

The KEYSTONE

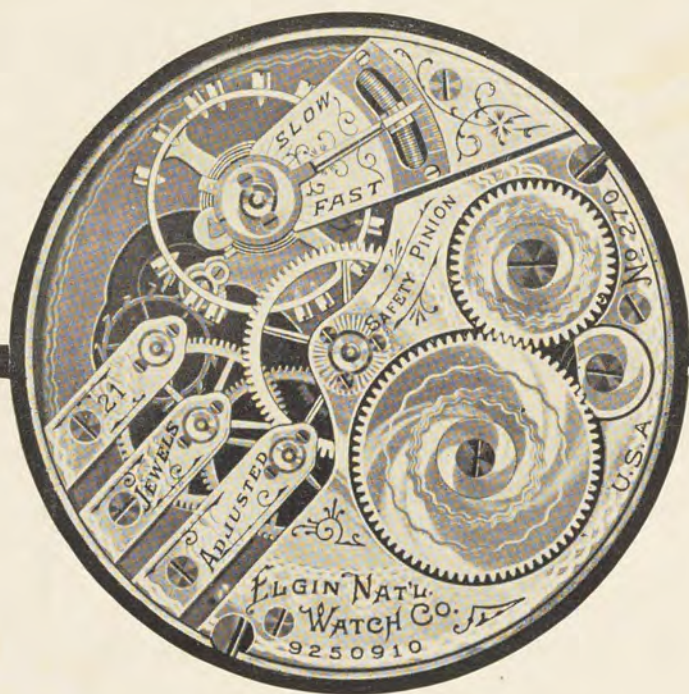
The ORGAN of the JEWELRY & OPTICAL TRADES



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BY B. THORPE PUBLISHER
19TH & BROWN STS PHILA.

Vol. 26 August, 1905 No. 8





Movements that MOVE from the Dealer to the Customer

Many millions of Elgin Watches have passed over the counters of the jewelers of America. By their reliability and accurate performance, those watches are busy making more customers for Elgins and for you. The demand for

ELGIN WATCHES

is to-day greater than ever and still growing. Get your share of the Elgin business.

See Jobbers' List for prices or write the Company.

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

ELGIN NATIONAL WATCH COMPANY,

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

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

F&B.



ALPINE VIOLET

Another of our new patterns for this season.

Our new catalogue shows all the pieces and sets.

We offer an especially attractive line of Chains, Locketts, Brooches, Bracelets, Bar Pins, Scarf Pins, Hat Pins, Waist Pins and Sets, Cuff

Buttons, Crosses, Earrings, Necklaces and Hair Chain Mountings.

Our catalogue describes all of these, and every Jeweler should have a copy. If you have not received one, ask us to send one to you.

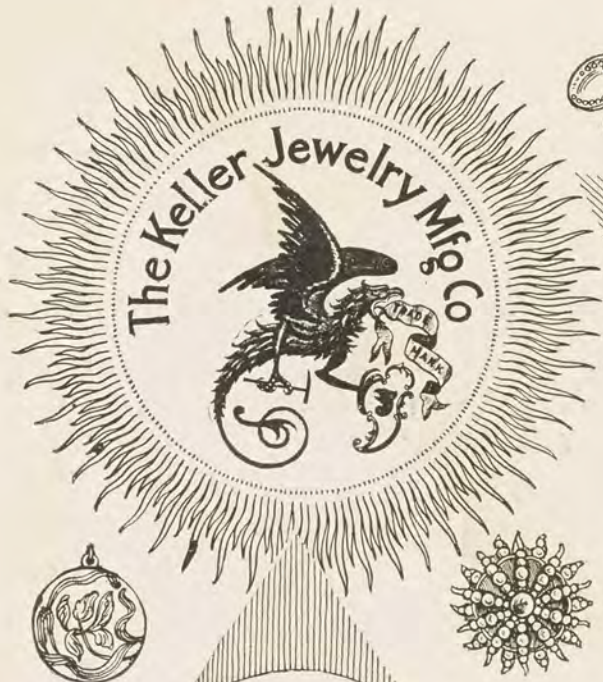


Theodore W. Foster & Bro. Co.

MANUFACTURING JEWELERS AND SILVERSMITHS

100 Richmond Street, Providence, R. I.

Traveling Force of The Keller Jewelry Mfg. Co.



JOHN F. GARLAND



HENRY M. ABRAMS



SAM. A. SCHREIBER



BENJ. J. BLAKNEY



JACOB C. LUDEN



STEVE SMITH



JOHN S. BRAUDE

The territory covered by our representatives is as follows:

JOHN F. GARLAND—Western States and Special Traveling Commissioner
 HENRY M. ABRAMS—Pacific Coast States
 SAM. A. SCHREIBER—Southern States, Texas, Indian Territory and Oklahoma
 BENJ. J. BLAKNEY—Pennsylvania and New York State
 JACOB C. LUDEN—South and New England States
 STEVE SMITH—Nebraska, Kansas and Missouri
 JOHN S. BRAUDE—Western States

Our representative in your territory will soon call on you with the most attractive and salable line of gold jewelry ever shown in your store. Wait for his visit, or write us.

The Keller Jewelry Mfg. Co.
 64 Nassau St., New York
 FACTORY, NEWARK, N. J.



Right Goods

sold at

Right Prices

in

Right Ways

The kinds of Watches and Chains you ought to sell, at prices that ought to sell them.

The Non-Retailing Co.

Jobbers in

Watches and Chains

Lancaster, Pa.



This watch is the result of a proposition made at a Canadian Horological Institute banquet by the Canadian representative of a large American Watch Company

The Man Behind the Gun

The best in every instrument or machine cannot be brought out unless the man behind it is equal to the task. This is equally true of all enterprises, and, not to forget, of schools, too. The man in whom the control is centered must have the capacity, and make the opportunities, if you will, to bring out the best in that enterprise, otherwise some degree of mediocrity, if not downright failure, is bound to result. Building, equipment and money alone combined will not do it. To attain the best results of the various advantages and to conquer the various disadvantages under which every school is bound to labor, requires a man fitted for the purpose and free to act.

Now, right here is the keynote as to why it is that *this* school holds *the* reputation. Under the *full* control of a practical watchmaker of twenty-five years' experience, *who knows* what is wanted and is keen on carrying it out. Whose *one work* in the world for the past fifteen years is **The C. H. I.**—who is bound to see it brought to the position in which he has mentally pictured it, and, you may be sure, no trustees are going to "butt in" to checkmate his best endeavors. The Superior School is right

here and because it is here is the one and only reason that could induce us to say so, and to invite young men to place themselves under our tuition on the strength of it and of it alone. It is to be understood that we appeal only to honorable young men, who wish to work and to advance themselves to the very best of their ability, and whose hearts are in their work. We teach horology only.

**The full course is two years. The shortest improver's term is six months
The new term begins 5th of September. Send for circular and do it now**

CANADIAN HOROLOGICAL INSTITUTE

H. R. PLAYTNER, Director

115 to 121 East King Street, Toronto, Ont.

HEADWAY

in the jewelry business is made by making use of the best facilities offered.

Our prompt, efficient and careful service in handling your material orders costs you no more than the careless, half-hearted method which is the rule with concerns who make a small department of this line. And the satisfaction to you is a big gain in every way.

The line of American Material is now so large that only an ample stock and large experience such as ours can be depended upon to fill your orders successfully, with promptness and including every item ordered.

Send us a Trial Order and we'll prove that we can please.



BALANCE STAFFS

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



BALANCE JEWELS

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

All above prices subject to 6% discount for cash

Besides the above we carry Balance Jewels and Staffs for practically every American Watch in Genuine Factory, E. & J. S. and Eagle Brand. E. & J. S. Staffs and Balance Jewels may be ordered by pivot size if you wish, for we carry a complete stock in separate pivot numbers.

OUR NEW CATALOGUE

will be out about October 1st—the finest and most complete book of Jewelers' Supplies ever printed. Ask for it now and we will send it when published free of charge, if you are in our territory.

E. & J. SWIGART, Cincinnati, Ohio



A FACT

That we buy more old gold and silver than any other Refiner in the country, because we give prompt and accurate valuations, also return consignment at our expense if our valuation should prove unsatisfactory. Is it not

WORTH

your while to make us a trial consignment? Remember you run no risks. It is the same as if you were selling your old gold, etc., over your counter. It is *no sale* unless you are satisfied. Shipment will be returned to you in exactly same condition as received. We make returns for sweepings within five days of receipt.

KNOWING

that every jeweler has some old gold and silver to dispose of at some time or other, why not collect what you have and convert it into CASH. Most anyone can offer you 4 cents per karat. But the first requisite is the correct and proper valuation. *This* we know we give you. A trial will convince you.

GOLDSMITH BROS.

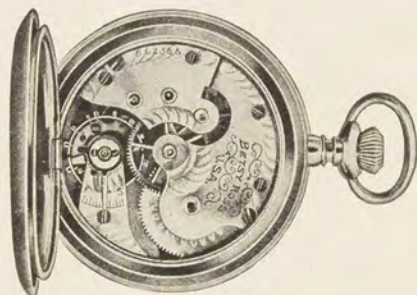
SMELTERS, REFINERS AND ASSAYERS

Works :
59th & Throop Streets

Office, 63 Washington St., **Chicago, Ill.**

WE ARE PAYING 50 CENTS PER OUNCE FOR OLD SILVER

The



“Betsy Ross”

is a 7-jeweled, nickel, pendant-set, O size Movement, of highest grade (American make) in a Boss 20-year Filled Case.

This Watch surpasses all other Complete O size 7-jeweled, 20-year products, in all-around merit and attractiveness. It stands in a class by itself.



Birthplace of the American Flag, 239 Arch Street, Philadelphia, where *Betsy Ross* made the first flag, under the personal direction of George Washington.

This old house has become the Mecca of patriotic sight-seers from all parts of the country, and 950,000 persons are now members of the “Betsy Ross Association.”

The “Betsy Ross” is sold only as a Complete Watch. They are now in the hands of jobbers. Ask them for samples and prices.

The Keystone Watch Case Co.

19th and Brown Sts., Philadelphia



Swartchild & Company

ESTABLISHED 1870

WATCHMAKERS' AND JEWELERS' SUPPLIES

Jewelers' Building, 134-138 Wabash Ave.

CHICAGO

Our 700-page Catalogue sent free upon application



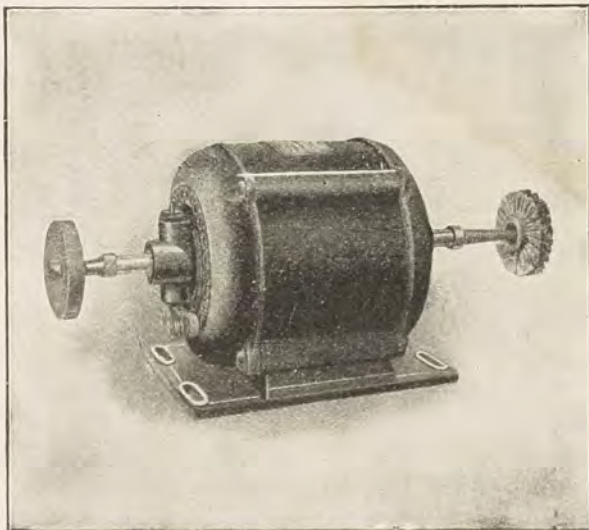
ECONOMICAL
NOISELESS

ELECTRIC POLISHING LATHES

POWERFUL
SPEEDY

For Both DIRECT and ALTERNATING Currents

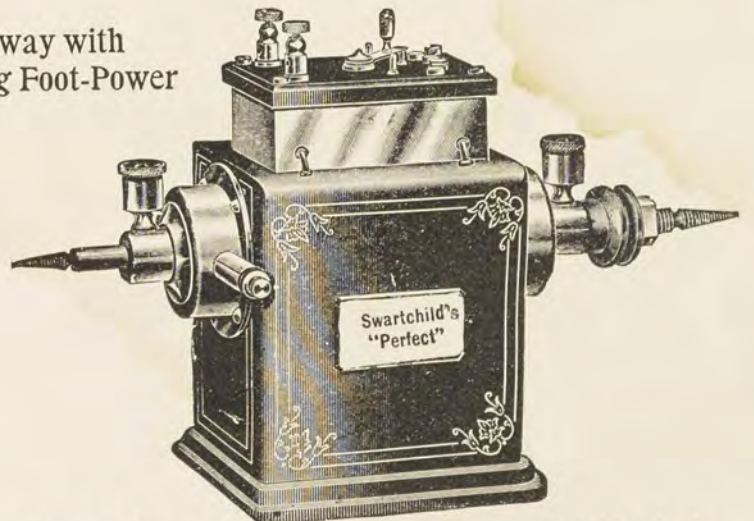
Our Electric Polishing Heads represent the highest development in the operation of such apparatus, and embody all the essential features necessary for strictly high-grade, efficient and durable machines. The workmanship, material and design are of the highest class; all parts being made with great care and accuracy. They are extremely well finished in dark enamel, which, in contrast to the lacquered brass and polished steel parts, produces a very pleasing effect upon the eye.



