Return Dates: September 5th to 15th inclusive

FOURTH MEETING

Purchase Dates: September 15th to 21st inclusive
Return Dates: September 19th to 29th

Special Rate of One and One-Third Fare

PURCHASE AND RETURN DATES

Tickets can be Purchased Only on These Dates
You can Return at One-Third Fare Only on these Return Dates

Has been granted from all points in the Central Passenger Association, in the State of Illinois, except on the Illinois Central Railroad and Mobile and Ohio Railroad.

THIRD MEETING

Purchase Dates: September 1st to 7th inclusive
Return Dates: September 5th to 15th inclusive

FOURTH MEETING

Purchase Dates: September 15th to 21st inclusive
Return Dates: September 19th to 29th

INSTRUCTIONS

Buy your ticket to St. Louis over most direct route, at full fare. Get certificate from your agent showing you have purchased ticket. Sign your name in the certificate yourself. Do not let agent sign your name. *Get separate certificate for each passenger.* Go to your station in time to carry out these instructions and follow them to the letter. The dates here given are the only ones that will secure the privileges offered. No agent has the right to change them.

Present your certificate at the office of this Association immediately after you arrive here, and if you have complied with our instructions we can secure you a return ticket at one-third rate.

We collect for the railroads twenty-five cents on each ticket validated.

Don't buy a round-trip ticket, a scalper's ticket or a mileage book.

No stop-over privileges coming or returning.

Interstate Merchants' Association

Room 1002 Century Building

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V. O. SAUNDERS, Manager

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who buy
in
St. Louis,
the
Great
Central
Market
for
Jewelers,
are
making
satisfac-
tory
profits

The purchase and return dates of same, with other particulars, we give above. Write any of the wholesale firms below for circulars giving full particulars of these reduced railroad rates.

L. Bauman Jewelry Company

Sidney L. and Morris Bauman Company

Aller-Newman-Wilmes Jewelry Company



Reasons Why Most Inventors are Unsuccessful Business Men

IT is a familiar saying—almost an axiom—that a large percentage of our great inventors fail to participate in the wealth produced by the creations of their ingenuity, writes George Sherman, in the *Business Men's Magazine*. And of the great army of inventors who invade the patent office annually only an insignificant few derive a substantial income from their efforts. Stories are abroad—numbers of them—that tell of fabulous fortunes laid at the door of the humble mechanic for the mere discovery of the value of a kink in a wire hairpin or the merits of a zinc tip on a shoestring. Many of these stories are the creations of imaginative minds. We never met the hairpin croesus driving his automobile on the boulevard nor do we pass the gilded palace of the millionaire author of the idea of combining an eraser with a lead pencil.

The Inventor's Failing

The inventor lacks business acumen. This is his inherent failing. It requires the initiative of the promotor or the speculative propensity of the shrewd man in the commercial world to prove the worth of an invention from a financial standpoint. Many ideas—some barely passable—have brought thousands to the promotors, while others, truly meritorious, are dead and forgotten in the deep recess of the patent office.

It proves that the inventor is not a business man and that he must be a business man if he would find profit in his ingenuity.

An invention, whether highly meritorious or otherwise, must find its way into public favor through the shrewdest kind of business management. This means that it must be judiciously financed, its merits must be adequately demonstrated and above all it must be well and properly advertised.

The ability to do these things is a faculty which the great majority of inventors do not possess. And more than this the man who fails to profit in his ingenuity often finds the cause in his lack of discrimination and judgment.

If I were asked to advise the young inventor I would say, first of all, "Do not waste your inventive talent, energy, time and money on experiments with unmarketable machines and devices." Those who have made this "invention business" the vocation of a lifetime do not need the advice. It may be that a garret full of derelict models and dust-covered drawings are reminders that this truism should have been discovered years ago.

Demand, the Parent of Invention

Again I would say, "Is there a demand for the improvement you have in mind, or is it probable or reasonably certain that good business management will be able to market the product?" and "Will the market price of the device be returned to the buyer in due time by reason of its economical value?" Finally, in relation to the commercial value of an invention I would say, "Do not permit the ingenuity of a contrivance to subvert your good judgment of its market ability."

Millions have been invested in inventions that have never gone farther than the patent office, and fortunes have been squandered on models and drawings that have never so much as reached the patent office. Think of it—several thousand patents have been issued on automatic car-coupling devices alone! Among these are dozens of sensible,

practical, life-and-limb-saving devices, and yet only about one-hundredth of one per cent. of these have been put into actual practice by the railroad companies. Does it pay to waste time and money on experiments of this nature? Think it over. These are things that present an unprofitable field for experiment on account of "over-invention," and partly because prospective buyers are not in a receptive mood.

Novelties Should Be Inexpensive

An invention that possesses novelty only must depend upon cheapness for its selling force. The novelty of an expensive device with intricate mechanism will not recompense the cost of production. It must possess economical, labor-saving or commercial features in addition.

Some men have mortgaged their homes and lost the savings from years of labor because they failed to comprehend the foregoing philosophy.

I have in mind a young mechanic who devised an ingenious automatic calendar a few years ago. The device produced a calendar of any month in any year, past or future, by pressing the proper keys, which were arranged like unto those in a cash register. If the operator desired a calendar for say, the month of November, 1907, it was only necessary to press key "1907" and then key "November" and a complete calendar for that month would appear under a glass panel in the case. It was a novel device, to be sure. So fascinating, in fact, that the young inventor never considered it in the light of a commercial proposition. He designed and planned and spent months of valuable time in evolving a working sketch of the mechanism. Like most inexperienced and over-cautious inventors he failed to submit his idea to a competent mechanical engineer or a draughtsman, either one of whom would execute a perfect working drawing for from \$20 to \$30. The idea was too good, he thought, and he must guard it carefully, lest some avaricious manufacturer would steal the invention before it went to the patent office. He made rough sketches of the various parts of the machine and gave these to as many incompetent and unscrupulous model makers. By this method the seven-sided cylinder containing seven spirals and forty-nine combination pins was made and remade five times in all before it became an operative device. While this in no wise completed the machine, it already involved an expense of more than one thousand dollars. After two years of this kind of experimenting the machine and drawings were finally completed at a cost of more than twenty-eight hundred dollars. This meant two years of worry and a mortgage on his home. His heart failed him after this drain on his resources and he feared to invest in attorney's fees, Government fees and other expenses connected with this business of securing a patent. Being in sore straits he did what he should have done in the first place. He opened his heart and frankly submitted his idea to responsible men and manufacturers. He carried his machine from one to the other for more than a year, but was unable to find a man who looked upon the manufacture of such a device as a profitable investment.

The machine was never patented and it is now in the garret of some rookery, the graveyard for thousands of inventions of a similar nature.

A New Orleans Dreamer

Apropos of what has been said, it is opportune to mention that more than 200 discarded models were found in the garret of a New Orleans inventor after his death a few years ago. This was the total inheritance of the heirs

who anticipated a dividend of thousands of dollars in government bonds.

I wish to advise the uninitiated in this invention business. I want to give them the benefit of my own costly experience.

Don't dabble in costly experiments with vague ideas. Consult men of integrity—successful business men—as to the commercial value of your idea. This much will cost you nothing and it may save you hundreds of dollars in cash, time and worry. If your idea is a good one submit its every detail to a competent and reliable mechanical engineer. He will advise you as to its mechanical practicability. This will cost you little. No one will steal your idea and no one but the unscrupulous patent attorney will make you believe that this is possible. The fact that you have expressed your intention to prosecute your claim with reasonable diligence and in due time, and because you are now engaged in the transaction of preliminaries, is as good as a patent and is so recognized in any court of law. After your drawings are complete, have them witnessed and attested before a notary public.

The Model Maker

Avoid the unscrupulous model maker. He is a parasite in the community. If your means are limited the working drawings will answer every purpose of a model in your business transactions. If a manufacturer is impressed with the drawings of your device he will be ready to assist you financially in the building of a model and the prosecution of your patent. But do not obligate yourself beyond reason, and wherever possible attend to this patent business on your own initiative.

Avoid the unscrupulous patent attorney, and particularly the inexperienced patent monger who is neither an attorney nor a competent man to entrust with the making of your claims. Ignore the attorney who is willing to prosecute a patent on any and everything, whether it is meritorious or not. Remember also that an "applicant may prosecute his own case, but he is advised, unless familiar with such matters, to employ a competent attorney, as the value of patents depends largely upon the skilful preparation of the specifications and claims."

Send to the Commissioner of Patents, Washington, D. C., for a copy of the "Rules of Practice in the United States Patent Office," and acquaint yourself with its instructions before selecting your attorney.

Forty dollars is a reasonable and sufficient attorney's fee in all ordinary cases which require no more than the regular service routine. This service should include a comprehensive search, the making and filing of claims and specifications and a diligent prosecution of the case, to the extent of making revisions to overcome the examiner's objections. I would advise the patentee to make a personal search of previous issues under the same classification, and cases where a series of patents pertaining to a certain device is not too extensive, it is well to send to the Commissioner of Patents for all drawings and specifications in that sub-class. When ordered singly, printed copies of drawings and specifications cost the applicant five cents apiece; when ordered by sub-classes, three cents each, and when ordered by classes, two cents each.

In addition to the attorney's fee a complete application comprises the first Government fee of \$15 and a final fee of \$20, to be paid on the issuing of the patent. Drawings are not included in the attorney's fee and these incur an additional cost of from \$5 to \$10 a sheet, according to the character of the work.



Togstad Bros., formerly of Osakis, Minn., are now located at Crosby, N. Dak.

A. G. Guth, the well-known jeweler, of East Brady, Pa., died on August 24th. The deceased was a capable business man and noted for his commercial integrity. THE KEYSTONE joins his host of friends in extending sympathy to his bereaved family.

Mrs. Frances A. W. McIntosh, formerly advertising manager of the Standard Tool Company, Cleveland, Ohio, and more recently connected with the advertising department of "Power," New York, now has charge of the publicity department of the Norton Company, Worcester, Mass, the appointment taking effect August 1st.

J. V. Moross, jewelers' auctioneer, of Dayton, Ohio, was recently the victim of a serious automobile accident. His machine came in contact with a street car, breaking his arm and dislocating his shoulder, necessitating his confinement to his home for some weeks, but he expects to be able to attend to business as usual during the present month.

R. Steele & Son, Anniston, Ala., are about to move into handsome new quarters in the same city. The new store has been already fixtured and stocked with complete new lines. This firm has been in business in Anniston for six years and each year showed a very material increase in their patronage. The removal was necessitated by expanding trade, and they hope for an exceptionally large fall and holiday business.

The Benedict Mfg. Co., East Syracuse, N. Y., have just issued a new novelty catalogue. The comprehensive line of novelties shown in this catalogue include new designs in clocks, candlesticks, jewel-boxes, inkstands, matchholders, etc., in Ormolu gold, Verdi antique, Egyptian bronze and French gray finishes. The illustrations shown in the catalogue are from actual photographs of the articles themselves, reduced one-half. The issuing of this catalogue is particularly opportune at this time, inasmuch as the goods are such as are well adapted for gift stock for fall and holiday purposes. This company has now completed its new catalogue of hollowware, a copy of which will also be useful to the jeweler for reference at this buying season.

J. G. Bloom & Co., of Denver, Colorado, request us to notify the wholesale and retail jewelry trade that Wm. Fleishman, who was formerly in their employ as a traveling salesman, has disappeared with three trunks of jewelry and leather goods, the property of the firm. The last that was heard of him by his employers was a letter from Atchison, Kans., dated May 9th, since which time no trace of him has been found. He is described as being about sixty years old, 5 feet 3 inches tall, weight about 150 pounds, with heavy black mustache and black hair, sprinkled with gray. He generally wears a black suit and black slouch hat, and is a foreigner, speaking with a foreign accent. His upper set of teeth are large and prominent, this latter being a very distinctive feature of his countenance. The firm offers \$100 reward for any information which will lead to his arrest.

The partnership heretofore existing between Chas. L. Carlson and Eric Dahlgren, under the name of Eric Dahlgren & Co., Jamestown, N. Y., has been dissolved by mutual consent. Mr. Dahlgren has assumed the liabilities of the firm and will continue the business under his own name.

The American Cuckoo Clock Co., of Philadelphia, has issued a very handsome catalogue of their latest patterns of cuckoo clocks, together with an abundance of information in regard to this popular timepiece. There is an intelligent discussion of the cuckoo clock as an article of merchandise, and also a brief history of the company and its efforts to supply the American trade. On the cover of the catalogue is a very appropriate design, the central feature of which is a cuckoo clock, and the illustrations are printed in brown ink, on fine paper, conveying to the reader a very accurate idea of the appearance of the clocks. This catalogue should have special interest for the trade at this time when the question of suitable stock for gifts is being considered.

A characteristic specimen of the excellent advertising matter issued by the Oneida Community, Ltd., of Oneida, N. Y., is a dainty little booklet entitled "Some Business Ideals of the Oneida Community." The little book is historical in character, and relates the story of the development of the "Community," with interesting references to the methods and policy which made it so successful. The little booklet is printed on fine, deckle-edge paper, and the illustrations are neatly printed in blue ink—these latter including a picture of the community home and the historic Oneida Creek; also a sample of the flower-de-luce design. The somewhat unique character of the Oneida Community and the fame of its products, give special interest to this little book, which the trade will find both entertaining and instructive.

Making the First Radium

When Professor Curie was run over and killed on a street of Paris not long ago the entire world recognized that it had lost one of its foremost experimenters. Yet it was only six years ago that the wonderful element, radium, which he and his wife had discovered, passed almost unnoticed among the exhibits in a Paris exhibition, and a stranger, seeking the physicist, found him only through the lucky help of a street gamin.

In the 1900 exhibition in Paris, says London *Truth*, the compilers of the catalogue and the jurors entirely overlooked the tiny vial containing its speck of radium, which the Curies had sent. An exhibitor of diamonds, annoyed because its presence spoiled the color of his jewels, had put it out of sight. An English visitor, however, who had read a reference to the discovery in an obscure journal, hunted it up, and later set out to find the discoverers.

He went to many places, the Mines School, the Sorbonne, and elsewhere, but no one in any of them could tell him anything of the Curies. At last, by a strange chance, he ran across a gamin who had heard of radium from a chum who worked as an attendant at the City of Paris Industrial Laboratory, where Curie then worked. By this roundabout information the Englishman was brought to Professor Curie, who was a little amazed, but pleasantly so, to find that some one was at last interested in what they were doing.

Madame Curie, he said, had herself pounded in a mortar, with her own hands, all the pitchblende

from which the speck of radium had been obtained. Pitchblende was costly and she had not wasted a grain. She had ruined her hands in the work.

They were then spending every penny for pitchblende. Madame Curie had given up gloves entirely, and was wearing very old and badly-patched cheap shoes and old-fashioned clothes. The professor had on old shoes and a threadbare coat—his only coat. Their little girl was dressed as cheaply. But by their economy and their diligence they had enriched humanity incalculably by their discoveries in radio-activity and their isolation of radium itself.

Borrowing Money

Never ask for a loan at your bank unless you are reasonably sure you can get the money. First establish your credit. The business man always knows to what extent he can depend on his bank, and his bank knows to what extent they can depend on this self-same business man, says a banker's journal.

Of course, if yours is a collateral loan, then it is a different matter, and it is only a question of the value of the collateral and the banker's willingness to accommodate you. But the accommodation loan is an entirely different matter. For every dollar of their own capital, the bank is probably loaning five that belong to their depositors, and you can depend upon it, care and prudence is going to enter into every transaction.

Your credit must be established. This may have already been done by long acquaintance and association, particularly if you are an old depositor at the bank. The financial statement, properly verified, along with satisfactory references, is also frequently relied upon as a basis of credit. The mercantile agencies are likewise relied upon, and last, but not least, the banker will survey the application as a moral risk and exercise his own faculties for separating the wheat from the chaff.

If you are entitled to the loan, you will probably get it; but, unless you are pretty well known, the money will not be handed over until after you have been investigated. Prudent and conservative banks do business no other way. Your credit must be established.

A Popular Novel

What promises to become one of the most popular of the new books of the season is the novel "The Tides of Barnegat," by F. Hopkinson Smith. Mr. Smith's previous writings alone would assure a big demand for the new story, but in this latest he has touched a deeper note than in any of his previous books. It is a story of life on the shores of Barnegat, a tale of life and death, sin and self-sacrifice, lightened by the kindness and sympathetic humor that characterizes all the author's writings. The great variety of characters that figure in the story, the dramatic scenes and tremendous ending, the vivid and beautiful description of storms and sunshine, and the splendid open-air tone and spirit of the book, set it apart from and above his other novels. As a serial in *Scribner's Magazine* it has already appealed to thousands, and its unusual merit justifies the belief of many critics that it will prove the most popular book of the season. It is published by Chas. Scribner's Sons, New York, and the price is \$1.50. The volume is graced by a very pretty cover design, and a number of full-page illustrations by the well-known illustrator, George Wright.



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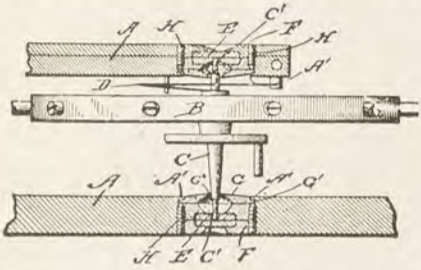
Victory Button Back
Samples and New Price-List on application

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Makers of
Diamond Mountings Class Pins and Badges
Victory Attachments
Jobbing a Specialty
LION BLDG., CINCINNATI

United States Patents

Patents of interest to the trade, recently issued. Specially prepared for this journal by Wm. N. Moore, patent attorney, Loan and Trust Building, Washington, D. C.:

No. 827,137.—Watch balance staff protector. James R. G. Addington, Gate City, Va., assignor of one-half to Hugh J. Addington, Gate City, Va. Filed June 7, 1905. Serial No. 264,180.

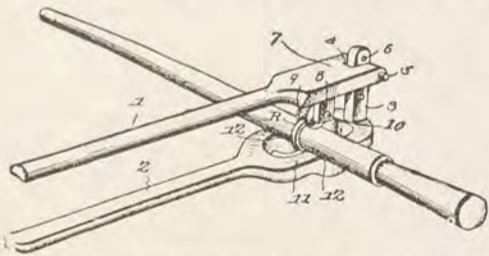


A balance wheel staff protector the combination with the plates having the jewel settings and jewels arranged in the opening thereof and a protector held in the openings in the plate and having a central opening through which the staff is adapted to pass, said central opening being a diameter slightly greater than the diameter of the staff.

No. 827,500.—Method of making bifocal lenses. Charles N. Brown, Quincy, Mass., assignor to F. A. Hardy & Company, Chicago, Ill., a corporation. Filed January 25, 1906. Serial No. 297,755.

The method of making blanks for composite lens, which consists in providing the members of the blank with curved surfaces of different curvatures, placing the curved surfaces in contact, and heating the said surfaces to cause the surface of one curvature to change its shape and conform to the curvature of the other surface and unite therewith, substantially as described.

No. 827,290.—Finger-ring expander. Aaron F. Boylan and Elzie C. Chamberlin, Denison, Iowa. Filed April 22, 1905. Serial No. 256,945.

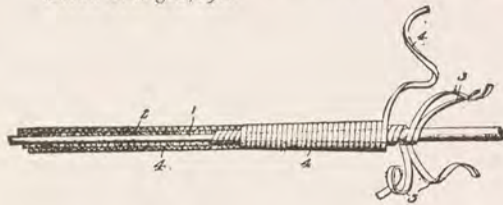


A ring expander comprising a lever provided with an open head having transverse seats of different depths and with a stud provided with a plurality of orifices, a second lever detachably fulcrumed to the stud and carrying a depending yoke, and an expanding roller mounted between the yoke members.

No. 827,801.—Garment clasp. Edgar H. Heath, Chicago, Ill. Filed June 26, 1905. Serial No. 267,069.

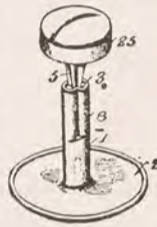
A two-part garment clasp comprising a button member composed of a flat plate, adapted for connection to webbing or the like, and having a curved body provided at its end with a rigidly attached button or disk, and a clasp member having a sliding connection with the plate portion of the button member and having its forward end bifurcated to provide clamping jaws adapted to pass beneath the button or disk and to impinge the fabric upon the under side of said disk, substantially as described.

No. 827,817.—Spectacle temple. Peter Peck, Southbridge, Mass., assignor to Central Optical Company, Southbridge, Mass., a corporation of Maine. Filed February 21, 1906. Serial No. 302,291.



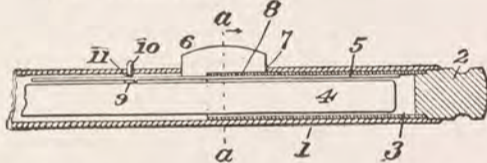
A spectacle temple comprising a temple wire, and a plurality of pliable wires wrapped in spiral form around the temple wire and terminally secured thereto, the pliable wires being strong enough to partially overcome the resiliency of the temple wire to hold the latter in shape when bent to form a substantially semicircular riding temple.

No. 827,971.—Button. Samuel Gray, Harrisburg, Pa. Filed February 11, 1905. Serial No. 245,274.



A button, the combination with a shank and stem shaped to slide one within the other, the outer member having its upper part crimped or formed of irregular contour, and the opposing member having its end formed of smooth or regular contour, whereby one acts to prevent the complete withdrawal of the other, when extended, substantially as described.

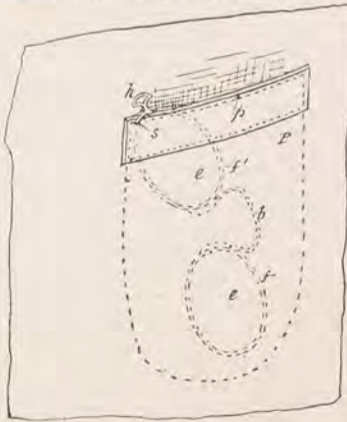
No. 827,004.—Fountain pen. Benjamin F. Flint, Cincinnati, Ohio, assignor to David B. Kaufman, Cincinnati, Ohio. Filed October 28, 1905. Serial No. 284,858.



A fountain pen comprising a tubular barrel open throughout its length and having a longitudinal slot pierced in its side intermediate its ends, a pen section carried at one end of the barrel, a plug carried at the opposite end of the barrel, a tube carried by said plug and extending into the barrel, an ink sack carried by the pen section and extending into the barrel and with its inner end extending within said tube, a presser bar freely suspended within the barrel adjacent the ink sack, a thumb-piece carried by the presser bar and extending outward through said longitudinal slot and having a longitudinal notch, or slot, therein, adapted to be engaged by the inner end of said tube and locking the presser bar against actuating contact or engagement with the ink sack.

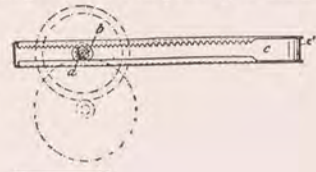
No. 827,740.—Eyeglasses. Abbot A. Low, Horse-shoe, N. Y. Filed March 6, 1905. Serial No. 248,517.

An eyeglass provided with a handle having a rigid blunt suspending finger, projecting at substantially right angles from said handle between the same and the eyeglass and curved substantially concentric with the rim to engage over the edge of a pocket, the said edge of the pocket being received between said finger and the rim of the eyeglass.



No. 828,614.—Pinion-actuating device. Ernst P. Lehmann, Brandenburg-on-the-Havel, Germany. Filed September 20, 1902. Serial No. 124,190.

A pinion-actuating device comprising a stock embodying a pinion-driving rack, the edges of the stock being opposed to each other to effect guiding of a pinion.



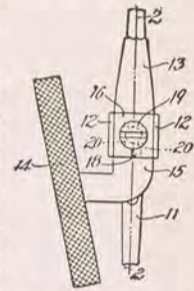
No. 828,672.—Clasp. Salo Levy, New York, N. Y. Filed July 6, 1905. Serial No. 268,413.

A clasp comprising a top part or head having a downward extension on one side integral therewith, a pointed pin secured in the center of the lower surface of said head and adapted to pierce through fabrics, a base part movably joined to the downward extension of the head, and means to hold the device in a closed position.



No. 827,185.—Eyeglass. Elmer P. Sawtelle, Boston, Mass., assignor of one-half to John Stevens, Valley City, N. Dak. Filed February 26, 1906. Serial No. 302,868.

In a device of the character described, a lens-holder stud or post, a spring, a screw for clamping said spring to said stud, said screw having a rigid head provided with a depression in its under side, a locking plate provided with a resilient tooth adapted to engage said depression, said tooth located beneath the head of said screw and projecting laterally therebeyond, and means for holding said plate against rotary movement.



No. 828,286.—Pin. William E. Henderson, Chicago, Ill. Filed August 16, 1905. Serial No. 274,414.

A pin made of a single piece of wire bent to form a plurality of rings and a sharpened portion for each ring extending across the same and terminating adjacent to one side thereof, the parts of said wire forming the rings and sharpened portions lying in the same plane, substantially as described.



No. 828,253.—Eyeglasses. Lincoln L. Stone, Canton, Pa. Filed October 27, 1905. Serial No. 284,756.

An eyeglass comprising a stud post provided with inwardly-extending jaws and a centrally-disposed stud between said jaws, a bridge piece provided with an aperture and a slot below said aperture, and a nose piece having a spring tongue cut from its shank and projecting at one side thereof, said nose piece and bridge piece being secured between the jaws of the stud post by means of the stud entering the aperture in the bridge piece and the tongue on the nose piece being sprung into the slot in the bridge piece, substantially as described.



No. 826,913.—Pen-point guard. George E. Woodbury, San Francisco, Cal. Filed February 5, 1906. Serial No. 299,388.



A pen-point guard comprising a finger piece pivotally attached to the holder behind the pen point, a guard carried by said finger piece adapted to set over or in front of the pen point, and a spring operating to set said guard in operative position when pressure is removed from the finger piece.

Rubies, Real and Unreal

The question of whether a gem made by chemical means is as "real" as one of the same composition formed in nature's laboratory, has hitherto been only academic, as artificial stones of this kind have not been made of sufficient size to be used in jewelry. Now, however, in the case of rubies, crystals of any sizes may be and are built up by a so-called "nursing" process, the result being the production of very fine stones, which are real in one sense, though they are certainly artificial. Says P. Sallior, in an article on the subject in *La Nature*:

"It must be understood, as Le Normand says, that an artificial ruby is not a real ruby, since it is not the natural gem which alone has hitherto borne the name of ruby in commerce, and since its qualities in jewelry are still inferior; but it is also not a false ruby, since chemically, physically, mineralogically, optically, in all its theoretic characteristics, the synthetic ruby is similar to the natural ruby. The synthesis is not a falsification; it is the reproduction by man of the work of nature.

"The crystallization of alumina, which yields, according to circumstances, corundum, ruby or sapphire, has been accomplished for many years [since 1837] and in many different ways, but it is only since the work of Frémy [with the collaboration of Feil and Verneuil, 1877-90] that the operation has begun to issue from the domain of pure science to take an industrial turn and to become familiar to the public eye.

"The process employed at first by Frémy and Feil consisted in forming a fusible aluminate (generally the aluminate of lead) which was then decomposed by a silicious substance, setting free the alumina in crystalline form. The red coloration, which characterizes the ruby, was obtained by adding 2 to 3 per cent. of bichromate of potash. . . . By this process were obtained rubies that were often very large, but always friable and consequently of no use."

By another chemical reaction, namely, the use of a fluorid to set free the alumina, fine but small crystals were obtained, and these were finally increased in size by a modification of the process known as "nursing," in which a crystal is kept in the mother liquid at an appropriate temperature until it grows as large as desired. This requires in the present case such elevated temperatures (1500° to 1800° C.) as it has only been possible to obtain of late years. The process, which succeeded only after many failures, is now carried on as follows:

"The small ruby to be 'nursed' is placed on a turning plate, where, by means of an oxyhydrogen blowpipe, it is raised to a

temperature of about 1800°. Then with a pair of pincers, there are added to it successively tiny grains of ruby. If the work is carried on uninterruptedly without losing sight of the crystal, with a dexterous movement of the hand that is quickly acquired by women, it is easy to get fine crystals, all of whose parts, though not of homogeneous origin, are melted together and recrystallized in a single form, which may be cut like a natural crystal. One of the difficulties of the work is that the crystals often break while cooling.

"Artificial rubies thus obtained cost, it appears, about 10 francs [\$2] per carat and may sell at 15 to 20 francs [\$3 to \$4]. In Paris they are now turned out daily by the millions of carats, and are sent chiefly to Germany, America and even to India, whence they often return mixed with natural rubies.

"The quality of these rubies is very similar to that of the natural stones; they can scarcely be distinguished except under a lens by the presence of air bubbles, but when they are recognized, as the purchase of a precious stone is after all a question of fashion, their value is at least ten times less than that of natural rubies, whose price has also been influenced by this vulgarization of a substance that was formerly sought for its rarity even more than for its intrinsic value.

"A similar method, but of a character more clearly fraudulent, has made it possible to obtain double emeralds by soldering one natural gem to another with a special kind of enamel, after carefully polishing their faces. Thus superb stones may be made, with a plane of junction that is often less noticeable than the planes of natural cleavage so common in emeralds. The method of fusion, which is so successful with rubies, fails with emeralds, whose coloration disappears at these high temperatures."

—Translation made for the *Literary Digest*.

The Action of Radium on Gems

A. Miethe, the author of a paper on the coloration of gems by radium rays, published in *Ann. d. Physik*, studied the action of these rays on a large number of gems, and found that many of them are influenced by the rays.

No general principles can be indicated, except that the more transparent gems show a greater tendency toward coloration than the more opaque or highly-colored ones. Miethe used a preparation of sixty milligrammes of radium bromide. A colorless diamond from Borneo was colored a light yellow after eight days, and a decided lemon-yellow after another eight days. On heating the diamond to 250° C., the yellow color was diminished, but it could not be entirely

got rid of at even a red heat. A colorless Brazil diamond showed no coloration. A peculiar behavior was shown by a pale blue sapphire from Ceylon. After only two hours' exposure to radium bromide it showed a coloration, green at first, then light yellow, and after a few more hours, reddish yellow. After a fortnight it was a dark yellow approaching chestnut. The color could be got rid of by heating, but the light yellow color always returned on cooling. Rubies show no change, and tinted tourmalines very little. Brazil tourmalines slightly colored green and pink respectively at one end, acquired the same color at the colorless ends on exposure to radium. This coloration took a day or two to appear.

Telephone Improvement

Prof. John Trowbridge has developed in his laboratory a telephone relay based on a new principle, and avoiding, it is said, the difficulties hitherto encountered in applying a relay to amplify the signals on long-distance lines. The disturbing sounds usually introduced by amplifying devices are avoided by placing the moving part of the receiver in a balanced magnetic field, and keeping the center of the diaphragm of this part of the instrument free from pressure. The movements of the outer edge only are used to transmit the vibrations to the microphone, and the transmission is effected through metal instead of through air. The metal transmitter, as thus applied, is a new idea.

Strength of a Grindstone

Tests seem to indicate that the strength of a grindstone is considerably reduced when it is wet. The wetting not only decreases the tensile strength of the material, but it adds weight and thus augments the centrifugal pull at a given peripheral speed. The reduction of strength appears to be as much as 40 to 50 per cent. A dry section of stone broke under a stress of 146 pounds per square inch. Another section of the same stone, soaked over night in water, broke at 80 pounds. A better stone, under the same conditions, broke under stress of 186 pounds per square inch when dry and 116 pounds when wet. Much difference of opinion prevails as to the maximum safe allowable speed at which to operate the stone. Some grinders use a peripheral speed as high as 4500 feet per minute, while others limit it to 2500 feet. Little difference is observed in the liability to breakage, this leading to the conclusion that a frequent cause of breakage must be hidden flaws or cracks, which would permit the disruption of the stones at the lower speeds.

NEW GOODS and INVENTIONS

[The illustration and description of new goods and inventions as hereunder is a permanent feature of THE KEYSTONE: our twofold object being to keep the jeweler and optician thoroughly posted on the very latest and most salable goods, and the workman at the bench equally well posted on the newest inventions and improvements in tools and appliances.]

New Clock Patterns



We show in the accompanying illustration one of a large number of new patterns of clocks which have been placed on the market for fall and holiday trade by the Seth Thomas Clock Company, New York and Chicago. This new pattern is entitled the "Roselle" and is notably artistic in design. In the new catalogue, now being mailed by the company, are shown a large number of these clocks in a great variety of shapes and patterns. Some are fifteen-day, half-hour strike and some are eight-day, half-hour strike. Some of the most striking have a rich gold finish, while many of them have a bronze finish in handsome art nouveau pattern. A very attractive line of these clocks have bronze top and base with gold body and trimmings. This catalogue is a veritable clock education,

and a copy of it should be in the hands of every member of the trade who deals in these salable goods.

An Improved Automobile Goggle

The growing popularity of the automobile is responsible for the many improvements in the eye protectors which automobilists find it necessary to wear. One of the latest and most improved of these is shown in our illustration, and is entitled the "Goggette." In this new goggle the lenses are curved and the cups themselves are quite flat, giving a full and unobstructed view, both laterally as well as downwards. The shape of the cup is of an improved pattern, the inflated rubber cushions preventing any harmful pres-



sure upon the blood vessels. The cups are also ventilated, there being an air space around the entire circumference of the lenses, this keeping them cool and clear and protecting them from the heat and moisture of the face. A fine mesh inserted between the inner and outer wall of the goggles also prevents small insects or particles of dust from entering the eyes. The "Goggette" is made by E. B. Meyrowitz, New York, and the materials used are aluminum and rubber. It can thus be washed without injury. For convenience in carrying, it is provided with a double-jointed nose piece, so that it may be folded readily and carried in the pocket. All its parts are interchangeable, which makes repairs inexpensive and easy.

A New Chart for Sight Testing

We show in our illustration a new combination letter and astigmatic chart, the arrangement of which is entirely different from anything heretofore seen. A notable feature of the new chart, which is made by Brown & Burpee, of Manchester, N. H., is that it enables the optician to determine the visual acuity in a moment. Commencing with column one, for instance, and reading down, the patient's visual limitations are soon found, and then there remains three columns for verification. The simple astigmatic figures answer every requirement for an astigmatic test, and it is claimed that there is much less liability of a patient memorizing the chart and deceiving the refractionist than when other charts are used. The new chart is sufficiently novel in form and meritorious in its various features to merit the attention of the trade.



New Pattern of Silver Flatware

We show in our illustration the latest addition to the many new patterns of flatware which have been placed on the market for fall and holiday trade. This pattern is entitled the "Crest," and is made by Rogers & Brother, Waterbury, Conn. Apart from the prestige that attaches to the old Star



brand, the new pattern is very artistic and graceful in design and perfect in execution. The ornamentation is such as will appeal to persons of refined taste and discrimination, the pattern thus having all the qualifications of permanent popularity. It is furnished in a complete line of staple and fancy pieces, and in hollow-handle cutlery, and promises to take a prominent place among the favorites in flatware now on the market.

A New Retinoscope and Ophthalmoscope

The increasing favor with which yellow glass is regarded in the optical world, and the sound scientific reasons for its use, are no doubt responsible for the latest retinoscope and ophthalmoscope. The new instrument is the work of E. Klein, of the firm of E. Klein & Bro., Cincinnati, Ohio, who have just placed it on the market. The inventor claims that this retinoscope, with yellow glass instead of white, will remove the irritating effect of light on the eye, and thus obviate the contraction of the pupil consequent on such irritation. It is claimed that during examination of the eye with the new instrument the pupil remains large, and that the definition of the shadows are unusually clear and distinct.



How One Firm Succeeded

"We seldom, if ever, cut prices on our high-priced lines," said the head of a successful firm in a Southern city. "I do not think it pays. A buyer who wants something of a high-class nature is willing to pay the price and, moreover, it is high-priced goods on which we make our profits—not an exorbitant percentage, but just a good profit.

"The plan of selling the cheap goods low and the good goods at a fair profit has, I think, had more to do with our success than any other one policy.

"Our store is attractively fitted up, and in the fixtures we have made several departures from the conventional form. They are of Flemish oak in mission style.

"Our window displays have proved a big pulling item. We have always kept our windows attractively dressed, and we make free use of price-cards and window bulletins. People like to see attractive windows, particularly if the displays are changed frequently."



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IT DEPENDS ON THE LINE


whether your Ring business is a success
—plain talk in plain English.

Our rings sell because of their
merit in construction, finish and
design.

Our 14 K. Diamond Ring busi-
ness has grown steadily because
of the splendid values given.

Our Children's and Misses' Rings are
popular because they sell. They sell be-
cause they are made right.

Stones are set by the highest class
of skilled stone-setters.



14 K. Diamond Rings
Signet Rings
Ladies' Stone Set Rings
Children's and Misses' Rings
Band Rings
Scarf Pins

Arnold & Steere

New York
3 Maiden Lane

Providence, R. I.

Chicago
151 Wabash Ave



1866—1906

Meerschaum and Its Manufacture Into Pipes

Despite our familiarity with meerschaum, as used in pipes, it is safe to say that few of us have more than a vague idea of the peculiar properties of this substance, or the condition in which it occurs in nature. Nor may its chemical designation as a hydrous silicate of magnesia of the formula $Mg_2Si_3O_8 + 2H_2O$ prove very enlightening. The ancients believed the substance to be petrified sea-foam, hence the German name *Meerschaum*, meaning sea-foam; and a very apt name it is, for the mineral is very white and so light that it will float when dry. Pieces of meerschaum have been found floating in the Black Sea which were evidently washed out of their matrix by the waves. This may also have had its influence on the sea-foam theory of its formation.

Meerschaum is found in best quality and most abundant quantity in Asia Minor, though it also occurs in Greece, Spain, Moravia and Morocco, and even in this country in South Carolina. The richest mines are on the plains of Eskishehr, 250 miles southeast of Constantinople. One of these mines is said to be a thousand years old, and consists of about two thousand pits within an area of six miles, all but about 150 of which have been exhausted. The mineral occurs in nodules or lumps of various and irregular sizes, buried in the alluvial deposit of the plain. Another mine comprises three thousand pits, only one hundred of which are being worked. The material is mined by the inhabitants of the surrounding villages and transported in the rough to Eskishehr. The meerschaum is soft when mined, but soon hardens when exposed to the air. For this reason the lumps are roughly scraped off at first and then laid aside to dry. When dry they are subject to a thorough scraping and cleaning, and are finally waxed and polished. The lumps are now sorted according to size in four classes and packed in boxes labeled L., G. B., K. B. and K. P. for the German words *Lager*, *gross Baumwolle*, *klein Baumwolle* and *Kasten polirt*, *Lager* being the largest size. In this condition the meerschaum is shipped to the pipe manufacturers.

The process of forming the material into pipes is as follows: The larger pieces are cut with a band saw to a convenient size, after which the meerschaum is soaked in water until it becomes quite soft. Meerschaum when wet becomes very soapy,

and will produce quite a lather if rubbed. In fact, the material serves as a very good substitute for soap, and is thus used in Morocco. Meerschaum dust makes an excellent cleaning powder for removing spots from fabrics. After being thoroughly soaked, the meerschaum can be cut like cheese, and it is then roughly shaped with a knife to the form of a pipe. When dry the bowl and stem shanks are drilled, and then, if the pipe is of plain pattern, it is turned on a lathe to the desired form. If a square-stem shank is desired, it is shaped with

heated until they lose much of their brittleness. Then they are held over an alcohol flame and bent as desired. The threaded ends of the stem are protected while bending by an arbor screwed therein. The pipes are now carefully smoothed with pieces of American rush, or shave grass. The stem of the grass, owing to the natural deposit of silica, has a fine roughness which perfectly adapts it for this service. After the pipes have been properly finished with the rush, they are immersed in melted wax for a short time, depending on the density of the meerschaum, and then they are given a high polish with chalk precipitate.

Meerschaum is an excellent material for artistic carving, and some carved tobacco pipes are perfect gems of art. One of our illustrations shows a meerschaum carver working out an elaborate design. In the selection of a meerschaum pipe, one should be careful not to pick a dead white specimen. That which is of a slight creamy color will soonest take on that beautiful rich yellow-brown shade which so delights the smoker. Nor should the meerschaum be too light, as that is an indication that it is too porous to color properly, while on the other hand, a very heavy meerschaum may be almost too dense to absorb the coloring nicotine. A great many so-called meerschaum pipes are made from artificial meerschaum, a material composed of the chips and dust of meerschaum bonded with some solution and molded into blocks. The artificial product is somewhat heavier

than the genuine. There are still other ways of imitating meerschaum, and a novice will find much difficulty in successfully selecting a genuine meerschaum pipe of good quality. —*Scientific American*.

Invisible Ink

The most curious of all kinds of invisible inks is that from cobalt. It is a very remarkable phenomenon that the figures traced out with this ink may be made to disappear and reappear at pleasure. This property is peculiar to inks obtained from cobalt, for all the other kinds are at first invisible until some substance has been applied to make them appear; but once appearing remain. For the preparation of this ink the *Family Doctor* gives the following recipe: Take zaffre, and dissolve it in nitromuriatic acid till the acid extracts from it the metallic part of the cobalt, which communicates to the zaffre in blue color, then dilute the solution, which is very acrid, with water. Writing with this liquor on paper will be invisible; exposed to heat will become green.



Turning up the bowls and stem shanks

a file. The shank is now shouldered and threaded to receive the amber stem-piece. These stems are cut from plates of solid amber, most of which is imported from Germany.

Amber occurs in many parts of Europe and America, but in largest quantity along the coast of Germany. This fossil gum is found in lumps or grains, and is melted at 550° F. and refined. There are two qualities of amber, the transparent and the opaque or cloudy, the latter being much tougher and, therefore, more serviceable. The pipe stems after being tooled out are bent to the required shape. They are at first immersed in oil and



Smoothing off the pipes with shave grass

Simmons Chains

are rekognizd thruout the jewelry trade as the standard gold-fild chains.

They are goods that can be sold redily bekaus they look, wer and are (for all essenshul purpozes) exaktly as good as al-gold chains, and kost far les.

They are safe goods to handle bekaus evry link of evry chain is positivly garanted.

No other make of chain—ether solid gold or gold fild, ofers so wide a chois of stiles and paterns—none is so widly nown to the publik.

These are old and tru resons why you shud carry Simmons Chains. Som new and konvincing resons why you shud show a larger selexon than ever are presented by the Simmons Fal line, which the jobbers are shoing.

Note. To tell of the superiority of Simmons Chains is an old story. To tell of it, however, as told here; that is, in accord with the phonetic spelling system which received President Roosevelt's official sanction on August 24th, is more or less out of the common.

On this account, and in view of the fact that the foregoing ad. furnishes an accurate example of the way future government documents will appear, you may find it of more than passing interest.

The Art of Inventing

A paper somewhat unique among those usually presented to professional societies was that entitled "The Art of Inventing," read by Edwin J. Prindle at the recent meeting of the American Institute of Electrical Engineers, at Milwaukee, Wis. The main theme of the paper was an encouraging support of the contention that an inventor is not necessarily one by birth, but that the inventive faculty is dormant in a great many who need only a proper application of effort to develop it. The author is a partner in the law firm of Prindle & Williamson, Washington and New York City, and being both a patent attorney and engineer was well qualified to handle his subject. We make the following extracts from the interesting paper:

It seems to be popularly believed that the inventor must be born to his work, and that such people are born only occasionally. This is true, to a certain extent, but I am convinced there are many people who, without suspecting it, have latent inventive abilities, which could be put to work if they only knew how to go about it. The large percentage of inventors in this country compared with all other countries, shows that the inventive faculty is one which can be cultivated to some extent. The difference in ingenuity is not wholly a matter of race, for substantially the same blood exists in some other countries, but it is the encouragement of our patent laws that has stimulated the cultivation of this faculty.

Popular Fallacies About Inventing

The popular idea seems to be that an invention is produced by its inventor at a single effort of the imagination. It is, undoubtedly, true that every inventor must have some imagination or creative faculty, but, as I shall seek to show, this faculty may be greatly assisted by method. While reasoning does not constitute the whole of an inventive act, it can, so to speak, clear the way and render the inventive act easier of accomplishment.

In the making of all inventions which do not consist in the discovery of the adaptability of some means to an end not intentionally being sought after, the first step is the selection of a problem. The inventor should first make certain that the problem is based upon a real need. Much time and money is sometimes spent in an effort to invent something that is not really needed. What

already exists is good enough or is so good that no additional cost or complication would justify anything better. The new invention might be objectionable because it would involve counter disadvantages more important than its own advantages, so that a really desirable object is the first thing to be sure of.

Having selected a problem, the next step should be a thorough analysis of the old situation, getting at the reasons for the faults which exist, and in fact discovering the presence of faults which are not obvious to others, because of the tendency to believe that whatever is, is right.

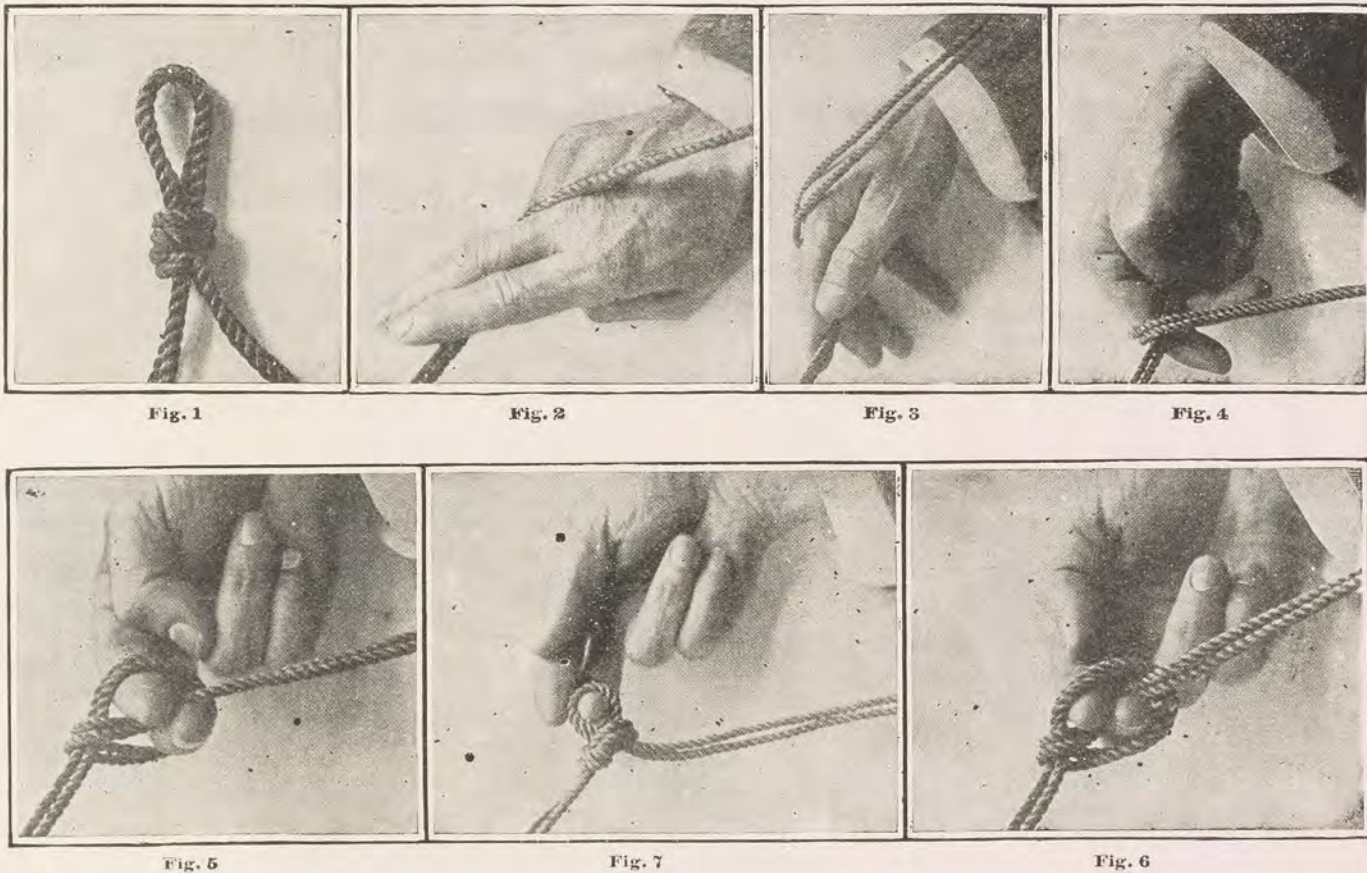
Profound Study Necessary

Then the qualities of the material, and the laws of action under which one must operate should

cock to let the steam into the cylinder and one to let in water to condense it at certain periods of each stroke of the engine, and if this were not done at the right time, the engine would stop. He noticed that these movements of the stop-cock handles took place in unison with the movements of certain portions of the beam of the engine. He simply connected the valve handles with the proper portions of the beam by strings, and the engine became automatic—a most eventful result.

Evolution of the Cord-Knotter

A most interesting example of the evolution of an invention is that of the cord-knotter of the self-binding harvester. The problem here was to devise a mechanism which would take the place of the human hands in tying



be exhaustively considered. It should be considered whether these laws are really or only apparently inflexible. It should be carefully considered whether further improvement is possible in the same direction, and such consideration will often suggest the direction in which further improvement must go, if a change of direction is necessary. Sometimes the only possible improvement is in an opposite direction. A glance at the accounts of how James Watt invented the condensing steam engine will show what a large part profound study of the old engine and of the laws of steam played in his invention, and how strongly they suggested the direction of the solutions of his difficulties.

We now come to the constructive part of inventing, in order to illustrate which, I will seek to explain how several inventions were, or could have been, produced.

The way in which the first automatic steam engine was produced was undoubtedly this—and it shows how comparatively easily a really great invention may sometimes be made. It was the duty of Humphrey Potter, a boy, to turn a stop-

a knot in a cord whose ends had mechanically been brought together around a bundle of grain. The first step was to select the knot which could be tied with the simplest motions. The knot which the inventor selected is that shown in Fig. 1, and is a form of bow-knot.

The problem was to find how this knot could be tied with the smallest number of fingers, making the smallest number of simple movements. As anyone would ordinarily tie even this simple knot, the movements would be so numerous and complex as to seem impossible of performance by mechanism. The inventor, by study of his problem, found that this knot could be tied by the use of only two fingers of one hand, and by very simple movements. The knot will best be understood by following the motions of these fingers in tying the knot. Using the first and second fingers of the right hand, they are first swept outward and backward in a circular path against the two strands of the cord to be tied, as shown in Fig. 2.

The fingers continue in their circular motion backward, so that the strands of the cord are wrapped around these fingers, as shown in Fig. 3.

(Continued on page 1588 e)

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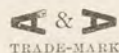
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103. 1 Cake Tray . 9 1/2 inch . . .	2.75	—
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The Art of Inventing

(Continued from page 1588c)

Reasoning Out the Problem

Continuing their circular motion, the fingers approach the strands of the cord between the twisted portion and a part of the machine which holds the ends of the cord, and the fingers spread apart, as shown in Fig. 4, so that they can pass over and grasp the strands thus approached, as shown in Fig. 5. The fingers then draw back through the loop which has been formed about them, the fingers holding the grasped portion of the strands, as shown in Fig. 6.

The knot is finished by the completion of the retracting movement of the fingers through the loop, thus forming the bow of the knot, as shown in Fig. 7.

The inventor found that one finger could have a purely rotary movement, as if it were fixed on the arm and unable to move independently of the arm, and the movement being as if the arm rotated like a shaft, but the second finger must be further capable of moving toward and from the first finger to perform the opening movement of Fig. 4, and the closing movement of Fig. 5, by which it grasps the cord. The inventor accordingly, from his exhaustive analysis of his problem, and his invention or discovery of the proper finger motions, had further only to devise the very simple mechanical device illustrated in Fig. 8 to replace his fingers.

The index finger of the hand is represented by the finger *S*, which is the integral with the shaft *V*. The second finger of the hand is represented by the finger, *U*, which is pivoted to the first finger by the pin, *s*. The grasping movement of the finger, *U*, is accomplished by a spring *V'*, bearing on the shank, *U'*, and its opening movement is caused by the travel of an anti-friction roll, *U''*, on the rear end of the pivoted finger, over a cam, *V''*, on the bearing of the shaft. The shaft is rotated by the turning of a bevel pinion, *W*, on the shaft through the action of an intermittent gear. The necessity of drawing the fingers backward to accomplish the movement between Figs. 5 and 7 was avoided by causing the tied bundle to have a motion away from the fingers as it is expelled from the machine, the relative motion between the fingers and the knot being the same as if the fingers drew back.

Thus the accomplishment of a seemingly impossible function was rendered mechanically simple by an evolution from the human hand, after an exhaustive and ingenious analysis of the conditions involved.

It will be seen from the example I have given that the constructive part of inventing consists of evolution, and it is the association of previously known elements in new relations (using the term elements in its broadest sense). The results of such new association may, themselves, be treated as elements of the next stage of development, but in the last analysis nothing is invented or created absolutely out of nothing.

It must also be apparent, that pure reason and method, while not taking the place of the inventive faculty, can clear the way for the exercise of that faculty and very greatly reduce the demands upon it. When it is desired to make a broadly new invention on fundamentally different lines from those before—having first studied the art to find the results needed, the qualities of the material or

other absolutely controlling conditions should be exhaustively considered; but at the time of making the inventive effort, the details should be dismissed from the mind of how results already obtained in the art were gotten.

The Basic Idea Elements

One should endeavor to conceive how he would accomplish the desired result if he were attempting the problem before any one else had ever solved it. In other words, he should endeavor to provide himself with the idea elements on which the imagination will operate, but to dismiss from his mind as much as possible the old ways in which these elements have been associated, and thus leave his imagination free to

lines. It is so full, already, of the old forms of association of the elements as to be less likely to think of associating them in broadly new relations.

Nothing should be considered impossible until it has been conclusively worked out or tried by experiments which leave no room for doubt. It is no sufficient reason for believing a thing won't work because immemorial tradition, or those skilled in the art, say it will not work.

Work from Tool to Power

In inventing a machine to operate upon any given material, the logical way is to work from the tool to the power. The tool or tools should first be invented, and the motions determined which are to be given to them. The proper gearing or parts to produce from the power each motion for each tool should then be invented. It should then be considered if parts of each train of gearing cannot be combined, so as to make one part do the work of a part in each train; in short, to reduce the machine to its lowest terms. Occasionally a mechanism will be invented which is exceedingly ingenious, but which it is afterward seen how to simplify, greatly at the expense of its apparent ingenuity. This simplification will be at the sacrifice of the pride of the inventor, but such considerations as cheapness, durability and certainty of action leave no choice in the matter. It will sometimes be found that a single part can be made to actuate several parts, by the interposition of elements which reverse the motion taken from such part, or which take only a component of the motion of such part, or the resultant of the motion of such part and some other part. Where a machine involves the conjoint action of several forces, it can be more thoroughly studied, if it is found there are positions of the machine in which one force or motion only is in operation, the effect of the others in such position being eliminated, and thus the elements making up the resultant effect can be intelligently controlled.

The drawing board can be made a great source of economy in producing inventions. If the three principal views of all the essentially different positions of the parts of a machine are drawn, it will often be found that defects will be brought to light which would not otherwise have been observed until the machine was put into the metal.

It is desirable to see the whole invention clearly in the mind before beginning to draw, but if that cannot be done, it is often of great assistance to draw what can be seen, the clearer perception given by the study of the parts already drawn, assists the mind in the conception of the remaining parts.

Patent Medicine Advertising

A man went into a chemist's shop and bought a bottle of some patent stuff, which was advertised thus:

NO MORE COUGHS
NO MORE COLDS
50 CENTS THE BOTTLE

Three days later he went to the chemist, complaining that his throat was stopped up, and that he could scarcely breathe. "I've drunk all that patent cough mixture," he said.

"Drunk it?" yelled the chemist. "Why, that's an India-rubber solution to put on the soles of your boots."

"The Keystone is perfect."—M. W. Jenks, Jeweler, San Diego, California.

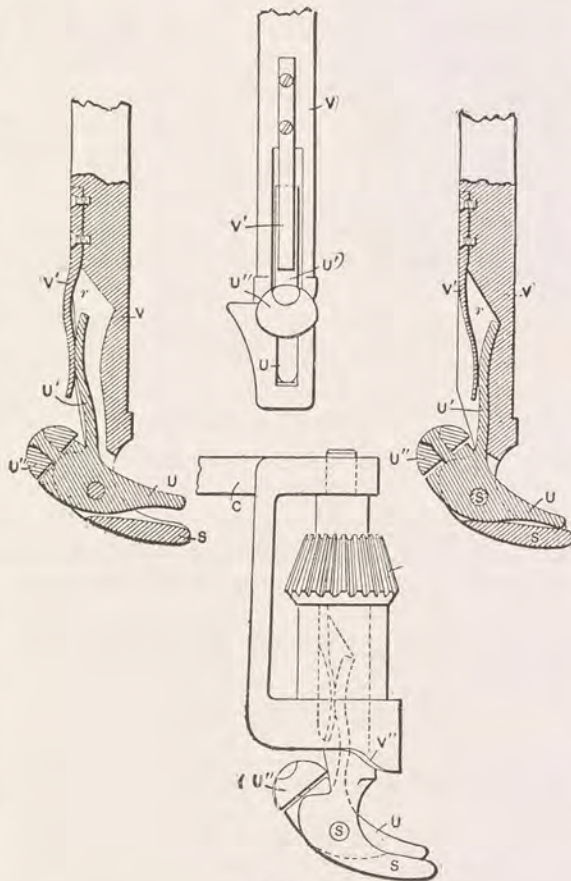


Fig. 8
The mechanical fingers of the cord knoter

associate them in original and, as to be hoped, better relations than before. He should invent all the means he can possibly invent to accomplish the desired result, and should then, before experimenting, go to the art to see whether or not these means have before been invented. He would probably find that some of the elements, at least, have been better worked out than he has worked them out. Of course, mechanical dictionaries, and other sources of mechanical elements and movements will be found useful in arriving at means for accomplishing certain of the motions, if the invention be a machine. Many important inventions have been made by persons whose occupation is wholly disconnected with the art in which they are inventing, because their minds were not prejudiced by what had already been done. While such an effort is likely to possess more originality than that on the part of a person in the art, there is, of course, less probability of its being thoroughly practical. The mind well stored with the old ways of solving the problem will be less likely to repeat any of the mistakes of the earlier inventors, but it will also not be as apt to strike out on distinctly original

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Analysis of the Real Salesman

Dearly beloved, a salesman is a man who sells things.

He need not necessarily wear a strenuous waistcoat and a vivid necktie.

It isn't even compulsory that he should know the last lurid story.

As a diplomat he need not class with John Hay, and in hypnotism Svengali would beat him many miles.

Salesmen grade from the "Say-Mame,-ain't-he-turrible" type to the gentleman of apparent and simulated leasure, who hits only the high places and sells high-grade bonds in hundred-thousand-dollar bundles.

The beautiful youth who hands out a yard and a half of calico and a mile and a half of impertinence for eight cents, is called a salesman because it would be unparliamentary to call him what he really is.

Let's let him pass with our cussing.

Yet there's room for real salesmanship even behind the calico counter and the essentials are the same there as everywhere.

The first requisite is earnestness—a sincere interest in the thing to be sold, and a real desire to sell it decently.

That is really nearly all there is of it, for earnestness must perforce lead to a study and knowledge of the thing to be sold.

A salesman ought to know how his goods are made, and why they are good.

He can't learn this with one eye on the clock and half his mind on his pay envelope.

If the goods don't interest him he would better change his line.

A good salesman must know more about his goods than the man he is selling to knows about them.

Knowledge and earnestness beat oratory every time.

The average salesman overvalue tact and their personal appearance—particularly their personal appearance.

They are bothered a good deal by thinking how they look when they say it.

They are stage salesmen, and if they could write a drama around themselves and sell goods for stage money they would be great successes.

A real salesman goes after the order like a bull pup after a bone. He doesn't know whether he looks pretty or not. Lord Chesterfield and Beau Brummel might both give him a few points—but he lands.

The old-fashioned salesman who had to tell three Rabbelaian stories and take four drinks before he could make a sale, is down and out. He belongs to an extinct era.

But the appetite for glad clothes and the spotlight are almost as bad as a craving for strong drink.

A real salesman once came in from a few nights on sleepers sandwiched between strenuous days of good business. He opened up his suit case, extracted a clean collar, exchanged it for his dirty one, slammed shut the suit case and said: "Well, where shall I go next?"

It shocked some of the stenographers but made a clean hit with the old man.

One of the best salesmen that travel out of New York was a bookkeeper. He was so cantankerous that the boss was glad when he asked to go on the road, because then the boss knew he would fall down and could be fired automatically on his record.

He had about as much tact as a Canada thistle, and for pulchritude a hedge fence had him hanging over the ropes.

But he knew his line from A to Z and repeat.

He believed it was the best line of its kind on this or any other earth. He was perfectly earnest in his belief that a dealer who thought otherwise was myopic, if not totally blind to his own interests.

He was as impervious to snubs as a bull dog is to kicks—they merely stimulated him to greater effort.

Gradually he got some small accounts—not big ones, for he is a plodder, not a star.

As soon as a dealer became a customer he became doubly important and our salesman bully-ragged the house into giving him the best window displays, the promptest shipments, additional advertising matter—anything and everything that would help business.

And so this salesman holds his trade, gets new trade, draws a bigger salary than any of the rest of the boys and is still a quarrelsome, disagreeable, cantankerous cuss.

He knows his business and he works.

If a man will do these two things he can get along without the ornamental qualities generally supposed vitally necessary to the crack salesman.

In fact, too much beauty and culture and general information is likely to hinder more than it helps.

There is, of course, no known law of nature that will prevent a man being diplomatic, hypnotic, handsome, swell, earnest, honest and hardworking all at the same time.

There are a few just like that, but they do not remain salesmen. They own the business after a few years.

I know one of them. He has become vice-president of the electric light works in one of our largest cities. He makes the big contracts and bosses the boys who make the little ones.

Trouble with the common, or garden salesman is that he gives undue ponderance to externals.

He examines my vice-presidential friend and asks the name of his tailor. He notes the color values of his necktie and observes that his cane has silver things on it.

When he acquires a similar make-up he goes out and cavorts.

It's the ass in the lion's skin all over again.

As he expresses it, he "puts up a good front and makes a bully talk," but he doesn't land.

He makes a sparring exhibition—not a finish fight.

When a surgeon makes ready to perform an operation he sheds his coat, rolls up his sleeves and puts on a long and voluminous apron. He does not want to be bothered by his clothes.

He lays out his instruments in the sequence in which they are going to be used.

When a ship is cleared for action, a good deal of upholstery goes over the side.

It is a case of getting down to business, and that is the chief lesson for a salesman to learn.

His facts are the instruments with which he must remove the order from the unwilling subject, and he should have them all bright, and sharp and handy.

If he can make the operation painless by the hypnotism of charming manners; if he can administer the anesthetic of goodfellowship so much the better for the patient, but the vital thing is to make the operation successful.

A real salesman is a man who comes in with the orders and doesn't waste the old man's time with thrilling narratives of why it didn't happen.

Historical romance is not in the old man's line. The literature he likes begins: "Ship via ———," and concludes with a signature known in the archives of Messrs. Dun's and Bradstreet's books of the American Peerage.

Songs and dances rendered by salesmen who didn't, are the poorest sort of entertainment given on the business roof garden.

It is a form of divertisement never given by the salesman who knows his line and really works. —Charles Austin Bates, in *Judicious Advertising*.

Electrical Measuring Machines

Prof. J. H. Poynting recently described before the Royal Society an "electric-touch" measuring machine which gives results superior to any obtainable with the usual "mechanical-touch" machines. Readings with the new machine are taken with ease and certainty to one two-hundred-and-fifty-thousandth of an inch, and even one-quarter of this can be obtained.



PROOF—We Sold \$20,000 Where Others Sold But \$3,000



By right methods and by right advertising, we have repeatedly conducted successful and profitable sales where incompetent auctioneers had made bad failures. For example: H. J. Davison's Sons, Springfield, Mass., made an auction sale five years ago with a "guarantee-everything" auctioneer. Yet three weeks of strenuous effort only placed \$3,000 in the cash drawer—which meant that the sale had been an actual loss. In April of this year we conducted a sale for these same

H. J. DAVISON'S SONS
471 Main Street, SPRINGFIELD, MASS.

May 21, 1906
Messrs. Mitchell & Tillotson

Gentlemen:—Three years ago this month we held our first auction, employing a much-advertised auctioneer. At the end of three weeks we had sold only three thousand dollars at no profit. Your sales so far, at the end of three weeks, have amounted to only a little short of four thousand each week, and show a balance on the right side. We are also much pleased to say that the goods have been sold on their merits and without any misrepresentation. The writer has watched your work carefully and has failed to see any word or act that would give a customer any chance to criticize. To sum up would say that if any jeweler in need of such service as you furnish could not be satisfied with your methods and work he had better give up the idea of an auction sale.

H. J. DAVISON'S SONS
H. B. Davison, Successor

people and in a few weeks produced over \$20,000 in cash, cleaned the stock of every chestnut (so-called unsalable dead stock) and made many new and satisfied customers for their future business.

This was our third successful sale in Springfield in two years, the others being one for H. J. Webb & Co., amounting to \$27,000, and one for J. F. Burpee & Co., amounting to \$10,000. We here print letters from Messrs. Davison and Burpee.

The strongest proof of any man's ability in any line is what he has accomplished where others have failed. You have here some evidence bearing on our ability in this particular, and next month we shall give letters and details of two other still more remarkable successes where two other auctioneers had failed. However, it isn't necessary that you wait a month to be convinced. We have hundreds of fac-simile letters from jewelers we have served, and we will be glad to send them to you on request. Write to-day.

J. F. BURPEE & CO.
SPRINGFIELD, MASS.

April 28, 1905

Mitchell & Tillotson made an auction sale for us in 1904, that in the amount of goods sold and the prices realized was beyond anything we believed possible. Although our location was very poor and our stock small and antiquated, and we were competing with another auction sale of a larger stock at a better location, we had the auction crowd within three days after we started, leaving the other man with so few buyers that he closed his sale. With a stock valued at about \$1,000, we sold nearly \$8,000, realizing a good profit on the sale. Aside from the financial benefit to us, we wish to speak of the fact that these men who had previously made sales in Springfield and other adjoining towns had hosts of admiring and loyal friends who patronized our sales generously, and who expressed the utmost confidence in the auctioneers as gentlemen and business men. Although there was little in our stock to attract them, we had many of the wealthiest people in Springfield and Holyoke as regular attendants. Their work was marvelous. We endorse them heartily and recommend them ungrudgingly to others who need to turn their goods into cash. As a business proposition Mitchell & Tillotson are a success.

J. F. BURPEE & CO.

OUR SLOGAN—Sales that help your future business,
that build up instead of tear down

MITCHELL & TILLOTSON Jewelry Auctioneers **New York**
35 Maiden Lane

The International Date Line

THE International Date Line is a line running north and south through the Pacific Ocean, which has been agreed upon as the point where the day begins and ends, or where the reckoning of a calendar day changes. In actual practice, however, there are two such lines, an irregular one and a main or straight one. The straight line which coincides with the meridian lying 180 degrees from Greenwich is observed in nautical practice, while the irregular line is for the small islands which lie close to or have important commercial relations with their mother country or other islands just across the straight date line. A notable example is that of the Aleutian Islands which lie on both sides of the straight date line, but the irregular line passes to the *west* of them so as to place them on the same side of the line as the United States.

The use of this date line and the reason why we gain or lose a day in circumnavigating the globe is clearly explained in the following extract from the brochure "Revised Treatise on Time," by Isaac F. Pheils, Woodville, Ohio:

Gaining and Losing Time

Time, as is well known, moves from *east* to *west*, or with the apparent sun. It is measured by the speed of the earth's rotation, that is the speed of time as it passes any meridian. If we travel east against time, the *speed of time passing by* us is greater, and we gain time, but if we travel west with time, the speed is less and we lose time.

Now, let the starting point of a man traveling around the world towards the west be the date line. Moving west, he is traveling with time, even though he does not travel with the same rapidity as time, yet time does not pass by him as rapidly as it would if he remained stationary, hence he is losing time. Regardless of the speed with which he travels, he will have lost 24 hours when he has reached his starting point. Going *east* the reverse will be true. This is particularly noticeable on the Pennsylvania special or on the Twentieth Century Limited train between New York and Chicago. The night used for the trip is about two hours longer going *west* than when going *east*. The actual time for the trip going either way is 18 hours.

The Twentieth Century Limited train leaves Chicago at 2.30 P.M. Central Time, and arrives in New York next day at 9.30 A.M. Eastern Time. Counting the hours from 2.30 P.M. to 9.30 A.M. makes 19 hours. The same train returning leaves New York at 3.30 P.M. Eastern Time and arrives at

Chicago at 8.30 A.M. the next day. By actual count there are 17 hours. We will notice that the train going *west* leaves one hour later in the day and arrives in Chicago one hour earlier in the day than when going *east*. Bear in mind that in traveling east or west the "evening and morning" is considered a day regardless of the number of full hours in it.

A Lucid Explanation

To be more explicit, the train going *east* is constantly gaining time. It gains one hour in making the trip, which averages a gain of 3 minutes and 20 seconds for every hour of the 18 full hours of actual running time. This gain of 3 minutes and 20 seconds, for each hour must be added to the 18 hours, which makes the schedule time from Chicago to New York 19 hours; that is, from 2.30 P.M. to 9.30 A.M. We find that the schedule 19 hours, instead of being 60 minutes' long, are 56 minutes and 50 seconds long. Hence, the night of the trip is shorter.

Going west on this train the reverse is the case. The train loses one hour during the trip. There is a loss of 3 minutes and 20 seconds for each of the 18 hours. This loss must be deducted from the 18 hours in order to obtain the schedule time from New York to Chicago, which is 17 hours; that is, from 3.30 P.M. to 8.30 A.M. We find that the scheduled 17 hours, instead of being 60 minutes' long, are 53 minutes and 32 seconds' long. Hence, the night of the trip is longer because of using longer hours. The difference of time or gain must be added to the actual time if we are going *east*. If we are going west the difference or loss must be deducted from the actual time, in order to obtain the correct time of the places through which we travel. January 1st it is about 14 hours and 42 minutes from sunset to sunrise. Going *west* January 1st, on the train from sunset to sunrise is about 15 hours and 34 minutes. Going *east* on the same day and train, it is about 13 hours and 55 minutes from sunset to sunrise.