No. J 362. "Our Perfect" Alternating-Current Polishing Lathe
Price, \$29.00

Size: Base of Motor, 7 3/4 x 5 3/4 inches. Height of Motor, 6 3/4 inches.
From end to end of Mandrils, 19 inches.

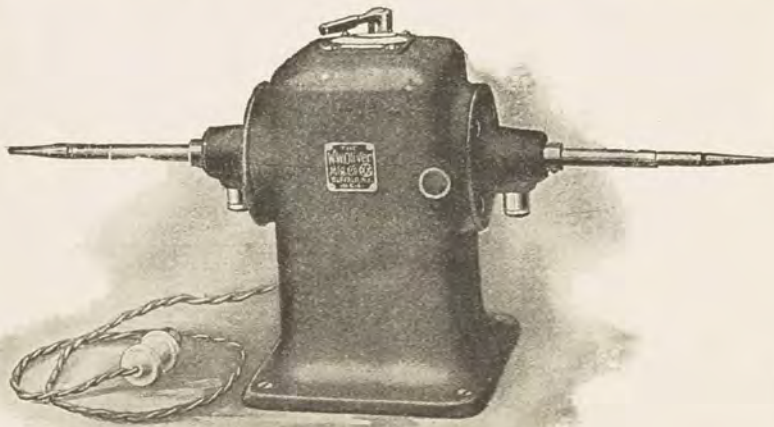
Do away with
Drudging Foot-Power



No. J 362 1/2. "Our Perfect" Direct-Current Polishing Lathe
Price, \$29.00

Size: Base of Motor, 6 1/4 x 5 1/4 inches. Height of Motor, 9 inches.
From end to end of Mandrils, 19 inches.

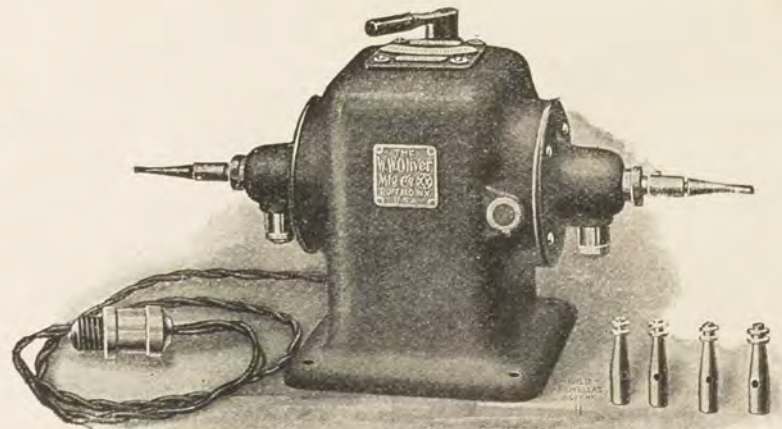
Cost of running that of an ordinary incandescent lamp. In ordering, state voltage, for which current, and if alternating, how many alternations



Oliver Electric Polishing Lathe, 1/4 Horse-Power

No.	Volts	Approximate R. P. M.	Net Weight	Boxed	Current	Price
J 365	110	3000	60 lbs.	85 lbs.	Direct	\$60.00
J 366	220	3000	60 lbs.	85 "	Direct	65.00

Base, 8 1/4 x 8 3/4 inches. Height to center of spindle, 8 inches. Total height, 13 inches. Length of spindle, including tips, 24 inches. Bearings, 3/8 inches diameter by 1 1/2 inches long. Wearing surface of commutator, 1 5/8 inches diameter by 3/4 inches long.



Oliver Electric Polishing Lathe, 1-5 Horse-Power

No.	Volts	Approximate R. P. M.	Net Weight	Boxed	Current	Price
J 367	110	2500 and 3500	47 lbs.	60 lbs.	Direct	\$40.00
J 368	220	2500 " 3500	47 lbs.	60 "	Direct	45.00

Base, 7 1/2 x 7 1/2 inches. Height to center of spindle, 5 inches. Total height, 9 1/2 inches. Length of spindle without chucks, 14 inches. Bearings, 1/2 inch diameter by 1 1/4 inches long. Wearing surface of commutators, 1 1/2 inches diameter by 1/8 inches long.

We are Agents for Eaton & Glover New Century Engraving Machines and W. W. Oliver Mfg. Co.'s Jeweler's Machinery. On exhibition and demonstration in our salesrooms. Special Catalogue and Prices will be sent upon application



Design from Catalogue Copyrighted 1891

We illustrate above an Elk head, reproduced from a photograph with the compliments of Mr. Hagenbach, the world's greatest animal owner, of Berlin, Germany. This was taken in 1891 and is a photograph of Mr. Hagenbach's prize Elk and is considered the most perfect Elk in the world.

After great pains and a great deal of expense, we reproduced this in the shape of an Elk emblem. Animal experts and artists have pronounced our reproduction of the above head to be **the most perfect likeness of an Elk ever put on the market.**

We have shown these buttons to numerous officials of the Benevolent Protective Order of Elks and they are all loud in their praises, and claim it to be **absolutely the finest article of its kind** ever placed before the members of the order.

Its realism, **fidelity to nature, artistic execution, admirable adaption to all forms of Elk jewelry cannot be disputed.** This and every feature combines to place it emphatically far in the lead of all articles of this class.

All jewelers should take cognizance of these facts. Any who have not yet seen our Elk head should note the above cut.

This is a day of specialists, and it is only natural to conclude that a person giving time and thought and gaining experience in a given line should become more proficient and able to accomplish that which he sets out to do, in a better way than one less experienced.

"In a nutshell," that defines our position regarding the manufacture of Elk goods. We are the **originators** of Elk jewelry and are to-day by far the **largest manufacturers** of jewelry of this description in the world.

In case your jobber does not carry the above head, write us for a selection. We at all times carry a large stock of these goods as well as hundreds of **different styles** of Elk heads and emblems of all orders, which are at the disposal of the trade. Our new 1906 Catalogue will be ready for distribution about the 15th of August. Should you not receive one by this date, drop us a line.

THE GUSTAVE FOX CO.

14-16 East Fourth Street, Cincinnati, Ohio

Branches in Antwerp and San Francisco

REPRESENTATIVES

Arthur A. Spiegel
Leonard James Foy

Bert Ganz
Lester Gabrielle

Lawrence Scooler
Felix Sattler

ROTHSCHILD & HADENFELDT
San Francisco
PACIFIC COAST AGENTS

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

MAX KOHNER

Importer and
Wholesale Dealer

11 North Charles Street
Baltimore, Md.

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

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

YOU USE

GOLD ALLOY SHOT COPPER

WE MAKE

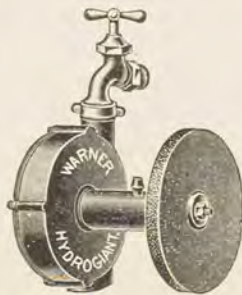
AMERICAN OIL & SUPPLY CO.

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

Importers of Hessian Sand Crucibles.

Dealers in Everything for the Manufacturing Jeweler

GET ACQUAINTED WITH US. SEND FOR CATALOGUE



All Jewelers will be interested in our

"Hydrogiant"

A handsome, noiseless, hydraulic motor, which attaches directly to **any water faucet**, smooth or threaded. This motor is **ball-bearing throughout**, very speedy, and serviceable at low water pressures. We carry a full line of attachments for same, such as emery wheels, grindstones, leather, felt or cotton buffing and polishing wheels, silver and steel polishing compositions, brass taper spindles, pulleys, bottle washers, etc. Invaluable to Jewelers, Dentists and Machinists. Enameled a dark claret color, with solid brass trimmings. Power, 1-16 to $\frac{1}{2}$ horse-power. Price, with pulley wheel, **\$5.00**, absolutely guaranteed by us.

Our "**Arctic**" 7" Stand Water Motor, with $1\frac{1}{2}$ or 3" transmission pulley, will run any kind of light machinery or apparatus requiring not more than $\frac{1}{4}$ horse-power. Price, with pulley, **\$8.50**.

Our "**Little Wonder**" Motor outfit is the only good sharpening and polishing outfit at a reasonable price on the market. Indispensable everywhere for sharpening cutlery and tools, **polishing silverware** and metals, running light machinery. Motor, emery wheel, two buffing and polishing wheels, pulley wheel and silver and steel polishing compositions, packed in neat wooden box, **complete, \$4.00**.

We also make a line of splendid **WATER FANS**, and motors up to 10 horse-power. Special inducements made to the trade. Write us, for we have just what you want.

WARNER MOTOR CO., Dept. 26

Flatiron Bldg.

New York City



AUGUST, WE ARE BLESSED WITH MOSQUITOS AND FLIES, INVADING OUR HOMES, OUR BEDS AND PIES.

IF THEY TICKLE YOU MUCH, SHOO THEM OFF WITHOUT FUSS, YOU'LL BE "TICKLED" ENOUGH WHEN YOU PATRONIZE US.

The success of the sale of our **Signet Rings** has induced us to manufacture other jewelry on the same lines, such as brooches, scarf pins, hat pins, etc. Memo. orders solicited. **Our fall line is ready.**

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

L. Witsenhausen
47-49 Maiden Lane
New York

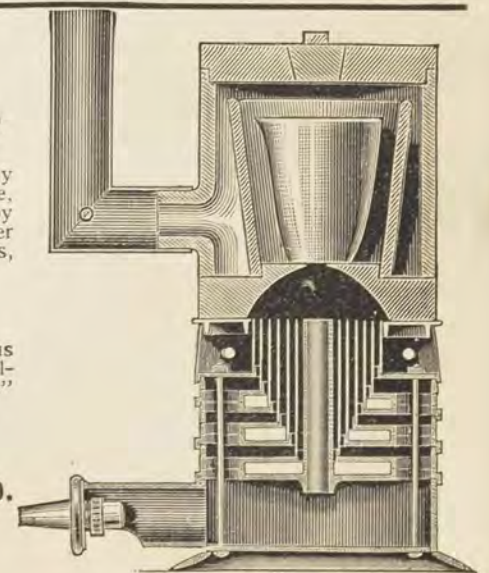
Bench Gas Furnace

For melting gold or silver in any quantity up to 6 lbs. Size of crucible, $2\frac{1}{4}$ inches by 4 inches. Operated by draft; requires no attention after lighting. Burns illuminating gas, gasoline gas or natural gas.

Price, **\$16.00**

This is only one of the numerous appliances of interest to jewelers illustrated in our Catalogue "B-K." MAY WE MAIL YOU A COPY?

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

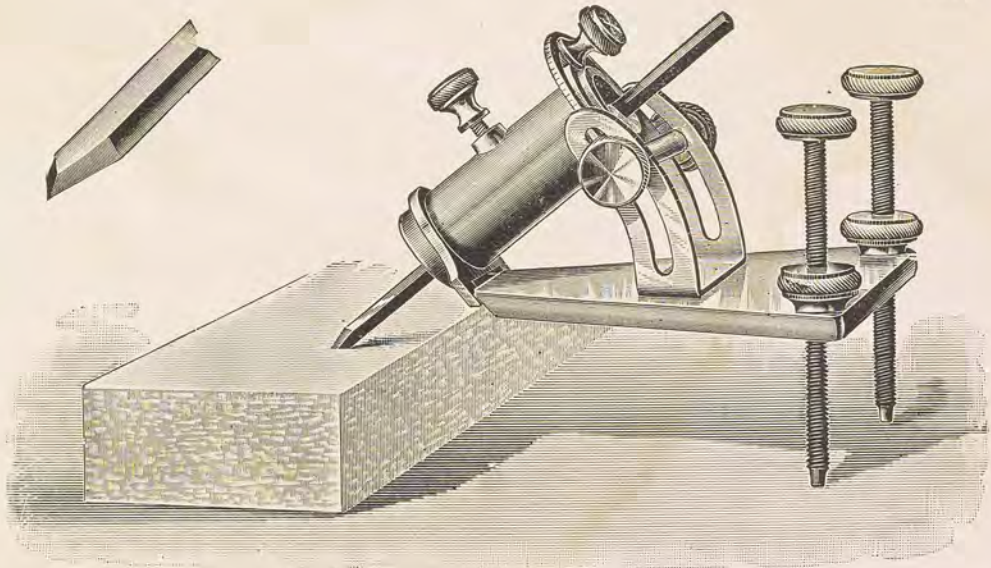


Vernier Graver Sharpener and Drill Holder Attachment

Most practical and simple Graver Sharpener in the market

Complete with Stone and Drill Holder

\$3.00



Nearly every jeweler and watchmaker has attempted to engrave, and nine-tenths of them have failed because they were unable to sharpen their gravers properly. With the aid of the **Vernier Graver Sharpener** hundreds of those who have attempted engraving and failed, and thousands who have never had any experience in the work may become very good and perhaps first-class engravers, as any mechanic may learn to engrave in a very short time with gravers properly sharpened.