Trains on any of the Western trunk lines using three different times will arrive at the Eastern terminus 4 hours later in the day than at the Western terminus, if both trains leave at the same hour of the day and travel at the same rate of speed. From San Francisco to New York trains using four different times arrive 6 hours later than going *west*, that is, if they leave at the same time of the day and travel at the same rate of speed. From New York to Liverpool, England, steamships will arrive 10 hours later than in going from Liverpool to New York, providing they leave at the same time of day and travel at the same rate of speed.

Hints on Exposure

The beginner who has commenced his photographic experiences with the ubiquitous hand camera is in some instances at least not specially interested in the question of exposure. This is the case, writes "Camera" in the *Glasgow Evening Times*, when the shutter that forms a part of the apparatus works at one uniform speed, and he must then adopt the plan of using a faster or slower plate, if possible, to vary the effect. This variation must also be done by using a fast plate, when the lens can be used at a smaller aperture for subjects requiring a short exposure. When a stand camera with shutter, or a hand camera with a shutter which is arranged so that it is capable of various speeds, is used along with a plate of medium rapidity, the shutter can then be adjusted to suit the subject to be photographed. The exposures which are made in this way bear a relative ratio to each other, which is a great convenience when the time for development arrives, as two or four plates may be proceeded with at once, and much valuable time saved. When special subjects requiring special treatment are photographed, these should be packed away by themselves and noted, so that when the time for development comes there may be no chance of their being spoiled by being developed in the ordinary way. This would apply to subjects like interiors where the correct exposure is in many cases a doubtful quantity, and portraiture or genre work. There are also times arise in the course of an afternoon's work when a glen or a waterfall is photographed, and these subjects, as a rule, call for special treatment in development if the best results are to be achieved.

The beginner will probably hardly care to try the experiment, but many of the more advanced workers in photographing a waterfall take two negatives of it. The first exposure is a brief one, so that the sparkle and movement of the water may be secured, but as the surroundings are then much under-exposed, the second plate, taken without moving the camera from the spot, is upon the surroundings, and the water in that case is a hard, woolly mass without detail. In the print the water is printed from the one negative and the surroundings from the other, and a harmonious print is thus secured, in which the movement of the water and the detail in the surroundings are satisfactorily rendered.

—*Photographic Times-Bulletin.*

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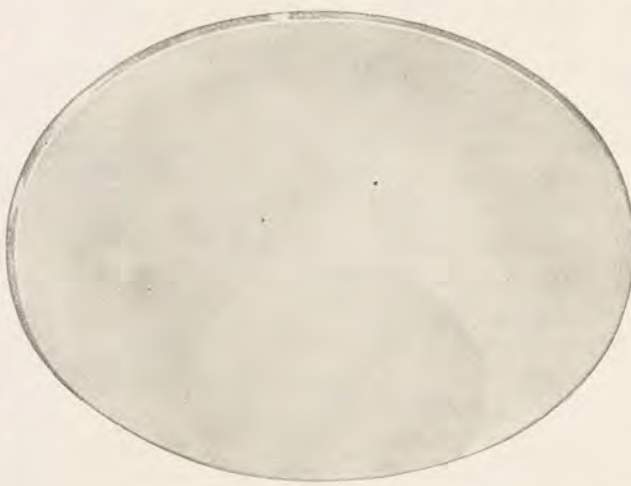
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Reviews of Current Ophthalmological Literature of the World

Astigmatic Accommodation — A Full Ventilation of this Vexed Question

We shall begin our discussion of this important subject with a full reprint of an article by Dr. Oscar Wilkinson, of Washington, in the *Annals of Ophthalmology*, entitled "Astigmatic Accommodation: a Study of its Relative Frequency in Fifty Cases with Marked Asthenopic Symptoms":

Meaning of Astigmatic Accommodation

Astigmatic accommodation, or spastic astigmatism, implies the presence of astigmatism and the action of the accommodation.

The question as to whether or not there is such a thing as astigmatic accommodation has often been raised, and it is to-day a disputed one. I have been unable to find anything in medical literature of a very conclusive nature in regard to it. The first who advocated this condition was Dobrowolsky, in 1868 (*Archiv. fuer Ophth.*). His work was done only by means of atropin and the stenopæic slit, and hence necessarily must have been inaccurate. After him, Javal, de Wecker, Martin and others claimed to have recognized the condition, but their work left much to be desired. Nettleship, Fuchs, Schmit-Rimpler, Valk, Tiffany and Noyes all mention the condition in their books. Savage (*Ophthalmic Myology*) has more to say concerning it, and gives the most satisfactory explanation of any modern author. Starkey, in the *Journal of the American Medical Association*, 1895, page 853, gives an article on the subject. Gibbons touches on the subject in *Ophthalmology*, July, 1905. Eaton contributed an interesting article on spastic astigmatism before the section on ophthalmology of the American Medical Association at its meeting at Portland last year.

That there is still a question in the minds of some of our best ophthalmologists as to the existence of spastic astigmatism cannot be doubted. Knapp says: "The subject of astigmatic accommodation has been considered since the regular astigmatism was scientifically and practically established, but, to my knowledge, nothing has come to light. When I was in Heidelberg, *i. e.*, 1858 to 1868, it was investigated, but without any result. I thought once there was such a thing, but the positive proof was wanting, and Helmholtz, also, would not believe in it." (Reply to following circular letter.) Tscherning, Hess, Sulzer, Eriksen and especially G. Bull opposed the idea of astigmatic accommodation.

Tscherning (*Physiologic Optics*, page 130) says: "The alleged astigmatic accommodation was always of a very low degree, *i. e.*, 1 D. to 1.50 D. at most. Frequently in order to discover it, a very persistent atropinization was necessary, lasting as much as fifteen days, and even until symptoms of poisoning appeared. I think that frequently the patient, weary of the struggle, ended by answering all that was desired."

The published reports of the cases have been too indefinite to permit of accurate conclusions, and hence there is some excuse for the doubt that exists concerning the condition. For years I have been convinced that something of the kind was necessary to explain the difference in the amount of astigmatism as found before, under the influence of, and after the use of a mydriatic. In my opinion there are two forms of astigmatic accommodation. The first form is exercised by almost every astigmatic patient, while the latter is very seldom found,

and then only in persons who have had a great deal of trouble in securing satisfactory lenses and who, as a rule, have been to more than one oculist. A sectional action of the ciliary muscle can easily be provoked by simply placing a weak cylinder before the eye of a young emmetrope. On making an experimental examination on twenty subjects, under the age of twenty years, the placing of a plus or minus cylinder of one-half diopter had no material effect on the acuteness of the vision, and some of the subjects had an acuteness of vision as high as $\frac{5}{6}$, with as much as a plus or minus 1 D. cylinder. This form of simple spastic astigmatism I consider exceedingly common in young subjects with slight degrees of astigmatism. It is probably exercised to some extent by all persons who have astigmatism of less than one or two diopters, and this is probably the form of astigmatism referred to by the gentlemen who answered my letter.

Tonic Astigmatic Accommodation

The second form of astigmatic accommodation, which I think should be separated from the first, and which I shall term *tonic* astigmatic accommodation, is exceedingly uncommon, and I doubt if it is usually recognized. All subjects with this condition suffer a great deal from some form of eyestrain, and are seldom correctly fitted, and probably never without the prolonged use of atropin. It is my opinion that atropin does not relieve this by paralyzing the ciliary muscle. Savage claims that as Bowman's muscle is supplied by the superior cervical sympathetic, that it is not influenced by atropin. This is very probably correct, and it helps to explain the necessity for the profound use of atropin. If atropin paralyzed this muscle at once, as it does the ciliary muscle, it would not be necessary to use it more than a few days. The prolonged action of atropin does not relieve the astigmatic accommodation by paralyzing Bowman's muscle, as Savage has properly suggested, but it does relieve the astigmatic accommodation indirectly. It suspends the accommodation, and deprives the eye of acute vision, thus removing the necessity for the astigmatic effort. Astigmatic accommodation is primarily produced in the interest of acuteness of vision. The guiding sensation of the retina no longer demands this action of Bowman's muscle when the accommodation is paralyzed by atropin, and it is only necessary to use the atropin a sufficient length of time to permit this spasm to relieve itself. The length of time required to produce this result will necessarily vary, according to the nature of each case.

Experiences of Oculists

In order to obtain the opinion of the American oculist upon this subject, I have written the following letter to sixty well-known men, and received answers from about thirty:

"1. Do you consider that there is such a condition as astigmatic accommodation, that is, do persons with astigmatism of the cornea cause a deformity of the crystalline lens in an effort to overcome this corneal astigmatism?"

"2. In your opinion, what proportion of difficult cases exercise this faculty?"

"3. Do you consider astigmatic accommodation present in cases of 1 D. or more of astigmatism where the acuteness of the vision is as high as $\frac{5}{6}$?"

"4. What are the means of detecting astigmatic accommodation?"

It was the opinion of all who replied to this set of questions that there is such a condition of astigmatic accommodation. The answers were, however, indefinite on some points, and I decided to try another set of questions, which read as follows:

"1. Do you think there is such a condition as astigmatic accommodation? If so, what are your reasons for thinking it?"

"2. Have you reported any case of astigmatic accommodation? If so, where?"

"3. Do you know of any reported cases of latent astigmatism, known as such, that you consider indisputable cases of astigmatic accommodation? Refer to literature.

"4. In your opinion, is latent astigmatism a common occurrence?"

"5. Have you had any cases that you were positive were latent astigmatism, that you have not reported?"

"6. What are the tests necessary to be made before one can say that he has a case of astigmatic accommodation?"

"7. Do you consider it possible to detect astigmatic accommodation without the use of the ophthalmometer?"

"8. Do you think any test for astigmatic accommodation is conclusive without the use of the retinoscope?"

"9. Would you consider latent astigmatism present in a case, reported as such, when no means of detecting it was used, except the stenopæic slit, followed by atropin?"

It was the opinion of Wuerdemann, Reynolds, Ellett, Dabney, Hale, Dunbar Roy, Veasey, Melville Black, E. E. Holt, Gould, Myles Standish, Nelson M. Black, Todd, Weeks, Jackson, Casey A. Wood and others that there is such a condition as astigmatic accommodation. Herman Knapp, Henry Bruns and a few others were of the opinion that such a condition does not exist. A great many were not willing to express an opinion upon the subject, saying that their knowledge of the topic did not justify them in rendering an opinion. No one had reported any case of astigmatic accommodation, nor did any one refer me to any literature on the subject, except what is found in Tscherning and to Gibbons' article in *Ophthalmology*, in July, 1905. The opinion as to whether latent astigmatism is a common occurrence, varied; about 30 per cent. believe that it is. Many had seen cases which they were positive were latent astigmatic cases, which they had not reported. The tests necessary to determine a case of astigmatic accommodation, as given by most of those who answered the questions, was a thorough examination with and without cycloplegia, which should be atropin, full objective and subjective tests, including the examination with the ophthalmometer, direct ophthalmoscopy and skiascopy. About one-fourth thought that the ophthalmometer is a necessary instrument. About one-tenth thought that astigmatic accommodation could be conclusively determined without the use of the retinoscope. To question nine only two answered in the affirmative.

Frequency of Astigmatic Accommodation

In order to obtain some idea of the frequency of the occurrence of astigmatic accommodation in asthenopic cases, I began four years ago to make a special study of each difficult case in my private practice. I have excluded all cases over which I could not have perfect control, as to the length of time I should use the mydriatic, and all other cases that for any reason had any objectionable feature that might prejudice the results.

The method of the examination was as follows: An ophthalmometric examination was first made and recorded. Next the ophthalmoscopic examination was made. Then a subjective examination was made by means of the distant chart and the trial lenses. Special effort was made in making this test to bring out all the hypermetropia and astigmatism present.

I endeavored in each case to see how near the subjective examination approximated the ophthalmometric and ophthalmoscopic examinations. I next used homatropin solution, one grain to the dram, one drop in each eye every three to five minutes, until eight or ten drops had been used. In thirty minutes after the last instillation I did a retinoscopy, retook the ophthalmoscopic and ophthalmometric examinations and made records



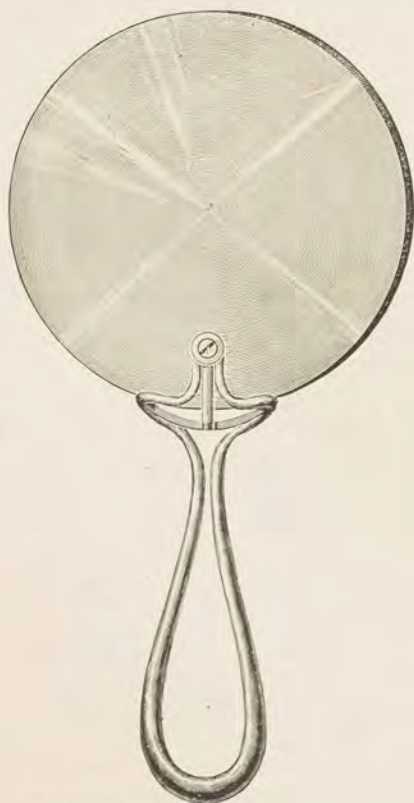
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Ophthalmological Reviews

Astigmatic Accommodation

(Continued from page 1591)

of the same. I now made a subjective examination with the trial lenses, using the pin-hole disk. The error as thus found was corrected—allowance being made for age and other conditions—and the lenses worn for a sufficient length of time to demonstrate their efficiency or inefficiency. After varying lengths of time, from one to six months, these patients were placed under atropin, six grains to the ounce, one drop in each eye three times a day for from three to ten days. At the end of this interval examinations were made, as was done under the influence of homatropin, on two consecutive days.

Glasses were prescribed from the atropin examination, and comfort was secured in each of the reported cases. All of these cases were more or less incapacitated from constant and difficult work, and all had suffered with headaches, nervousness, insomnia, pains in the eyeballs, or some of the various symptoms of asthenopia. The majority of these cases had been fitted more than once before they came to me, and, as previously stated, were fitted by me first under homatropin. The subjective and objective tests made, both under homatropin and atropin, were in every respect the same. Post-mydriatic tests were made in each case. The supreme test of personal comfort has shown that the last correction was the only proper one.

Many Illustrative Cases

In making these observations I have studied fifty cases in my private practice, all of which had unusually severe asthenopic symptoms. Out of the 100 eyes examined I have been able to find only five which I could be positive were suffering with tonic astigmatic accommodation. Out of the entire number there was an increase of astigmatism, or a change of axis in 32 eyes. The increase of astigmatism, however, amounted to only 0.25 D. in 27 eyes, which I consider too slight a defect to be enumerated with the other five. While it is possible that an error of 0.25 D. was made in these cases, it is very improbable. In cases where the examinations did not correspond, more than two examinations were made. The cases, which I report below, show an increase of astigmatism ranging in amounts from 0.50 D. to 1.50 D.

Case 1. M. S., age fifteen, came to me on account of obscure vision and headaches, especially after using her eyes. She was wearing a pair of -2.50 S, fitted by an optician.

Ophthalmometric examination:

R. = 4.50 D. ax. 90°.
L. = 4.25 D. ax. 90°.

Subjective examination:

R. V. $\frac{6}{60}$; -1 O. S. \ominus + 3.0 cyl. ax. 90° V. = $\frac{6}{12}$.
L. V. $\frac{6}{60}$; -1 O. S. \ominus + 3.0 cyl. ax. 90° V. = $\frac{6}{12}$.

Homatropin was instilled, one drop in each eye every three to five minutes for eight instillations, and in thirty minutes the examination was as follows:

Ophthalmometric examination: Same as above.

Skiascopic examination:

R. -1.75 L. -1.75
+1.25 +2.00

Subjective examination:

R. -1.75 S. \ominus 3.00 cyl. ax. 90° V. = $\frac{6}{12}$ pt.
L. -1.75 S. \ominus 3.75 cyl. ax. 90° V. = $\frac{6}{12}$ pt.

This correction was worn with some benefit for several months, after which time she again complained of headaches, and as she wished soon to begin a business course, she was anxious to have her eyes re-examined. Atropin was ordered, six grains to the ounce, one drop in each eye three times a day for four days. At this time the examination was as follows:

Ophthalmometric examination: Same as above.

Skiascopic examination:

R. -1.00 L. -1.25
+3.50 +3.00

Subjective examination:

R. -1.00 S. +4.50 cyl. ax. 90° V. = $\frac{6}{12}$ pt.
L. -1.25 O. S. +4.25 cyl. ax. 90° V. = $\frac{6}{12}$ pt.

Since ordering the stronger cylinders, she has been relieved, despite the fact that she has spent

the year in a business school. In this case we have a difference of 1.50 D. in the right eye, and .50 D. in the left, which was not shown by the retinoscope under homatropin, but which was evidently present, as was indicated by the comfort secured under the proper correction.

Case 2. Miss A. B., a school teacher, has had trouble with her eyes since childhood. She has secured glasses, both from opticians and oculists. Her lids are red and irritated, and she suffers with headache a great deal of the time.

She is wearing:

R. -.25 cyl. ax. 180°.
L. -.50 cyl. ax. 180°.

Ophthalmometric examination:

R. .75 D. ax. 90°.
L. 1.75 D. ax. 90°.

Subjective examination:

R. -.75 cyl. ax. 180° V. = $\frac{6}{12}$ pt.
L. -1.12 cyl. ax. 180° V. = $\frac{6}{12}$ pt.

Homatropin was instilled in the manner as indicated above, and the retinoscope showed:

R. -.25 L. -.12
+.50 +1.00

Subjective test:

R. -.25 S. \ominus + .75 cyl. ax. 90° V. = $\frac{6}{12}$ pt.
D. -.12 S. \ominus + 1.25 cyl. ax. 90° V. = $\frac{6}{12}$ pt.

This correction was satisfactory for a short time only, when her headaches returned with other symptoms. Atropin was now used and the retinoscope showed:

R. +.12 L. -.12
+1.00 +1.62

Subjective examination:

R. +.12 \ominus + .87 cyl. ax. 90° V. = $\frac{6}{12}$.
L. O. -.12 \ominus + 1.75 cyl. ax. 90° V. = $\frac{6}{12}$.

On leaving off the spherical lenses and prescribing the plus cylinders, she has been completely relieved, and with the exception of some obscuration of distant vision, as compared with her former lenses, they have been entirely satisfactory. She has taught one year since securing these lenses without a return of former symptoms.

Case 3. Mrs. L., aged fifty-five, came to me complaining of inability to read for any length of time; of pains in the eyeballs and nervousness. She brought with her a collection of some half dozen pairs of glasses, none of which gave her any relief. She had not been able for a number of years to read without getting a pain in her head, or an eye-pain. Any slight amount of eye-work would cause her much discomfort, either with or without her glasses.

Ophthalmometric examination:

R. 1.00 ax. 150°.
L. 1.75 D. ax. 20°.

Subjective examination:

R., V. $\frac{6}{60}$ pt. + .75 cyl. ax. 150° V. = $\frac{6}{60}$.
L., V. $\frac{6}{60}$ pt. + 1.00 cyl. ax. 20° V. = $\frac{6}{60}$.

Homatropin was used every five minutes for seven instillations, and within thirty minutes the retinoscope gave:

R. +.50 L. -1.00
-.50 -.00

Subjective examination:

R. -.50 S. \ominus + 1.0 cyl. ax. 150° V. = $\frac{6}{60}$ pt.
L., V. + 1.0 cyl. ax. 110° V. = $\frac{6}{60}$ pt.

This correction was ordered for distance, except the sphere was reduced to .25 in the right eye, and inasmuch as her power of accommodation was usually active for one of her age, her distant vision for either eye was $\frac{6}{60}$, while she was able to read No. 1 Jaeger type for near, I ordered a +1.75 S. for each eye for reading, with plus cylinders at the proper angles instead of minus ones. She, being improved for a short time only, returned for further relief. After reviewing my work carefully, and feeling sure that I had made no mistake, I decided, inasmuch as she had an unusual amount of accommodation remaining and in view of the fact that she had not been able to obtain relief from any source, that I would be justified in using atropin in order to give her eyes perfect rest, and to permit me to detect any astigmatic accommodation, if such were present. I gave her atropin, six grains to the ounce, and ordered one drop in each eye three times a day. This she used for six days before the retinoscope showed the amount of astigmatism, as

indicated by the ophthalmometer. At this time the examination was as follows:

Ophthalmometric: Same as above.

Skiascopic examination:

R. +.50 L. -1.00
-.50 +.75

Subjective examination:

R. +.25 cyl. ax. 103° V. = $\frac{6}{60}$ pt.
L. +.25 S. \ominus + .25 cyl. ax. 90° = $\frac{6}{60}$ pt.

I ordered for distance:

R. +1.00 cyl. ax. 160°.
L. -.75 S. \ominus + 1.25 cyl. ax. 20°.

For near:

R. +2.75 S. \ominus + 1.00 cyl. ax. 160°.
L. +2.00 S. \ominus + 1.75 cyl. ax. 20°.

With this correction, she has been relieved of her former symptoms.

The Use of Atropin

Some may seriously object to the use of atropin in a case of this age. I consider it not dangerous when the power of accommodation is so good as it was in this case. When a patient can see No. 1 Jaeger, and can read $\frac{6}{60}$ at a distance, even at the age of fifty-five—a thing exceedingly unusual, even in cases of mixed astigmatism—I do not consider we are running any great risk in using atropin. The accommodation should be as much our guide as to when we should use atropin in a case as the number of years the patient has lived.

Case 4. February 14, 1904, Miss M. W., aged forty, came to my office, complaining of headaches and eyes growing very tired on use, with burning of the lids.

The ophthalmometer showed:

R. .75 D. ax. 140°.
L. .25 D. ax. 90°.

Subjective test:

R., V. $\frac{6}{60}$, +.25 cyl. ax. 105° V. = $\frac{6}{60}$ pt.
L., V. $\frac{6}{60}$, +.25 S. \ominus + .25 cyl. ax. 75° V. = $\frac{6}{60}$ pt.

Homatropin was instilled, one grain to one dram, one drop in each eye every three to five minutes, for eight instillations. In thirty minutes after last instillation, retinoscopy showed the following results:

Skiascopic examination:

R. .0 L. .25
.25 .50

Subjective test under homatropin:

R. .25 cyl. ax. 105° V. = $\frac{6}{60}$ pt.
L. .25 S. \ominus .25 cyl. ax. 90° V. = $\frac{6}{60}$ pt.

Glasses were ordered from the above examination, but on March 27th the patient, not being entirely comfortable, was put under atropin, six grains to the ounce, one drop in each eye three times a day. On the third day the examination was as follows:

Skiascopic examination:

R. +1.00 L. +.25
+.25 +.50

Ophthalmometric examination:

R. .75 D. ax. 140°.
L. .25 D. ax. 90°.

Subjective examination:

R. +.25 \ominus + .75 cyl. ax. 140° V. = $\frac{6}{60}$.
L. +.25 \ominus + .25 cyl. ax. 90° V. = $\frac{6}{60}$.

The above glasses were prescribed and have now been worn more than a year with entire comfort and satisfaction. That there was an astigmatic accommodation in the right eye that caused the axis of the corneal astigmatism to be different from the axis of the astigmatism, as shown by the subjective test, I think cannot be denied. In this case the false axis predominated before the use of the homatropin—the axis of preference being 105° and 75°, and the false axis continued in the right eye even after homatropin had been used.

Summary of Conclusions

From the study of these cases, I feel justified in drawing the following conclusions:

1. Astigmatic accommodation in the simple form is an exceedingly common occurrence, and is usually associated with few or no symptoms.
2. That tonic astigmatic accommodation is an exceedingly uncommon condition and is always associated with marked asthenopic symptoms.
3. That no method of determining tonic astigmatic accommodation is conclusive without the

(Continued on page 1595)

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Ophthalmological Reviews

Astigmatic Accommodation

(Continued from page 1593)

use of a weak cycloplegic (homatropin), followed later by atropin, and the subjective and objective tests carried out with the minutest detail, the patients being examined before, while under and after the use of each mydriatic.

4. That it is probable that atropin does not relieve tonic astigmatic accommodation, *per se*, but that it does so by diminishing vision and thus removing the necessity for the astigmatic effort.

The reviewer must confess that he is unable to agree with the conclusions of the doctor. The cases reported do not appear to be conclusive enough to justify the assumption of an astigmatic accommodation, especially in view of the latest researches in this direction. These researches do not seem to be known to the doctor, for he says that nobody referred him to any literature on the subject except what is found in Tscherning, and Gibbons' article in *Ophthalmology*. There is, however, an excellent article on this subject by Professor Carl Hess in the second edition of Graefe and Saemisch. This well-known authority on all matters pertaining to the accommodation of the human eye, there gives an excellent exposition of the whole matter, and the reviewer believes that on account of the importance of the subject he cannot do better than translate the article from the German. Hess says (pp. 424 to 427, in vol. viii, chap. xii):

Difference Between Corneal and Total Astigmatism

It was mentioned above that the frequently-observed difference between the corneal and the total astigmatism has been attributed by some to a partial contraction of the ciliary muscle. This view found its main support in the fact that frequently the degree of the subjectively or skiascopically-determined astigmatism changed with the width of the pupil. Especially-striking differences were found with the strong dilations by atropin where the observed increase of the total astigmatism was referred to the paralysis of the ciliary muscle. But here it must not be forgotten that there are also cases where after the atropinization the refraction in one main meridian was found higher than before, which, of course, cannot be explained by the assumption of a partial contraction of the ciliary muscle. The proof of this partial contraction would be of great importance not only for the prescription of glasses but also from other therapeutic considerations, as a number of the more serious diseases, like scrofulous keratitis, blepharitis, myopia, etc., have been brought in causal connection with it. It seems necessary, therefore, to discuss the question whether in the interest of distinct vision we are able to innervate and contract separate parts of our ciliary muscle.

The first who expressed the thought that the corneal astigmatism could be corrected more or less completely by a partial contraction of the ciliary muscle was Giraud Teulon, but it was Dobrowolsky who first endeavored to prove the correctness of this hypothesis by clinical observations and by experiments with cylinders on his own eyes. Woinow obtained similar results, but he was much more careful in their interpretation. According to Dobrowolsky the compensating lenticular astigmatism arises from a purposeful action of the ciliary muscle, working in the interest of distinct vision; Woinow, however, concludes from his experiments which he made with the Czermak orthoscope, that this partial contraction occurred only independently of our will after the eye had become tired.

Latest Investigations

The later investigators, with few exceptions, agree that they regard the existence of a partial contraction of the ciliary muscle as a demonstrated fact. Their views, however, differ as to the degree and the kind

of action. While the one regards a partial contraction up to 3 diopters as possible, the other, under similar conditions, finds a compensation up to hardly 1 diopter, and a third believes that on trying to improve the astigmatic vision the ciliary muscle goes too far and over-corrects the corneal astigmatism. The partial contraction, according to some (Pflueger and Mauthner), takes place, as in hypermetropia, at the moment of fixation and relaxes in darkness; according to Schoen it develops only gradually in the course of time, and has considerable influence upon the curvature of the cornea. One believes that an astigmatism of 1 diopter may be compensated for very easily by a partial contraction of the ciliary muscle, while another asserts that even the compensation of much smaller degrees may cause great discomfort, even in young persons with sufficient power of accommodation.

In opposition to these views Bull expresses it as his opinion that by the labors of Dobrowolsky, Martin and others the existence of a partial contraction of the ciliary muscle has not been demonstrated, and Sulzer, Tscherning, Eriksen and others doubt its existence.

Sources of Error

Here is a short resume of some of the more important sources of error which in the experiments for the proof of a partial contraction of the ciliary muscle have not been considered, or at least not with sufficient force. First, one does not take sufficiently fine objects for the examination; for it is to be considered that the coarser the object the greater may be the dioptric error in the presence of which it does not appear decidedly indistinct. Many observers, further, while comparing the different lines of the test object as to their relative distinctness, have not made their observations with a fixed line of regard, but allowed their eyes to wander over the object. Under these circumstances, however, the possibility of an accommodative change is not to be excluded, so that the temporarily-fixed ray, but only this one, is seen in greatest distinctness. Furthermore, frequently, for example, on viewing the differently-directed rays of the star figure, a partial contraction of the ciliary muscle was regarded as demonstrated when the different rays appeared with equal distinctness. But this is no proof, for in many cases of astigmatism all diameters may appear equally distinct even with an adjustment of the eye without a partial contraction; for example, by adjusting the eye to a place in the astigmatic bundle of rays which lies about in the middle between the two thinnest cross sections corresponding (about to the place of the circular diffusion spot in the conoid of Sturm); but in this case the diameters are not seen with the greatest distinctness possible. In the more irregular forms of astigmatism, especially in those that belong to the third form, there may be even different places in the bundle of rays where none of the diameters of the figure appear more distinct than the others. Besides, sufficient weight was not always laid on the fact that by a narrowing of the palpebral fissure the diffusion figures in most forms of astigmatism may be reduced very decidedly.

An Interesting Demonstration

The influence of a narrowing of the lid opening may be demonstrated in the following manner: A photographic camera is made astigmatic by putting a weak cylinder glass in front of the lens. Fine concentric black and white circles are used as objects. If the diaphragm has a wide circular opening, one sees on the ground-glass plate in the picture of the circles only two small sectors distinctly, while all other parts of the circles are diffuse. If now the narrowing of the lid opening is imitated by putting in the camera a slit-shaped diaphragm about two millimeters in width, in such a manner that the longitudinal diameter of the diaphragm corresponds to the axis of the cylinder, the circles appear practically equal in all parts.

Furthermore, it must be observed that the narrowing of the lid opening may improve vision in still another manner than by the diminution of the diffusion circles, for under certain conditions, as has been shown lately by Botwinik, this act may produce changes in the corneal curvatures. Such changes have been demonstrated with the ophthalmometer in the neighborhood of the screwed-up lids by men like Bull and Gullstrand.

If we consider the above-mentioned sources of error in these experiments and especially the circumstance that the astigmatic person, as far as his accommodation will allow it, is not obliged to accommodate his eyes for a thinnest cross section, but usually will, if possible, accommodate for such a place of the astigmatic bundle which corresponds to an approximately circular cross section of the bundle (because this offers him the comparatively best conditions for example for the recognition of letters), it is evident that from the observations and measurements, thus far published, the existence of a partial contraction of the ciliary muscle cannot be regarded as probable, much less demonstrated.

Instructive Experiments

In order to determine within what limits astigmatic persons might be able by a partial contraction of the ciliary muscle to see distinctly at the same time the two lines of a rectangular cross, these two lines being movable independently from each other to different distances from the eye, I have made experiments in the following manner: The observer fixed with one eye two very fine cocoon threads which were stretched out at right angles to each other in the direction of the two main meridians of the observed eye, and which could be moved independently of each other, farther or nearer to the eye. At the proper distance of the threads from the eye the observer saw a very fine cross, the two threads of which appeared to lie in one plane. By changing the distance of the threads from each other the distinctness with which each of the two threads of the cross was seen could be varied at will up to the complete disappearance of either thread. With this piece of apparatus it was determined within what limits of change in the relative position of the two threads persons with natural or artificial astigmatism could still see both threads at the same time equally well.

From these observations conclusions may be drawn as to how far it may be considered as possible to produce a partial contraction of the ciliary muscle in the interest of distinct vision in such a manner that the existing corneal astigmatism could be corrected by the induced lenticular astigmatism. With this method none of the persons examined by me showed a distinct partial contraction of the ciliary muscle, although the conditions for a development of such were highly favorable.

I shall, therefore, in the correction of the errors of refraction pay no further regard to the possibility of a partial contraction of the ciliary muscle which, also from purely physiologic grounds, has very little probability.

The reader will see now for himself that the evidence in favor for a partial contraction of the ciliary muscle is by no means all positive and that the tests of Dr. Wilkinson are not as decisive as he believes them to be. That there are, however, a few cases in which the evidence for such a partial contraction is pretty full there is no doubt, and in this connection it is well to call attention again to an article in the last number of THE KEYSTONE, in which Priestley Smith and Jackson speak of the possibility that the fibers of the crystalline lens may not all have the same elasticity so that from an equal contraction of the ciliary muscle an unequal curvature of the lens surface may result. There might be, therefore, such a thing as a crystalline astigmatism produced by an equal contraction of the ciliary muscle all around, but it would be well in each case to guard against all such sources of error as are mentioned in the article of Prof. Hess. This, however, would be a very different thing from a voluntary change in the shape of the crystalline lens, for we would have no control over the elasticity of the fibers. But it is clear that under these conditions a person may have a different degree of astigmatism while accommodating in the act of reading than when

(Continued on page 1597)

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Ophthalmological Reviews

Astigmatic Accommodation

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looking at distant objects, and thus a different cylinder might be required for reading. However, this is only a possibility, and rigid tests ought to be made in each supposed case of this kind along the lines laid down by Hess before this supposition must be regarded as a fact. Hitherto such rigid tests have not been made in these cases, and in other cases like those of Hess the evidence has only been negative. Let the adherents of the theory of a partial contraction of the ciliary muscle perform the rigid tests. Up to this time we can only say that there is not sufficient evidence for the belief that the human eye can change the shape of the crystalline lens by an unequal contraction of the ciliary muscle.

Does the Pupil Act More in Response to Convergence or Accommodation?

Lately in Pfluger's Arch., Dr. E. Wlotzka gives the result of his investigation regarding the synergy of accommodation and pupillary reaction. He made the visual lines converge on a disk several meters away and arranged two half images, so between the disk and the eyes that the visual lines passed through their centers, which were united in one point by binocular vision. By looking in turn at the distant disk and the near point the accommodation was made to vary ten dioptries, while the convergence remained the same all the time. He thus found that the pupil did not change when the eye simply accommodated ten dioptries, and did not change its position of convergence. It is clear, therefore, that the size of the pupil does not depend upon the act of accommodation, but rather upon that of convergence.

The Time of the Act of Winking

Dr. L. Howe, in the "Transactions of the American Ophthalmological Society," describes his method by means of which he succeeded to measure by photography the exact time for the act of winking. According to his careful measurements, winking occupies from $\frac{4}{10}$ to $\frac{5}{10}$ of a second under normal conditions and in healthy individuals.

Loss of Sight by Antipyrine

As antipyrine is a medicine which is frequently used by sufferers from headache without the advice of a physician, it is quite proper to remind the readers of THE KEYSTONE that this drug is not without danger for the eyes. Drs. L. Lewin and H. Cuillery, in their monograph on "The Effects of Drugs and Poisons on the Eye," report three cases in which doses as low as 15 grains of antipyrine produced complete blindness lasting for several hours to several days. Lately, Dr. F. C. Hotz, of Chicago, in the *Archives of Ophthalmology*, has reported a new case. Here a Mr. K., thirty-three years old, had taken antipyrine in 5-grain capsules for an attack of migraine so severe that he had to take 26 capsules, that is 130

grains in 48 hours before he found relief. This man at the end of that time noticed that his sight was failing, and that it was practically extinguished within 48 hours. When he came to the doctor he could see fingers again in the periphery of his field, but central vision was abolished altogether. Under treatment in the hospital for about two weeks the patient's sight gradually improved, but it was not until four weeks later that the sight had again become normal. The reader will see, therefore, that antipyrine is not without danger for the sight, and that it is well to inquire after the use of this drug in all cases where the sight has failed suddenly after taking some medicine for headache.