Particular attention is called to the advantage of the gravers being ground and sharpened crosswise, instead of lengthwise, as is done by hand or other graver sharpeners. Anyone of experience knows that by grinding the graver lengthwise, fine lines are made on the face of them by the stone, which must be removed by polishing before a smooth, bright cut can be made. By the time these lines are removed by polishing, the point of the graver is usually rounded up so that the graver will likely slip on making the first cut. With the Vernier Graver Sharpener this is entirely avoided, and very little polishing is required to fit the graver for making perfect bright cuts, as their being held in perfect position, and the grinding being done crosswise, as illustrated in the accompanying cut, the lines made by the stone need not necessarily be entirely removed, because they act as a burnisher.

UNIFORM BEVELS. By an ingenious device, as shown in cut, the tool may be shifted to the reverse side after one side of the graver is sharpened, and the correct angle obtained while sharpening each side, without resetting the graver in the sharpener.

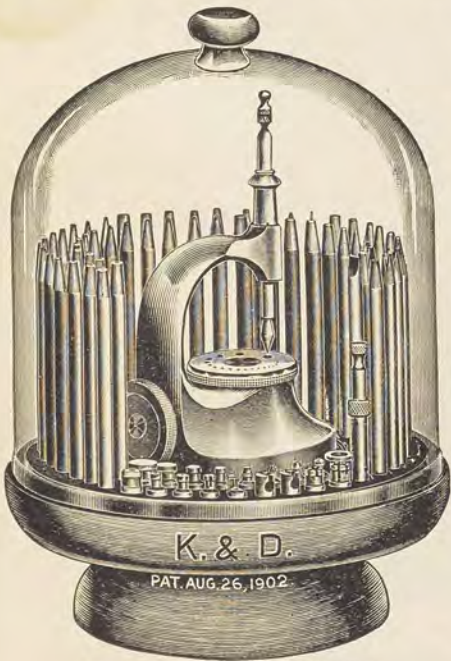
DRILL HOLDER ATTACHMENT

A Drill Holder Attachment, which is included, makes it specially valuable to watch repairers as well as engravers.



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

IMPROVED STAKING TOOL WITH NEW FRICTION SLEEVE



No. 12. 100 Punches, 24 Stumps
No. 13. 76 Punches, 20 Stumps
No. 14. 60 Punches, 18 Stumps

The highest degree of perfection yet attained in staking tool improvement is found in the new K. & D. tool shown in the accompanying illustration. The most notable new feature is the

FRICTION SLEEVE

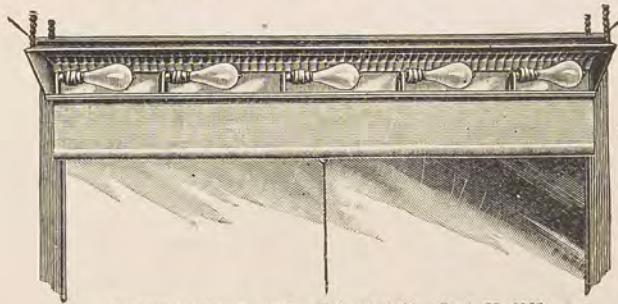
for holding the punches up while placing and removing parts of watches from the die.

This tool has also a new device for tightening the die in position, consisting of an adjustable bolt and double-bearing cam.

These improvements completely obviate vibration or displacement and thoroughly safeguard watch parts while in the die.

Kendrick & Davis, Lebanon, N. H.

YOU ARE INTERESTED



Patented April 20, 1897. Feb. 21, 1899. Sept. 29, 1903

In Frink's Special Patent Window Reflector

Because it offers the only thoroughly satisfactory method of lighting your store windows. It is built of metal, lined with silver corrugated glass set on scientific angles, so that all the light is thrown on the goods displayed; yet concealed from the sidewalk. The successful experience of hundreds of merchants should be a guarantee that Frink Reflectors are needed by you.

Some Stores We Have Lighted

- | | |
|---|--|
| Littles, New York
Jno. C. Pierik, Springfield, Ill.
Theo. A. Kohn, New York
Shaw & Berry Co., Washington, D. C.
J. Ehrlich's Sons, New York
Simons & Co., New Haven, Conn.
Wm. Barthman, New York | Lambert, New York
E. P. Sundberg, Fargo, N. Dak.
Schwartz Bros., New York
J. S. Lewis & Co., Ogden, Utah
Marcus & Co., New York
Bancroft Bros., Columbus, Ohio
Collamore's, New York |
|---|--|

Catalogue No. 45 shows our line for stores

I. P. FRINK, 551 Pearl Street, New York

L. LELONG & BROTHER

Gold and Silver REFINERS, ASSAYERS and
SWEEP SMELTERS



BULLION SOLICITED
SMELTING FOR THE TRADE
SWEEPINGS OUR SPECIALTY

Prompt attention given to
Old Gold and Silver forwarded to us
by mail or express
Southwest Corner
Halsey and Marshall Sts.
Newark, N. J.

Perpetual Trembler Scarf Pins and Brooches

are not only rapid sellers, but attract buyers of other goods.

They are always in motion and people will stop to "Wonder Why."

Order through your jobber, or send for catalogue and names of nearest jobbers, to

PERPETUAL TREMBLER

Elmwood Station

Providence, R. I.



SAMS' FLUX
is the best for hard soldering

SAMS' SAFETY BLOWPIPE OUTFIT FOR JEWELERS

The original Sams'—Greatly improved
FOR SALE BY ALL JOBBERS

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

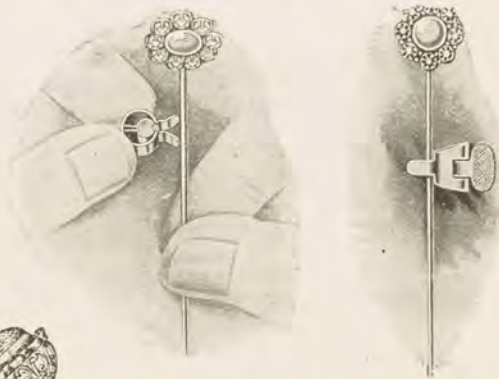
Metal Specialties Mfg. Co.
(Sole Mfrs.)
18-24 W. Randolph St., CHICAGO



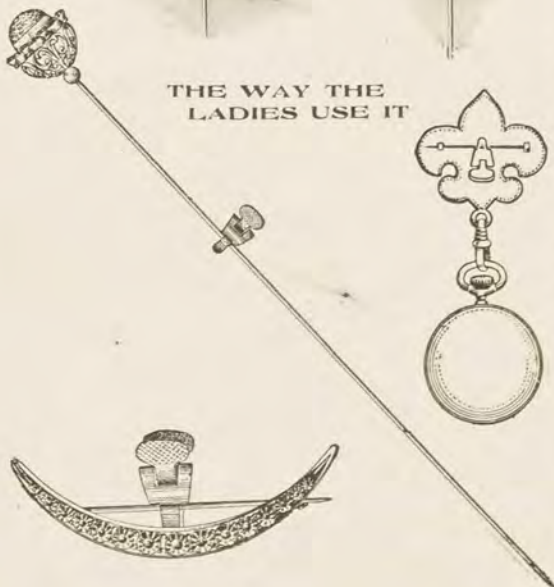
Generator. Size 8 1/2" high, 5 1/2" diam.

THE NOBS SAFETY CATCH

THE WAY THE MEN USE IT
OPEN CLOSED



THE WAY THE LADIES USE IT



Will a customer feel satisfied with his purchase after he has lost his pin? **NO.**

And he tells his friends why he is not satisfied. Does this mean sales to you? **NO.**

But with a **NOBS SAFETY CATCH, YES.**

Did you ever stop to consider that it encourages a customer to buy a scarf pin, brooch or valuable pin when he or she can insure it against loss from accident or theft, by purchasing a **NOBS SAFETY CATCH**? It is safe to predict that with this simple and inexpensive device you will increase your sales. The simplicity of this device, which requires only a pinch to put it on, and the same to remove it, bears out our argument in favor of the **NOBS SAFETY CATCH**. Your customer will no longer say: "I am afraid of losing my pin," when shown the **NOBS SAFETY CATCH**.



THE NOBS SAFETY CATCH. Pat. June 27, 1904
Prevents loss by accident or theft

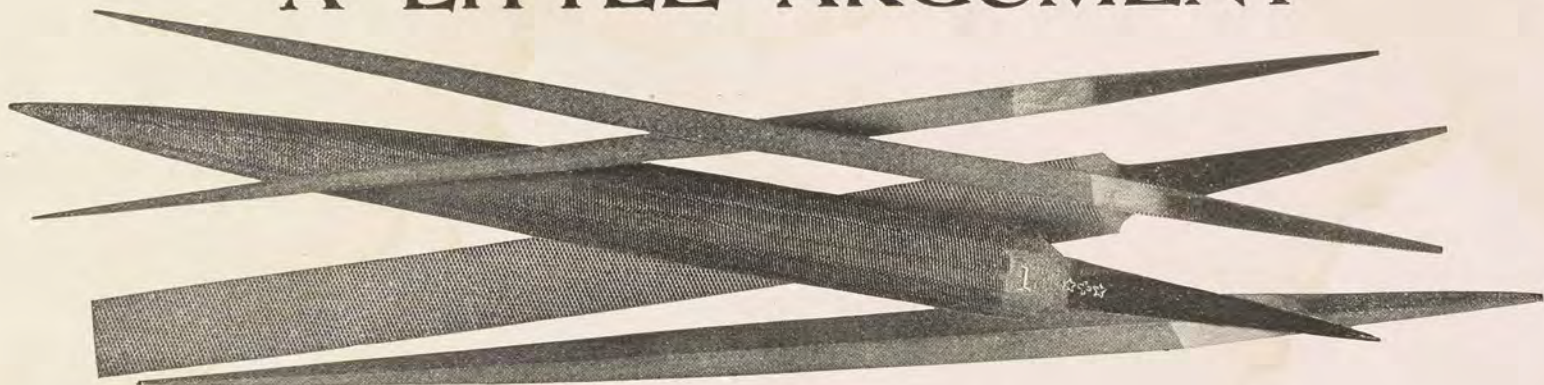
THIS IS IT **ACTUAL SIZE**
Price, \$1.50 per dozen

THE LEDOS MFG. CO., 34-36 Pearl St., NEWARK, N. J., U.S.A.

Manufacturers of Watch Case Materials and Jewelers' Findings

A LITTLE ARGUMENT

1215



FILES? Yes, but—

"Only the best are good enough"—for—

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

Ever tried "AMERICAN SWISS"—No?—

Then kindly send for Price-List and Samples.

No charge for Files used in trying them.

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

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

QUALITY? A trial will tell.

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

MADE WHERE?—Elizabeth, N. J., U.S.A.

BY WHOM? American Swiss File & Tool Co.

Enufsed?

OH! DELIVERY?—Prompt by

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

PLATINUM

Special Sheet and Wire for Jewelers
Seamless Tubing

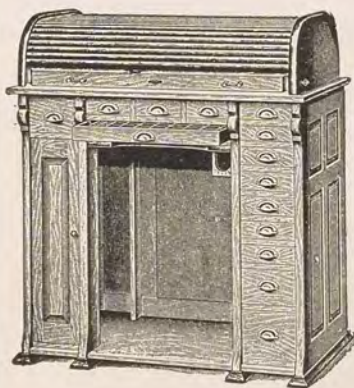
Platinum Scrap Bought
at
Highest Price

BELAIS & COHN

Metallurgists

13 Dutch St.

NEW YORK



OUR LATEST BENCH No. 10
Made in Oak, Walnut and Birch; Mahogany Finish

WATCHMAKERS SHOULD KNOW

That all our benches are made with three-ply panels. These panels are perfectly straight, and remain so. They are so strong that it is almost impossible to break them. They never split, as one thickness of the wood runs crosswise.

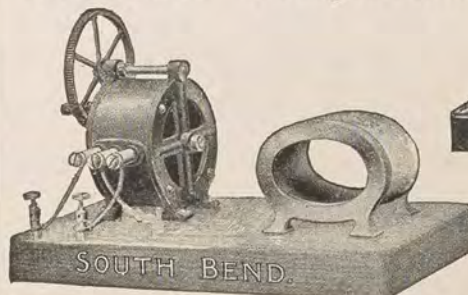
All our goods are made of perfectly seasoned and kiln-dried lumber, and it is well-known that our goods are superior to others, both in material, work and finish. We also make everything in wood for watchmakers. We make fourteen styles of benches in three kinds of wood. In ordering, be careful to see that you get our goods—look for our name plate. If they have no such plate they are not ours.

Send for our catalog, and order through your jobber.

Jessen & Rosberg

405 W. Kinzie Street CHICAGO

"South Bend" Demagnetizers



ORDER FROM YOUR JOBBER

PRICES:

For Direct Current, \$15.00
For Alternating " 5.00

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

THE KNOBLOCK-HEIDEMAN MFG. COMPANY

Successors to

THE MILLER-KNOBLOCK ELECTRIC MFG. COMPANY
South Bend, Indiana

We again publish our claims

for superior facilities in taking care of the mail orders of the Western, Southern and Southwestern Jeweler for Watches, Diamonds, Clocks, Silver, Flat and Hollowware. We do this so emphatically that it leaves nothing in reserve if we did not completely bear out our statements.

Of course, the filling of mail orders is not the largest part of our business, by any means—it is only one of the perfect working parts of it.

Nevertheless, the fact that we do fill such orders, both big and little ones with equal facility, ought to impress you that we not only have right goods, but have them at the right time, as well.

When mail-order time does come, it is of importance for you to know of one house that is prepared with both goods and service. We promise you that the confidence you have in us, our goods and our mail-order service shall not be misplaced.

Our situation makes us the natural supply center for the Central West and Southern trade. We easily enable you to save in time and carriage. Order from Albert and get your goods quick and right.

Our finely Illustrated Catalogue will be ready to mail to the trade about the middle of October. Meanwhile send us your name and address and we will see that you get the new book in good time for your late fall buying.

ALBERT BROTHERS

The Quick Delivery House

CINCINNATI, OHIO

The "Bryant" Rings.

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



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

"WINTER QUALITY" Jewelry Store Fixtures
Not the cheapest, but the best from \$300.00 up



A "WINTER" QUALITY CASE

WINTER'S
ENCYCLOPEDIA
AMERICANA
STORE FIXTURES AND FITTINGS

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

Plans, interior views, new suggestions, separate fixtures, cases, counters, floor cases, soda fountain fixtures.

Illustrated fully, described and listed in so plain a manner that you can make your own plans and estimate the cost of your fixtures.

Sent postpaid on receipt of 25 cents

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

M. WINTER LUMBER CO., Sheboygan, Wis.

Established 1865

The High-Grade Fixture Makers

Finlay-Dicks & Co., New Orleans, La., Sales Agents for Louisiana, Mississippi and Alabama.

C. D. Smith Drug Co., St. Joseph, Mo., Sales Agents for Missouri, Kansas, Nebraska, Oklahoma Territory and Indian Territory.

R. H. Birdsall, Room 7, Hamilton Bldg., Portland, Oregon, Sales Agent for Washington and Oregon.

Have You Seen Our Auxiliary Caselets?



SPECIAL PRICES FOR AUGUST
Watch Bows, Bars, Toggles, Etc.

American-made Bal. Staffs, 75c. doz. and up
" " Jewels, 75c. doz. " "

U. S. R. Mainsprings
True Blue

N. E. Watch Material
complete

Order from
any catalogue

Jobbing Stones
Novelties and Souvenirs

Mail Orders our Specialty

WHOLESALE

L. COHEN & CO.
630 Pennsylvania Ave., N. W.
Washington, D. C.

Swiss and American
Watches
Nickel Alarm Clocks



We Blank
Form
Swedge

Our finish finest for
the money

Submit sample for
our price

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



EXTRA X ★ F FINE



SWISS PATTERN FILES

MADE FOR THOSE WHO MUST HAVE THE BEST



THEY ARE SUPERIOR TO ALL OTHERS OF DOMESTIC OR FOREIGN MANUFACTURE

ASK FOR OUR CATALOGUE

NICHOLSON FILE CO.

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



BEFORE

ESTABLISHED 40 YEARS

Watch Case Making, Repairing
Remodeling and Reconstructing

OUR SPECIALTY—Changing old Antique Cases to
Stemwind

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

SEND FOR PRICE-LIST

MINIATURE PORTRAITS

DEMAGNETIZING

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



AFTER



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



ELKS' BUTTON
(Side.) Pat'd.



TIGER CLAW RING
Solid Gold. Pat'd.



TIGER CLAW RING
Side View

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



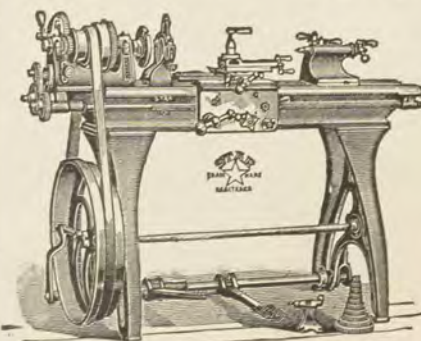
MONKEY RING
Solid Silver, Oxidized

Ikko Matsumoto

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

Manufacturing Jeweler
Indianapolis, Ind.

“Star” Foot and Power Lathes



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

Send for Catalog “B.”

We also make Bench Lathes, Speed Lathes, Wood Lathes and Heavy Engine Lathes.

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

HARDINGE BROS., 1036 Lincoln Ave., Chicago, Ill. ^{1216c}

MOSSO'S MONARCH TEMPERING COMPOUND



Do not
away your
They can
perfect by
in this

throw
old tools.
be made
treatment
compound.

Full directions accompany each bottle

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

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

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

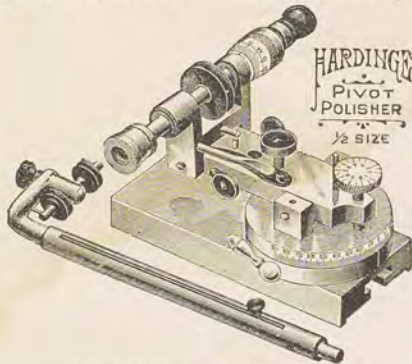
Price, per bottle, \$1.00

HARDINGE BROS., Sole Distributors for
United States and Canada

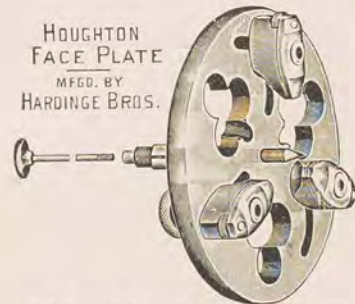
DALE CHUCKS—For all standard sizes watchmakers' lathes 60 cents each. Every chuck guaranteed



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



Fitted to any lathe. Price, \$30.00



With Trefoil Peep Holes. Price, \$8.00

Reliance

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



Jewelers' Findings are
made of the best grades
only

Brand

American Mainsprings

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

Per dozen, \$1.00

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



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



- No. 170. C. & F. Jewels in Polished Settings, Ruby
and Sapphire \$1.00 per doz.
No. 171. C. & F. Jewels in Turned Settings, Garnet . .50 "

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

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

Orders Filled from any Catalogue

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



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

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

Importers
and
Jobbers of

Watches
Clocks
and
Jewelry

Watchmakers'
Tools, Materials
Jewelers'
Supplies

Optical
Goods
and
Silverware



The Great Central Market for Jewelry and Optical Goods

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

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

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

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

BENJ. ALLEN & COMPANY
OTTO YOUNG & COMPANY
JUERGENS & ANDERSEN CO.

F. A. HARDY & COMPANY
H. F. HAHN & COMPANY
NORRIS, ALISTER & CO.



CHICAGO - THE GREAT CENTRAL MARKET

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

FALL MEETINGS, 1905, OF

THE CHICAGO COMMERCIAL ASSOCIATION

At CHICAGO

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

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

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

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

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

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

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

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

C. H. KNIGHTS & COMPANY
M. A. MEAD & COMPANY
STEIN & ELLBOGEN COMPANY

SPROEHNLE & COMPANY
M. S. FLEISHMAN COMPANY
SWARTCHILD & CO.



Insurance of your money and accounts made possible by machinery.

You should know the amounts and relative proportion of your cash sales, credit sales, payments received on account, money paid out. These figures you should compare with those of previous days and so test the health of your business.

A National Cash Register tells you the detailed history of a day's business, saves time and worry, pays for itself within a year, and then earns 100 per cent. on the money invested.

Let our representative call and explain our system to you.

Cut off here and mail to us today

NATIONAL CASH REGISTER CO., DAYTON, OHIO

I own a _____ Name _____
 Please explain to me what kind of a register _____ Address _____
 is best suited for my business.
 This does not obligate me to buy. THE KEYSTONE No. Clerks _____

HENRY ALLSOPP

A★
TRADE-MARK

GEO. A. ALLSOPP



ALLSOPP BROS.

Manufacturers of

Ladies', Men's, Misses', Children's RINGS

As well as a

Full Line of Signet, Lion and Grotesque Rings

SELECTION PACKAGES TO RESPONSIBLE DEALERS

Allsopp Building, Camp & Orchard Sts.

NEWARK, N. J.

THE BEST LIGHT.



GIVES
5 TIMES More Light than acetylene

6 TIMES More Light than electricity
10 TIMES More Light than kerosene
100 TIMES More Light than a candle

COSTS LESS THAN KEROSENE

Each lamp makes and burns its own gas. Hang or set it anywhere. A pure white, steady light.

NO ODOR! NO WICK! NO GREASE! NO SMOKE!
LITTLE HEAT! SAFE!

Over 100 Styles for Indoor and Outdoor Use

AGENTS WANTED—Exclusive Territory
Write for catalog, lists and discounts

THE BEST LIGHT CO., 259 E. Fifth St., Canton, Ohio

We do RELIABLE

Silver-Plating

and
Silverware

Repairing



Can this be Repaired?

Yes!

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

Silverware
Repaired and
Replated

Sercomb Company 1429 Wabash Ave.
CHICAGO

F. H. PUTNAM, Manager

A GOLDEN RULE

Trade with us as you would have others trade with you

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

THE BROWN & DEAN COMPANY

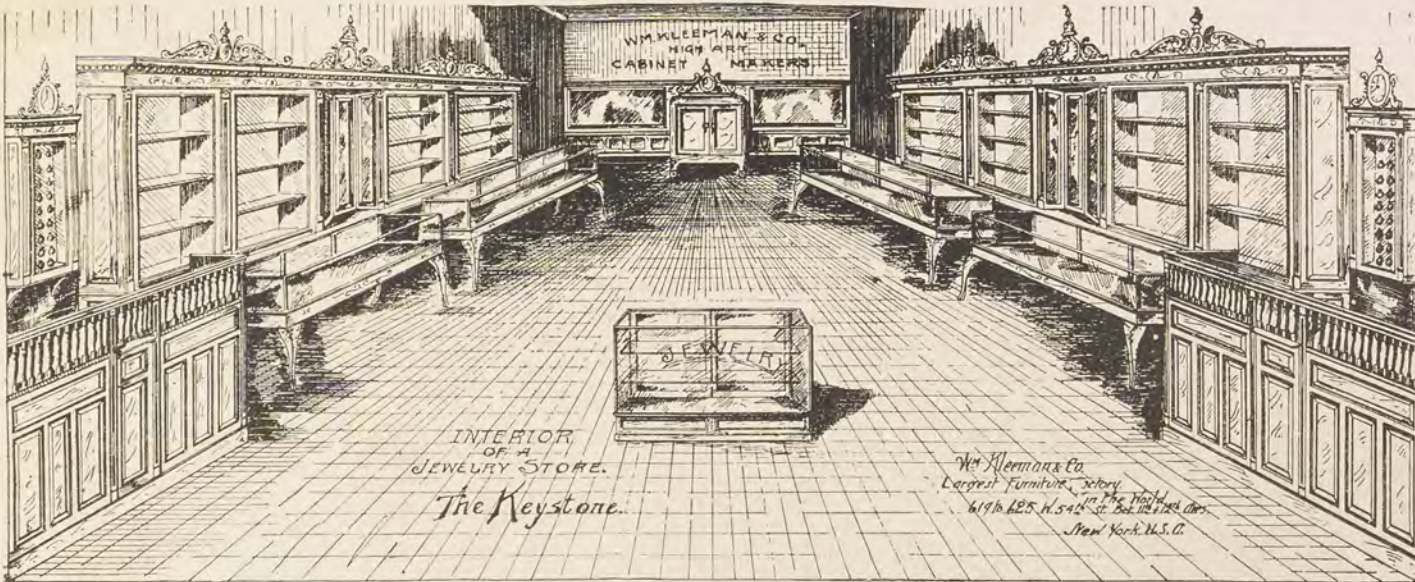
Gold and Silver Refiners

102 and 104 Richmond Street

Providence, R. I.