Should the Patient Always be Told that he has a Cataract?

In his review of Haab's "Atlas and Epitome of Operative Ophthalmology," the nestor of American ophthalmology, Dr. H. Knapp, of New York, gives the following interesting report of his own action in this matter. He says in his Arch. of Ophthal.:

The reviewer is not in the habit of telling the people that they have a cataract, unless they feel difficulties. In a conversation with Prof. Helmholtz and a young oculist, like myself, he said to me: "If the patient from whom you have concealed his cataract, let another oculist examine him and tell him the truth, would that not damage your reputation?" I replied: "A reputation which is damaged for this concealment is not worth the having." Another test of the same kind was the following: A wealthy man of sixty-five consulted me. I saw a beginning cataract, which I entered into my case-book, but told him his eyes were not so sharp as in youth, but there was nothing unusual in them. I gave him the proper glasses, and the man always, when he saw me, thanked me for the glasses. Five years later he came to me again, quite downcast, telling me that he had consulted Dr. N., and he had told him that he had a cataract in both eyes. I asked him to come to my office, I would examine his eyes and consult my case-book. He came and read: "Cataract on both sides." I told him I had concealed the fact from him, because he would have been depressed, and I said to him, if he had come to me now, I would not have told it to him, because he could live five years longer without cataracts annoying him. He was consoled and died at eighty. His cataract had darkened so little that he did not speak of an operation.

Sight and Hearing Tests on Australian Railways

In accordance with the decisions of the Inter-State Conference of Railway Commissioners, in Australia, held some time ago, new scientific tests for sight and hearing, uniform in standard, have been adopted in the railway service of the different Australian States, and the various employees have undergone examination by experts. In New South Wales the result has been that many men could not pass the tests, and it was said that some of the best men were degraded and hardly treated. A deputation of thirty members of parliament waited, states the *Lancet*, on the premier to ask him to urge on the commissioners the necessity of reverting to the old system of practical tests instead of Hoimgren wools, acoumeters and test-types. The premier replied that he could not control the commissioners, but would place the views of the deputation before them.

The Base Curve of a Toric Lens

To answer the various inquiries we are constantly receiving in regard to toric lenses and their grinding, we have had, says *The Hardy Messenger*, the following brief description prepared:

Of the different forms of lenses used to correct errors of refraction, those styled "periscopic" are, as a rule, acknowledged to be superior to the ordinary double convex form. This being true, a plus spherocylinder lens when made toric must also, as a rule, be superior to the ordinary double convex style, because it is then periscopic in form. In a toric lens the curves which produce the two powers necessary are ground upon one side of the glass, and the curve which produces the power in the meridian having the least refraction is called the base curve. Therefore, a + 6 base would mean that the minor curve would always be + 6, while the major curve would be stronger, the difference between the two curves equaling the cylinder.

For instance, if the outside major curve is + 7 and minor curve is + 6, deduct one from the other and you have a + 1 cylinder. The inside curve would be a simple sphere that would vary in accordance with what might be desired.

For instance, if we desire + 1 cylinder only, we then grind - 6 sphere on the above combination, leaving only the plus cylinder. The - 6 spherical curve entirely neutralizes the + 6 base curve.

If we desire + 1 sphere \odot + 1 cylinder, we then grind - 5 sphere, having as a result + 1 in one meridian and + 2 in the other, giving the spherocylinder that we desire. If - 1 sphere \odot - 1 cylinder is desired, we then grind - 8 sphere; we then have - 1 in one meridian and - 2 in the other, or the above combination.

A plus base curve is more desirable than a minus, for the reason that you always have curves matching one another on the outside. We nearly always supply + 6 base curve unless specially requested to send some other base, the exceptions being: (1) When the plus cylinder \odot plus toric is stronger than + 4 spherical combined with plus cylinder and not over 6.50; we then send + 7.50 or + 8 base. (2) When the minus cylinder \odot minus toric is stronger than - 4 \odot minus cylinder, we then send + 3 base. (3) When a convex cataract toric is ordered we then grind the lens on a - 3 base. We do not especially recommend toric convex cataract lenses. The increased curvature only adds to the spherical aberration and does not appreciably increase the field of vision.

In describing minus base on toric we will not go into details, but will give only a short explanation. It is minus base when the cylinder and spherical curves are contained on the minus side of the lens, and a plus spherical is ground on the outside that the desired combination may be obtained. The way of grinding is, therefore, directly opposite to the plus base previously described. Since the outside curves vary in order that you may obtain the various foci that are desired, it is not quite as desirable as plus base; that is, from the front view the glass will not appear uniform when lenses differing in focus are used.

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Clinics in Optometry

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[Each of these clinics is complete in itself, and one of them is published each month in this department. They cover all manner of eye defects, from the simplest to the most complicated, and give the most authoritative procedure in the diagnosis and correction of the various visual defects. In order to make these clinics of maximum benefit, we invite our readers to join in them by sending us any criticisms or suggestions they may have to make in regard to the treatment here given. The first clinic of the series appeared in the May, 1904, issue.—Ed.]

Accommodative Esophoria

This young lady, Miss Nanna McK., is twenty-seven years of age. She complains of pain in eyes and headache, and says she can't see well.

We find the acuteness of vision in each eye to be $\frac{20}{20}$ partly. On examination of near-vision, we find the near-point to be six inches. This recession of near-point at once indicates the presence of hypermetropia. You will probably recall from your study of the amplitude of accommodation at the various ages, that the near-point at this age should not be farther than five inches.

We turn to the ophthalmometer, which gives no evidence of the existence of astigmatism beyond the normal amount of slight excess in the vertical meridian of the cornea.

As the vision is so nearly normal, we can exclude myopia, and as the ophthalmometer shows the meridians of the cornea to bear the normal relation to each other, we may exclude astigmatism. The diminished amplitude of accommodation points to hypermetropia, for the detection and measurement of which we will now direct our efforts. In cases like this where the patient is able to name some or all of the letters on the No. 20 line, we cannot expect to afford much improvement in vision by convex lenses, because any hypermetropia that may be present would exist in the form of latent rather than manifest hypermetropia.

Therefore, we will proceed with the fogging system, with the details of which you are by this time more or less familiar. We try the right eye first, placing before it a +5 D. lens. This fogs vision to the extent of blotting out the whole card except that the No. 200 letter can be guessed at. A -0.50 D. placed before it improves vision, and we increase the concave lens until -2.50 D. is reached when the No. 20 has now become legible. The difference between the two lenses, or more strictly speaking the algebraic addition of the lenses, shows the amount of hypermetropia we have been able to uncover, viz., 2.50 D. We repeat the test with the left eye and obtain the same result.

We now make use of the Maddox rod, placing it over the left eye in a horizontal position, and directing the patient's attention to the small point of light across the room.

We ask the patient on which side of the light the red streak appears, and she replies that she doesn't see any red streak. This is not at all unusual because the image of the uncovered eye is so much brighter that it entirely occupies the attention of the brain to the exclusion of the distorted image of the other eye.

But an inexperienced man must not get discouraged and jump to the conclusion that he is therefore unable to test the muscle

balance. We simply rotate the Maddox rod and the attention of the brain is at once called to the moving object and the red streak caused by the rod becomes visible.

Now, in answer to our inquiry, she is able to locate the red streak and she tells us it is away off to the left, perhaps a foot or more from the light. Now, then, what have we? We have produced an artificial diplopia by means of the Maddox rod, and the image of the left eye (the red streak) is seen to the left, and the image of the right eye (the natural light) is seen to the right. This form of diplopia, which we have produced, is classed as *homonymous*, and is due to an excess of convergence, and, therefore, we have here a case of esophoria.

How do we measure the amount of the esophoria? By the strength of prism base out that is necessary to bring the red streak back to the light. We try a 5° prism; this brings it closer, but it is still to the left. An 8° prism brings it still closer, and a 10° prism base out causes the streak to pass vertically through the flame, and is, therefore, the measure of the esophoria.

In spite of the large amount of esophoria, we have in this case single binocular vision, because of the desire on the part of nature for single vision. If the need for this desire is removed by excluding one eye from vision, as I do in this case while the patient looks at the letters with the other eye, I can see the covered eye deviate inward. As I remove the cover, the eye quickly resumes its proper position. Such a condition has been termed *latent strabismus*.

When the inward tendency is very strong, an excessive strain is imposed upon the nerve centers to supply sufficient innervation to the external recti-muscles to counterbalance this tendency to extreme convergence. Beyond a certain point this effort cannot be maintained, and vision is then performed by one eye, while the other eye deviates inward, or, in other words, assumes its position of equilibrium. This constitutes *manifest strabismus*.

Latent strabismus may become manifest at certain times, as when the eyes are tired from prolonged use, and especially in near-vision, when spasm of convergence may be excited under conditions similar to those that produce spasm of accommodation. Under normal conditions there is call for accommodation and convergence in equal proportion. At ten inches there is used 4 D. of accommodation and 4 M. A. of convergence. The association between the functions of accommodation and convergence is so intimate that exercise of one is involuntarily accompanied by a corresponding action of the other.

In spite of this, the connection between the two functions is not so strong but that each may suffer variation within certain limits, and thus render distinct binocular vision possible in ametropia, where one or the other function needs to be used in excess of the other.

In hypermetropia excessive convergence is provoked, because the inordinately great accommodative effort required to overcome the diminished refraction and maintain distinct vision gives rise to the impulse for more convergence than the distance of the object demands. This excess of convergence may be latent as in esophoria, or it may be mani-

fest as in convergent strabismus, but in either case the common cause is hypermetropia.

When we release the eyes from the necessity for binocular fixation, and allow them to assume their positions of equilibrium, the inward deviation manifests itself by the appearance of the diplopia that has been produced. This is accomplished by making one retinal image so dissimilar from the other that there is no desire to fuse them into one. This we have done in the case before us, and you will remember the red streak seen by the left eye appears to be way off to the left. Inasmuch as the eye turns toward the right, it would seem on first thought that the object seen by this eye should appear to the right, instead of the left, as it actually does.

As this seeming contradiction is very confusing to optical students, I think we can spend a few minutes profitably in discussing it. I can possibly make the matter clearer to you by a diagram on the blackboard:

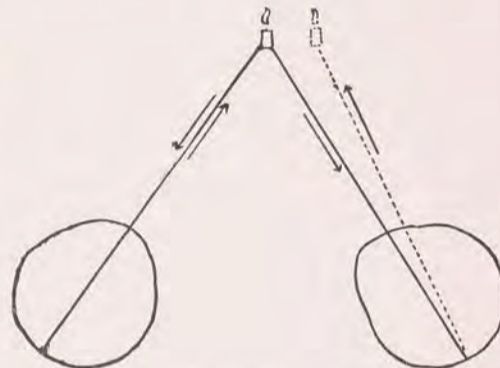


Diagram illustrating the homonymous diplopia of esophoria

In this diagram you will see that the light from the candle falls upon the yellow spot of the left eye, forms an image there and is referred back in the direction from which it came. The rays from the same candle entering the right eye do not fall upon the yellow spot but strike the retina at the inner side of it. Now, then, according to the law of projection, as you learned it while studying the physiology of vision, the light is referred, not in the direction from which it actually comes, but in the direction from which it appears to come, and thus is seen to the right. An object situated to the right impresses its image on the left of the retina, and is referred by the brain from left to right. An object situated to the left impresses its image on the right of the retina, and is referred by the brain from right to left.

In like manner when an impression is made upon the upper part of the retina, it is referred by the brain to the lower part of the field where the object lies from which the impression is received. When an impression is made on the lower part of the retina, it is referred upward.

And so in the case under consideration where the impression is made on the retina to the inner side of the yellow spot, it is referred outward. This is the law of projection, and it is by this law that our vision is erect in spite of the fact that the retinal image is inverted. I trust that you will all now understand how and why the false or second image is seen in the opposite direction from the deviation, and that therefore the diplopia of esophoria is homonymous.

(Continued on page 1601)

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Clinics in Optometry

(Continued from page 1599)

The symptoms of esophoria are not distinctive; slight degrees may give rise to no discomfort whatever. The least amount which is likely to cause asthenopia cannot be definitely stated, since this will vary with the nervous susceptibility of the individual patient. In general, it may be said, that an esophoria of 2° or 3° is not much beyond the limits of normal muscular equilibrium, when tested at a distance of twenty feet.

Headache is a symptom of esophoria, coming on periodically and sometimes accompanied with vertigo and nausea. It occurs after the use of the eyes for distant-vision more often than near-vision, and is due not so much to extra effort of the internal recti as to the strain placed upon the external recti to prevent undue convergence, as otherwise diplopia is likely to result. This may afford relief to the headaches but the patient will be greatly annoyed by the double vision. The strabismus has now become manifest and the asthenopia is replaced by a new train of symptoms originating from the loss of binocular vision.

But the diplopia does not continue; monocular vision is soon established, as a result of the cultivated habit of disregarding the false image, which is greatly favored by the insensitiveness of that part of the retina upon which the false image is impressed.

TREATMENT OF ESOPHORIA

The first step in the management of a case of esophoria is the correction of any existing error of refraction; and especially in a case of accommodative esophoria like the one before us, is it necessary to correct the hypermetropia as fully as possible, and thus by lessening the innervation of the accommodation do we also check the tendency to excessive convergence.

Theoretically we would prescribe the lenses that represent the total amount of error we have been able to discover, but practically such lenses are too strong for comfort to start with, and, therefore, in this case, we will order $+1.50$ D. spheres for constant wear.

Such lenses should be worn long enough for the eyes to become thoroughly accustomed to them in order to note what benefits are derived and what amelioration of the unpleasant symptoms, and, as a rule, no attempt should be made to influence the muscles by means of prisms until all the improvement that could possibly follow from the spherical glasses has been exhausted.

When prisms are required for the correction of the esophoria, they are placed bases out. In such cases when the muscles are at rest, the visual lines assume the excessive convergence produced by the muscle imbalance and a homonymous diplopia is the result. Prisms bases out enable the eyes to maintain binocular single vision, thus avoiding the nervous strain which is otherwise unavoidable to maintain and not to exceed the proper amount of convergence.

If the esophoria does not exceed 2° or 3° , it will not call for correction by prisms. If of high degree, a tenotomy may become necessary, because on account of the dis-

torting property of prisms, it is not pleasant to wear very strong glasses of this kind, 5° for each eye being the limit usually allowed.

The proportion of the esophoria that should be corrected by prisms varies in different cases, but, as a rule, it should not be more than one-half to two-thirds of that manifested by the test at 20 feet, which usually suffices to relieve the asthenopia, whereas a total correction would not be tolerated.

Prisms prescribed for the relief of esophoric asthenopia must ordinarily be worn constantly; occasionally in esophoria, which is not attended by spasmodic action of the internal recti, the tendency to excessive convergence disappears in near-vision, and, under such conditions, it suffices to wear the prisms for distant use only.

In the slighter cases of esophoria much relief is afforded by the use of prismatic glasses; but in many cases the excess of convergence is so great that only a small proportion can be corrected within the limits allowed for such lenses. In some cases where relief is afforded at first, a greater amount of esophoria becomes manifest under the relaxing influence of the prisms, so that the strength of the latter must be increased until the limit is reached, and then other methods of treatment must be sought.

Cases of esophoria usually occur in connection with hypermetropia or some other form of ametropia, in which cases the prisms are combined with the refracting lenses, or rather the necessary lens curvature is ground upon the surfaces of the desired prismatic correction.

In this case we will combine prisms with the desired spheres, and especially as we do not feel justified in prescribing lenses strong enough for a full correction.

Our prescription will read as follows:

O. D. } $+1.50$ D. S. \bigcirc prism 2° base out.
O. S. }

This corrects a little less than half the esophoria, but on account of the unpleasantness (to the patient) of prisms, we prefer not to order them too strong at first.

Slotting Tool for Opticians

A very useful appliance for the practical man is the "screw slotter," or slotting tool, a device, as its name indicates, for cutting nicks in the heads of screws, says the *British Optical Journal*. The best form for opticians' use is simply a thin piece of hardened steel about 3 or $3\frac{1}{2}$ inches long by about $\frac{1}{4}$ inch deep, flattened and smooth on each side, and having both edges toothed or ridged much like the surface of a file. Two different thicknesses of blade will be quite sufficient, and they may be mounted in ordinary small wooden file handles. There are many instances where such a tool is an advantage, because, even for the sake of appearances, it is wise to trim up the head of a screw which does not answer well in use or look presentable in the joint. Simple as the operation is, there is one particular way of doing it to the best advantage, and with the most satisfactory results.

Many who want to trim up a screw take it out of the joint and hold the thread tightly between the flat jaws of a pair of pliers,

leaving the head projecting so that it may be manipulated. Evidently the ridges of the thread suffer, because they must be flattened out in order to get a firm grip with the pliers, and although the head may be improved the threads are often spoiled. A much better way of working is to raise the screw by one or two turns of the driver, bringing it sufficiently above the surface of the joint to enable the slotter to move to and fro without scratching the surface. Nearly always after a slot has been cut the screw head will require renewal, either to make it quite flat and trim or to restore the appearance. Keeping this as before a "dead smooth" file may be used, remembering that only a forward stroke must be made, the tool being lifted, and not dragged backwards, always maintaining it in as nearly as possible a horizontal position.

Thunderstorms and Electric Wiring

As a matter of interest and instructive value to your readers I am reporting an unusual and significant incident that occurred at the branch office of the *Scientific American* at Washington, D. C., during a thunderstorm on the 11th of July, 1906, writes E. W. Byrn to that journal.

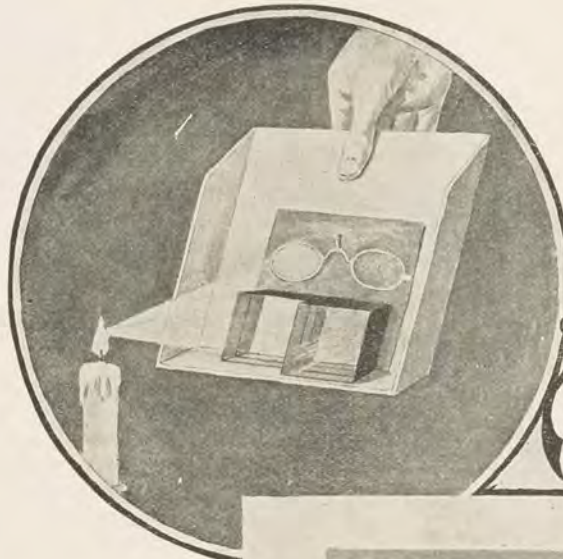
During the progress of the storm lightning struck the electric wires that supply the office with light and power. The fuses of the various lights and fans were instantly burned out, and simultaneously therewith a torrent of water poured from the floor of the building where the wires entered, evidently flowing from the water-pipe supplying the various radiators of the water-heating system, which, as is usual, had not been cut off for the summer months, since it is not generally considered necessary or even desirable to do so.

Careful inspection disclosed the fact that the electric wiring was close enough to the water circulation pipe to permit electricity of high voltage to jump to the fine ground connection which the water pipe afforded, and in doing so it burned a hole fully three-eighths of an inch in the water-pipe, with the result above noted. I am enclosing you a section of the pipe showing the holes, of which there are two, a large and a small one, and also a piece of the wire. The torrent of water which immediately followed the discharge shows that the larger hole was the result of the discharge. The smaller one may have been produced by a ground during the removal of the pipe, as the water-heating engineer states that a flash occurred as the pipe was unscrewed preparatory to removing it, he having undertaken the work without opening the electric switch.

The lesson which the incident teaches us is, first, the value of adequate lightning arresters; and second, the importance of keeping all electric wiring away from all water and gas pipes. The electric wires were properly insulated, and carried by porcelain sleeves through the wooden joists of the building, but the lightning's voltage was heavy enough and the ground connection so good as to make the jump possible. If the pipe had been a gas instead of a water pipe, needless to say a fire would have occurred.

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(Continued. Part XXI)

It may be noticed that in the diagram (Fig. 32), instead of following Hering by making oc a horizontal straight line, I have made the point o a little farther from the eyes than c ; for were it not so, the angles would not be equal. They are only equal when they lie in the same circular arc as the centers of motion of the two eyes.

Fig. 33 is to show this, where the circle $ABOc$ represents what I have called an "isogonal line,"* or line of equal convergence. All points in the periphery of this circle, when made objects of fixation, require an equal amount of convergence. That explains the dotted line between c and o in Fig. 32 being in the form of a curve, instead of a straight line.

In Fig. 33 it is not only true that the angles of convergence are equal, but in glancing from any one point in the circle to any other, both visual axes traverse equal angles: thus the angles OBc and OAc are equal. It is the curve, therefore, both of uniform convergences and of equal lateral ductions for the two eyes.

It must not be thought that the rules of conjugation, so well investigated by Hering, exist merely in theory; they are exceedingly well proved.

Confirmation of the Rules of Conjugation.—The reader can, if he please, confirm them for himself, by fastening a square black velvet to a thin board, and fixing a tiny piece of white paper, say, 2 mm. square, at its center. Holding the board about 8 inches before the face, look at the tiny piece of paper, and suddenly cover the right eye with a visiting card.

To a keen observer the white spot will now, in most cases, appear to move slowly to the right.† Now here is a remarkable phenomenon: The point of view *seems* to move when not only is it really stationary, but the eye which looks at it and the image it throws upon the retina are stationary also.

That the covering of the right eye does not make the left eye move may be proved by placing a circular piece of paper, half an inch broad, on the velvet screen just where it is lost to view in the blind spot of the left eye, and such that any motion of the eye would make the paper spring at once into view. It will be found that covering the right eye does not make it spring into view: the left eye, therefore, does not move.

What, then, is it that makes the white spot fixed by it *seem* to move?

Simply this, that when the right eye is covered, the necessity for strict convergence ceases, and the converging innervation relaxes a little. Were this all, both eyes would diverge a little, but that would make the left eye deviate as well as the right: to prevent the left eye from moving, every relaxation of convergence is simultaneously compensated for by a corresponding increment of nervous energy from that innervation which turns both eyes to the right. This, while it just counteracts the divergence of the left eye, increases the divergence of the right.

Now, in estimating the position of the white spot on the screen, the mind pays no attention whatever to the behavior of the converging innervation (unless to make the white spot appear to recede to a distance, as Percival experiences when he tries the experiment), but is keenly alive to the slightest output of energy by the other innervation, and judges the gradual evolution of its energy to be due to motion of the white spot, instead of attributing it to its true cause.

This experiment alone would suffice to prove that the muscular sense, in the case of the ocular muscles, is not peripheral but central, since it is the kind and amount of central innervation that determines the judgment of localization in space, not the muscular tension excited by it.

Now, to continue our experiment: After holding the card before the right eye for a full minute, suddenly remove it: two white points appear which run into one, and it will be seen that they *both* move at equal rates to meet each other, so that the previously-slow movement of the first one is rapidly retraced.

Why is this?

It is because the sudden apparition of double images at once awakens the desire to unite them and quickens the converging innervation, which acts on both eyes alike, to do so. The left eye, however, all the time, does not stir (as we can prove, if we wish, by the blind-spot method), for as quickly as its internal rectus experiences the converging stimulus, it loses the previous dextroducting stimulus.

It is the *cessation* of the dextroducting stimulus which in this experiment makes the white point appear to move to the left.

On the other hand, half the corrective movement of the right eye is due to converging impulse, and the other half to the cessation of dextroducting.

The practical perfection of this mechanism is most important in the little details of life.

Mental Appreciation of Parallel Innervation.—We have proved that the mind takes the most careful cognizance of the least output of energy by the innervations which cause parallel motions of the eyes. So much is this the case that artists are said to be able to judge more correctly the lateral distance between two objects by glancing rapidly from one to the other than by any other visual method.

Mental Appreciation of Converging Innervation.—What now about the converging innervation? Does the mind take no cognizance of it? Yes, but in a totally different way. It speaks to the mind *only* of the *distance* of objects, *not* in the least of the *direction* in which they lie.

Converging impulses affect both eyes equally, and since in looking at near objects, the eyes have to converge more strongly than for remoter ones, the sense of nearness is, *ceteris paribus*, proportionate to the effort put forth.

The mental estimate of convergence, however, is not so minutely exact as for parallel motions of the eyes. The reason of this may be that we possess no other means of telling the *direction* of an object than by the parallel innervations of the eyes, but their *distance* is known to us by their apparent size, by atmospheric effects, by perspective, by stereoscopic phenomena, and by the effort of accommodation required; and (we must also add) our knowledge of the relative position of objects or their surroundings from experience.

Convergence and Accommodation.—This leads us naturally to treat (though briefly) of the association between convergence and accommodation. The accommodating innervation affects the two ciliary muscles in just as conjugate a manner as the converging innervation affects the two recti. This is believed to be the case even when the two eyes are congenitally of different refraction; so we may conclude that the innervations of the eyes are not entirely disposed by habit.

When we look at a very distant object, convergence and accommodation are both nil, and they increase *pari passu* as the object approaches.

This intimate correlation between the two actions is in such perpetual exercise during the waking hours of life that we might naturally wonder at first thoughts whether one single innervation would not have served the purpose of two.

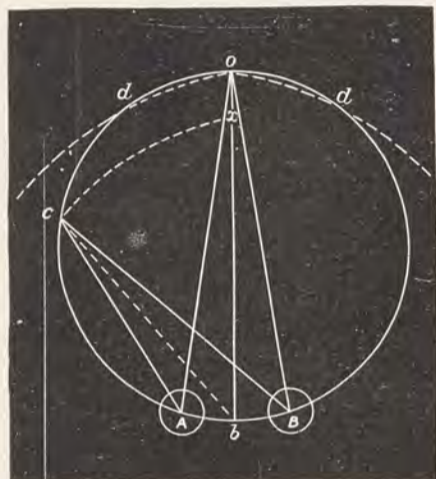


Fig. 33

(Syme Fellowship Essay, 1884.) To illustrate the relation between convergence and accommodation in lateral fixation. Looking at c requires convergence as if for o , and accommodation as if for z .

* "Journal of Anat. and Phys.," vol. xxi, p. 581.

† This experiment is best made, and indeed was originally made, with the visual camera (Chapter XIV).

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Letters from Opticians

Accommodation of Astigmatic Eyes

ED. KEYSTONE:—It was believed for years that the ciliary muscle possessed the power of unequal contraction, and that the greater eyestrain met with in astigmatic defects, as compared with ametropic defects other than astigmatic, was due to that cause.

The latest researches of scientists in this line, and especially of Prof. Nagel, have proved that no such power is possessed by the ciliary muscle. Prof. Nagel has proved this by taking young ametropes and placing before their eyes two threads, one horizontal and one vertical, and arranging them so they can be moved separately. By removing them only .12 D. apart, the two threads cannot be seen distinctly at the same time, which would be the case if the ciliary muscle had the power of unequal contraction. See Prof. Nagel's text-book on "Physiology."

The question now arises, why do we meet with greater eyestrain in astigmatic people? From my own experience as an optician, I would say that it was due to alternative contraction, as we all know a muscle will get sooner exhausted by contracting and relaxing than it would by contracting alone for some time, and this is just what happens in astigmatic eyes. The ciliary muscle trying to correct the defect is contracting stronger to focus rays in the weakest meridian and relaxing to focus the weakest meridian, and so on, and it is due to this contraction and relaxation that the eyestrain is due.

This will account for the trouble we find when we try to correct astigmatism with the astigmatic chart, as the patient will tell us first he sees one meridian best and in a little while again he will tell us that he sees another meridian best, and, for this reason I would advise opticians that rely on their tests with the trial case not to depend on the astigmatic chart alone, but use a regular chart, and place a cylindrical lens in the trial frame, rotate it and find whether it improves and dims vision, (which proves that there is astigmatism), and if it does, rotate till you get the best vision with this lens and then add or subtract till you get the right cylinder. Always place the axis at the same meridian and you get the right lens.

Truly yours,

Caruthersville, Mo.

B. B. LEMCHER.

[Our correspondent evidently has in mind the researches of Hess, referred to on page 1595 of this issue.—ED.]

Correcting Astigmatism

ED. KEYSTONE:—Following is my method of procedure in correcting astigmatism, which may be interesting to your readers:

In the correction of astigmatism, we must know to a certainty whether or not we have enough or too much cylinder power. The old way of using the clock dial and then trying cylinders over the already-found correction may be good enough if you have in the past always uncovered all the defect that your friend, Dr. "Wideawake," down the street, with some other method has shown your customer.

Now, I dare not say that I am successful with every pair of glasses I prescribe, but when my test is ended I am very sure that my cylinder correction is not far from being right, for you have relaxed the spasmodic condition of the accommodation and have had a guidance by which you can correct up to close bounds of comfort.

I will try to explain my procedure:

We will, for example, say a man comes in to us and we seat him, and on looking at the chart he reads $\frac{3}{8}$ and still he complains of pains in his eyes. Now, we surely do not want this man to read any better for he now reads normal, but what we want to do is to relax that muscle and relieve that spasm. How can we do this? By the fogging system; so we will proceed to do so and use our check as to cylinder power.

Place a 4 sphere in trial frame and call your patient's attention to the chart. Now engage your patient's attention with a little conversation regarding current topics, but not allowing him or her to get too far in conversation or you may have to listen to a little family history and waste valuable time. Now start cutting down the fogging lens .50 at a time, going slow. When you get him reading down to, say, $\frac{3}{8}$, call his attention to the chart—the fan chart I use with best results. If there is astigmatism, it will surely be exposed. Now, we will say, he tells you that the lines from 9 to 3 are plainer than the others. Call his attention to the dimmest ones, and when you place this glass before his eye, ask him if it makes them plainer than before. In fogging we use minus cylinder with axis at right angles to most distinct lines. Now, when you have placed a —.25 or .50 in trial frame, he will tell you the lines are more alike. Keep putting cylinders on until he tells you the lines which are plain are dim and those which were dim are the plainest. Now you know that you have over-corrected this meridian, so cut your minus cylinder down with a +.25 cylinder until all lines are equal in dimness, when, you may rest assured, that you have the curvature defect corrected properly at the sitting. Now cut your sphere down until he reads $\frac{3}{8}$; with additional +.25 it will wipe out the $\frac{3}{8}$ line. Proceed with the other eye and when both eyes have been fitted try plus lenses, +.25 at a time, and the chances are they will accept stronger lenses in this way.

Yours truly,

J. H. DANCY,

Graduate Northern Illinois College of Optics, Chicago.

[This method is a very good one, but has been in use for at least twenty years.—ED.]

New Jersey State Optical Society

The above society held its regular monthly meeting on August 15th, at Hilborn's Parlors, Newark, N. J. The applications for membership for the following candidates were passed upon: L. Friedman, Jersey City; H. W. Blaisdell, Vineland; Allan Barr, Bridgeport, and H. C. Aurnhammer, Jr., of Newark. The feature of the meeting was an interesting talk by Professor Lockwood on what he heard and saw at the Rochester convention.

Rhode Island Opticians Enjoy Outing

Beneath sunny skies and with a gentle wind blowing from the South, the members and friends of the Rhode Island Society of Optometrists enjoyed their annual excursion and field day at Boyden Heights on August 17th. The society had previously arranged to carry out the event on the twenty-seventh of the previous month, but owing to the disagreeable conditions of the weather on that day, the outing was postponed.

The party, numbering over two hundred, boarded the steamer *Sagamore* from the foot of Planet Street, and sailed to the Heights. During the sail, music was furnished by an orchestra of

six pieces from Reeves' American Band. President W. J. Davis gave a very interesting address on the good standing of the society, and also on the strength it has attained during the short time of its existence.

When the opticians arrived at the pleasure grounds, they adjourned to the dining-hall, and after dinner embarked for a sail to Newport harbor and thence back to Providence.

Milwaukee Optical Club

The optometrists of the city of Milwaukee met recently and formed a city organization under the name of the Milwaukee Optical Club. The officers of the new society are as follows: President, Max Hauser; vice-president, August Reinhard; secretary, T. Randolph; treasurer, J. H. Shafer; board of directors, Rudolph Steller, E. H. Motland and F. F. Cobaba.

Utah Optical Society

The latest city to form an optical association was in Utah. A meeting for this purpose was recently held in Salt Lake City and preliminary steps taken to form a State society. A committee was appointed to draft by-laws and a constitution, and at the next meeting action will be taken on this and permanent officers appointed.

Kentucky Optical Society

This organization held its annual meeting recently and elected the following officers for the ensuing year: President, C. H. Bowen, Winchester; first vice-president, M. Keller, Georgetown; second vice-president, M. A. Metzger, Lexington; secretary and treasurer, J. M. Irmen, Louisville. The next meeting of the society will be held in Winchester on October 16th next.

The Manufacture of Photographic Apparatus

In the write-up in our last issue of the various optical industries of Rochester, we inadvertently omitted mention of one of the most prosperous manufacturing concerns of the city—the Seneca Camera Mfg. Co., makers of fine photographic apparatus. This company was an amalgamation of the Sunart Photo Company, the Seneca Camera Company and the Rochester Plate Holder Company. The company has been reorganized and incorporated with its capital doubled and with the additional capital put into the business, it offers them an opportunity of competing in the photographic world with not only cameras, but accessories, including lenses and shutters as well. Each year they add many new models to the already liberal assortment that they catalogue, and their business is continually increasing.

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WM. E. HUSTON, Secretary, 1315 Harrison Street, Kansas City, Mo.
Next meeting, 1907, Kansas City, Mo.

Canadian Association of Optician. (1896)

F. E. LUKE, President.
H. J. GEIGER, Secretary and Treasurer, Toronto.

The Optical Specialists' Association of America (1904)

H. L. STOKES, President, Oskaloosa, Iowa.
G. E. BOYCE, Secretary, Waterloo, Iowa.

American Association of Wholesale Opticians (1893)

LEO WORMSER, President, 2 Maiden Lane, New York.
J. B. WHITE, Secretary, 72 N. High St., Columbus, Ohio.

INTERSTATE

New England Association of Opticians (1894)

ALBERT A. CARTER, President, Boston, Mass.
G. A. BARRON, Secretary, 3 Winter St., Boston, Mass.
Meets third Tuesday of each month, except July and August.

Northwestern Optical Association (1901)

EDWARD W. GREVISH, President, Minneapolis, Minn.
F. J. PRATT, Secretary, 415 Robert Street, St. Paul, Minn.

STATE

Pennsylvania Optical Society (1895)

H. E. HERMAN, President, Williamsport, Pa.
C. A. LONGSTRETH, Secretary, 228 Market St., Phila., Pa.

New York State Optical Society (1896)

W. W. BISSELL, President, Rochester, N. Y.
ROGER F. WILLIAMS, Secretary, 455 Main St., Buffalo, N. Y.

Indiana Optical Society (1896)

J. H. ELLIS, President, South Bend, Ind.
MISS MARGARET J. ERISMAN, Secretary, Lafayette, Ind.

Michigan Society of Optometrists (1896)

P. SCHÖLLER, President, Hancock, Mich.
E. EIMER, Secretary and Treasurer, 105 Western Avenue, Muskegon, Mich.

Iowa Optical Society (1897)

A. F. THOMPSON, President, Adel, Iowa.
GEO. J. FEIGE, Secretary, Des Moines, Iowa.

Illinois Optical Society (1898)

GEORGE A. ROGERS, President, Chicago, Ill.
O. J. HALBE, Secretary, Room 1616, 42 Madison St., Chicago.