RELIABILITY—THAT'S THE POINT

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



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

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

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

Do you need us? If you need information, our draughtsmen are at
your service. No charge for plans, designs or suggestions.
Delivery guaranteed within the time it takes the sluggish, old-time dealer
to pack his stock goods, and at **REASONABLE COMPETITIVE PRICES.**

WRITE US; WE'LL TELL YOU ALL ABOUT IT

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

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



Tip Cup



Umbrella Extension

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



Tie Clasp

Mr. Jeweler:

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

Established 1887

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

United States Smelting and Refining Works

L. & M. WOLLSTEIN

Office: 16 John St., New York

Telephone, 5644 Cortlandt

Works: 17 John St., New York

Sweep Smelters and Assayers

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

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

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

**The Matchless
Pocket Cigar Lighter**

The only perfected cigar lighter on the market

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

Write for Prices

**The Matchless Cigar Lighter
Manufacturing Co.**

Office and Salesroom

16 John Street

New York, N. Y.



The GREAT AMERICAN JEWELRY CATALOG
1906

FROM THE WIGWAM HE DEPARTED,
LEADING WITH HIM LAUGHING WATER
HAND IN HAND THEY WENT TOGETHER
THROUGH THE WOODLAND AND THE MEADOW

HIAWATHA'S WOOING

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

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

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

Meanwhile let us send you
our 1905 Catalogs

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

WEBSTER'S ADJUSTABLE SOLDERING BLOCK

(Patented Dec. 3, 1903)

**It Will Save You Time
and Trouble**



Showing jewelry pads



Block as used for bridge work

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

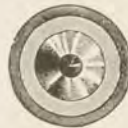
This block is not an experiment, it has been
successfully used for the past two years. When I
say that it will do your work quicker and better
than any other adjustable soldering device on the
market, I am telling nothing but the truth. Don't
take my word for it, I am prejudiced, try one your-
self for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

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

Price with Pads for Holding Spectacle
Frames \$1.75
Price complete with both the Spectacle
and Jewelry Pads 2.00

ARTHUR R. WEBSTER, Milford, N. H.

TIDD'S JEWELS



Are made of Sapphire and Ruby. They
are expertly mounted, guaranteed perfectly
true, stripped with a sapphire tool and trued
to hole. Every jewel inspected before
shipping. Sample dozen sent to responsible dealers
for inspection.

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

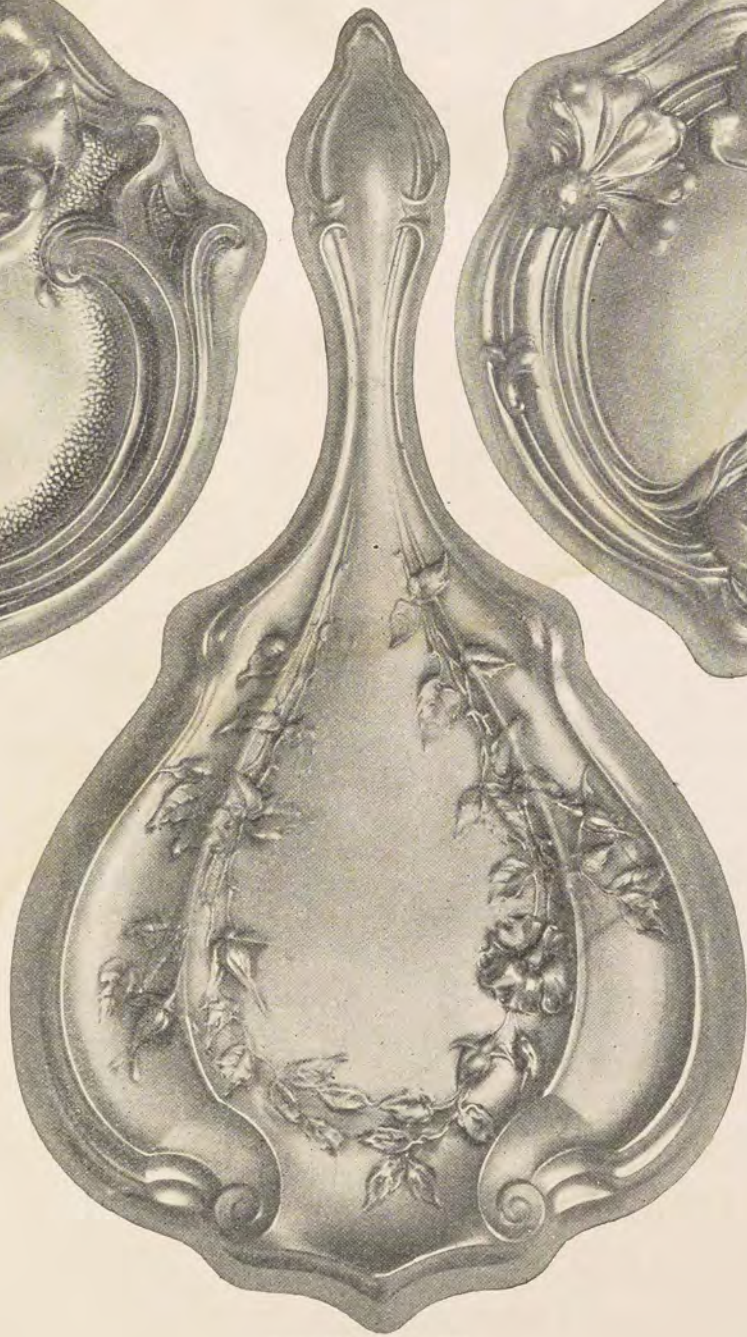
TIDD & CO., COLUMBIANA, OHIO

STERLING SILVER 925/1000

1217



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



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



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

"The Winners for the Fall of 1905"

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

McSickles & Sons

MANUFACTURERS

726 Chestnut St., Philadelphia

Factory, Newark, N. J.

GET READY FOR THE FALL SEASON



No. 91024. Ivy Vine. 18 leaves to yard. Per dozen yards, \$9.00.
No. 91022. Ivy Vine. 12 leaves to yard. Per dozen yards, \$7.00.



No. 91011. Maple Vine, autumn shaded, 12 leaves to yard. Per dozen yards, \$7.50.



No. 91000. Clematis Vine. 4 flowers and 15 leaves to yard. Per dozen yards, \$18.00.
No. 91001. 12 leaves and 2 flowers to the yard. Per dozen yards, \$12.00.
Flowers can be had in white, pink or blue.



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



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



No. 91158. OAK SPRAY
Autumn shaded
Per dozen sprays \$.75
Per gross sprays 7.50



No. 92186. Rose Spray Bouquet with Vase. This bouquet is composed of one dozen of No. 91186 rose sprays including papier mache vase. Each, \$1.75.
No. 91186. Rose bouquet without vase. Each, \$1.50.
Roses can be sent in any desired color.



No. 91121
CHRYSANTHEMUM SPRAY

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



No. 91590. Hollyhock
24 in. high, in white, pink or red. Each, 50c.; per dozen, \$5.00



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



No. 91834. PALM TREE.
(Potted.)

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



No. 91814. PALM PLANT
(Unpotted)

No.	In. high	Leaves	Each	Doz.
91800	24	3	\$.18	\$1.75
91805	36	4	.25	2.50
91809	36	5	.40	4.00
91814	42	6	.50	5.00
91818	42	7	.65	6.50
91822	48	10	1.25	12.50
91827	60	12	2.00	20.00



No. 91842. Areca Plant
(Unpotted)

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



SAGO PLANTS. (Unpotted.)

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

No. 91003. Fern Vine. 18 large leaves to yard. Per dozen yards, \$24.00.
No. 91002. Fern Vine. 18 small leaves to yard. Per dozen yards, \$15.00.



PAPER FLOWERS

For Flower Parades, Street Carnivals, Fairs, Etc.

Chrysanthemums, any color, per dozen, 40c.; per gross, \$4.00.
Peonies, per dozen, 45c.; per gross, \$4.50.
Poppies, per dozen, 35c.; per gross, \$3.50.
Tulips, per dozen, 35c.; per gross, \$3.50.
Poinsettias, per dozen, 60c.; per gross, \$6.00.
Easter Lilies, per dozen, 45c.; per gross, \$4.50.
American Beauties, tissue paper, per dozen, 40c.; per gross, \$4.00.
American Beauties, crepe paper, per dozen, 65c.; per gross, \$6.50.
Small Jack Rose, per gross, \$1.50.
Apple Blossoms, per gross bunches, \$6.00.
Violets, per gr. bunches, \$5.00.

Shades for Electric Lights

Autumn colored shades, per dozen, \$2.40.
Fleur-de-Lis Shades, per dozen, \$1.75.
Tulip Shades, per dozen, \$1.75.
Rose Shades, per dozen, \$1.75.
Rose Globe Shades, per dozen, \$2.75.
Easter Lily Shades, per dozen, \$2.00.
Chrysanthemum Shades, per dozen, \$2.00.
Poinsettias Shades, per dozen, \$2.50.

When in Chicago on your fall purchasing trip, I should be pleased to see you at my new location, 140 Wabash Avenue, and I am sure that my sample room, which equals any floral exhibit, will greatly interest you.

Yours truly,

Carl Netschert

Don't forget the new location

140 Wabash Ave., Chicago

My fall circular No. 9 C is from print. If you have not received it, would be glad to send it to you

No. 91052. Rose Vine. 6 roses in white, pink or red color and 12 leaves to yard. Per dozen yards, \$36.00.
No. 91053. Rose Vine. 3 roses and 9 leaves to yard. Per dozen yards, \$24.00; per gross yards, \$24.00.
Don't overlook the quality as well as quantity of material used in my Rose Vines.



Fall *and* Holiday Goods

The LARGEST LINE we have
ever displayed

Ready for Inspection

STAPLE ARTICLES and
NOVELTIES OF EVERY SORT

The retail jeweler has never had such an attractive array of sellers at such moderate prices.

Every possible courtesy shown, whether you are a large or small buyer.

M. J. AVERBECK

Manufacturer

Nineteen Maiden Lane

NEW YORK

Staffs

Our *American-Made Balance Staffs*

are guaranteed to fit exactly

Per dozen . . \$ 1.00
 " gross . . 12.00

Springs

Penn Mainsprings

although a newcomer, have already established their reputation.

Per dozen . . \$ 1.25
 " gross . . 15.00

Jewels

Our *American-Set Jewels*

know no equal.

Per dozen . . \$.75
 " gross . . 9.00

Cash Discount, 10 per cent.

JOS. B. BECHTEL & Co.

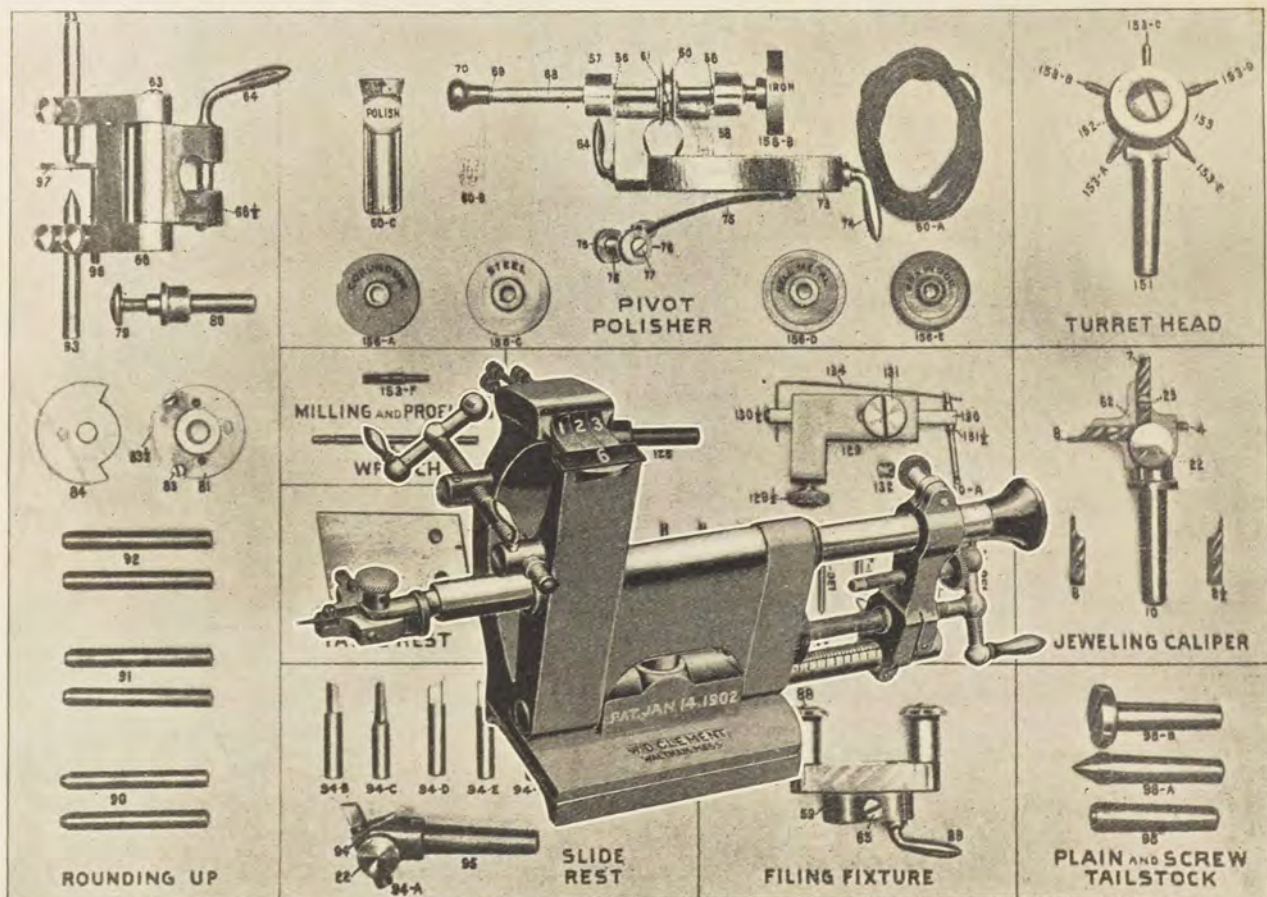
725 Sansom Street

Jewelers' Supplies

Philadelphia, Pa.

Clement Combined Lathe Attachment

Replaces 12 fixtures mentioned. 30 advantages beside. Fitted to any lathe made. **\$40.00, strictly net**



and parts included at \$40.00 net

Better than ever in every respect. On trial free. Postal brings fine new catalog or the tool

W. D. CLEMENT, WALTHAM, MASS.

Diamond Mainsprings

1221

Have stood the test for over twenty-five years and are to-day without an equal.
 Made for all American watches in both resilient and non-resilient.

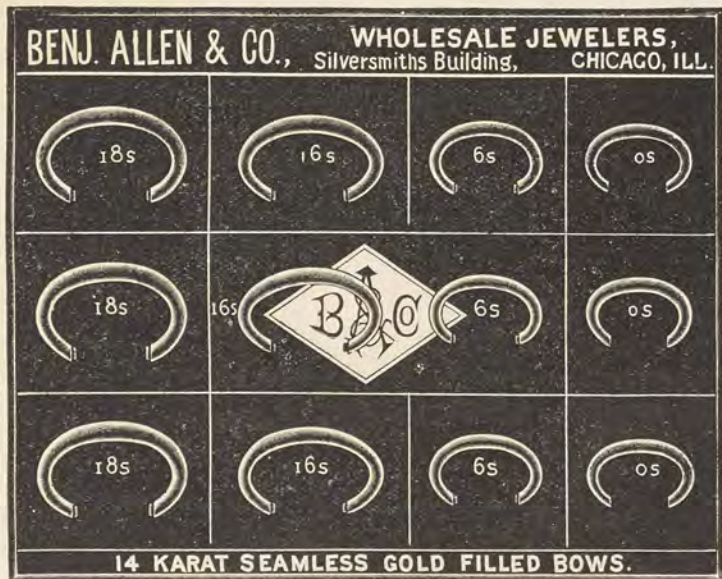


EVERY GENUINE DIAMOND SPRING BEARS OUR INITIALS NEAR THE OUTER END, THUS: (B. A. & CO.)

Per dozen, \$1.25 Per gross, \$13.50

Every Diamond mainspring that does not give satisfaction will be replaced free of charge if the end bearing our initials is returned to us.
 In ordering simply state what make, grade and size of movement springs are wanted for and no mistake will occur.
 Those who will order one-half gross or more of a kind or assorted will be entitled to gross prices.

Round and Antique Filled Pendant Bows



Made
 specially
 for
 us



No. 500. 14 K. Gold Filled Antique Pend. Bows, Asst., as shown . . per doz., \$1.25

No. 550. 14 K. Gold Filled Round Pend. Bows, Asst., as shown . . per doz., \$1.25

Six per cent. discount for cash

BENJ. ALLEN & Co.

Watch Materials, Tools and Jewelers' Supplies
 Watches, Clocks, Diamonds and Jewelry

131 to 137 Wabash Avenue
 CHICAGO, ILL.

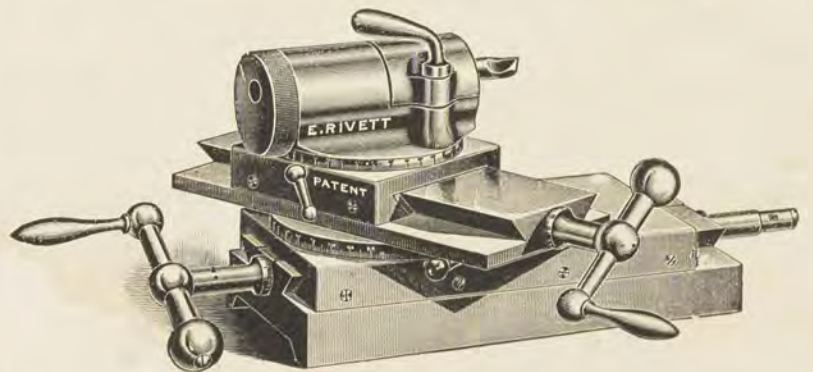
Notice to all persons who have no Universal Face Plate for a Rivett Lathe



We have been giving you for years a Universal Plate made of Solid Nickel—not a casting—which has cost us twice as much to turn out as any other make on the market. We are now going to raise the price, but all orders up to September first will be filled at the old price.

The most convincing proof we have of the superiority of our Attachments is that we make \$20,000 worth of Slide Rests at one time. If you are in this vicinity, come and let us show you how we do it.

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



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

NOVELTIES IN FANS



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

Repair Department



OSTRICH FEATHER FANS

Mounted in Pearl or Tortoise Shell Mountings. All prices



IGNAZ STRAUSS & CO.

Manufacturers

Office, 621 Broadway, NEW YORK

Factories at Vienna, Paris, Kobe, New York

C. O. BAKER, Pres.

C. W. BAKER, Vice-Pres.

PLATINUM

and its alloys, made expressly for jewelers' use

GRAND PRIZE, UNIVERSAL EXPOSITION

St. Louis, 1904

Awarded

BAKER AND CO., INC.

Newark, N. J.

120 Liberty St.

New York City

DIAMOND CUTTERS

Special

Attention to

Recutting and

Repairing

Diamonds

FOX BROS. & CO.

Importers of Pearls and Colored Goods

31 to 39 East Fourth Street

CINCINNATI, OHIO

We Carry a Complete Stock of Watchmakers' Tools, Material and Watch Glasses

MAIN SPRINGS



\$ 1.00 per Dozen
10.50 per Gross



This Handsome Solid Oak Cabinet FREE with your First Order for One Gross "REGENT" Brand American Mainsprings

ROLLER JEWELS



\$.15 per Dozen
1.50 per Gross

BALANCE STAFFS

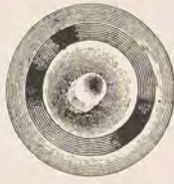


\$.75 per Dozen
7.50 per Gross



Fac-Simile of Our Label

BALANCE JEWELS



\$.75 per Dozen
7.50 per Gross

Notice Our New Prices on WATCH GLASSES

GENEVAS	Per Gross	Per Doz.
Height 3.	\$3.00	\$.30
Height 4.	"	"
Height 5.	"	"
Height 6.	"	"
Height 7.	"	"
Height 8.	"	"
PARALLEL.	5.50	.50
LENTILLE.	11.00	1.00
PATENT GENEVA.	5.50	.50
EXTRA THICK MI-CONCAVE.	8.00	.75
THICK MI-CONCAVE.	3.25	.35

Blank order sheets sent on application

ORDERS FILLED FROM ANY CATALOGUE

CROSS & BEGUELIN, 17 Maiden Lane, New York

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

The Small Dealer of To-day may be the Big Merchant of To-morrow

BUY RIGHT!

We are offering for a limited time solid 14 K. hand-engraved bascine cases, set with full-cut diamond at

\$12.81

less cash discount.



D-991

This is but one of many handsome designs. If not satisfactory you may return

BUY GOOD!

Write for samples of these and also of the new *Betsy Ross* watch.



BALTIMORE, MD.



Miniature Portraits

on WATCHES, DIALS, BROOCHES and LOCKETS

Our work will not fade or peel off Hand-Painted Miniatures Copied from any Photo.

THE GOLDSTEIN ENGRAVING CO.
45 Maiden Lane, New York

Established 58 Years

James H. Dederick's Sons ASSAYERS AND BULLION DEALERS

ALL QUALITIES OF GOLD AND SILVER, in Plate, Square and Round Wire, Rolled to Any Gage.

ALL QUALITIES OF GOLD AND SILVER SOLDER
BUYERS OF OLD GOLD AND SILVER
16 Maiden Lane, NEW YORK

RELIABLE TRADE-MARKS:

Plated Hollowware:

THE DERBY SILVER CO.

(Factory B, International Silver Co., Successor.)



This trade-mark appears on plated hollowware made by them, and the line made has always been salable and desirable.

WORKS, DERBY, CONN.

THE BARBOUR SILVER CO.

(Factory A, International Silver Co., Successor.)

BARBOUR SILVER CO. NICKEL SILVER
BARBOUR SILVER CO. QUADRUPLE SILVER

Formerly located in Hartford. One or the other of these trade-marks appear on the plated hollowware made by them. The Nickel Silver line in particular is well known for its excellence in design and general attractiveness.

WORKS, MERIDEN, CONN.

MERIDEN BRITANNIA CO.

(Factory E, International Silver Co., Successor.)

MADE AND
GUARANTEED BY



*** ROGERS BROS.

MIBICo NICKEL SILVER
W.M. MOUNTS



The round trade-mark is used on their standard grade of White Metal hollowware, which has been on the market for half a century. The Nickel Silver White Metal Mounts trade-mark is used on a new line of hollowware, especially designed for fine retail trade. The Silver Soldered trade-mark is used on the finest grade of Nickel Silver hollowware that can be produced, and is especially desirable for hotels, clubs or family use, where the best and most expensive grade of silver plate can be afforded and used.

WORKS, MERIDEN, CONN.

THE MERIDEN SILVER PLATE CO.

(Factory F, International Silver Co., Successor.)



TRADE MARK

This trade-mark appears on plated hollowware made by them. This brand of Meriden Ware has been produced for many years, and is handled by a large number of dealers with great success.

WORKS, MERIDEN, CONN.

ROGERS, SMITH & CO.

(Factory E, International Silver Co., Successor.)



This Company was established in New Haven nearly fifty years ago, and the trade-mark shown has always been looked upon by the best trade as a guarantee of unsurpassed reliability.

WORKS, MERIDEN, CONN.

WILCOX SILVER PLATE CO.

(Factory N, International Silver Co., Successor.)



This trade-mark appears on plated hollowware made by them, and has been noted for years, from the fact that many of the most beautiful designs brought out have been produced by this company, and have borne this trade-mark. The designs turned out at the present time are up to their usual high standard.

WORKS, MERIDEN, CONN.

SIMPSON, HALL, MILLER & CO.

(Factory L, International Silver Co., Successor.)



This trade-mark appears on plated hollowware made by them, and has had a large sale in this country as well as abroad. Their shapes, styles and finish are always the best that it is possible to produce.

WORKS, WALLINGFORD, CONN.

Plated Flatware:

THE HOLMES & EDWARDS SILVER CO.

(Factory C, International Silver Co., Successor.)

✕ HOLMES & EDWARDS.

This trade-mark appears on plated flatware manufactured by them.

WORKS, BRIDGEPORT, CONN.

THE WM. ROGERS MFG. CO.

(Factory H, International Silver Co., Successor.)

ROGERS

1865 WM. ROGERS MFG CO.
WM. ROGERS & SON.

One of these trade-marks appear on plated flatware made by them. These brands have been well known for many years. For 38 years prior to 1903 at Hartford, now made at

WORKS, MERIDEN, CONN.

MERIDEN BRITANNIA CO.

(Factory E, International Silver Co., Successor.)

1847 ROGERS BROS.

The above trade-mark appears on plated flatware manufactured by them. This brand was first made by Rogers Bros. in Hartford, established in the year 1847. It has been recognized as the standard of quality ever since it was first put upon the market.

WORKS, MERIDEN, CONN.