California State Association of Optometrists (1899)

W. A. MEYER, President, Sacramento, Cal.
H. W. CLARK, Secretary, care A. Huguenin, Sutter Street and Grant Avenue, San Francisco, Cal.

Washington Association of Opticians (1899)

LEWIS E. CAPPS, President, Seattle, Wash.
H. A. LEMBKE, Secretary, Tacoma, Wash.

Granite State Optical Association (1900)

W. E. BURPEE, President, Manchester, N. H.
JOSEPH GEOFFRION, Secretary, Manchester, N. H.
Meets third Wednesday of January, March, May, September and November.

Wisconsin Association of Optometrists (1900)

J. N. WILCOX, President, Waterloo, Wis.
E. E. THOMAS, Secretary, Milwaukee, Wis.

Minnesota Optical Association (1900)

J. W. BROWN, President, Ortonville, Minn.
C. A. SNELL, Secy., 804 Nicollet Ave., Minneapolis, Minn.

Maine Association of Opticians (1901)

A. M. WESTWORTH, President, Portland, Maine.
ROBERT B. SWIFT, Secretary, Portland, Maine.

Tennessee Optical Society (1901)

H. J. COOK, President, Knoxville, Tenn.
WEARLEY RUTH, Secretary, Shelbyville, Tenn.

Colorado Optical Association (1901)

R. B. FINCH, President, Denver, Colo.
R. H. BIGGEL, Secretary, 636 Sixteenth St., Denver, Colo.
MISS E. H. CHAPMAN, Cor. Secy., 1655 Welton St., Denver, Colo.

Kansas Association of Opticians (1901)

F. W. HUNT, President, Burlingame, Kans.
WALTER STARCKE, Secy. and Treas., Junction City Kans.

Missouri Association of Opticians (1901)

M. G. SCHMIDT, President, Boonville, Mo.
ELM R. H. SCHMIDT, Secy. and Treas., Washington, Mo.

Virginia State Optical Association (1902)

V. B. GILBERT, President, Richmond, Va.
W. WAYT ROTALL, Secretary, Martinsville, Va.

Ohio Optical Society (1902)

F. P. BARR, President, Lancaster, Ohio.
EDWIN L. JONES, Secretary, Sandusky, Ohio.

Kentucky Optical Society (1902)

C. H. BOWEN, President, Winchester, Ky.
J. M. IRMEN, Secretary, Louisville, Ky.

North Dakota Optical Association (1903)

A. O. WOLD, President, Langdon, N. Dak.
W. R. BLAKELY, Secretary, Grafton, N. Dak.

New Jersey Optical Society (1903)

L. B. HILBORN, President, Newark, N. J.
J. J. HARTMAN, Secretary, 16 Howard St., Newark, N. J.

South Dakota Optical Association (1903)

WILLIAM H. FRITZ, President, Sioux Falls, S. Dak.
D. G. GALLET, Secretary, Aberdeen, S. Dak.

Texas Optical Association (1903)

E. E. TAYLOR, President, Houston, Texas.
DAVID L. WORTSMAN, Secretary, Dallas, Texas.

Rhode Island Society of Optometry (1903)

W. J. DAVIS, President, Woonsocket, R. I.
G. FREDERIC BEANE, Secretary, 413 Main Street, Worcester, Mass.
Meets second Monday of each month.

South Carolina Optical Association (1903)

P. H. LACHICOTTE, President, Columbia, S. C.
GEO. F. MIMS, Secretary, Edgefield, S. C.

Quebec Optical Association (1904)

R. DE MESLE, President.
P. G. MOUNT, Secretary, cor. St. Denis and Dorchester Sts., Montreal, Quebec.

Georgia State Optical Association (1904)

L. A. HINES, President, Savannah, Ga.
C. E. POLSON, Secretary, 28 Whitehall St., Atlanta, Ga.

Opticians' League of the State of New York (1904)

(Dispensing Opticians)

E. B. MEYROWITZ, President, New York City.
A. SHAW, Secretary, 1145 Broadway, New York City.

Louisiana Optical Society (1905)

S. P. SCHUESSLER, President, Baton Rouge, La.
JACQUES BECK, Secy., 129 Carondelet St., New Orleans, La.

Nova Scotia Optical Society (1905)

T. G. GRANT, President, New Glasgow, N. S.
A. G. JOHNSON, Secretary, Halifax, N. S.

New Mexico Association of Optometrists (1905)

OTTO G. BEBBER, President, Albuquerque, N. Mex.
GEO. F. EVERETT, Secretary, Albuquerque, N. Mex.

Nebraska Optical Society (1906)

C. C. MCLEES, President, Davenport, Nebr.
J. H. HUKILL, Secretary, Lincoln, Nebr.

Oregon State Association of Optometrists (1906)

G. A. CUTTING, President.
B. E. FISKE, Secretary, Macleary Bldg., Portland, Oregon.

Mississippi Optical Society (1906)

E. R. VON SEUTTEL, President, Jackson, Miss.
ALBERT A. ORR, Secretary, Vicksburg, Miss.

Alabama Optical Society (1906)

E. H. HOBBS, President, Selma, Ala.
J. H. TINDER, Secretary, Birmingham, Ala.
Next meeting, Selma.

Arkansas Optical Society (1906)

T. J. ELLIS, President, Jonesboro, Ark.
W. B. DESHAZO, Secretary, Rogers, Ark.

Oklahoma Optical Society (1906)

A. Y. BOSWELL, President, Tulsa, Ind. Ter.
C. O. LYNCH, Secretary, Oklahoma City, Okla.

LOCAL

New York City Optical Society (1897)

OTTO OFFENHAUSER, Sr., President.
ALBERT COHEN, Rec. Sec., 81 Fulton Street, New York.
Meets second Wednesday of each month.

Rochester Optical Society (1897)

HARRY M. BESTOR, President, Rochester, N. Y.
J. SUMERISKI, Secretary, 104 State Street, Rochester, N. Y.

Utica Optical Society (1901)

RICHARD PERLEN, President.
C. T. EVANS, Secretary, Utica, N. Y.

Chicago Optical Society (1902)

J. ROSE, President, Chicago, Ill.
P. H. KREITZ, Secretary, care C. D. Peacock, State and Adams Streets, Chicago, Ill.

Niagara District Optical Society (1902)

JONAS HOUSE, President, Welland, Ont.
F. G. DUNLOP, Secretary and Treasurer, St. Catharines, Ont.

Optical Society of Western New York (1903)

J. P. SIMCOX, President.
ERNEST V. SYRCHER, Secretary, 11 Genesee St., Buffalo, N. Y.

Seattle Optical Society (1903)

CHARLES G. HOLCOMB, President.
LEANDER BUTT, Secretary and Treasurer, 715 First Ave., Seattle, Wash.

Los Angeles Association of Opticians (1903)

FRED. DETMERS, President.
F. LEE FULLER, Secretary, Los Angeles, Cal.

The Pueblo Optical Association (1903)

OREN H. HENRY, President, Pueblo, Colo.
JAMES A. HOWARD, Secretary, Pueblo, Colo.

Lowell Optical Society (1903)

F. C. CUFF, President.
J. A. MCAVOY, Secretary, Lowell, Mass.
Meets second Thursday of March, September, November.

Southern Tier Optical Society of New York (1905)

I. PUTNAM, President, Elmira, N. Y.
C. H. VER NOOY, Secretary, Watkins, N. Y.

Optical Trades Association (1905)

(New York City)

F. D. SCHMIDT, President, New York City.
JOS. FRIEDLANDER, Secretary, 5 Maiden Lane, New York City.

Detroit Optometry Club (1905)

A. W. KLUDT, President.
FRED. R. PRESTON, Secretary, 42 Mott Ave., Detroit, Mich.

Southern California Optical Society (1905)

A. L. APFEL, President.
G. A. PICON, Secretary, 342 S. Spring St., Los Angeles, Cal.

Opticians' Club of Columbus (1906)

F. W. WALLIS, President.
J. CRAWFORD, Secy., 603 Brunson Bldg., Columbus, Ohio.

Milwaukee Optical Club (1906)

MAX HAUSER, President.
T. RANDOLPH, Secretary, Milwaukee, Wis.

The American Association of Opticians

NOW that the annual convention of the American Association is past, it may be profitable to review it and see what lessons can be drawn. First of all, though the attendance was the largest of any meeting so far held of opticians or jewelers, it was not up to expectation. The total registration was 606. Of this number, 60 at least were jewelers, as this number registered at the jewelers' meeting that followed. As the association now has about 1500 names enrolled as members, it will be seen that about one-third attended this last meeting. At some of the previous conventions, notably at the Boston convention and also at Atlantic City, the attendance has represented over fifty per cent. of the membership. The number of exhibitors was only a few greater than had space at Boston and Atlantic City, but would have been greater had the exhibit committee more room at their disposal. A mistake was made in holding the exhibit in a room that did not begin to meet the needs of those who wished space. One prominent optical manufacturer, who usually makes the finest displays at these annual exhibits, was

(Continued on page 1609)

JOHN L. MOORE & SONS, 42 N. Broad St. Atlanta, Ga.

Manufacturing, Importing, Wholesale

OPTICIANS

We are the Pioneer Surface Grinders of the South

To be sure, merely piling up the years isn't the only requisite of success; but it is conducive of the greatest factor—experience.

“Experience” and the habit of promptness and accuracy to the smallest of details.

Keeping pace with all that is new and advancing in optics and optical goods.

Testing for the benefit of our customers. Separating the worthy from the unworthy and the best from the good.

We're never willing to rest upon the simple knowledge that “we are the *Pioneer Surface Grinders of the South*,” but always adding new features.

Sole Manufacturers of **Kryptok Lenses** in Georgia



Opticians have asked me for a SINGLE-COLUMN CUT of

20th CENTURY EAR GUARDS

It's always a pleasure to furnish cuts

I am gathering sample ads from all over the U. S. written by different opticians, I have found them very interesting and will publish them in pamphlet form later on—send for a copy.

Several jobbers have recently been added to my list because their customers asked them for the ear guards. When an optician persuades his jobber to handle my goods he does me a great favor and I would like to hear from them.

Three kinds of opticians handle my ear guards. One buys them and puts them away like a miser does his gold, another buys them and calls his customers' attention to them, the third buys them, displays them with the 20th Century Window Card and calls everybody's attention to them with a few well-written ads in his local paper. These last two are the progressive kind, they help me in helping themselves and their assistance is appreciated.

Please let me know whose catalogue is on your desk. I will send any optician a pair of 1-5 12 K. ear guards for the name of the catalogue he orders from.

Ask traveling salesmen to show you 20th Century Ear Guards and ask them about the 20th Century Window Card and the new display box designed for those who carry the guards in two metals.

A. A. Laforest, Manufacturer

Station 19, St. Louis, Mo.

An Optical Department



has always proved a “money-maker.” It brings a big income for very little time and attention, and increases trade in other departments.

You can take our correspondence course in optics and become a skilled optician (able to correctly test and fit eyes) without in any way neglecting other business. We are the only school that **thoroughly** teaches optics in the simplest manner and in the shortest time, by our correspondence method. It is the only course on this plan that will make you as proficient as with university training. Every graduate receives a diploma and degree “*Doctor of Optics*.” We are offering regular **\$25 college course for \$8.00** (\$2 down and \$1 a week if desired). Write

American Optical College

DETROIT, MICH.

The American Association of Opticians

(Continued from page 1607)

not represented at all, owing to his inability to secure the space needed for his exhibit. The chain and other exhibits of special interest to the jeweler, occupied a much larger proportion of the space than at any previous convention, but this condition will hardly occur at next year's meeting, as the jewelers decided at this meeting that they did not care for further joint conventions and will hold their annual meeting at Chicago, while the opticians will meet at Kansas City. It is possible the jewelers will meet a few days ahead of the optical meeting, so that any who desire to go on to attend the optical convention can do so at little expense or loss of time.

The business sessions of both the American Association and the Physiologic Section were most harmonious, and about the only item of interest outside of the warm contest for the place of holding the next meeting, was advocacy of the old "paper-college" scheme that was first proposed at the Chicago convention and which has never aroused any enthusiasm and but little interest outside of the original advocates. Several of the western members who had opposed the scheme when first proposed, later took it up and tried to put it in operation through the medium of an "official organ," that was launched only to die a premature death. This attempt was denounced by one of the early advocates of the scheme at this last convention. An obstacle to the success of the scheme, that may prove insurmountable, is the impression which prevails that self-interest is largely responsible for its exploitation.

The association is to be congratulated on its selection of president, as Briggs S. Palmer typifies the very best that the East can offer in the way of a man of character, business ability and scientific attainments. Mr. Palmer is at the head of the leading refracting business in Boston, that city of culture and eyeglasses, and is one of the "faithful" who went through the entire two-years' course prescribed by and received his diploma from the old New England Optical Institute, the only institution that has ever given a thorough and almost ideal course in the science of optometry and also in some branches of ophthalmology.

The meeting was notable in that not the slightest attention was given to any effort to have the many State societies affiliate with the national body. This was, no doubt, due to the personal views of the old officers, who do not seem to regard affiliation as feasible. At the meeting of the New York State Society, it was National President Clark who made the motion that the New York State Society should affiliate on social and scientific lines—which is affiliation by name only. And although Secretary Huston has made much of his work in forming new societies in the West that would affiliate with the American Association, yet he announced before the convention that it was useless and unnecessary for State societies to send delegates to the convention, as they could only act as individuals. This is true under the present constitution and by-laws, as last year's convention wiped out in a large measure the plans that had been previously made for the business of the association to be conducted by a House of Delegates, in which the representatives from affiliating societies would have a place and voice as such. So it may be said the association is in another evolution, and it remains to be seen if State societies will affiliate with a body that offers no representation as a society. The action of the New York Society would indicate that the present policy offers no attractions for affiliation.

This was the first meeting that the Physiologic Section has had an opportunity to assert itself, and it responded in fine style. President Clark had turned over the making up of the programme for all the scientific sessions to the section, so all the papers of this character read at the meeting were arranged by President Grant and Secretary Eimer. Although most of the speakers were those who had appeared at previous conventions, yet the addresses were good and were listened to with considerable interest.

Attention was called to the fact that some dispensing opticians attended the meeting. The very few present were attracted by business reasons to the exhibit hall, and took no interest in the general meetings, and there was not the slightest evidence of any desire on their part to "get together" with the refractionists. The differences between these two branches of the trade are apparently as great as ever.

The New Officers

As stated in the preceding article, the convention was especially happy in its choice of officers for the ensuing year. The new president, Briggs S. Palmer, typifies in his own person and career the wonderful progress made in a comparatively brief period by the profession. It was as late as the fall of 1892 that Mr. Palmer entered the employ of the Genesee Optical Co., of Rochester, N. Y., with the understanding that he was to be taught refraction as well as bench-work. His progress to competency in the new branch was unusually rapid, and from the fall of 1893 to 1895, he practiced refraction in a circuit of towns in central New York. In December of the latter year he entered the employ of John W. Sanborn & Co., the well-known optical house, of Boston, Mass. Mr. Palmer continued to develop professionally and commercially, and after the death of Mr. Sanborn, in the summer of 1901, the company was incorporated under the name of John W. Sanborn Co., with Mr. Palmer as president and manager. For one who is still in his thirty-fifth year, Mr. Palmer must be credited with an unusual degree of success, the natural reward for his ability, perseverance and thoroughness in all his activities. A valuable qualification of the new president is his grasp of optometry, commercially considered. Through his intelligent direction, his company has evolved a business system which might well be taken as a model by all the trade.

The first vice-president, Thomas Gowenlock, of Clay Center, Kans., is well-known by reputation to the readers of THE KEYSTONE, and enjoys the personal acquaintanceship of a large number of the trade in his section. He is an enthusiast on the matter of organization, and his attractive personality and oratorical powers make him a very efficient instrument in its advancement. He has been much honored in his own State, where he enjoys the respect and esteem both of his brother jewelers and opticians and the general public. He is ex-president of the Kansas Association of Opticians, and still takes an active interest in its affairs.

Second vice-president, Geo. R. Bausch, is one of the best-known men in the trade and one of the active spirits in optical organization. His work in connection with the Rochester Optical Society, the New York State Society and the National Association, has done much to add to the fame of Rochester as the optical city and the honor which came to him at the convention was well deserved.

The veteran treasurer, J. K. Stebbins, Ashtabula, Ohio, is another organization enthusiast, and has taken an active interest in forwarding the movement. He is one of those thorough characters who are rigidly faithful to any cause which they espouse, and he can be relied on to work with the same earnestness in behalf of the association which he showed in the cause of his country in the troublous days of the Civil War.

In regard to the secretary, Wm. E. Huston, his earnest work for the advancement of the association speaks for itself. The progress made during the past year, particularly in the increase of membership, was largely due to his efforts.

Officers of the American Association of Opticians



Briggs S. Palmer, President
Boston, Mass.



Thos. Gowenlock, First Vice-President
Clay Center, Kans.



Geo. R. Bausch, Second Vice-President
Rochester, N. Y.

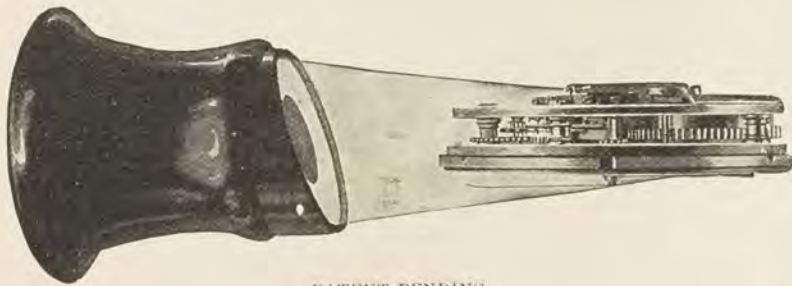


Wm. E. Huston, Secretary
Kansas City, Mo.

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Constructed on Scientific Principles and made for Practical Use

ORDER NOW



PATENT PENDING

Just the thing for watch examination and repairs
A time-saver and an eye-saver
No shadows visible to the eye when looking through this glass
Everything inside watch as plain as if on outside
It throws the proper light to the proper place
Especially useful on dark days

A NEW REFLECTING EYEGLASS OF MERIT

Price with single glass, 2, 2½ or 3 in. focus, **\$1.25**
Price with double glass, ¾ in. or 1 in focus, **1.50**

DIRECTIONS FOR USE.—Always face the source of light. Place the eyeglass to the eye with the *long side down* as in above picture, tilting head up or down, throwing the light just where you want it.

A strictly first-class article in every respect.

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"Neverwiggle" Eyeglasses are genteel

"Neverwiggle" Eyeglasses positively do not wiggle.

"Neverwiggle" Eyeglasses do not irritate the nose.

"Neverwiggle" Eyeglasses are worn with pleasure by the patient, and are prescribed by the optician with the surety that they will please and satisfy.

"Neverwiggle" Eyeglasses have been **PERFECTED and IMPROVED**, and the constantly increasing demand for the **"Neverwiggle"** by the public is a guarantee to the optician that he cannot afford to be without them.

Any style of guard can be attached, and guards and springs are more easily attached on the **"Neverwiggle"** than on any other style of eyeglass.

Our positive guarantee goes with them. Send for a sample pair at dozen rates.

Prices of "Neverwiggle" Eyeglass Frames and Mountings

Sample set of six gold filled mountings, fitted with neutral toric lenses, and put up in a neat box, **\$5.50.**

	Prices per dozen	10 K.	14 K.
GOLD "Neverwiggle" Mountings		\$21.00	\$26.50
" " Frames		30.00	42.50
" FILLED " Mountings		9.25	11.00
" " Frames		12.25	14.00
PLATILUMINUM "Neverwiggle" Mountings		\$5.10	
" " Frames		6.10	

When "Neverwiggle" Frames and Mountings are fitted with Fox guards, we deduct from above prices as follows :

GOLD, \$5.00; GOLD FILLED, \$3.25; and PLATILUMINUM, \$1.85 per dozen

JOHNSTON OPTICAL CO.

DETROIT, MICH.

Energy—Its Distribution to the Eye

Address by Geo. J. Feige before the Iowa Optical Society.

When it was suggested to me that I give a paper on some subject of interest I could think of none more fitting than to tell of the results obtained with the stammering patient whom Dr. Prentice had before you, and whom those who were here a year ago will recall. However, before taking up the same I have prepared a few thoughts for your consideration, describing what to me seems most important to anyone who attempts to fit glasses.

Energy and the Eye

The value of energy depends upon how carefully it is distributed and controlled in its course. Although unable to tell what it is, I will show to some extent its use and importance considered in connection with the physical body; mainly the eye. Many attempts have been made with mechanical apparatus to thoroughly control it, and their successes are well known. To this end the research in Ophthalmology has also been practically and successfully demonstrated, and it is along this line I wish to direct your attention.

The eye being the most active function the brain has to deal with, necessarily demands a larger amount of energy, and, like any delicate or complicated piece of machinery, every detail of its requirements must be most accurately looked after. Think of the natural combined movements of the eyes by which both are directed simultaneously towards the same point, and this along with the accurate adjustment of its nervo-muscular apparatus, all depends upon this vital force.

Every function of the physical body likewise demands its proportionate amount, and too often that little store-house, the cerebellum, is called upon to provide more than it is capable of, although the combined efforts of the stomach, heart and lungs are working continually to create a sufficient supply as rapidly as possible.

Nature's Restorative Functions

Nature, to a large extent, has provided means to restore this loss of energy, for while man sleeps a large portion of the machinery ceases its activity and the amount consumed by the remaining organs does not interfere with the rebuilding process. In this age of rapid living, man, with his eager and aggressive spirit, is thoughtless of its capacity and the impairment which follows its misuse causes him to become alarmed and seek a remedy.

The most common symptoms are pain in the head, premature weariness, dimness of vision, fermentation of food in the stomach, and all makes one continually

uncomfortable, which condition is very often made worse by constant medication.

Most effectual have been the efforts of Ophthalmology, for with lenses a perfect distribution of energy has been accomplished, the impaired vision restored and the discomfort entirely removed. The ciliary muscle is affected at once by the power of a lens, but the extrinsic muscle receives a benefit only when the ciliary responds, and to correct the error of refraction the energy consumed by both must be considered. Whatever the method of analysis employed to find the exact condition, the chief aim must be to maintain a full supply and regulate the distribution of energy so all strain is abolished.

A Case in Point

Recent conversation with a physical culture instructor whose eyes were normal, as revealed by measurements carefully taken, upon inquiry stated regarding his habits that during each day not even three hours of near work was done, and that he maintained a carefully regulated diet. This, along with judicious physical exercise and the abandonment of excesses, was no doubt the reason for his quite perfect physical condition as well as the emmetropic tendency of his eyes.

When I explained to him that one diopler of hypermetropia entails a waste of 23% of energy, and that three hours of near work was considered a standard amount per day, and that all near work more than three hours added daily about 23% additional strain, he said, "I can now understand why the various members of our gymnasium classes develop so slowly, if at all, while others build up so rapidly."

Thus we find it would be useless to expect to build up physically if the energy wasted daily was enough to keep the supply below normal. And this waste or leakage may be controlled fully by the use of proper lenses. The use of prisms to cause an alignment of vision for the eyes has been thought essential, and they have been prescribed for constant use when the eyes have had a long existing tendency to deviate, but by suppressing energy with + spheres the eyes have been perfectly balanced, and remained so without the use of prisms.

The Use of Prisms

Prisms used to exercise the muscles have been reported to be a success to the extent that glasses could be put aside entirely, and the impaired muscles become fully equipped with sufficient energy to supply their needs. This system of exercise for the ocular muscles, if based upon the supply of energy consumed, will result favorably, and to note the progress made the duction test proves a most valuable guide.

It will be remembered that the ciliary and extrinsic muscles require most careful attention, considering the work they must do daily; so if they are overtaxed the patient must have sufficient sleep to give nature a chance to restore to them proper support, and a lens applied to prevent the waste of energy. This done, the muscle exercise should prove very beneficial.

Interesting Case Recalled.

After tests made by Dr. Prentice last year, he suggested to have patient wear $1\frac{1}{2}$ prisms base in on each eye, which was strictly lived up to, but proved to be of no value as was intended, nor could the patient continue the use of them on account of the discomfort.

Also + 2. sphere O.U. was given later, which fogged vision to $\frac{2}{80}$, and these the patient refused, as same were, of course, an annoyance for distant vision, but could read the near type without much discomfort.

Previously Mr. Tutt was wearing + .50 + .75 ax 90° , which equaled $\frac{2}{80}$ both distant and near vision. Further examination showed on August 25th, 1905, accommodation 4 D. 6° prism base down fused red light. Convergence -6° , Abduction + 4° , Adduction 16° . Red glass over right eye and plano on left showed red light 10 inches below.

In consultation with Dr. Fred C. L. Grange the following correction was given:
R.E. + .50 + .75 ax 90° \odot $1\frac{1}{2}^\circ$ Base in \odot $1\frac{1}{2}^\circ$ Base down.
L.E. + .50 + .75 ax 90° \odot $1\frac{1}{2}^\circ$ Base in \odot $1\frac{1}{2}^\circ$ Base up.

Since that time the patient has been wearing same with best of comfort for near work only, as best distant vision remains only $\frac{2}{80}$. March 30th, 1906, further test showed that 6° psm. base down on R.E. produced a perfect alignment of vision, both for distance and reading.

But while last examination gave this result, the writer is not satisfied with it and will undoubtedly find the visual difference changed in the course of a short while, or there will be much discomfort arise which will cause another change of prisms. As to his stammering being eliminated, his friends say this condition is not so bad as previously.

We are convinced that until a sufficient suppression of energy and a perfect balance of vision results therefrom, the stammering will not be totally eliminated.

This is made difficult because of the idiosyncracies usual with patients of this kind, but some day some how I hope to be able to report to you that a permanent relief has been accomplished, for surely this is the most possible means known to science, to accomplish positive relief.

Stammering Relieved.

The KRYPTOK

"INVISIBLE"

BIFOCAL LENS

☞ You know the construction of the Kryptok bifocal lens; a reading segment neither cemented to nor ground out of the distance lens, but enclosed within it.

☞ Patents cover this only known method of securing "invisibility": hence the Kryptok lens remains the **ONLY** lens that satisfies the growing demand for bifocal glasses without visible lines.

☞ Write for prices and full information to the manufacturer supplying your territory.

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more, Md. MARYLAND.
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Legislation

[Read before American Association of Opticians by EDW. E. ARRINGTON, Empire Optical Co., Rochester, N. Y.]

It has often been said "that by our failures we learn more than we do by our successes," and in that respect I possibly may be in a position to do part justice to the subject of legislation from the experience gained, in endeavoring to help secure the passage of suitable laws governing the practice of optometry in this State, at the last three sessions of the legislature. Although our efforts up to the present time have not been crowned with success, it is conceded that what has been accomplished so far has all been of much value in making it possible for optometry legislation in the near future, not only in New York State but in all other States where there is no law at present.

Feasibility of United Action

A great amount of publicity has been given this subject by the leading trade journals and daily press besides numerous expressions of good will from other State societies, and even offers of financial assistance have been tendered, which has caused some of those who have been closely identified with the subject to advance the possible plan of mutualization in our efforts in this direction and possibly all unite in centralizing our energies in two or three States, and when successful there attempt it in others. This matter is worthy of consideration, as there is no doubt that when the State of New York has such a law it will be much easier to secure similar legislation in other States. Another advantage would be that instead of widely different optometry laws all future legislative bills would have provisions of as much similarity as it is possible to draft them, and yet not conflict with such State laws as are now operative in regard to the appointing power of the executive in relation to State commissions and boards of regents governing the health laws of the different States. All proposed laws should have an annual registration clause, as time has proved its absence to be the weak point of the general medical-practice act, for it is an undisputed fact that there are thousands to-day practicing on dead men's certificates in the medical profession. An annual registration clause would also enable the State optical society to at all times keep a strict watch on those practicing under the law. All exempt clauses should be similar in regard to number of years in practice prior to enactment of measure. It is also advisable to have a clause in all future State laws, similar to that which was added to the New York bill last winter, in regard to those who are eligible to practice and yet have no regular place of business, which compels a bill of sale with name and address in all such transactions; this clause would not be unjust to the legitimate man but would make it difficult for the dishonest one to remain in business. A clause for revocation of certificate upon proof of gross or immoral conduct, and one in regard to minors, should also be inserted in all future bills.

History of Optometry Legislation

To-day there are five States that have optometry laws upon their statute books, namely, Minnesota, which was passed in 1901; California and North Dakota, in 1903; Oregon and New Mexico, in 1905. In all these States the law was passed the first year of its introduction with practically no opposition. The question that naturally arises right here is, "Why has not the example of these States that now have optometry legislation influenced New York State to pass a similar law?" In answer to this I would say, that while it has

been in all probability no easy matter in these States, the conditions are entirely different in New York State. The first attempt was made in this State in 1896, and the bill was lost in the lower house by a very narrow margin; no further effort was made until 1904, when it was again introduced, referred to the committee on public health, and never saw daylight. It met the same fate in the legislature of 1905, as well as 1906, notwithstanding the fact that at all the various hearings before the committee it was acknowledged that the conditions were such that some legislative action should be taken, and when our side of the question was so plainly stated, and those who were opposed could not advance a single argument that had any merit in it, and where a jury of twelve disinterested men would have decided in our favor without leaving their seats, yet with all this the bill remained in committee until adjournment, at each session of the legislature, for the past three years. The best answer that could be given as to why this is, would be the fact that the attempts at dental legislation met a similar fate for nine or ten consecutive years before they were successful.

The Medical Opposition

Our main opposition in New York State has always come from a small proportion of the medical profession, who have unfairly misrepresented the intent and purposes of

the proposed bill, which has caused our motives to be misconstrued by medical bodies or at least by those who attend its meetings; so that a vote of a county medical society against the measure creates the impression that it means the whole of the medical profession, whereas, it is only the voice of a prejudiced few who seem to believe that the best interests of themselves and their profession will be served by claiming that all persons' eyes should be examined by a physician. But the broad minded, most intellectual and best men are with us in our efforts and know that there is a legitimate field for our calling, and I again repeat that fully 90 per cent. of the medical fraternity are in favor of legislation upon this subject; yet what we need most is a few men at these medical conventions who have the courage to stand up and ask the question, "Why should we deny these men that which was not denied us?"

The arguments that have confronted us have been, first, that optometry is really a department of medicine as it is recognized to-day; second, that if the door is opened to optometrists there will be an in-rush of other specialists that will prove overwhelming and destroy the present medical laws that have been built up at the cost of such great effort. Now, while we realize the jealous care with which medical men have a right to view the present laws, yet we think that the following facts should not be overlooked:

The Situation as It Now Stands

That the optometrist was examining the public's eye and furnishing glasses centuries before any part of the medical profession did.

That fully four-fifths of the people wearing glasses to-day were fitted by men in our profession.

That as the law stands now, anyone can go out into the by-ways with a valise filled with glasses,

calling himself professor so-and-so or doctor someone and humbug the public.

That there should be a law compelling everyone who claims to refract the eye for glasses to be qualified and to prove his qualification before competent authority under the jurisdiction of the State.

That such legislation is in the line of compulsory education, which has already shown its efficiency in kindred scientific callings where the State has compelled a standard of educational qualifications as a prerequisite to practice, and the whole people have been benefited thereby.

That in those States where a similar law is now in operation, many of the abuses that such a bill seeks to eliminate has already been done away with.

That those who oppose our efforts are mainly responsible for every injustice done to the public through the lack of such legislation.

That all in the medical fraternity should, instead of opposing such needful legislation, work hand-in-hand with us to secure such a measure.

Yet it is not for us to condemn the entire medical profession for the unfair tactics of a few of its members, but simply continue on in our efforts and in the meanwhile show, by our conduct in our various places of business, that we hold the public's eyesight and our profession above selfish interests. Adopt a code of ethics and live up to them. Strive to daily become more proficient in our calling. Don't claim a pair of glasses to be the panacea of all evils. Refer all cases that require medical treatment to their proper source. In fact, have faith, courage and ability. Faith that right and justice will prevail for us in the several State legislatures. Courage to stand the set-backs; and, ability in our profession, which in itself is sure, eventually, to accord us that position in the professional world to which we are justly entitled.



Edw. E. Arrington

Three Eyelids

Birds and many animals have three eyelids, says *Modern Optics*, the upper and lower, as in man, and a third which sweeps over the surface of the eyeball below the other two. This is called the nictitating or thinking membrane. When at rest it is tucked away almost out of sight at the inner angle of the eye. The purpose of this membrane is to keep the surface of the eyeball clean, and it will be seen to frequently pass quickly to and fro across the ball of the eye for this purpose. Occasionally an ignorant farmer will look upon this membrane as a "film over the eye" of his pet fowl and will remove it with a sharp knife to "restore the sight." In this case, the eye being deprived of its cleansing membrane, will catch dust, inflammation will set up and the eye will be weakened or destroyed.

Lens Like a Fish's Eye

Professor R. W. Wood, of the department of physics of the Johns Hopkins University, has announced that he is at work on a lens which is said to be built on the principle of the eye of a fish, making use of the refractive qualities of water as well as glass in the design of the lens. With this apparatus it is possible to make a photograph which will include an angle of 180 degrees, a feat which has never before been possible except by the use of a camera which was built to make a sweep of the horizon by a circular motion. This lens construction is said to be far superior to any wide-angle lens which has ever been devised.

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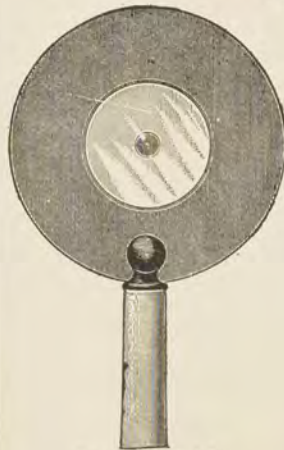
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Recently it has been shown that yellow glass is an ideal agent in cutting off these deleterious influences, at the same time the sharpness of the image and its definition are markedly increased and the color of the object remains unchanged.

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The use of the mirror will demonstrate to any one that the light reflected from the source of light on the cornea is grateful to the one under examination—is not irritating—the pupil remains large—the definition of the shadows is clear and distinct.

Owing to the absence of irritation there is no spasm of accommodation, a factor which formerly interfered with a perfect result. Retinoscopy is simplified, and altogether one feels justified in pronouncing this mirror as **THE IDEAL RETINOSCOPE.**

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110 East 23d Street, NEW YORK CITY

Some Relations Between the Eyes and Nose

Address by Herbert W. Hoyt, M.D., before the Rochester Optical Society

Every day we are confronted with problems which baffle us in our attempts to solve them, but owing to more accurate methods of examination and better appliances at our command, each year sees many things hitherto not even dreamed of, or conditions apparently beyond our solution, coming out into the clear light of knowledge.

There is a great tendency for any one pursuing any special line of study, or work, to look at everything from a one-sided or biased point of view. It is very difficult to be broad minded.

The eye being the particular organ of the body on which you spend your energy, and the nose, throat, and ear those in which I am especially interested, let us see to-night if we can broaden our limited field of knowledge by discussing some of the relations between the eyes and the nose and throat. Every one who thinks at all knows that no part of the whole body is really independent of the rest of the body.

There are direct and reflex results in the eye, due to nasal trouble, and *vice versa*. Of course, they are so near each other than any inflammatory trouble in one might easily extend to the other, but even for this to follow, there must be some direct sources of transmission from one part to another.

There are four chief lines of communication between the eye and the nose, viz.: blood vessels, nerves, the lymphatic system and the lachrymal duct. Without being too technical, I will simply mention the vessels which are directly related to both organs. The ethmoidal arteries are branches of the ophthalmic, while the sphenopalatine and infraorbital are conjoining branches of the internal maxillary artery. As the veins follow practically the same course, we see that the interior of the nose, and many of its accessory cavities, have a blood supply nearly in common with the eyes.

The nerve supply of the nose and eyes is very complicated and a more sensitive source of trouble between the two organs than the circulatory system. The nasal nerve is a branch of the ophthalmic, and through their various branches reaching to nearly every part of the nose and eyes, a net work of communication is established, which casts into the shade the most elaborate switchboard ever invented. Also, through the sympathetic nervous system, an equally close relation is maintained as the result of vaso-motor changes.

The Lymphatic System.

The lymphatic system, the sewer system of the body, is likewise closely related in the nose and eyes, and often may transmit infection from one region to the other.

Then, at last, the direct passage of the tear duct from the eye to the nose offers a good field for inflammatory or bacterial invasion of one body from the other. So much for the means of communication.

The nose is primarily an organ of respiration. Its function is to warm, moisten and filter the air before it reaches the larynx and lungs. The intricate labyrinth of the nasal chambers is not appreciated by one who has had no occasion to particularly study its structure.

The region called the middle meatus, with its middle turbinate, is a very important one in its relation to the eyes. Into the middle meatus drain the antrum of Highmore, the roof of which is part of the floor of the orbit; the frontal sinus, whose floor forms a good part of the roof of the orbit, and the anterior ethmoid cells which lie on the inner wall of the orbit. The bones separating the eye from these cells are very thin, and any inflammatory condition of these cells, as in an acute cold, the grippe, etc., will invariably make the eye sensitive. Many times secretions pent up in some of these cells have diverted the axis of the eye, either from direct pressure or its interference with muscular control. H. Manning Fish, of New York, after very exhausted research in literature and in clinics, concludes that a very large majority of inflammatory conditions of the eye are due to some trouble in the frontal sinus.

E. J. Bissell, in a paper some years ago, called attention to asthenopia, especially with morning aggravation, as being often due to nasal trouble. He cited numerous authors who had verified this fact in a large number of patients.

The eye troubles due to nasal causes are usually of an inflammatory or painful nature, rather than to an impairment of vision, though there are some of the latter character. Ziem reports several cases of diminished vision from venous hyperemia in the eye relieved by intra-nasal treatment. I had one patient during the past year whose vision was markedly improved after an operation for deviated septum. He had a slight astigmatism.

For some years it has been almost the first thought if one had headaches, not plainly assignable to some direct cause, that the eyes were faulty. In many cases this is true, but if a careful examination of the eyes does not give evidence of eye strain, it is well to inquire if the nose is all right. Many times one will elicit the information

that the patient is not a free nasal breather, feels as though he had a cold a great part of the time, or, there is a sense of irritation in the upper part of the nose. Some do not realize that the nose is not free, unless the simple test is tried of closing each nostril in turn and forcibly inhaling and exhaling through the other.

Nasal Obstruction.

The conditions of nasal obstructions are numerous. The more common are enlargement of the turbinate bones, deviation of the septum, spurs or ledges growing on the septum, polypi and adenoids of the naso-pharynx. Any of these conditions may cause pain, referable to the eyes, or congestion of the eyes or lids. Often the enlargement of the inferior turbinate, or the presence of polypi, may interfere with free drainage of the lachrymal duct, causing lachrymation.

One case of a student is rather interesting, who, for some years had a headache largely over and in the left eye when studying. He had his eyes examined several times, had glasses prescribed with no benefit, and finally happened in my office for an examination. I found only a sharp spur on the left septum crowding into the middle turbinate. I removed this. He was entirely relieved of headache. The cause? In study, the circulation was increased in the head; consequently in the nose, causing this spur to crowd more closely on the middle turbinate. Reflexly, the pain was referred to the eye and head. Many cases of a similar nature come to one's notice every year.

Presence of Adenoids.

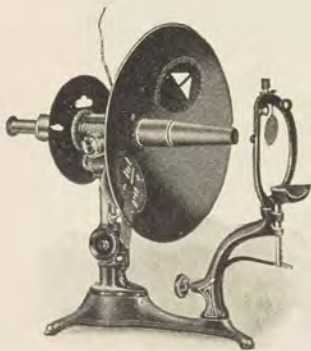
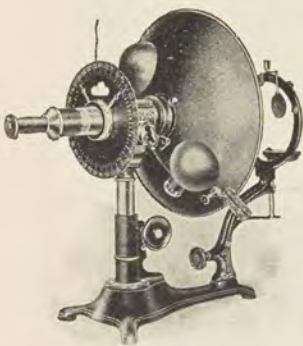
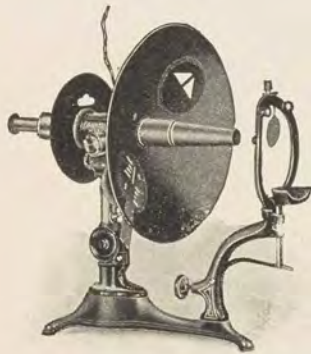
The matter of adenoids so often found in children, and not rare in adults, demand special attention in their influence on suspected eye strain. If in school children, who complain of eye and headache during school session and comparative freedom during vacation, no marked visual defect is discovered, or, if headache persists after such defect is remedied, one ought to investigate with relations to the presence of adenoids. They are very common, and if marked, quite easily diagnosed. The child is apt to be more or less of a mouth breather, and the voice dull and not resonant. But sometimes adenoids, not large enough to cause interference with breathing, have caused headache and tiring of the eyes in school.

The nose, with its accessory cavities, has been taken up as a special study since the eye was quite well known, and relations have been discovered which were not thought of a few years ago.

Every year adds something to help, and only by taking advantage of every aid in diagnosis can we come to accurate methods in treatment.

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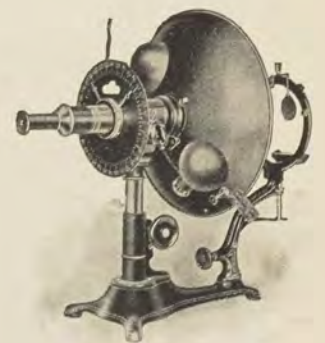
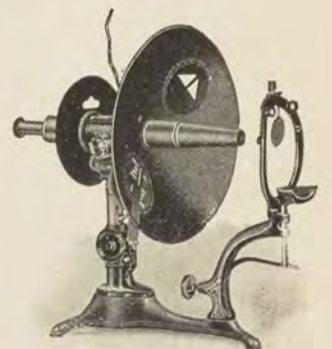
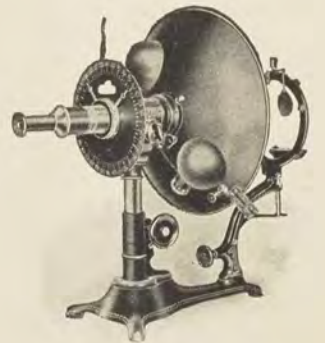
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Optical Questions and Answers

Subscribers wishing inquiries answered in this department must send name and address—not for publication, but as an evidence of good faith. Questions will be answered in the order in which they are received. No attention will be paid to anonymous communications.

To enable us to answer questions satisfactorily and give proper advice in the management of cases submitted to us, it is essential that we be furnished with a complete history of each case and accurate information on the following points:

1. Age. (If not possible to give exact age, always approximate.)
2. Have glasses been previously worn? How long and what number?
3. Visual acuteness of each eye, and what improvement glasses afford.
4. Range of accommodation (without glasses and with them).
5. Evidence of astigmatism (as shown by radiating lines).
6. Test for muscular insufficiency.

"W. C. C."—*Patient, age twenty-three, never wore glasses. Vision $\frac{20}{20}$ both eyes. Will not accept any kind of lenses. The only complaint is that the light causes squint and headache. Will not wear colored glasses. Pupils are dilated. Patient is a lady dressmaker. Would you prescribe +.50 S., or +.25, or would you prescribe glasses at all?*

The function of the optometrist is first to discover any error of refraction or muscular anomaly, and second, to correct the same by properly-adapted glasses. In this case there cannot be any myopia, but there may be hypermetropia or astigmatism, and searching tests must be made to determine the presence or absence of one or both of these, as also of any heterophoria. We cannot prescribe simply for squint and headache, but we must search for the cause and prescribe for that. The cause may be a refractive error or a muscular anomaly, or it may not, but this is a point that can be positively determined by the competent optometrist. If neither are found, there is nothing for which to order lenses, as we cannot prescribe them for symptoms only. Very often these symptoms are caused by esophoria, which should be carefully sought for.

"D. H. L."—*I have a patient whom I fitted with glasses some time ago. I tested his eyes for near vision and find with +2.25 sph. he can see good, so added +.75 cyl. With these he says he can see as good as he ever could, so I prescribed +2.25 sph. \odot +.75 cyl. ax. 90°. With these he can read the finest print, but complains of a heavy, dull pain across the eyebrows and in the posterior part of the eyeball after reading a little while; seems to be worse in the evening, at lamp light. He has worn glasses for eight or ten years and says this has always been troubling him, ever since he has had to wear glasses.*

The history of this case is too meagre to enable us to form an intelligent opinion. Presumably this patient is presbyopic, but the question of age is not mentioned. We want to know the natural acuteness of vision, what evidences there are of astigmatism, what combination of lenses corrects the refraction and what amount of vision is afforded by them. Information on these points might enable us to judge if the lenses were too weak or too strong, or if the axis of the cylinder is correctly placed.

It is possible that muscular asthenopia or insufficiency of the internal recti muscles at the reading point is the cause of the discomfort. The muscle balance should be tested both at distance and near at hand, when any insufficiency that may exist will be quickly detected.

"C. H. B."—*Can the fogging method be used in connection with the stenopaic slit? If so, please give directions. What are the advantages and disadvantages of the stenopaic slit?*

The stenopaic slit is used for the detection and correction of astigmatism. It is placed in the trial frame and rotated to the meridian of best vision, the refraction of which is determined by the trial case. It is then rotated to the meridian of poorest vision (at right angles to first position), where the refraction is again measured. This gives the con-

dition of refraction in the two chief meridians and reveals astigmatism if any is present.

In cases of hypermetropic astigmatism if not of high degree, the accommodation instinctively comes into action and conceals the hypermetropia in each meridian, exerting greater action in one meridian, so that patient is in doubt whether vision is better in one meridian than the other. We have no means of knowing how much effort of accommodation is used in each meridian, but sufficient is used to overcome the deficiency of refraction as it occurs in each meridian.

It is by means of the fogging system that we may be able to relax the accommodation, and thus the better determine the condition of refraction.

A convex sphere is placed before the eye strong enough to reduce vision to $\frac{20}{200}$, in connection with a stenopaic slit which is rotated to 90°. A concave sphere is then employed and increased until vision is $\frac{20}{20}$. The concave sphere is removed and slit rotated to horizontal meridian, where concave spheres are again employed until vision equals $\frac{20}{20}$.

The algebraic addition of the convex and concave spheres will show the condition of refraction in each meridian.

In order that a correct and definite understanding may be had of each case submitted, it is necessary that correspondents should give ALL the particulars asked for at the head of this page.

"H. E. U."—*A young lady, age seventeen, never wore glasses before. Vision = $\frac{13}{13}$, P. P. 4½, Es. 18°. By use of the fogging system found +1 in each eye = $\frac{13}{13}$; no astigmatism present. The young lady came to me complaining of diplopia. She says that her eyes have only been troubling her about two weeks; never was troubled with them before. She does not even have headaches. I examined the muscles with Maddox rod, prism and strong lens and found that it required 18° base out to fuse light at 15 feet. I prescribed the lenses indicated above and she has worn them for one week with little results, as the diplopia is as bad as ever.*

This is an interesting case in that it shows the relationship between hypermetropia and esophoria. The convex lenses should be increased to the extent of fogging vision to $\frac{20}{40}$, in order to determine how much of the esophoria can be corrected in this way. After this, prisms must be combined bases out until the diplopia is corrected, the effort being made to find the weakest prism that will accomplish this result.

In view of the fact that the excess of convergence is usually due to the excess of accommodation that is required to overcome the hypermetropia, it is preferable to exhaust all the benefit that can be derived from convex lenses before resorting to prisms. If the optical treatment by means of convex lenses and prisms fails, then it may become necessary to resort to operative treatment.

"A. T."—*Patient, now aged fifty-one years, was given the following prescription nine years ago by an oculist, which has been very satisfactory and can see very well with the glasses only that they now tire the eyes after reading a short time: O. D., +1.25 \odot -4 cyl. ax. 135°; O. S., -2.75 cyl. ax. 30°; add 3.25 cement bifocals. What combination can I give or add to the above that will be comfortable?*

No matter how perfectly these lenses corrected the refractive error nine years ago, it is more than likely they need changing at the present time. We are told the patient can see very well with these lenses now, but this statement is not definite enough. We must have the acuteness of vision as expressed by the usual fraction. This is the first entry in the record of a case the optometrist should make, and in giving the history of the case it is absolutely necessary to be mentioned to afford a perfect picture of the conditions present. At any rate, the eyes must be carefully re-examined, start-

ing *de novo* and without any reference to the lenses she has been wearing, in order that the examination may be entirely unbiased, and the result will show whether the glasses need changing or not. This has reference to the refraction and distant vision. Then each eye must be tested for reading vision, in order to determine how much must be added to the distance glasses. It is more than probable that the reading segments should be stronger than they were nine years ago, but we are not given the data to say just how much.

"J. N. N."—*I recently had a letter from a friend asking what can be done for a man whom the doctor in his neighborhood pronounces as black starre or black star. I have not seen the person personally, but the information that I have is that he is almost entirely blind. He can, however, tell where the windows are in the house, and also his fingers by getting up close to his eyes. His eyes have a natural appearance. I would be very thankful to you for information in regard to this case. Is there anything that can be done for it, and what to do to help him, if there is anything at all? Do you think it is a case that will get better or not? For my own benefit I would like to know what the trouble is in a case like this, and what you think has brought it on. I am aware of the fact that he has used liquor and snuff a great deal. He himself thinks that he got it by taking medicine which the doctor gave him to cure appendicitis and save an operation.*

The history and description of this case is too vague to enable us to express an intelligent opinion, and besides the information, meagre as it is, comes second-hand. There is no disease in the whole domain of ophthalmology known as "black star." It is possible that it may be black cataract, which is of very rare occurrence, and is so-called because the lens becomes quite dark in color from absorption of or staining by pigment. In such cases the pupil looks black, so that the existence of the cataract may be overlooked on a casual examination. No one could pretend to diagnose such a case without a personal examination.

"L. A. T."—*Can you tell me what to do in the following case? These were my first findings: R. E., $\frac{15}{15}$ no lens, with a -.75 S. $\frac{15}{15}$, no improvement with any other lens for P. P. or P. R.; L. E., $\frac{15}{15}$ no lens, with +.75 S. $\frac{15}{15}$, some $\frac{15}{15}$. With right eye, No. 10 Jaeger, +3.25 was best I could do. L. E., with +3.25, could see No. 1 nicely. Later I sent her to an oculist and this is what he gave her: O. D., -1 S. \odot -1.50 cyl. ax 180°; O. S., +.50 S.; for cement bifocals, add +2.25 D. Has worn these four years, but they are no longer comfortable. Three months ago came back; would not accept any cylinders at all. I then gave her these: R. E. - .50 S., L. E. + 1.25 for distance; R. E. + 3.25, L. E. + 4.50; all spheres. She is now sixty years old.*

This is apparently a case of anisometropia, myopic in one eye and hypermetropic in the other, and if the concave lens in one eye and the convex lens in the other raised the vision in each case to $\frac{15}{15}$, we must conclude that such lenses represented the proper correction of the existing error of refraction. As is well known, myopia tends to decrease and hypermetropia to increase with the advance of years. This case is no exception, as shown by the result of the recent examination, where the -.75 is reduced to -.50 S. and the +.75 increased to +1.25. We see no reason why this case should be referred to an oculist, as we have no evidence of the existence of disease and the glasses seem to afford normal vision. The amount of astigmatism varies from time to time and, therefore, our correspondent need not worry because she cannot get the patient to accept cylinders at the present time.

"We are most interested in the technical department and optical articles, especially Clinics in Optometry."—Knapp & Davies, Opticians, Nelson, Nebraska.

The Warner & Swasey Prism Terrestrial Telescope

begins where the

Warner & Swasey Prism Binocular



leaves off. Both instruments represent the highest standard of optical efficiency, while their mechanical properties endear them to every user.

The dealer who is not fully posted regarding the distinguishing features of Warner & Swasey instruments should inform himself at once.



Illustrated descriptive literature sent upon request.

Inprinted booklets, circulars, etc., cheerfully furnished.

The Warner & Swasey Co.
Cleveland, Ohio

Hardy **R** Work

is done so promptly and accurately according to the **R** that it is a pleasure to receive it. It saves our customers from getting "hotter" this summer weather on account of wrongly filled **R**. This means something TO YOU. Think it over

AND

SEND US YOUR NEXT PRESCRIPTION SO AS TO SEE FOR YOURSELF

F. A. HARDY & CO.
Denver, Colo.

Accommodation and Convergence

To be able to correct the error of refraction is of vast importance. To be able to measure and correct errors of Accommodation and Convergence is vastly more important.

The **LA GRANGE NEUROPTOMETER** will do the work. **NELSON K. STANDART**, one of the leading opticians of the country, late president of the Michigan Optometrists' Society, and Associate Demonstrator of Ophthalmology with Prof. Lockwood at the American Association of Opticians' Convention at Rochester, says of the Neuroptometer:

NELSON K. STANDART, Optical Specialist
255 Woodward Ave., Ground Floor

The Kennedy Optical Co., Detroit, Mich. Detroit, Mich., August 6, 1906
Gentlemen:—I have been using the La Grange Neuroptometer for the past four months, the first one in fact made.

I find it a most satisfactory method for determining the true relation between Accommodation and Convergence, and I use it in every case that I examine.

I would not be without it for many times its cost, as it expedites a diagnosis greatly.

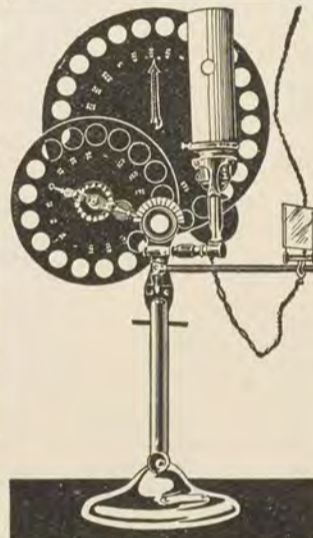
Yours very truly, **NELSON K. STANDART.**

Write for particulars to



THE KENNEDY OPTICAL CO.

Manufacturing Opticians and Prescription Specialists
DETROIT, MICH.



Why bother with the Trial Case and Frame to find your Prescriptions, when the

Peerless Refractor and Retinoscope

makes it so easy for you.

Send for our booklet telling you all about the advantages gained by employing the "Peerless Methods" in correcting errors of refraction.

Peerless Specialty Mfg. Co.

Optical Dept. MILWAUKEE, WIS.

Something Different! Will cut larger eye sizes

Our Specialty

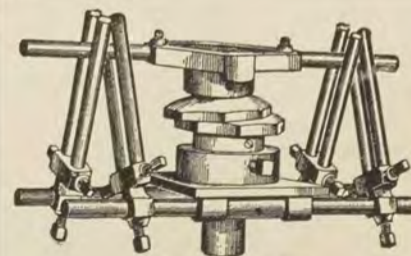
Cylinders and Sphero

Cylinders

Write for samples

TILTON OPTICAL CO.

TILTON, N. H.



Patented April, 3 1900

The Only Successful and Practical
Toric Lens Grinding Machine
for the Optician

Remember the maker of **Toric Lenses**. They would not be in the market, as nobody felt justified to go to this expense, which I can prove by a letter from The Bausch & Lomb Optical Co., dated Oct. 9, 1895.

I am making for the trade the **Toric Lens Grinding Machine** and tools of a 3, 6 and 9 Diop. base curve. This machine may be set up automatic or can be fitted to any surface grinding machine.

Toric Lenses made in any prescription. Rough Toric a specialty. Send for price-list.

ANT. WAGNER, Manufacturing Optician
Maker of Toric Lenses

1034 W. Girard Avenue

PHILADELPHIA, PA.

When writing to advertisers, kindly mention *The Keystone*

"The Optician as an Advertiser"

Address of C. E. Range, of Trenton, Mo., at the Joint Meeting of the Kansas and Missouri Optical Societies.

When the secretary notified me that I was expected to prepare a paper for this meeting, I consented before I had really given it much consideration. Now the selection of a topic to read before an optical meeting is more complex than it looks, and after wrestling for about two weeks with "The spectral relation of colors in an inverted rainbow" and the "Reflex nervous sympathy incident to hyperphoria," I came to the conclusion that you are all too well posted on questions of this nature and abandoned them both for one, which John Wanamaker says, the public never tires—Advertising.

Who's the man who wins success?
The man who early rises,
The man who springs surprises,
The man who advertises—
He's the man who wins success!

Importance of Advertising

Give the author a topic and he can write a book. Give the song writer a title and he can write a song. Give the poet a theme and he can write a poem. Give the optician a suggestion and he should be capable of writing an advertisement that would bring him business. But there are a great many of us here to-day that fail to give this matter the attention that it deserves. Some of us jeweler-opticians see our customers going to the oculist, or trade slipping away from us to a competitor who advertises optical goods, simply because we are neglecting the most interesting and profitable part of our business. When the optician has first hung up his test-type; placed his trial case in position; framed his diploma; joined the "Missouri or Kansas Optical Society," there is but one more step between him and his customers, and that is to take the best newspaper space he can get and advertise.

There is no event of importance happening now but will be known to-morrow. The destruction of a city; the declaration of war; the birth of a nation; all matters of national importance are heralded far and wide through mediums of publicity devised for the convenience of man. Not only as a medium for public events, but often the career of a man is born and made within the columns of a newspaper. Roosevelt is one of the greatest advertisers to-day. He does things. Edison is another. He accomplishes wonders and then lets the world know. Donders and Helmholtz, two of our great scientists, and to whom we are indebted for the principles of some of our optical instruments, were exponents of publicity. They let us know. Benjamin

Franklin, who is sometimes styled our first optician, was also a successful newspaper man, and his inventive turn of mind was closely related to his trite sayings. In each he had a motive.

Advertising is a Duty

Some men fear to advertise lest their motive be misconstrued. Others because they are modest. There is no sane reason why an optician should "place his own light under a half bushel" while the other fellow's "Stands out emblazoned like the statue of Liberty."

If you have a theory, system or an appliance, it is in justice to yourself and the public generally that the world become acquainted with its value. Do not quibble with small things, nor let your incentive "get the best of you." It is the man who can face adverse criticism and an approaching storm alike that meets with success. There is some one always ready to criticize you, no matter what you do. As Josh Billings once said, "When you act the most sensible, you know folks are liable to think you a darn fool."

By an old-time custom the medical profession have held a code of ethics that is generally observed by most doctors and surgeons, but the existence of this compact has never been comprehended by the people. There are some optometrists in cities who have adopted this same method of the profession and are prone to advertise except in a general way. But we have never heard of them joining an optical society. I believe, as a rule, there is but little objection, and there should be none, to a campaign of optical advertising in which the public is informed as to the importance in the care of their eyes. New optical features of manufacture and anything that will tend to specialize and elevate the optical profession.

Satisfied Customers

The best advertisement an optician can have to-day is a satisfied customer. That customer can do you more real good, and sell more glasses for you than a page ad in a country paper. And yet you cannot afford to leave the success of your business to the flattery of your friends any more than you could to your own personality. On the other hand, the optician's name should be constantly before the people, that even this satisfied customer may know he is keeping pace with the strenuous times, ever alert for new ideas that suggest progressiveness in his business.

An eccentric optician of the old school, who had never fitted a lense larger than a No. 1 eye or sold anything but a flat-rimmed spectacle, made a serious impression on me once by an amusing description of his customers. He said he had three

kinds of customers—the *invited*, the *blighted*, the *slighted*—and described them in this manner. The invited had heard of his talent and "came to be shown." The blighted customer was an ill-fitted one. The slighted customer had been unsuccessfully fitted by the rival optician. And so it is that we can draw a similar comparison to our customers—the invited, the blighted, the slighted—each one requiring a different mode of treatment, ever watchful of their foibles and peculiarities that each may be made a permanent and satisfied one. The same pains must be taken in our advertising. We must meet our customers in the newspaper as we do over our counter. Every line, every word must mean exactly as intended. The proper thing must be exploited at the right time; the ways and customs of a community be studied that an advertiser be familiar with the wants of his customers.

In conclusion, I will say that the enthusiastic optician who is in love with his work and gives it the attention it deserves, advertises for the business he gets; *gets it*, and then advertises to hold it, know there is but one time to stop and that is when he is ready to quit business and enjoy the result of his labor.

Glittering Objects

Glittering objects, such as glass flower vases, framed pictures, china, ivories, bronzes, polished furniture, etc., are apt to be troublesome to the would-be pictorial photographer. The first step is to try and avoid the troublesome reflections by changing the position of the camera, to right or left, up or down, or altering the directions of the incident light, raising or lowering blinds, by diffusing and scattering the light by muslin blinds, tissue paper, or waiting for a cloudy day. With small objects we may sometimes meet the difficulty by dabbing the tiresome plate with a ball of soft putty. Or in the case of metal ornaments, ivories, a little arrowroot, cornflower, etc., may be tied up in a couple of thicknesses of fine muslin and shaken over the reflecting surface so that it may be covered with a very thin layer of white dust. In the case of bronzes, instead of white powder, use some finely powdered black lead or charcoal. Gold ornaments may be dusted with fine-ground yellow ochre, purchasable at oil and color shops. The reader has probably noticed that in summer his drinking tumbler containing iced liquid becomes dewed or frosted on the outside. This hint may be applied in the case of hollow metal objects, such as cups, goblets, etc. If a lump of ice be put inside the vessel when the camera is ready, a few minutes' patience will show a dulling of the outside, when the exposure should be made at once. Delay is fatal, as the dewdrops get larger and larger and then begin to run down the outside of the vessel. If ice cannot be obtained, we may obtain the effect of cold by putting a few drops of ether or chloroform within the vessel, and causing rapid evaporation and fall of temperature by brisk use of a fan.

MURINE EYE REMEDIES

Are Optical Aids

Properly fitted Glasses and Murine Promote Eye Comfort

"They Have Stood the Test of Time and Criticism"

Gone to success on the wave of good opinions of Physicians, Opticians and the People"



Price 50c and \$1.00

Murine

RAPIDLY reduces an Inflamed Eye to its normal condition preparatory to its proper measurement for glasses.

Murine Clears the Transparent Media and obviates the use of a dangerous Mydriatic. Hence its value to the Optical Profession.

Murine is also a Cure for all Inflamed and Irritable conditions of the Eye, and is safe to use in the most delicate case; cannot fail to afford relief to the Eye that needs care.

Cures Red Eyes and Eyelids—Granulated Lids and Scales on the Lids—Makes Weak Eyes Strong—Doesn't Smart—Soothes and Quickly Cures Ailing Eyes.

Banene

An Internal Systemic Remedy

THIS preparation should be in the hands of every Refractionist as it stimulates the Circulation of the Blood Supply that Nourishes the Eye, Clears the Retina of Congestion, Removes the causes of Floating Spots, Dimness of Vision, Cobwebs and an Inability to Wear Glasses with Comfort. Eyes that refuse to accept properly fitted Glasses are often Toned and brought to a condition so nearly Normal as to derive the greatest possible Comfort and Relief from the Correction by the use of Banene and Murine. Send for our New Book "Eye Aid." It is full of valuable information to you.

Banene absorbs opacities of the Crystalline Lens—Cataract and in many cases renders an operation unnecessary.



Price \$1.25

BANENE FOR FLOATING SPOTS

DIM VISION—CATARACT, ETC. Aids Those Weakening Glasses



Price \$1.00

Murine Eye Salve

(Unguentum Hydro-Murine)

Restores lost Eyelashes and promotes a healthful growth. Cures Cysts, Styes and Ulcers on Lids

THE Eyelashes often fall out in consequence of neglected disease, both at their roots, and of the Lubricating Glands which open near them, resulting in a thickened and crusted condition. This condition is intensified by an Error of Refraction, and properly fitted Glasses should be worn in addition to applications of Murine, and Murine Eye Salve.

Granuline

FOR old and chronic cases which have resisted the ordinary methods of treatment and where most positive action is desired; Granulated Lids, Spots, Scums, and Opacities on the Eyes. Granuline is Absorbent, Tonic, Antiseptic, Astringent and Anti-phlogistic. It is a valuable collateral to Murine in Eye cases.

The maximum per cent of those ordering Glasses seek your aid only after continued urgings from over-worked and defective Eyes—urgings that have left inflamed tissue and local irritation. Correct Eye Defects with Properly-fitted Glasses. Correct Effects of Defects with Murine Remedies.



Price \$1.50

NOTE—The law does not confine the sale of these preparations to any class. Jewelers and Opticians have a right to sell them, but not the right to compound or administer.

Attractive Glass Signs—Show Cases—Triple Signs—Lithographs—"Strong Eyes" Books—Optical Circulars—Etc., Supplied to Retailers.

We publish many valuable Books and Leaflets, of interest to the Physician, Optician, and in every Home. The Murine publications are recognized as "Authority on Eyes" and Eye Care. They are supplied to all asking for them.

TRADE PRICE LIST

These Prices are regular and are subject to Cash Discount only

	Per Bottle Retail	Wholesale Per doz.	Wholesale Per Bottle
No. A—MURINE—Regular size	\$.50	\$4.00	\$.60
No. B—MURINE—Special or Opticians' size	1.25	7.20	.60
No. C—MURINE—1-pound bottle for Physicians' dispensing	8.00	72.00	6.00
No. D—MURINE—1/2-pound bottle for Physicians' dispensing	5.00	48.00	4.00
No. E—MURINE EYE SALVE—(Unguentum Hydro-Murine)	1.00	7.20	.60
No. F—GRANULINE	1.50	10.80	.90
No. K—BANENE	1.25	9.00	.75

Ask For More Complete List of Murine Eye Remedies.

Prepared in the Laboratories of the MURINE EYE REMEDY CO., Chicago, Ill., U.S.A.
SOLD BY ALL WHOLESALERS

Optical Notes

✿ The Galveston Optical Co., Galveston, Tex., was recently incorporated with a capital stock of \$5000. The incorporators are G. H. Aronsfield, R. W. Smith, W. L. Moody, Jr., John Seely and M. Marks.

✿ The Eye-Fix Remedy Company, of Detroit, Mich., has been compelled to move from their old quarters on Woodward Avenue to larger ones in the University Building, which enables them to double the output of their remedy.

✿ The Alumni Association of the Rochester School of Optometry, Rochester, N. Y., gave a smoker on August 29th, at the schoolroom—the purpose being to ratify the constitution and by-laws. An interesting debate was held on the subject whether the fitting of prisms is advisable.

✿ Max Hauser, of Milwaukee, Wis., informs us that he has resigned the presidency of the Milwaukee Optical Club and has been succeeded by F. Cobabe, of that city. The secretary of the club is Max Ruhland, whose address is Wells Building, care of Milwaukee Optical Co. The vice-president is August Reinhard, and the treasurer, J. H. Schaefer.

✿ D. V. Brown, manufacturing and wholesale optician, of Philadelphia, returned from his three-months' trip to Europe in the latter part of August. Most of his time while abroad was spent in Paris and other interesting cities and resorts of France. He also traveled through Switzerland and Italy, returning up the Rhine and visiting London on the home journey. He found the trip most enjoyable, and returned well equipped physically for the busy season now at hand.

✿ The business of Andrew J. Lloyd & Co., opticians and dealers in optical instruments, Boston, Mass., was recently incorporated with a capital of \$150,000. The president of the new corporation is Louis E. Kirstein, of Rochester, N. Y., and the treasurer is Richard C. McKay, of Medford, Mass. John W. Collinson, of Wakefield, Mass., is also associated with the new corporation. While the foregoing are the chief owners of the concern, an interest in the business has been given to about a dozen of the employees.

✿ Samuel Stern, of Kingston, N. Y., who attended the recent meeting of the New York State Association and the American Association of Opticians, held at Rochester, has been one of the active workers in the endeavor to obtain legislation for the opticians at Albany. As an old resident, and prominent in a number of the leading fraternal societies, Mr. Stern has wielded quite a little influence among those in a position to help matters along at Albany, and it is hopeful that the efforts of the legislative committee under the enthusiastic efforts of Chairman Arrington will be successful in the near future.

Washington Association of Opticians

The above society met recently in convention and it was decided that a determined effort be made to secure the passage of the optometry bill, and to meet the expenses it was decided that each member will be assessed \$1.50 per month until January 1, 1907. The society continues to grow in membership and influence. The following are the officers elected for the ensuing year: President, Lewis C. Capps, Seattle; first vice-president, L. L. Berens, Bellingham; second vice-president, H. C.

Eversole, Seattle; treasurer, C. G. Holcombe, Seattle; secretary, H. A. Lembke, Tacoma; directors, Leander Butt, Seattle; W. B. Richardson, Seattle.

Oregon State Board of Optometry

The Oregon State Board of Examiners in Optometry will hold the next examination in Portland, on October 1st and 2d. At the last examination there were six to try and out of these only two, A. P. DeKayer, of Portland, and C. H. Williams, of Condon, were successful in getting the required percentage of 75. The new law is working in good shape and a number of illegal practitioners have been arrested and convicted in every case. The registered optometrists are beginning to see wherein the law is good and are endeavoring to have it enforced.

Prosecuted for Using Title "Dr."

The South Dakota Board of Medical Examiners recently arrested a chiropractic doctor at Aberdeen, in that State, charging him with using the prefix "Doctor" in a medical sense, and practicing medicine without obtaining a license. The case was heard before a jury of six, and a verdict rendered of guilty. The case was one of considerable interest and was vigorously fought. The M. D.'s testified that this science, which is limited to rubbing, kneading and adjusting partial dislocations of the vertebrae, is not recognized in the medical profession, although the defendant was charged with practicing medicine. The defendant argued that it was along the lines of osteopath practice, and was not within the meaning of the law as practicing medicine. They also claimed that using the prefix "doctor" was not a violation of the law so long as he used the qualifying word following his name. The decision of the jury finding the defendant guilty, was, no doubt, on account of the first charge, viz.: using the title "doctor" in a medical sense in an advertisement which was exhibited as evidence, claiming to cure numerous diseases. The practice of chiropractic seems to be a somewhat new science in this State. The defendant was a graduate of a school of Wadena, Minn., which it is said is not recognized by the State; that is, chartered under the State laws. The case has been appealed to the Circuit Court, and will come up at next term.