ROGERS, SMITH & CO.

(Factory E, International Silver Co., Successor.)

ROGERS, SMITH & CO.

This trade-mark appears on plated flatware made by them.

WORKS, MERIDEN, CONN.

SIMPSON, HALL, MILLER & CO.

(Factory L, International Silver Co., Successor.)

W^o ROGERS ★

This trade-mark appears on plated flatware made by them, and has met with a large sale for many years. The dealers handling the "Eagle Brand" have always been well satisfied with the result from its sale.

WORKS, WALLINGFORD, CONN.

ROGERS & BROTHER.

(Factory J, International Silver Co., Successor.)

★ ROGERS & BRO. A-I.

This trade-mark appears on plated flatware made by them. The "Star Brand" has been upon the market for half a century, and is handled by many of the most exclusive dealers as their leading line of electro-plate. Its unsurpassed quality is well known.

WORKS, WATERBURY, CONN.

THE ROGERS & HAMILTON CO.

(Factory K, International Silver Co., Successor.)

ROGERS & HAMILTON
HAMILTON

One or the other of these trade-marks appear on the plated flatware made by them. These stamps have been well known throughout the trade for many years, and the fancy pieces in particular have met with a ready sale.

WORKS, WATERBURY, CONN.

Sterling Hollowware:

THE BARBOUR SILVER CO.

(Factory A, International Silver Co., Successor.)

Formerly located in Hartford. This trade-mark appears on sterling hollowware manufactured by them.

B. S. C.
WORKS, MERIDEN, CONN.

MERIDEN BRITANNIA CO.

(Factory E, International Silver Co., Successor.)

This trade-mark appears on sterling hollowware made by them, and at the present time the line made embraces nearly everything that can be conceived or thought of in the line of Sterling Silver. The designs and finishes are unsurpassed.



WORKS, MERIDEN, CONN.

WILCOX SILVER PLATE CO.

(Factory N, International Silver Co., Successor.)

This trade-mark appears on sterling hollowware made by them. Any article so stamped can be safely looked upon as the best of the kind it is possible to produce.



WORKS, MERIDEN, CONN.

SIMPSON, HALL, MILLER & CO.

(Factory L, International Silver Co., Successor.)

This trade-mark appears on the sterling hollowware made by them, and includes a line of Hand Wrought Silver, with Floral Decorations, as well as many beautiful designs in Toilet Ware.

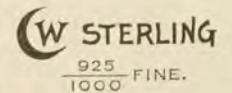


WORKS, WALLINGFORD, CONN.

THE WATROUS MFG. CO.

(Factory P, International Silver Co., Successor.)

This trade-mark appears on sterling hollowware made by them, and includes a large variety of Napkin Rings, Cups and small articles, as well as a general line of the larger pieces.



WORKS, WALLINGFORD, CONN.

Sterling Flatware:

MERIDEN BRITANNIA CO.

(Factory E, International Silver Co., Successor.)

This trade-mark is on sterling silver flatware made by them, and at the present time is being stamped on a number of new, desirable and very salable patterns in heavy and medium weights.



WORKS, MERIDEN, CONN.

SIMPSON, HALL, MILLER & CO.

(Factory L, International Silver Co., Successor.)

This trade-mark appears on sterling flatware made by them, and includes quite a variety of styles covering the wants of nearly every first-class dealer.



WORKS, WALLINGFORD, CONN.

Sterling, Inlaid Flatware:

THE HOLMES & EDWARDS SILVER CO.

(Factory C, International Silver Co., Successor.)

E STERLING INLAID HE

This trade-mark appears on all sterling inlaid flatware made by them. Spoons and forks bearing this trade-mark are made by a patented process, each article having a piece of pure silver inserted at the points most exposed to wear. This brand is guaranteed in family use to wear twenty-five years.

WORKS, BRIDGEPORT, CONN.

ORDER FROM THE FACTORY

MAKING THE CLASS OF GOODS YOU REQUIRE, OR

CHICAGO:
State and Adams Streets.

NEW YORK CITY:
9-15 Maiden Lane and 218 Fifth Avenue.

CANADA:
Hamilton and Toronto, Ontario.

GENERAL OFFICE, MERIDEN, CONN.



THE KEYSTONE

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

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

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

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

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

To Advertisers—Copy for advertisements must reach us by the 25th of each month to insure insertion in the issue of the following month. Changes in advertisements should reach us not later than the 15th of the previous month. All communications should be addressed to

THE KEYSTONE

CHICAGO OFFICE 19TH & BROWN STREETS
42 MADISON STREET PHILADELPHIA, PA.

FOREIGN SUBSCRIPTION AGENTS

GREAT BRITAIN—ANGLO-AMERICAN OPT. CO., 84 HATTON GARDEN, LONDON, E. C.
BOTWRIGHT & GREY, 13 SPENCER ST., CLERKENWELL, LONDON, E. C.
RAPHAEL, WHEWAY & REDFERN, 51 CLERKENWELL ROAD, LONDON, E. C.
HIRST BROS. & CO., LTD., 8 CURZON ST., OLDHAM, LANCASHIRE.
SCOTLAND—JOHN BAIRD, 68 MITCHELL STREET, GLASGOW.

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THE KEYSTONE'S Policy of Protection to its Advertisers and Subscribers

IT is now universally recognized that the advertising pages of any magazine constitute one of its most important and valuable features. This is especially true of the modern trade magazine, every individual announcement in which has a direct bearing on the trade to which it is devoted, and a personal interest for practically the entire body of its readers. Thus, while advertisements are a desirable feature in all magazines, they are a necessary feature in a trade journal as furnishing information no less important and valuable than the educational or news portions of the journal. As a matter of fact, the ideal trade journal of to-day occupies a higher moral and ethical level as an advertising medium than any merely literary magazine, by reason of its paternal and protective relationship to its readers and its consistent devotion to their interests irrespective of all other considerations. It is evident, therefore, that advertisements offered for publication in a trade journal such as ours, solicitous of its reputation and mindful of its mission, call for a stricter censorship than in the case of probably any other publication.

IN the matter of the censorship of advertisements offered us for publication, we have consistently pursued a well-defined policy, the wisdom of which is best evidenced in the faith on the part of the trade in the announcements which appear on our pages. This policy may be briefly stated as follows: We will accept any legitimate advertisement suited to the character of our journal from any reputable manufacturer, wholesaler or dealer in any branch of the watch, clock, silverware, jewelry or optical industry or business, provided we have no reason to question the honesty of its representations.

We reserve, however, the right to refuse advertisements of goods known to or believed by us to be of a quality inferior to that represented, or which fall below certain recognized standards. Common honesty dictates this proviso, as we cannot in justice to ourselves

or our patrons be a party to creating a demand for an article which we believe will ultimately result in a loss in money or reputation to any member of the trade or to an innocent purchaser.

We also refuse advertisements offering goods at cut prices in such a way as to be detrimental to the trade, and those containing statements, references or innuendoes derogatory to any other advertiser or any reputable concern of recognized standing in the trade; also the advertisements of those whose business methods we deem dishonorable, or whose business policy we consider detrimental to the interests of the trade at large.

SUCH is our policy in regard to advertisements offered us for publication, and that it is fully appreciated by all branches of the trade is, we think, conclusively demonstrated by the character of our journal, its advertisers and subscription list. It is the policy of the square deal, and it is founded on common honesty and fidelity to trade interests. In obedience to this policy we are almost daily constrained to refuse advertisements of every size and character, from a spurious two-line offer to full-page announcements of goods of a kind that would only mean loss and discredit to the trade. It is self-evident that this policy is conducive to the best interests of all the trade, being equally advantageous to advertisers and subscribers.

IN connection with the above, it may be opportune to direct attention to the watchful supervision exercised over our reading pages, both as to the quality of the matter and its general reliability. Extreme care is taken to insure correctness of statement, as well in the personal news items as in the scientific and business articles; and all matter which falls below a certain standard of utility or interest to our readers, is rigorously excluded. Our policy in this regard is well known to the trade, many of whom may be said to have grown up with our journal, imbibing its spirit of progress, utilizing its suggestions and testing for their

own benefit and satisfaction the soundness of its business doctrines. The result of this has been the cultivation of peculiarly close relations between ourselves and our readers, who have come to regard our journal as a reliable trade exponent and an indispensable factor in their business. We have in our archives volumes of letters from prominent jewelers and opticians who candidly state that our teachings have been an important factor in their success. Our unique position in jewelry and optical trade journalism insures us at all times a superabundance of valuable material, and all worthless matter of a mere space-filling character is necessarily as well as purposely eliminated. This adherence to a fixed standard of merit and insistence on accuracy and reliability mean much expense; but here, too, we find our reward in our comprehensive subscription list and in the unwavering confidence of our readers. It is to the credit of the trade that regard for its interests always meets with unstinted appreciation.

Wonderful Record of Diamond Importations

OF the whole mass of official statistics dealing with the foreign commerce of the United States for the fiscal year ending June 30th, probably the most remarkable are those relating to the importations of pearls and precious stones. Ever since the business revival in the late nineties and all through the present prolonged period of prosperity, the imports of diamonds increased by leaps and bounds with only occasional setbacks, until for the fiscal year 1902-1903 the importations reached the enormous total of \$27,318,642. In the following year the figures receded to \$21,843,119, but during the past fiscal year all records have been completely outdistanced with a total of \$33,223,164! This means an increase of \$11,390,045 over the preceding year and of nearly \$6,000,000 over the highest previous record. Each month seems to show a higher total than its predecessor, and there is not only no symptom of a reaction, but it is asserted that the importations would be much larger if importers could have procured all the stones they needed of the desired sizes and qualities. These figures are suggestive not only as a revelation of the strength of the diamond market, but also as an unmistakable manifestation of the unprecedented wealth and prosperity of the country. As present conditions point to another diamond-purchasing fall and holiday season, it is little wonder that the outgoing travelers are liberally supplied with diamond stock and that almost every jeweler, however small, now finds it to his advantage to handle these goods. A fact

worthy of mention in connection with the large importations is that of the total of over \$33,000,000, the uncut stones aggregated almost one-third, showing a most gratifying expansion in the diamond-cutting industry in this country.

It is worthy of mention, too, that the total foreign commerce for the fiscal year just ended has been the largest in the history of the country. The exports aggregated \$1,518,462,833 and the imports \$1,117,597,500, a grand total of \$2,635,970,333, and, most gratifying of all, the shipments of manufactured goods exceeded all previous records, and formed an unusually large percentage of the total.

Post Office Bans Lottery Schemes

RETAILERS who have been making use of any of the various forms of lottery schemes for the purpose of helping their business, must henceforth have a care lest they come in unpleasant collision with the lottery laws of their States or with the postal authorities. In a new ruling of the post office department the word "lottery" is given a very wide interpretation and will cover many schemes not heretofore regarded in the category. Generally speaking, any guessing or estimating contest, gift enterprise, premium offer, or any other scheme which carries any suggestion of chance, will be classed as a lottery. If the publication of any such scheme is by newspaper advertisement, the publisher is held liable. If the merchant advertises it by circulars or letters sent through the mails, he renders himself liable to a fine of not more than \$500 or to imprisonment of not more than one year, or both. That the authorities are in earnest in their new anti-lottery campaign is evidenced in the following extract from a new general order just issued by the post office department:

The post office department is endeavoring to enforce the anti-lottery statutes strictly and with thoroughness. Postmasters, railway postal clerks and all other officers and employees charged with the handling of mail matter are, therefore, expected to examine such matter, especially publications, with the greatest care consistent with prompt transmission and delivery, and to withdraw or exclude all such as is ascertained to relate to lotteries or like enterprises. Many postmasters have been found negligent in this regard.

In view of this general order it will be wise for the jewelers to refrain from using any scheme which has a suggestion of chance. Of course, if the mails are not used, the post office is not interested, but care must be taken that the lottery laws are not violated. In deciding upon any such advertising scheme and its legality, the merchant should first determine whether it is in conflict with the lottery laws of his State. If it is not, he can exploit it, no matter if it does conflict

with the post office regulations, as long as the mails are not used. But the first effort to use the mails for the exploitation of the scheme is pretty certain to make trouble.

Regulating Watches by Phone

ON these pages last month, we called attention to a scheme being adopted by some of the large jewelers in the cities who, in their advertisements, extend an invitation to the local public to call them up on the phone and get the correct observatory time. It is to the credit of THE KEYSTONE'S constituency that scarcely any "new" scheme comes to light which has not been used previously by one or other of our readers. The Stanton Jewelry Company, of Nashua, Iowa, writes us as follows:

Referring to your article in the July KEYSTONE, "Set Your Watch by Phone," we wish to inform you that we have used this method with good results for three years. We have an exchange of about two hundred phones here, many of them in the country. We issue from time to time circular letters to the subscribers, inviting them to phone us for the correct time. As we always keep our regulator on time and are careful to send exact time, we have a great many calls. We have a phone on the work bench, where it is always handy, and the scheme works with very little trouble. Another one of our good dodges is to advertise that we grind scissors free. This takes but little time, only a minute or two usually, and we think we are well repaid for our trouble.