Atropine Poisoning

Percy B. Spurgin points out in the *Lancet* two cases of atropine poisoning which are of interest owing to their severity and the unusual means of poisoning; also as showing the marked idiosyncrasy which the children displayed with respect to the action of the drug. The first patient was an excitable girl, aged ten years, who had been attending an eye hospital for cataract and had been given for instillation "guttæ atropinæ" containing four grains of atropine in the ounce. One day in July, 1901, "I was sent for urgently to see the child and found her covered with a diffuse rash closely resembling that of scarlet fever. Her temperature was 102.7° F., and her pulse-rate was 140. Her fauces and tonsils were much inflamed; she had a typical strawberry tongue and frontal headache, but there was no vomiting. Inquiry elicited the fact that an hour previously the drops had been instilled, the patient then appearing to be quite well. An aperient powder and a saline mixture were prescribed. In the evening all the symptoms had

considerably abated. Next morning the rash had disappeared completely, the throat was normal, the tongue was clean, the pulse-rate was 98, there was no headache, and the child had slept well. In two days she had recovered completely.

"The second patient was a girl, aged three and a half years, who had been attending the same hospital for strabismus and had been having instillations of 'guttæ atropinæ' containing two grains of atropine in the ounce. Sent for one morning I found that the child had vomited and was rather collapsed. Her temperature was 101.3° F. and her pulse-rate was 116. Her tongue was furred, her throat was slightly inflamed and her chest and back and the upper part of her thighs were covered with a scarlatiniform rash. The same treatment as in the previous case was adopted with the addition of half a drachm of brandy in half an ounce of water, administered immediately, and a hot-water bottle applied to the feet. On the same evening she was better and on the next morning she was feeling quite well and all signs had disappeared.

"In neither case was there subsequent desquamation (shedding of scales). The diagnosis in both cases was poisoning by the 'guttæ atropinæ.' Careful inquiry elicited the fact that in neither case did the 'guttæ' drop or trickle into the mouth; the rapidity of absorption and the speedy appearance of symptoms—in each case under one and a quarter hours—were remarkable."

Blank Disk or Convex Lens

A writer in the *British Optical Journal* says: "It is customary in testing to put up either a blank disk or a strong convex lens before the eye which is not being tested. Some people have a habit of closing each eye as it is occluded for testing the other, especially when the blank disk is used. This in itself does not matter, but it is essential that the eye which is being tested should be observed to see that it does not partly close in sympathy, otherwise it will happen sometimes that binocular vision, with the correction, is actually poorer than each eye separately. For this reason partly, I think the strong convex lens serves the purpose better than the disk, because the light passing through it induces the eye to keep open."

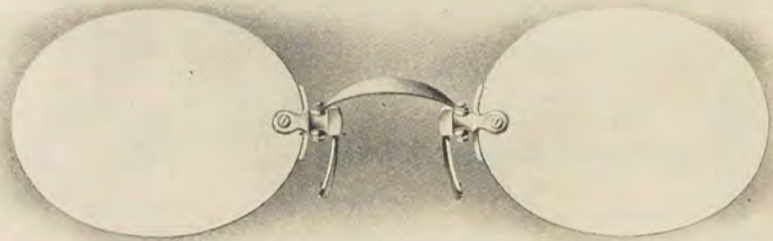
Make Photography Pay

Photo dealers should not lose the many opportunities of pointing out to amateur photographers that they can make their hobby pay, instead of it being a constant expense to them.

Every newspaper that prints pictures and every illustrated magazine is constantly seeking photographs, yet the editors are forced to send back ninety-nine out of every hundred submitted simply because the people who take them do not catch the idea of that particular paper or magazine. They would print many more pictures, and pay liberally for them, if they could find the right things to print.

The newspapers and magazines are on the alert for unique, odd, funny, or, indeed, almost any pictures out of the ordinary that interest people. They can get millions of moonlights on silvery lakes or glimpses of rivers, where they can get one, say, of a cat standing on its head. The mistake that is made by so many amateurs should be pointed out. They take the same things that every other amateur takes, and think that their value lies in the fact that they are perfect examples of the photographer's art, or rather a tribute to the excellence of their lens.

THE WOOLF "KUMFUT" EYEGLASS



Necessity is the Mother of Invention

Every optician appreciates the fact that no one guard is adapted to all noses.

The "KUMFUT" eyeglass is a stiff or rigid bridge mounting, which opens outwardly (with the use of one hand if desired), thereby assuring axis alignment.

A special advantage of this Eyeglass is that any guard desired may be attached in the usual manner without interfering with any of the working parts.

The stud or post (as shown in the above illustration), resembling a regular or ordinary stud, is pivotally connected to the bridge on the rearward side, towards the face. A Spiral Spring, concealed beneath this connection, between the upper and lower part of the neck of the post, forms the tension. Thus it can be readily seen that all working parts are hidden, without making the eyeglass look cumbersome and unsightly, but on the contrary, NEAT and INCONSPICUOUS.

Made in { Gold, 12 K., \$21.00 } less 6% cash discount
 { Gold Filled, 12.50 }

Also made up in Trial Sets, consisting of one dozen Gold Filled Eyeglasses in assorted sizes of Bridges (with assorted Woolf Guards) set in a neat, leather-covered case, suitable for office or traveling purposes. \$12.50 net.

MICHAEL WOOLF

Wholesale and Manufacturing Optician

25 Maiden Lane, New York City

Our Illustrated R Catalogue is now ready for distribution. If you have not received a copy, it will pay you to send us your business card at once.

External Muscles of the Eye and Ocular Paralysis

By DUNCAN MATHESON MACKAY, M. D., in the *Lancet*.

The action of the individual orbital muscles and the effect of paralysis of one or more of them are admittedly not easy to keep in mind, especially by those who do not have to diagnose cases of strabismus every day. Even oculists find it convenient to employ a diagram, either real or mental, by which they may recognize from the character of the diplopia the particular muscle or muscles which are affected. So far as I am acquainted with the diagrams appearing in the text-books usually available to students and practitioners, there is not one which is, in my opinion, so concise and so easily grasped as that of Professor Elschnig, of Vienna.

Diagram of Ocular Muscles

I have therefore ventured to epitomize the article in which he introduced it to his German-speaking confreres and which is

published in the *Weiner klinische Wochenschrift*, of August 28, 1902. The same subject is dealt with by Professor Elschnig in the "Encyclopädie der Augenheilkunde," published by O. Schwarz. The diagram is a modification of one by Professor Schnabel, which has been much in vogue in Austria up to now.

In the diagram, each of the arrows representing the action of the individual elevators and depressors (rectus superior, obliquus inferior, obliquus superior, rectus inferior), indicates (a) the direction in which the summit of the cornea would be moved by isolated contraction of the muscle concerned, and (b) by the inclination of the arrows towards the vertical, the position imparted to the vertical meridian of the cornea, by the same contraction.

For example, isolated contraction of the right superior rectus would: (a) move the summit of the cornea upwards and inwards, and (b) incline the vertical meridian of the cornea to the left (that is, "wheel-motion" to the left). ("In speaking of the inclination of the vertical meridian of the cornea it is the upper extremity of this meridian which is meant."—Swanzy.) Similarly, isolated contraction of the right inferior rectus would: (a) move the summit of the cornea downwards and inwards, and (b) incline the vertical meridian of the cornea to the right. The arrows on the horizontal line indicate the direction in which the summit of the cornea moves with isolated contraction of the external or internal rectus.

Further, the starting point of each inclined arrow on this horizontal line indicates the position in which the cornea must be in order that isolated contraction of an elevator or depressor may have the greatest elevating or depressing effect. That is to say, the rectus superior and the rectus inferior (for example) exert the greatest effect as to elevation and depression of the cornea when the eye is in the abducted position; and the obliquus inferior and the obliquus superior exert their greatest effect as to elevation and depression when the eye is in the adducted position.

The Wheel-Motion Action

Also, since the "wheel-motion" action of the elevators and depressors in each case is in the inverse ratio to the elevating or depressing action—the greater the elevating or depressing action, the slighter the "wheel-motion"

action and vice versa—there is evident from the diagram the position of the eye in which each elevator and depressor is able to exert the greatest "wheel-motion" action; that is, the rectus superior and rectus inferior exert the greatest "wheel-motion" action when the eye is in the adducted position and the obliquus superior and obliquus inferior exert their greatest "wheel-motion" action when the eye is in the abducted position.

The opposite of these two statements is true also—namely, that when the eye is adducted the elevating and depressing action of the elevators and depressors is least, and when the eye is abducted the "wheel-motion" action of these muscles is least.

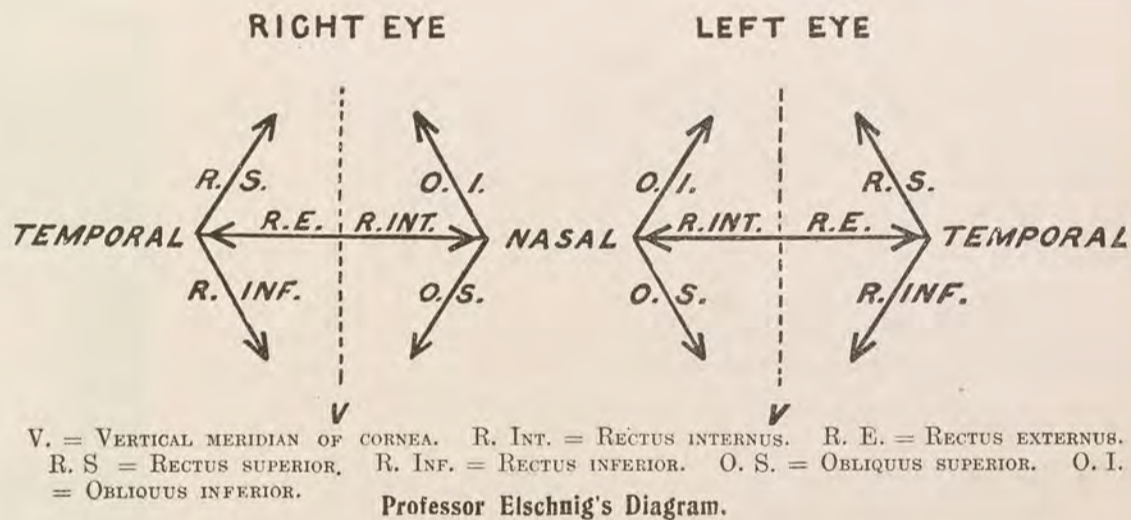
As a matter of fact, however, no regard needs to be paid to the "wheel-motion" in the diagnosis, by means of the diplopia, of paralysis, except in the case of examination of the obliquus superior, the action of which muscle is best tested when the eye is adducted.

A glance at the diagram, therefore, at once reveals in the case of paralysis of one rectus

tion of the double images by the use of this diagram. If the flame of the candle placed in the middle line reveals double images separated by distance in height, and if this distance in height increases the more the candle is lifted up, one knows it is an elevator that is paralyzed—and an elevator of that eye, the image of which stands the higher (the image belonging to each eye is recognized, of course, by the aid of a colored disk held before one of the eyes).

Important in Practice

Suppose, now, that this is the right eye. If, then, the elevated candle, always at the same height, be moved to the right and left, and if the distance in height between the two images increases as the candle is moved to the right (so that the eye tends to the abducted position) and diminishes as the candle is moved to the left (so that the eye tends to the adducted position), then we know that it is that elevator, the elevating action of which is the strongest in the abducted position, which is paralyzed—that is, in this case the rectus superior of the right eye.



(superior or inferior), that the defect of movement of the eye is most distinctly seen—or, in other words, that the difference in height between the two images (false and true) is the greatest—if the eye under examination be elevated or depressed while in the position of abduction; that is, for example, in the case of the right eye when it is turned to the right and upwards, or to the right and downwards.

In the case of paralysis of one oblique the defect of movement is most distinctly seen—or, in other words, the difference in height between the two images is the greatest—if the eye under examination be elevated or depressed while in the position of adduction—that is, for example, in the case of the right eye when it is turned to the left and upwards, or to the left and downwards.

A Useful Rule

This may be translated into practice thus: if in any case of paralysis of an elevator or depressor the defect of movement of the eye (or the difference in height between the two images) is greater in the abducted position of the eye than in the adducted position one knows it is a rectus which is paralyzed. In the opposite condition, where the defect of movement (or the difference in height between the two images) is greater in the adducted position of the eye than in the abducted, one knows that it is an oblique which is paralyzed.

A single example may still further elucidate the diagnosing of the paralysis from the examina-

tion of the double images by the use of this diagram. It is important in practice, when the elevators and depressors are being examined, to allow the patient to pay attention only to the distance in height between the images; the lateral interval, whether the diplopia be homonymous or crossed, is not only irrelevant, but often perplexing and deceptive.

Further details of the diagnosis of the paralysis of the muscles of the eye by the use of this diagram, are to be found in the article in the "Encyclopädie," already referred to.

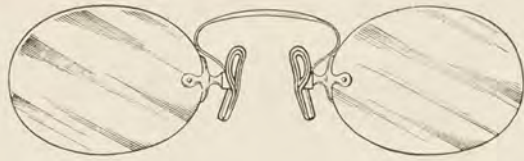
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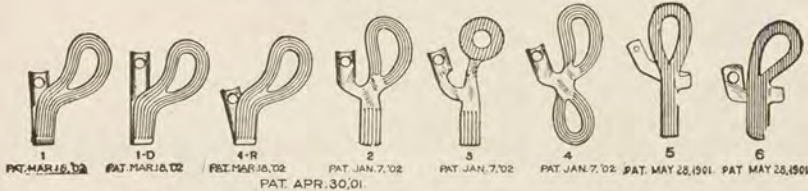
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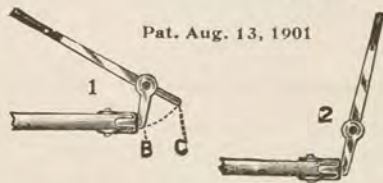
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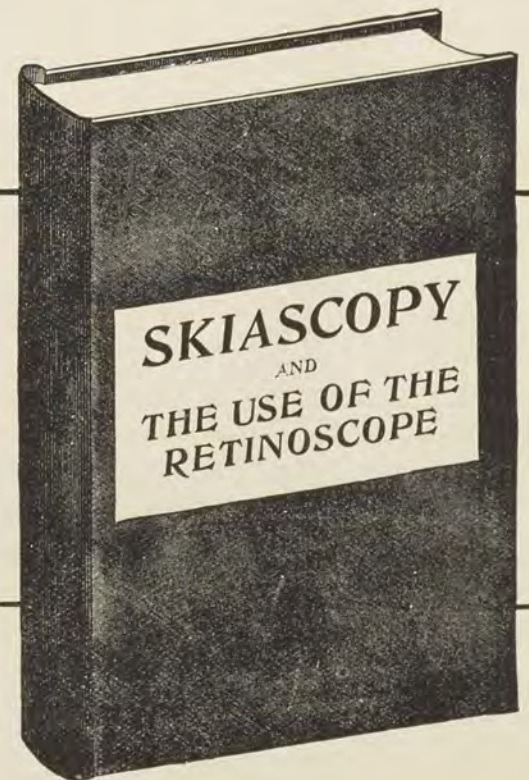
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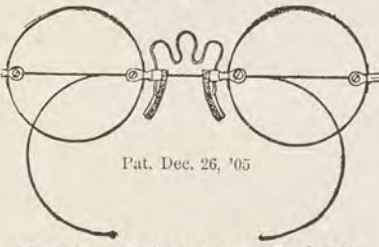
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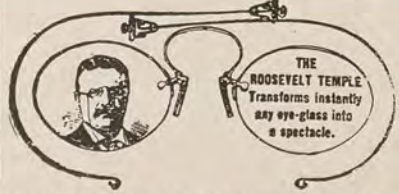


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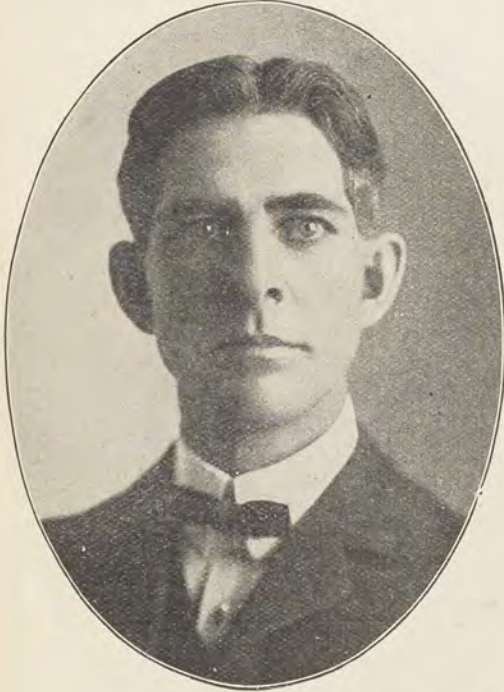


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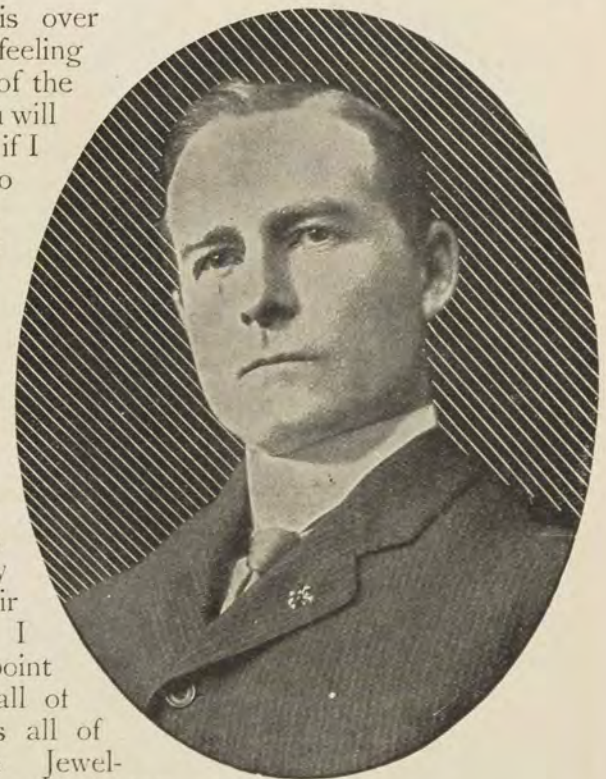
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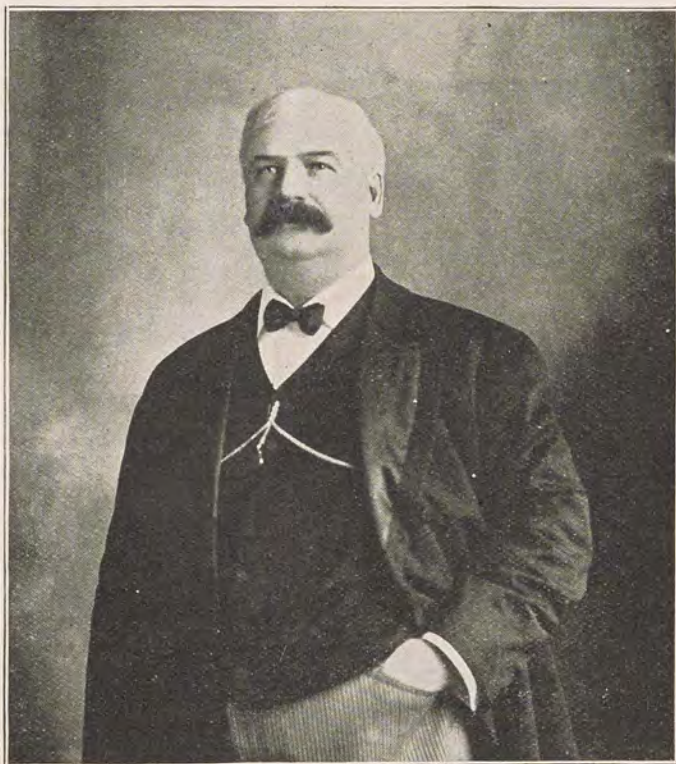
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F. A. WORCESTER, Jewelry and Art Auctioneer, 524 Pine Street ST. LOUIS, MO.



A. TRABERT & CO.
Established 1869

Watch Repairing for the Trade

We employ the best expert Watchmakers. Send your work to us, we do the best work at the lowest possible prices. Send for latest 1906 price-list. We inspect and test every watch before leaving our shop.
305 and 307 Bleecker St., New York City

To Test The Keystone Advertising Qualities

Every jeweler that sells rings cannot afford to be without an assortment of Wells' Perfect Ring Adjusters for immediate use when wanted. 1 doz. solid 10 K. gold, astd. sizes, \$3.75; 1 doz. gold filled, astd. sizes, \$2.00; 1 doz. metal, astd. sizes, sent prepaid at once (only on receipt of price). If you will mention Order No. K., I will forward at same time, prepaid, one game of "Grip" for each dozen Adjusters ordered. Address, Chester Wells, Jeweler, Meshoppen, Pa.



WILLHELM K. SANDBERG
Watchmaker to the Trade
Demagnetizing Watches a Specialty

I give close, personal attention to repairs sent me. Promptness my motto. Send for my printed Price-List, which is free for the asking.
Columbus Memorial Bldg., 103 State St., Chicago

Loop Watch Keys



STAPLE AND STRICTLY RELIABLE
A. N. CLARK & SON, Plainville, Conn.



"Clinch"
Safety Catch for Scarf Pins

Does not mar the pin. Nothing to get out of order. Simple and neat. One turn to the right grips like a vise. Ask your jobber, or write to

THE HOFFMAN NOVELTY CO.
79 N. Pearl Street
ALBANY, N. Y.

Prices to the Trade
No. 1. Gold Plated . . . \$1.50 doz.
No. 2. Roman Gold . . . 2.00 doz.
No. 2. 14 K. Gold Plate 2.25 doz.

Established 1839



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Jewelry Sample Trunks and Cases

Extra Deep Trunks and Cases Always in Stock
177 Broadway 688 Broadway
Bet. Cortlandt & Dey Sts. Below Fourth Street
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Between 41st and 42d Streets
NEW YORK

Are your Fountain Pens old Muzzle Loaders? Then fire them and get
BLAIR'S "NOSAK" SELF-FILLING THE PEN OF MERIT

No Pen Section or Middle Joints



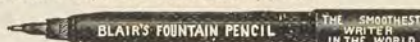
with Ink Safeguard

The suction of the Pen Cap fills the holder. The "NOSAK" Pen holds 66 drops of ink. Rubber sack pens hold 15 to 25 drops. No inside pumps to leak or break. No rubber sacks to rot, or room for ink to take. No fillers to find, and when found, they are broken. It cleans—it fills—no profane words are spoken.

PRICES of Nosak Pens—No. 1 Gold Pen, \$2.00; No. 2, \$2.50; No. 3, \$3.00; No. 4, \$4.00; No. 5, \$5.00; No. 2 Gold Pen, Extra Wide Chased Gold Band, \$3.50; No. 3 Gold Pen, Plain Gold Bands, \$4.00

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but Never Out of Ink

with BLAIR'S FOUNTAIN PENCIL for writing, ruling, manifold and stenography, with free year's supply cartridge of indelible ink. Prices, Plain, \$1.00; Chased, \$1.25; Gold Mounted, \$1.50.

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NON-LEAKABLE FOUNTAIN PEN

The Gold Pen withdraws within the holder when the cap is screwed on and is as tight as a bottle. It has no weak inside stem to break, or cork packing to leak. Prices same as "NOSAK." Old muzzle loaders at half price to close out.

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Crescent Manufacturing Jewelers,

1104 Heyworth Building, Chicago, Ill.
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BADGES—Special Makers for

Past Commanders
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College Class Pins, Medals, Badges
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Any design made to order

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Our well-known Two-Screw Patent can be applied to any ring. Have your stock or job rings fastened this way.

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Manufacturing Jewelers

51 and 53 Maiden Lane
NEW YORK

Globe Lever and Link Lever Button Back
For hard-soldering. Can be applied to any button
Made in Solid Gold, Gold Filled and Silver

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See advertisement on page 1441

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Watch Repairing for the Trade

Forty years' experience. Demagnetizing Watches free of charge to our regular costumers. Good work only.

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Practical Watchmaker

1220 Filbert St., Room 14, Philadelphia, Pa.
Bell Phone, Walnut 55-25 or Sibley Bldg.
Keystone, Race 54-08A

50% DISCOUNT

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In their expenses for lighting, over gas, kerosene or electric lights. This is demonstrated every day by the thousands in use for the last eight years all over the world. Write for "K. S." Catalogue. Don't wait for short days and long nights. Order now, and be ready for the Fall trade. Money back if Brilliant Lamps fail to do as represented.

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42 State Street, CHICAGO, ILL.

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H. H. Heinrich's Marine Chronometers

CHICAGO, 1893 PARIS, 1889 BERNE, 1899



Very good CHRONOMETERS on hand; second-hand Chronometers in first-class condition. Repairing, springing and adjusting Chronometers. Also fine watch repairing for the trade.

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T. C. REDFERN, Mgr.
Successors to H. H. Heinrich

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New York, June 1, 1893

I have employed Mr. THOS. G. REDFERN to my entire satisfaction for many years in all description of Marine Chronometer repairs, also in new work. I know of no one who has a better general knowledge of chronometer work than he has. He has also done a great deal of fine and complicated watch repairing for me, and I can recommend him to anyone desiring his services.
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EXPERT

Watch Case Repairing and Watch Case Manufacturing

Gold and Silver Plating, Satin Finishing, Engraving and Engine-Turning



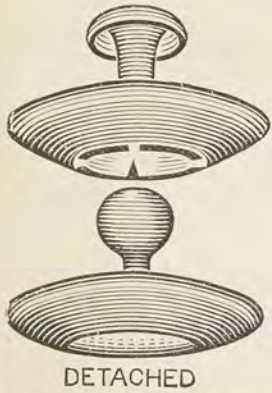
Old English and Swiss Cases changed to fit American Stem-Wind Movements

Special Cases made to order in Gold and Silver for English, Swiss and American Movements

OLD CASES MADE NEW

F. H. JACOBSON CO.
209 State Street Chicago
Send for Our New Price-List

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IMPROVED



DETACHED



ATTACHED
ACTUAL SIZE

THIS PART is buttoned through the cuffs and then attached through base to lower button with a snap fastener same as a glove.

THIS PART is a ball top Collar Button and used same as any sleeve button. The ball holds at any angle when attached.

"IT SOEZIE"

(IT-IS-SO-EASY)

BUTTON CUFF FASTENER

Snaps Together A simple device for attaching and detaching cuffs.

For Sale by All Leading Jobbers

The Gold Plate Cuff Fasteners are put up in handsome glass-top display cases holding 3 dozen pairs, each pair in a small individual box.

Price \$24.00 per Gross Sets

Less 6 per cent. 10 days; 5 per cent. 30 days

Also made in three better grades

Chicago Cuff Holder Co., 185-191 Adams Street, Chicago



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HOLDS
IN ANY
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The Keystone Publishing Co., 809, 811, 813 North 19th Street, Philadelphia, Pa.

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MOROSS
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NO STOCKS TOO LARGE; NONE TOO SMALL

Write me now and secure a dating for either now or later. Best of reference and terms furnished.

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Expert WATCH and Chronometer REPAIRING FOR THE TRADE

When others fail you we guarantee satisfaction. A trial will convince. Prices very reasonable.

List will be sent on request

G. OHAN, 37-39 Maiden Lane
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ELGIN, ILLINOIS

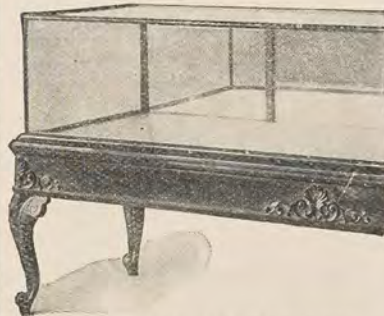
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No students received for less than nine months.

Individual instruction in Watch Repairing, Engraving and Optics.

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We Challenge the World to Produce a Better Case

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11 to 17 North Ann St.
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Makers of all Kinds of

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Manufacturer of Fine
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Electric Illuminated and
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BEST SIGNS ON EARTH
Send for Catalogue

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Successors to

B. ROBERT & CO.

75 and 77 Nassau St., New York
Front Building

Thirty-five years in the trade

Watch Case Making, Repairing,
Engraving, Remodeling and
Reconstructing

TAKE ADVANTAGE

—if you wish to know whether you are overcharged for your goods—send for our price-list at once. No jewelry store can afford to be without it.

PHILIP KATZ & CO.

51-53 Maiden Lane NEW YORK

JEWELRY DIAMONDS
AMERICAN and
SWISS
WATCHES



Fits any
Engraving
Block

Price
\$1.50

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Each certificate is 3 1/4 x 7 1/2 inches, and so worded as to safeguard your interests.

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809, 811, 813 North 19th Street, Philadelphia, Pa.

HELP WANTED

UNDER THIS HEADING THREE CENTS PER WORD

FOREMAN for optical shop, for high-class legitimate prescription business, must be thoroughly exp. and fully qualified. Address, "A 798," care Keystone.

WATCHMAKER and engraver. Will pay \$25 per week. Refs. required, also samples of engraving. Address, F. W. Meyer, 1114 Main Street, Kansas City, Mo.

WATCHMAKER, fair engraver and optician pref., permanent position in established business, salary and commission on optical sales. State exp., salary, age, refs. Address, J. Y. Wilson Drug & Jewelry Co., Osceola, Mo.

AT once, good watchmaker and jeweler, engraver pref. Good wages and steady job if well recommended. W. J. Eaton & Co. Bellows Falls, Vt.

A GOOD watchmaker, jeweler and engraver. Address, J. L. Murphy, Livingston, Mont.

YOUNG man as assistant refractonist, unmarried, in the vicinity of 25 years of age. Must have a nice personality and be very tactful with customers. Want a man that has a general knowledge of lenses and refraction and understands edge grinding and repair work. Must have had a year or two exp. To the right man will give rapid advancement and permanent situation. Write at once, stating age, height, general education, exp. in optics, what pay would be satisfactory at first, how soon could commence work, and all particulars. Refs. exchanged. Brown & Burpee, 940 Elm St., Manchester, N. H.

WATCHMAKER and salesman, a steady position and good wages. E. S. Smith, Olean, New York.

SEPT. 1st, watch and jewelry repairer, good optician, steady work. State salary, age in first letter. Box 145, Coldwater, Ohio.

AT once, \$75 per month and 1/2 interest in optical business, to first-class watchmaker, good engraver and experienced optician. Apply at once with sample engraving and ref. enclosed. Position permanent. Crescent Jly. Co., Helena, Arkansas.

WANTED, an experienced, first-class watchmaker, who can do plain engraving and jewelry repairing. Must have own tools, good habits and be steady worker. Permanent position to right party. State age, exp., ability, habits, married or single, and salary wanted in first letter, and if permanent job is wanted, A. Williams, Box 777, Canby, Minn.

A FIRST-CLASS watchmaker, jeweler and engraver. Don't answer unless good, all-around workman, sober and honest. Must have practical exp. and pleasant disposition, prefer married man. City of 6500, at head of the Willamette Valley, Western Oregon, finest climate in America. To the right man I will give good wages and steady job. Give refs. and state salary expected in first letter. I will give best of refs. if required. J. O. Watts, Eugene, Ore.

YOUNG man or lady, as engraver and for selling goods, pleasant, permanent position. State salary, exp., ref. and date for beginning in first letter. Gabriel Jewelry Co., Mobile, Ala.

WATCHMAKER, competent and sober. Write at once. Brunner & Son, Circleville, Ohio.

COPPER plate and steel die engraver. State if you understand printing, embossing, and if you can engrave on silverware. Permanent position offered. Refs. in first letter. Jessop's Jewelry Store, San Diego, Cal.

FIRST-CLASS watchmaker and optician, must be able to pass State examination in optometry. Permanent position to right man. Jessop's Jewelry Store, San Diego, Cal.

MANUFACTURING jeweler and diamond-setter, must be first-class on new work, good refs. State wages expected in all our 3 advertisements as above. Jessop's Jewelry Store, San Diego, Cal.

WANTED, an experienced watchmaker. Good pay, steady work. M. Greenwald, Parkersburg, W. Va.

INSTRUMENT assemblers wanted, 4 experienced instrument assemblers. Permanent to good men. Apply in writing, stating exp. and wages desired. Wagner Electric Mfg. Co., St. Louis, Mo.

GOOD, competent watchmaker, jeweler and engraver, single man preferred; must have good refs.; none but experienced man need apply. State salary expected, also send photo. in first letter. Must be here by Sept. 15th. "B 11," care Keystone.

A WATCHMAKER, jeweler and engraver. Good wages and steady position. J. A. Lewis, Pittston, Pa.

ALL-AROUND optical man who can put some A money in an established wholesale optical business in Central States. "G 9," care Keystone.

A FIRST-CLASS watchmaker, engraver, jeweler, optician; salary \$75 to \$100 per month. Permanent position to good man. W. P. Waters, Sheridan, Wyo.

WATCHMAKER and jewelry repairer, not more than 30 years of age. Must not be a gambler or sport. \$15 per week. N. R. Heath, Neodesha, Kans.

WANTED, first-class jewelry repairer and stone setter. Wm. Hiles, 613 Fourth St., Sioux City, Iowa.

GOOD watchmaker who can engrave, good appearance and moral. Kors Bros., Independence, Kans.

HELP WANTED

UNDER THIS HEADING THREE CENTS PER WORD

SALARY \$14 weekly to watchmaker or diamond setter and jeweler, promotion sure, position permanent and a cinch. A. E. Sipe, 8 Mooney Bldg., Buffalo, N. Y.

FIRST-CLASS watchmaker and engraver, with tools, good salesman and not afraid to work. \$18 per week to start. Full particulars, sample engraving and ref. first letter. Do not answer if you have not the required ability. Staats, Raynes & Adams, Clinton, Ind.

ALL-AROUND man, must be a good watchmaker, jewelry repairer and fair engraver. A steady job to the right man who can furnish good ref. as to honesty and sobriety; will pay all he is worth. Town 4000, on Mississippi River. Chas. Goodrich, Caruthersville, Mo.

WANTED, at once, a first-class watchmaker, engraver and salesman. \$100 per month to start, permanent position. Send samples of engraving, also refs. and age in first letter. Address, S. J. Rivoire, Monroe, La.

WATCHMAKER and plain engraver. We have latho and tools. Permanent position, \$12 to start. State exp. and refs. A. J. Potter, Lebanon, N. H.

FIRST-CLASS watchmaker, jeweler, engraver, must thoroughly understand railroad work, own tools, must be sober, married man preferred. \$18, a permanent position. Give ref. C. J. Keil, Clinton, Mo.

SECOND watchmaker, jeweler and good optician, by Sept. 20th. Salary, \$15 per week. Send photo. with ref. Will L. Fredeking, Hinton, W. Va.

WATCH and jewelry repairer, \$14. Permanent position. Ref. required. New York State. "C 33," care Keystone.

FIRST-CLASS letter and monogram engraver by Western jewelry factory. Don't answer unless you are fast, of good habits, have had exp. and thoroughly understand your business. "Y 44," care Keystone.

BY Oct. 1st, general man—optician, good clock and jewelry repairer; one who can engrave and wait on trade. Steady job for right man; will pay good salary. F. A. Marean, Belvidere, Illinois.

WATCHMAKER wanted, one who can do some engraving pref. \$20 to start for the right man. Board cost \$15 to \$18 per month. Address, with refs., Fred. Radebaugh, Cordele, Ga.

AT once, good repairer, stone-setter and manufacturing jeweler. State wages and refs. in first letter. Egermann & Son, 81 Fox Street, Aurora, Ill.

YOUNG man to assist on watches, repair jewelry, clocks, etc.; one who can engrave some pref. Must be willing to make himself generally useful and industrious. State exp., salary expected. Box 358, Charleston, W. Va.

FIRST-CLASS engraver who can repair clocks and jewelry. Ref. and particulars in first letter. Burtiss & O'Connor, Utica, N. Y.

FIRST-CLASS watchmaker and engraver. Must be first-class in both. Permanent position, good wages to right man. Ref. and particulars in first letter. Burtiss & O'Connor, Utica, N. Y.

SECOND watchmaker. Active young man to work on watches only and to assist as salesman. Permanent position. Answer with ref. and exp. Wages, \$14 to start. C. E. Snyder, 3711 Butler Street, Pittsburg, Pa.

AN A1 watch repairer, capable of doing railroad watch work. To such a man we will pay good wages and position permanent. "K 17," care Keystone.

ASSISTANT watchmaker and good engraver—a man that can assist in selling goods. State store exp., or other exp. if any. Wages according to ability. E. J. Niewohner, Columbus, Nebr.

YOUNG man, jeweler, who is good salesman. Cosley, 1107 Sixteenth Street, Denver, Colo.

YOUNG man that has made a start as a watchmaker, and is willing to work for low wages while learning. D. L. Brown, Sparta, Mich.

ASSISTANT watchmaker; must be good engraver and jewelry repairer. Good salary to reliable man. Ad., Box 724, Billings, Mont.

AT once, a first-class watchmaker, jeweler and engraver and good salesman. A steady job at \$20 per week. You must be sober, honest and industrious to please. J. H. Brooks, Fort Smith, Ark.

WATCHMAKER, one who can engrave and sell goods. Good salary and permanent position to right man. Must be a hustler—dead ones need not apply. Kraus & Sectors, 45 N. Illinois Street, Indianapolis, Ind.

I WANT watchmaker on plain work, able to size rings, plain engraver. Steady position wages, \$18 to \$20 per week. Paul N. Lackritz, 964 Milwaukee Ave., Chicago.

HELP WANTED

UNDER THIS HEADING THREE CENTS PER WORD

A BRIGHT young man of neat appearance to finish watchmakers' trade. A splendid chance for advancement. Must be well recommended and have had some exp. Albert Edholm, Sixteenth & Haney Sts., Omaha, Nebr.

OPTICIAN, young man; one who has exp. in fitting to work on percentage. City of 20,000. Business will have to be worked up; looks good—not worked much. "A 35," care Keystone.

REASONABLE watchmaker, jeweler and engraver at once. Send ref. and advise salary wanted. Good board at \$15. C. M. Adams, Dawson, Ga.

THREE first-class surface grinders wanted; good wages, short hours. Merry Optical Co., Kansas City, Mo.

OPTICIAN—Young man, having good shop exp., wanted by a New York wholesale optical house as clerk. Must be of neat appearance and know how to talk to customers. An energetic, capable man desired. Applicants are required to give their record. Communications strictly confidential. Address replies to "F 4," care Keystone.

AT once, first-class watchmaker; prefer one who can assist in engraving. Must be sober, industrious and capable; unmarried man pref. Give age and ref. in first letter. Permanent position and good salary to right party. Shelby S. Van Hoy, Jr., Shelbyville, Ky.

GOOD watchmaker and all-around man at once. Permanent position; wages, \$12 to \$16. Full particulars, with refs., in first letter. Box 260, Archbold, Ohio.

AT once, first-class watchmaker, engraver, jeweler and diamond-mount. Position pleasant and permanent; very fine, healthful climate. Have watch inspectorship of 4 roads, and pay good, rapid man that can do A1 work \$25 per week. Answer, giving full particulars in first letter, with refs. and samples of engraving. J. C. Robinson, Chester, S. C.

AT once, first-class watchmaker, \$18 per week; must be able to do railroad work; position pleasant and permanent; fine climate. Answer, enclosing refs. Must have tools. J. C. Robinson, Chester, South Carolina.

AT once, first-class engraver, diamond-mount and jewelry repairer, who can wait on trade and make self useful around store. Position pleasant and permanent. \$15 to start, with prospects of raise according to ability. Answer, giving refs. and sample of engraving. J. C. Robinson, Chester, S. C.

AT once, very thorough watchmaker, jeweler and engraver. Must be of good appearance and experienced in receiving work; good salesman, not afraid to work. \$20 per week; permanent position. Full particulars, sample engraving first letter. Do not answer if you have not the required ability. Married, German pref.; must be sober. S. H. Avey & Co., Auburn, Nebr.

AT once, first-class watchmaker and engraver. Full particulars and sample of engraving first letter. Manson & Bay, 310 E. Street, San Bernardino, Cal.

RAILROAD watchmaker, engraver; young, pleasing address; good salesman, stock-keeper. Fine opening for a hustler who is ambitious, where ability to bring results will be rewarded with advancement. \$18 to start. Photo, refs., sample engraving. Colorado. The Cornwell Jewelry Co., 222 N. Main Street, Pueblo, Colo.

AT once, man who can do first-class jewelry repairing, stone-setting and clock repairing. Give refs., state salary and all other information in first letter. Good wages and permanent position to right man. Single man pref. T. J. Ellis & Co., Jonesboro, Ark.

FIRST-CLASS optician, watchmaker, salesman. State wages expected; give refs. and general information first letter. E. H. Schaefer, Beaver Falls, Pa.

FIRST-CLASS watchmaker and engraver; all around, good; no bad habits. Permanent position. Full particulars, sample engraving and refs. first letter. State wages. S. Spitz, Santa Fe, N. M.

JEWELERS, who are good salesman, to take a traveling position. Address, "H 939," care Keystone.

MFG. jewelers, repairers, watchmaker and engraver, polisher and plater. James & Leart, 312 S. Broadway, Los Angeles, Cal.

LOCKMAKER wanted; one who is familiar with high-grade work. Address, with ref., J. E. Caldwell & Co., 902 Chestnut Street, Philadelphia.

AT once, a good watchmaker and jeweler, competent to repair railroad watches. Young man pref. Must have good ref. L. A. Faunce, 1314 N. Third Street, Harrisburg, Pa.

HELP WANTED

UNDER THIS HEADING THREE CENTS PER WORD

SALESMAN, with exp., wanted by a large retail jewelry house. Address, stating age, ref. and salary expected. "C 46," care Keystone.

FIRST-CLASS jewelry repairer. Hess & Culbertson Jewelry Company, Sixth and Locust Streets, St. Louis, Mo.

YOUNG man as watchmaker, jeweler and engraver at once. Send ref. and state salary wanted. Meyer & Schamber, Meridian, Miss.

A FIRST-CLASS high-grade watchmaker, who has had successful exp. in repairing watches for railroad inspection service. Give refs. and all information in first letter. Permanent position; \$25 a week or better. Address, "E 3," care Keystone.

AT once. Will give energetic, first-class watchmaker, engraver, optician and salesman besides salary, if reasonable, interest in business. Single, young man pref. Ability, energy and an eye for increasing earnings of business will bring the right man a partnership or interest. Give age, exp., state salary, send photo., ref. and sample of engraving in first letter. Otherwise no answer. "A 31," care Keystone.

AT once, watchmaker, engraver, salesman—all-around man. Salary, with interest in annual business, worth \$1200 a year at least. Single; send photo., ref., sample of engraving in first letter. "C 32," care Keystone.

WATCHMAKER, must be first-class and thorough workman, to repair all kinds of American and Swiss watches. Salary to start, \$30 a week. Apply to H. C. Abbott & Bro., Birmingham, Ala.

WATCHMAKER and engraver, and jeweler and engraver. Permanent position to competent men. Laehicotte & Co., Columbia, S. C.

WANTED

UNDER THIS HEADING THREE CENTS PER WORD

ANTIQU jewelry wanted. We are always ready to make cash offers on any antique jewelry containing mosaics, cameos, seed pearls, etc.; also filigree, enameled or etruscan jewelry, either all gold or set with diamonds or other stones. Chas. S. Crossman & Co., The "Old Mine" Diamond House, 3 Maiden Lane, New York. Established 1880.

WILL pay cash for good second-hand trial-case. Must be a bargain. E. J. Marcouiller, Oconto Falls, Wis.

SLIDE-REST, good condition, for W. W. No. 2 lathe. Clyde A. Lefler, 201 Windom, Peoria, Illinois.

WANTED, second-hand Hardy 20th Century ophthalmometer, in good condition. Must be cheap. Robt. H. Austin, Jacksboro, Texas.

GOOD location for jeweler; town 900; good room. Ad., F. M. Minshall, Mt. Victor, Ohio.

FRANCIS No. 3 engraving machine. Address, "B 38," care Keystone.

TO buy second-hand safe for jewelry store. State size, make and lowest cash price. Paul Stamsen, 80 Western Ave., Muskegon, Mich.

NO. 2 watch factory Whitcomb lathe, or corresponding size in Moseley. "B 20," care Keystone.

WILL exchange a manufacturing business in Chicago for a well-established retail jewelry business in the West. Manufacturing an article that sells. Big profits. Machinery and stock will invoice about \$4000. Address, "W. B.," room 1201 Heyworth Building, Chicago.

CHAMBERS-INSKEEP ophthalmometer. Must be in good condition. Give cash price. Wm. Davis, 360 W. Madison Street, Chicago, Ill.

18 SIZE key American movements. Give from 50 cents to \$1, each. 18 size Swiss movements, 25 cents, each. Second-hand movements of all kinds. Broadbent, 4 S. Forty-second Street, Philadelphia, Pa.

A GOOD second-hand microscope, cheap. Geo. Charters, Xenia, Ohio.

FOR SALE

UNDER THIS HEADING THREE CENTS PER WORD

STORES, STOCKS AND BUSINESSES

WELL- ESTABLISHED jewelry and optical business in Santa Clara Co., Cal. Nice fixtures, clean stock; pop. 2000. Reason, failing sight. "M 869," care Keystone.

ESTABLISHED jewelry and china store, also fixtures, situated in a good Ohio River mfg. and railroad city of about 10,000 pop. Cash required about \$5000. Bench work good. Ill health, reason for selling. Address, "N 964," care Keystone.

ON account of my age I wish to quit the jewelry business, and will sell on easy terms my stock of goods amounting to near \$1000, including fixtures. Good, lively town of 800 pop.; no competition. E. A. Sumner, Hope, Kans.

JEWELRY store in bustling North Dakota town of 700 inhabitants; good run of repair work and good trade. Will invoice about \$1500, with fixtures, but can reduce it to about \$1000. Must be all cash. This is worth investigating; do not write unless you mean business. "B 930," care Keystone.

(Continued on page 1634)

It Pays to Advertise in THE KEYSTONE

J. A. Elkins, of Indianapolis, Ind., advertised a test case for sale in the small-ad. department of THE KEYSTONE. The advertisement appeared in one issue and brought sixty-three answers and a quick sale, nine of the replies containing checks for full payment in advance. The same advertisement had previously appeared in two issues of another leading trade paper, and brought two answers and no sale.

FOR SALE

STORES, STOCKS AND BUSINESSES

(Continued from page 1633)

JEWELRY store and fixtures in Illinois town of 1800, yearly business, \$4500. Will sell at bargain. 22 miles to larger town. "K 8," care Keystone.

\$500 STOCK, railroad watch inspection of 200 men. Railroad shops and other factories. Terms to reliable party. H. A. Winn, Pembroke Arcade, Indianapolis, Ind.

IN Northwestern Indiana, jewelry, optical and music store, in thrifty agricultural town of 1500 pop.; competition very light, large scope of country to draw trade from, doing business from \$3000 to \$4000. Owner has other business. Will take \$2000 to \$2500 cash. This is no get-rich-quick business, but a dependable business, and will bear the closest investigation. Unless you have the cash and mean business do not answer. "G 24," care Keystone.

JEWELRY and optical business in Minnesota, county seat, 3500 population, first-class chance for one who wants good-paying business. Have other business that now requires my entire time and attention. Don't write unless you mean business, as I must sell at once. "A 23," care Keystone.

FINE stock jewelry and hand-painted china, invoice about \$1100, repair work and optics about \$125 per month. County seat town, 3030 pop. 1 other small stock here. Tyler & Enos, Oregon, Ill.

FINE opportunity for a wide-awake man. Come to the capital of North Dakota, the great wheat-growing state, raising nearly 1/4 of all the wheat raised in the U. S. I have for sale a good-paying jewelry and stationery business, established in 1883, building and stock or stock alone; will sell on easy terms; stock and fixtures between \$4000 and \$5000, can be reduced. Must sell on account of sickness. Send for particulars. C. H. Phelps, Bismarck, N. Dak.

OPENING in Central Iowa, town of 900, for a jeweler who is good workman and has some capital, to open a jeweler's stock. The best proposition to the right man. Address, Lock Box 118, Dexter, Iowa.

THE leading jewelry store in the world, renowned copper country of Northern Michigan. My stock and fixtures inventory \$20,000, but can be reduced. I have the leading store in the community and a lease running over 3 years on the very best location in the town. This is a splendid opportunity for a live, up-to-date man, in the best section of the U. S. F. C. Mayworm, Hancock, Mich.

ONLY jewelry stock in town, 1000 pop. Paul Hoberger, Gilmore City, Iowa.

STOCK of jewelry and fixtures located in Southern Iowa; will invoice about \$2000; good, growing business. Population 4500, "H 18," care Keystone.

AN old established jewelry store of 23 years, in a good town in Ohio of 3000 inhabitants and railroad shops. Will sell for cash at invoice price. Will give reasons and fuller description upon application. Ad., "H 7," care Keystone.

OLDEST jewelry store and factory, established over 30 years, invoice about \$7000, doing good business, sales about \$17,000 per annum. Best reasons for selling. Address, P. A. H., personal, Box 174, Denver, Colo.

FAILING health cause for selling out \$12,000 stock of watches and diamonds and loan business. Best city in Southwest, pop. 28,000, 1000 houses built last year. Stock can be reduced and discount on balance. An opportunity of a lifetime. Particulars, write at once. Joe H. Lindsey, agent, Fort Smith, Ark.

ABOUT \$4000 will buy building, stock and fixtures of jewelry store established 18 years, in prosperous Western town of 100,000. Last year's business \$10,000. Don't write except you mean business and have the money. Answer, "B 988," care Keystone.

CHICAGO jewelry store, good location, established 29 years. Owner wishes to retire. Stock, fixtures and material at present about \$4500. Will reduce to suit purchaser. Repairs \$175 per month. Good optical trade. Inquire of Henry Freund & Bro., 71 Nassau Street, New York City.

WHOLESALE watch and tool and material house (new) good will, etc.; on account of ill health. "S 45," care Keystone.

JEWELRY business—Are you looking for an AI business opportunity, it will pay you to investigate. Stock and fixtures about \$7500, best town in Washington state, population 10,000; don't write unless you have cash and mean business. Inclose stamp for answer. "J 43," care Keystone.

NEW ENGLAND town of 4500, very little competition, will clear \$2200 year profit; stock and fixtures \$2000, can reduce to \$1000, don't write unless you have cash. "C 41," care Keystone.

IT IS \$\$\$ for the one who closes deal with me for one of the best jewelry, music and optical stores in one of the best towns in Iowa; cash profits \$250 to \$350 month; must sell on account eyes failing; someone will get the business; worth your time to investigate at once; too busy to answer triflers, don't write unless you mean business. J. E. Williams, attorney, Waterloo, Iowa.

HIGH-GRADE jewelry stock and fixtures; compelled by ill health; fine location. H. McVay, Cornell, Ill.

FOR SALE

STORES, STOCKS AND BUSINESSES

FAILING health compels me to sell my jewelry business in fast growing city in the Indian Territory, 4000 inhabitants, this city will be the county seat; will take small farm as part trade, or will give good discount for all cash; am watch inspector for Frisco Railroad. For particulars address "P 40," care Keystone.

COLORADO—Up-to-date jewelry and optical business in best location, prosperous city of 35,000, established 18 years, fine tourist business, also holiday trade; watch inspector three roads; owner has other interests, wishes to retire. Address, "W 39," care Keystone.

JEWELRY and optical store in town of 3000, southern California. Box 277, Monrovia, Cal.

JEWELRY store in a thriving country town in California; good reason for selling. Apply, Carran & Green, 1510 Buchanan St., San Francisco, Cal.

IF you want to buy one of the best paying jewelry and optical business in the state at your own price, write Box 54, Le Roy, Minn.

JEWELRY and repair business, hustling Maine town, 3000 inhabitants; no opposition; write for particulars. "C 1," care Keystone.

HEALTH failing, must dispose of my jewelry and optical business, Bufton, Ind.; prettiest little city in the United States of 5000. Established 11 years; good farming and railroad community; good business. Invoice about \$4500; can reduce; terms cash. Don't write unless you mean business. "Jeweler," 105 N. Main Street, Bufton, Ind.

WING to the death of Amos W. Woodcock, the stock of jewelry, watches, clocks and silverware, fixtures, etc., will be sold. This is a fine opportunity to engage in a business that is well established in the best town in Maryland. For full particulars address, Samuel P. Woodcock, Salisbury, Md.

ONLY jewelry store in town of 2000 pop.; large country tributary. Stand closest investigation. "A 47," care Keystone.

ONE of the best-paying jewelry stores in Western New York. Inventories about \$2500. Must sell at once. "S 30," care Keystone.

JEWELRY store in town of 15,000; best stock in town and best trade; also railroad watch inspection. Stock will invoice about \$3500; good reason for selling. Just in time for holiday trade. No old goods—fixtures up to date. "M 29," care Keystone.

LEADING jewelry and optical business in fine Wisconsin town, 2500 pop. Good store, low rent; steam heat. Good, established business. Stock will invoice \$3000; fixtures \$600. "F 21," care Keystone.

A GOOD, established, paying, retail jewelry business, located in one of the famous resorts of the West, for sale on favorable terms to responsible party. This is an especial fine opportunity for a practical man. For particulars address, C. A. Kiger Company, wholesale jewelers, Kansas City, Mo.

YOU will have to hurry if you get in this. The best paying, best established jewelry business in Southwest Arkansas. Invoice \$5000; pop. 6000; 4 railroads. Business center of large area. Leading business in this section for 30 years. Have confidence of the people. Would like to sell to responsible party. Death of husband, cause of selling. Have limited time to close out. Now is the time for you to buy, as fall and winter is our best season. It will pay you to investigate. Mrs. S. W. White, Hope, Arkansas.

FOR SALE

UNDER THIS HEADING THREE CENTS PER WORD

MISCELLANEOUS MERCHANDISE AND EQUIPMENT

JEWELERS' regulator, 3-jar mercury pendulum; good timer. Cheap, write for particulars. W. M. Crawford, Lubbock, Texas.

LOT of KEYSTONES, jeweler's tools, new trial case (case only, no lenses), also a lot of spectacles. D. H. Leshner, Robins, Iowa.

"NEUROLOGY and Metaphysics," by McCormick. The International Correspondence School course in advertising in 2 bound volumes. "Ophthalmic Myology," by Savage. O. C. DeLong, Oneonta, N. Y.

14 VOLUMES of KEYSTONES, complete from 1890 to 1903 inclusive; also 10 numbers of 1889, 6 of 1888, 8 of 1887, 10 of 1886, a few of 1885—these are 8-page pink paper. Make me a bid. Geo. Charters, Xenia, Ohio.

ONE Francis engraving machine, No. 3, complete; 1 Webster-Whitecomb lathe, 1 Moseley lathe, 1 demagnetizer, 1 De Zeng's refractometer. H. A. Reed Estate, Greensburg, Pa.

\$25 FOR \$50 trial case in good shape—made by Johnston Optical Co. J. B. Kimball, Waukesha, Wis.

JEWELER'S safe, fire and burglar-proof. If interested, send for photos, dimensions and price. J. W. Spence, Racine, Wis.

SMITH Premier typewriter, \$50; B. & L. Little Gem lens drill and 1 extra splint diamond, \$25; Geneva prismometer, \$10; Geneva Retinoscope, \$10; 3 Geneva lens measures, each \$3; Loring ophthalmoscope, \$4. Kenney, 232 Genesee St., Utica, N. Y.

FOR SALE

MISCELLANEOUS MERCHANDISE AND EQUIPMENT

TWO 10-foot, one 11-foot and two 6-foot jewelers' counter cases, all 24 inches wide inside, 17 inches high outside, one-piece plate glass on tops, fronts and ends, mahogany mouldings, German mirror glass to doors, with open tables 26 1/2 inches high, pine, mahogany finish, each table fitted with two drawers; large cases \$50 each with table, small cases \$25 each with table; all in good condition. Green's Jewelry Store, Roanoke, Va.

MOSELEY lathe No. 2, \$20, perfect, complete; show cases, tools, fixtures, medicines, chemicals, extracts, drugs, at half price. Kimball's Drug & Jewelry Store, Stanberry, Mo.

ALL numbers of The Keystone for year of 1898 A to 1906, all in good condition. Best offer takes them. A. A. Hershberger, Jeweler, Shreve, Ohio.

SHIP'S chronometer, 1 M. I. Tobias, in fine condition, with box, etc., \$40; 1 Barwise, London, \$35. Enhans, 22 Maiden Lane, New York.

WATCHMAKERS' tools and materials, also small amount of jewelry, cheap, if taken at once. "D 15," care Keystone.

CHEAP, 2 Standard Optical Co.'s lens drills; 2 Creigleith stones on iron stands for power; 1 A. O. Co.'s factory lens cutter, 1 Standard Optical Co.'s lens-cutter, 1 electric buffing machine, 1 surface lens grinder, A. O. Co.'s make; 1 toric surface lens-grinder. Address, C. A. Hoffman, Minneapolis, Minn.

LARGE flat rollers, for power or hand, combination square and half-round rollers for power or hand, rotary blower and melting furnace and turning lathe. Walter Hulsick, 217 N. Sixth Street, St. Louis, Mo.

FOR SALE OR EXCHANGE

UNDER THIS HEADING THREE CENTS PER WORD

TO exchange for merchandise, valuable land; hustling suburb of large Eastern city, suitable for building lots, poultry farm or market garden. Right in town, with gas, town water, electric light, park, hard streets, concrete walks, brick gutters, etc. Also site for wharf for coal, lumber or factory on navigable stream. Clear value, \$9000. Will trade for goods, jewelry or kindred lines pref. W. E. Oliver, 418 National Ave., Milwaukee, Wis.

DEWINGTON typewriter for trialcase, ophthalmometer or optical books. Hansen, 668 Henry Street, Brooklyn, N. Y.

\$250 buys \$411.20 tools, material; time given; \$250 will trade for equity in silverware, clocks or watches; write for inventory. H. E. Lindsey, Kansas City, Mo.

MYSTERIOUS clock, 30-inch glass dial and hands; no works visible; great window attraction; best offer. Hatch, jeweler, Claremont, N. H.

REGULATOR, safe, cases, lathe, 8x10 camera; I want diamond, fine mall camera, or what have you? Box 562, Lanark, Ill.

STEREOPTICON—McIntosh binocular stereopticon with fine high pressure key, hose, pressure gage, etc.; will exchange for stamping press suitable for "uppress work." Address C. A. Hoffman, Minneapolis, Minn.

ONE of the best-paying jewelry businesses in Missouri. Sales, \$10,000; repairs, \$2000. Clean, up-to-date stock. Railroad inspector. Health compels change. Ad., C. W. Cameron, Poplar Bluff, Mo.

GENEVA retinoscope, like new, for anything I can use. What have you? A. L. Bolsta, Ortonville, Minn.

DIVETT faceplate, perfect and in perfect condition. Will exchange for optical goods. M. R. Brown, Addison, N. Y.

LARGE fire-proof safe. A. E. Anderson, Broken Bow, Nebr.

ONE self-playing electric piano, with attachment and 50 to 60 pieces of music, cost new \$750. Will trade for \$325 worth of watches, gold rings or diamonds or take \$325 cash. Address, Fred. F. Wollert, Centerville, Iowa.

SPECIAL NOTICES

UNDER THIS HEADING THREE CENTS PER WORD

THE Culman balance chuck when worn will be replaced for 25c. See ad., page 1552.

MONEY loaned to jewelers. Write for information. The Collateral Loan and Banking Co., 143 Euclid Avenue, Cleveland, Ohio.

GET the best balance staffs and jewels. Order direct from the makers; every one warranted. No student's work. Tarbox & Gordon, Omaha, Nebr.

WE pay highest spot cash price for old gold, filled or silver watch cases. Send us anything in that line, and if our offer is not satisfactory, we return the goods at our expense. Bank refs. Capital Jewelry Co. (not incorporated), 163 E. Randolph Street, Chicago.

SPECIAL NOTICES

BEWARE of second-hand Clement combined lathe attachments offered for sale. They are old models; they sell them to get our latest. See our ad. in this number. W. D. Clement, Waltham, Mass.

SOMETHING entirely new in the line of window decoration. Send 5 2-cent stamps for sample and postage. Address, The Window Exhibitor Company, 74 Cortlandt Street, New York.

EVERY watchmaker needs a Culman balance chuck. See ad., page 1552.

THE Clement combined lathe attachment, costs \$40. See page 1450. Fine, new, complete catalogue free.

HELP wanted? The Culman balance chuck will help you to work better, to work faster, to work easier. See ad., page 1552.

A RARE opportunity for a man with \$5000 and plenty of push to join a large mercantile company on the Pacific coast. Address, "M 36," care Keystone.

BUSINESS NOTICES

UNDER THIS HEADING THREE CENTS PER WORD

PHILADELPHIA'S finest and most complete workshop. Jewelry, watch case and watch movement repairing, engraving, diamond setting, mounting and special order work. Repair work returned promptly. B. Gelhard, 735 Sansom Street, Philadelphia.

THE Clement combined lathe attachment, costs \$40. See page 1450. Fine, new, complete catalogue free.

YOU are looking for a good reliable firm to do your watch work. Here is the place. W. K. Sandberg, watchmaker to the trade, 602 Columbus Memorial Building, Chicago.

WE make a specialty of changing old antique watch cases to stem-wind. Something that has been refused by others. Have had 40 years' exp. and can guarantee satisfaction. N. J. Felix, 18 John Street, New York.

NOTICE—I have moved from 727 Sansom Street to 807 Sansom Street, Philadelphia, where I will continue to buy all kinds of old gold and silver; also refine all kinds of jewelers' waste containing gold or silver. Send by mail or express and receive prompt attention. J. L. Clark. Established 1870.

THE Canton Watchmaking School, the first and only school which teaches practical watchmaking, adjustment to heat, cold, position, isochronism, rating of railroad watches to 4 seconds' position rate in 24-hour test run. We do not take students' time making models, tools, listening to lectures, etc., but give them the actual practice needed to make first-class watchmakers. Tools and material furnished gratis. Repairing for the trade. Send for booklet. 310 West Eighth Street, Canton, Ohio.

WANTED, every one desirous of improving themselves in watch work, jewelry work and engraving, to address Bradley Polytechnic Institute, Peoria, Ill., for one of their latest catalogs. A postal card will get it. See ad. on page 1447.

ELGIN Horological School, the oldest and most practical school for watchmakers. Send for catalogue to Elgin Horological School, Elgin, Ill.

WANTED, students to learn watchmaking, engraving and jewelry manufacturing. Position to graduates guaranteed. For terms and particulars address, Kansas City Polytechnic Institute, 1021 Grand Ave., Kansas City, Mo.

NAVAJO Indian silver bracelets. A great novelty. Each, 63c; dozen, \$7.50. E. C. Waring, Aztec, N. M.

DIAMONDS and old gold bought. Highest cash prices paid. B. Gelhard, 735 Sansom Street, Philadelphia.

IF you wish to retire from business, or have a surplus stock to dispose of, address the old reliable. We will send our buyer to any part of the United States to buy your entire jewelry stock or any part of same. We pay more by a great deal than any auctioneer can, as we are retailing the goods to the trade. Capital Jewelry Co. (not incorporated), room 74, 163 E. Randolph Street, Chicago.

THE Omaha Watch Repairing, Engraving and Optical Institute is an institution for young men and is the best equipped school in the country. It enjoys a reputation for giving the best possible course of instruction and training to its students and offering facilities unsurpassed by any other institute of its kind. The instructors are thorough and capable in each department. The demand for competent workmen is greater than it has been at any time in our experience for more than twenty years. To those who wish to be convinced we have the facts to "show you." Write for particulars. Dr. Tarbox & Gordon.

Too Late for Classification

HELP WANTED.—First-class engraver, jewelry repairer and diamond setter, with experience. Well recommended. Send samples engraving. Steady job. Good wages. W. J. Lukens, 1314 Market Street, Wheeling, W. Va.

HELP WANTED.—First-class diamond setter and also two good jobbing jewelers. E. Maritz Jewelry Mfg. Co., 217 N. Sixth Street, St. Louis, Mo.

Too Late for Classification

HELP WANTED.—At once, watch, clock, jewelry repairer, engraver. Wait on trade. Position permanent. \$15 to \$18 week. H. W. Wood, Haverhill, Mass.

HELP WANTED.—Watchmaker, jeweler and clock repairer, plain engraver pref., to work in town 1800. Must own tools and have good ref. State salary expected. J. M. Wynne, Cochran, Ga.

HELP WANTED.—At once, young man, as assistant watchmaker and jeweler, graduate optician pref. State wages wanted, ref. in first letter. Blumenthal & Becker, Murfreesboro, Tenn.

HELP WANTED.—At once, man who can do first-class jewelry repairing and stone setting, clock repairing. Good ref. required. State salary. Permanent position to right party. Address, P. O. box 758, Kansas City, Mo.

HELP WANTED.—Watchmaker, salesman to work in pawn shop. Must be first-class salesman. Send ref. with application. Steady job, \$25 week. Must be sober, steady; good man—no other need apply. Rosentfield, box 276, Albuquerque, N. M.

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Write at once for the most liberal offer ever made for securing patents, designs and trademarks. Send sketch for free opinion as to patentability and ask for the "Inventors' Guide," the finest book published for inventors. Best reference. Established 20 years.

W.M. N. MOORE

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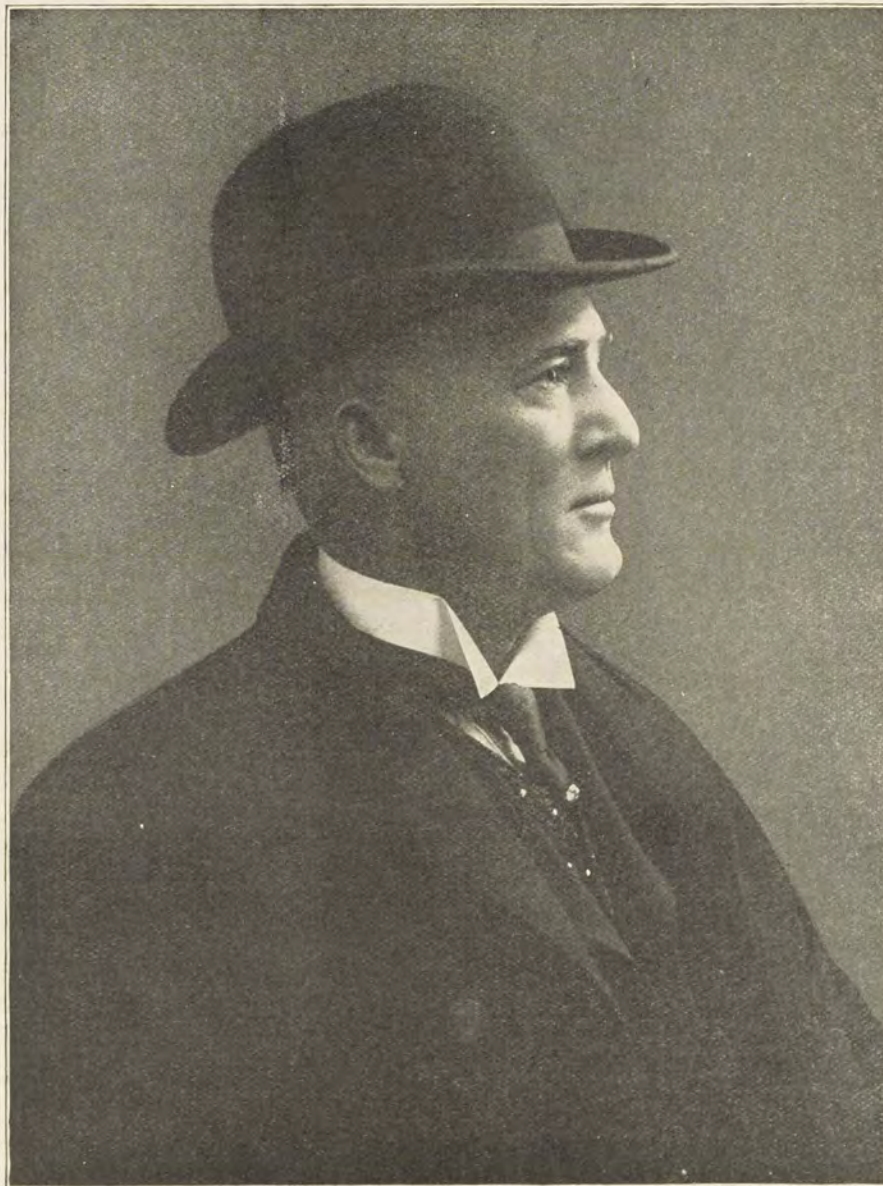
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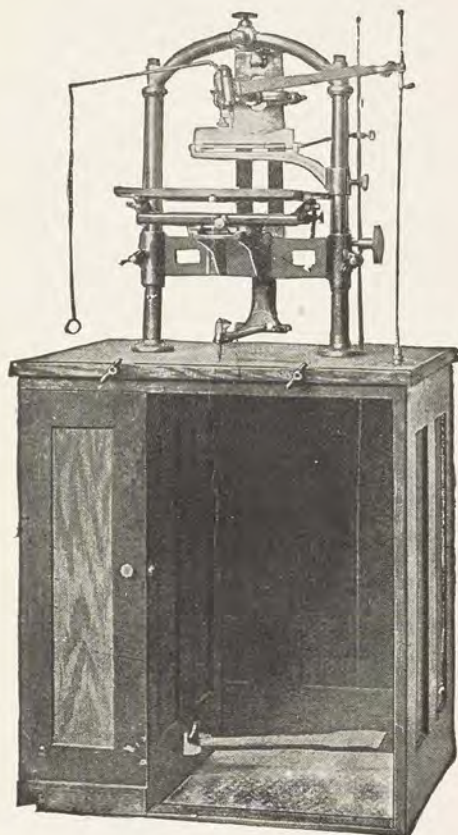
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