Prices of Swiss Watches Advanced

THE Swiss Chamber of Watchmaking and Affiliated Industries, composed of representatives of the watch manufacturers' associations in the various watchmaking cities of Switzerland, has announced an advance in the price of Swiss watches. The reasons given for the advance are the increased cost of the material and parts of watches, and the shorter hours and higher wages demanded by labor. The chamber is not unnaturally apologetic in announcing the advance, recognizing, no doubt, that it will have a tendency to further restrict the market for these goods. It is pleasant to note that while all the causes given for the advance in the price of Swiss watches are operative in this country, yet, so thoroughly systematized are our productive methods that, notwithstanding the increased cost of material, the higher wages for labor and shorter working hours, all of which are more pronounced here than abroad, yet the tendency of the prices of American watches has been downward for some years, and this too in the face of a continually increasing demand. The American watch is, in truth, the ideal from the watch dealer's point of view, having the triple qualifications of excellence as a time-piece, durability and ease of repair—these

in addition to a reputation that makes for sales and prices that come easily within the resources of all. It is not surprising to learn that its triumph at home is now being equaled by its success abroad, where it is striding into favor at a rate that evidences its world-wide pre-eminence as the jewelers' leading staple.

Teeming Harvests Now a Certainty

THE season has now sufficiently advanced to enable the authorities to size up the agricultural situation with fair certainty, and it is the universal belief that the country as a whole will again be blessed with that only certain foundation for prosperity—bountiful crops. Present indications are that the aggregate yield this year will be fully up to the very satisfactory record of last year, with the probability of exceeding it. If the weather continues reasonably favorable until the middle of September, a very large yield will be assured. Complaints are made in some parts of the corn belt that there has been too much rain since the beginning of July, and that the excessive moisture is impeding the wheat harvest in the Northwest, as well as injuring the corn in the corn area, but the damage thus far in either respect is slight. It is the conditions that come for the next two months that will determine the aggregate corn production. The government's report for the corn crop for July 1st makes a favorable showing. There is an increase of 2.3 per cent. in acreage as compared with 1904, and the condition was 87.3 per cent., as against 88.4 per cent. on July 1, 1904; 79.4 per cent. at that time in 1903, and an average of 87.6 per cent. for 10 years on July 1st. This indicates that the crop for the year will be quite voluminous unless conditions turn out to be unfavorable between this time and the harvesting.

IN 1904 the corn crop aggregated 2,467,000,000 bushels. This was never equaled except in 1902, when the yield was 2,523,000,000 bushels, or 56,000,000 more than in 1904. As estimated by the department of agriculture, the value of the corn crop of 1904 as it left the farm was \$1,087,000,000 on December 1st. This was double the value of the wheat crop for that year, which amounted to \$510,000,000. The value of the oat crop for the year was \$280,000,000, and the unprecedented 13,500,000 bale crop of cotton was worth about \$600,000,000. All of the above is cheering news to the business man, for corn is the country's imperial crop, and when it is large all the people are benefited. A small corn crop often brings as much to the producer as does a big crop, owing to the advance in prices which a drop

in the yield causes; but a big crop, which means a little lower price per bushel, helps the consumer without injuring the farmer. The trade has a decided interest in big crops of corn, wheat and the rest of food products, and happily the outlook for both wheat and corn is bright for 1905.

In the industrial world, too, conditions are very promising, and the factories are much more active at this time than one year ago. The great iron and steel industry, for instance, is so overwhelmed with orders that many big operations are being delayed.

The Moral Reawakening and House-Cleaning

THE subject which seems to overshadow all others at this time is the startling disclosures of corrupt dealings and betrayal of trust in high places. In recent months a veritable wave of scandal has swept over the country, affecting discredibly a great number of men of wealth and influence, some of them holding positions of honor and dignity in the federal government, others the recognized leaders in the government of our municipalities, yet others the highly-paid officials of great fiduciary institutions. It has been proved that many of these men, while posing as models of civic and official rectitude, were stealthily trafficking in the trust reposed in them and boldly appropriating to their own use the property confidingly entrusted to their care. Fortunate it is that the disclosures have crowded one another with such startling rapidity, for the public conscience is now thoroughly awakened to the danger of its culpable indifference, and such a moral house-cleaning will result as will give a new impulse to the inherent sense of rectitude and produce a genuine reaction in favor of honesty and good faith.

IN the following call to arms, which merits a place in every newspaper in the country, the *New York Evening Post* vigorously assails the one dread foe now threatening our social and economic system:

Real national disaster is nearer at hand than in any foreign fleet or army, and its threat is instant. There is, indeed, a war for which the country should gird up its loins, but it is the war against corruption in public life and in private business. *Voilà l'ennemi!* Scandals at Washington, official rotteness in leading cities, fraud and pilfering by trusted financiers, ornaments of society and pillars of the churches—these are the enemies that rise up to trouble us, and how to fight and conquer them is the problem to which we must give our anxious days and nights. The completest military preparation will be found to have feet of clay if the nation behind it is not sound. If we do not first make sure of national honesty, the very guns we count

upon in an emergency will burst, while their shells will not. Let Russia teach us how official stealing and crooked contractors cause a nation's weapons to break in its hands.

TO punish public thieves and to prevent their multiplication; to make war on graft; to apply the criminal law relentlessly to greedy betrayers of trust; to preach and practice honesty, whether in office or in business—in a word, to tone up the national conscience, that is the crying duty, not to heap up shot and shell. Consider what the friendliest foreign observers say of us at this moment. They never question our resources. They doubt not our ability to bring a fearful power into war, if the occasion should arise. But they dread lest corruption sap our forces. They are startled and grieved at the succession of official derelictions and private laches which we have, of late, exhibited to the world. And in no way could we better convince them of our recuperative powers, and of our fundamental soundness, than by bending all our energies to the destruction of the evil before it destroys us.

WE are glad to see that President Roosevelt's mind seems to be working in this direction. Instead of going so far afield, he is intent upon the rogue near at hand; not talking so much of world-politics and our great rôle in the eyes of the nation, he is announcing that no guilty man must be allowed to escape, that prison doors are yawning for every corrupt official, and that recreant and scoundrelly directors are traitors to their country. This is really Mr. Roosevelt's strongest line. This is the kind of thing he was cut out to do. He was born to be an administrative reformer. If, with his instinctive hatred of what is crooked, his immense energy were applied to the running down of thieves, the purification of the public service, the exaltation of more honest standards throughout the land, he would be doing his best work, and would deserve well of his country and his kind.

THE corruptionists themselves, we may be sure, will always come out strong on the need of dropping everything in order to repel the imminent but anonymous invader. No one is mightier than they in the Monroe Doctrine, or more heroic in the determination to enforce it, whether they know what it means or not. Nor will they allow any man to surpass them in patriotism. But these hypocrisies have ceased to be even amusing. It is not a question of preparing for a vague and distant war, but the very serious and present task of arming to put down domestic treason—for such is, in reality, the spirit of corruption. It would run up a new flag, with dollar marks in place of the stars, and the "rake-off" as the sign in which to conquer. We do not need to look far for this enemy. "There is splendid fighting everywhere," as Phil. Kearny said to the reserves coming to his support. And the sooner we set about beating off the army of our own corruption, the sooner may we begin to talk, with decency, about preparing to withstand foreign levies.



“TIMING THE TIME-BALL”

Every day the Time-Ball on the Western Union Building, opposite old St. Paul's, Broadway, New York is dropped at exactly 12 noon, recording Washington time.

American Waltham Watch Company
Waltham, Mass.

The Individuality of the Customer

AN intelligent subscriber has written us his trials and tribulations in a letter covering some eight pages. We agree with him in his conclusion that "the jewelry business is not a bed of roses whereon one may lie in comfort and find big fruit of profits within easy reach." But *no* business that is worth while is "easy." One must toil and sweat to succeed—it is the primal curse that came with Adam's transgression in the Garden of Eden. And it is fortunate for all of us that the jewelry business is *not* exempt from the general law, else we would be crowded out by the multitudes who would rush into our chosen field. There are compensations even for our sorely-tried subscriber.

Our attention was especially attracted to this paragraph in his letter :

I always read with interest your articles which seem to apply particularly to the mercantile, as distinguished from the technical, side of the jeweler's vocation. I have profited by following many of your suggestions in this direction; but I find that they will not fit all cases. Some of my customers are so cranky that they cannot be handled in the ways you have suggested—as I have found to my cost, in several instances.

We hope there are but few of our readers who would undertake to apply our suggestions as to the way to sell goods, or collect accounts, or satisfy complaints, etc., to *every* customer alike. The best we can do is to state a case that will fit the *average* customer. We cannot undertake to give advice that will apply outside the average instance; the *exceptional* instance, as Buffon said of genius, is "a law unto itself," and as such must be given exceptional treatment.

The really *fine* art of salesmanship is in the successful handling of these exceptional customers—not only the "cranks," but that large number who have merely a strong individuality, or an original mind, or a distinctive personality. They are above, or under, the average type of humanity; your average routine of proceeding will not fit the occasion. We fear that our correspondent does not take into account the vagaries in human nature; and if he does not he is bound to come to grief, many a time and oft.

The naturally gifted salesman will always study his customer and adapt his methods to the particular instance before him. The large majority of his customers will be found to average the same general mental characteristics; but as no two human faces are exactly alike, so are no two minds; and the successful salesman is he who quickly reads character, who immediately interprets the thought of his customer, who intuitively kens the weak points, the prejudices and inclinations of the prospective buyer. With this knowledge is usually found the knowledge as to

pleasing these exceptional people, indulging their whims, flattering their mental attitudes; and so effecting the sale.

The average salesman can make a sale to the average customer; the superior salesman can sell to these and to the exceptional kind as well. He fills a higher place, in the end, because he studies the individuality of the customer.

A Jog to the Memory

Some Easily-Forgotten Items in the Day's Work

SAY "Good morning" to the clerks, when you enter the store.

Before you open your mail take a look around. See that the cleaning and dusting have been properly done, goods properly placed in window, show case and wall case, all work under way and everybody looking fit. The very fact that *you* are thus alert will make all hands careful, attentive and efficient.

Before you open your mail, too, see that any "left over" work of the day before is started. (The only excuse for a "left over" is its coming in at the very heel of the day before—such as the receipt of a package by express, etc.). Interview the watchmaker and see to it that all jobs promised for delivery on that day will assuredly be ready.

Be careful in throwing matter into your wastebasket, from the mail. Some of the advertising circulars may be worth reading, for the goods and prices which they proclaim; others may be worth keeping as suggestions for your own advertising.

Answer your mail at once. *Finish* each job as it comes along. Your desk work should all be out of the way before the busy hours begin at the counter.

Look over your bills to see that all are within the limits of the best cash discount. By making a practice of doing this daily it becomes a matter of routine requiring only a few minutes; because you will have classified your bills by age and name and systematized your filing.

Look over your memorandum of engagements for the day; meet all of them on the minute; and do not keep the "drummer" waiting beyond the time that you can conveniently see him or look over his goods. Interpret "convenient" generously.

Say "No" to any invitation to take a drink during business hours.

When all the work is under way, in the intervals between customers, look carefully over the trade journal that came in the morning mail. Note the technical articles, the news, the suggestions as to storekeeping, window dressing, etc.; study the advertisements, both for what they offer and for the education of yourself in the best ways of advertising.

If you are annoyed about some matter, take a walk, or a trolley ride, or a drive or a bicycle ride. Care does *not* "ride on the crupper."

Devote one hour in each day to the writing of your advertising. Go over it again and again until you are satisfied that it is the best you can do. Do not allow yourself to be disturbed in this work; if you cannot be undisturbed for an hour in your store, do this particular piece of work at home. Otherwise,

When you lock the store-door at night, lock your business cares inside. Do not take them into the family circle. Do not allow them to roost on your pillow

Say "Good night" to the clerks when you leave the store.

String-Saving

THE story goes that two applicants for a clerkship in a store were given similar packages to open. The one laboriously worked over the knots, and when the string was finally released he neatly rolled up the "hank" and thus secured the string for future use. The other whipped out his knife, cut the string and had the package opened while the other was still struggling with the knots.

Which applicant secured the position? The clerk with the knife.

In an earlier day, the saving one would have got the place; for in that earlier day twine cost more money than now and time was less valuable than in this strenuous period. But to-day a clerk's time is worth more than the cost of the string.

The old-fashioned notions of economy must be re-aligned to the new conditions. The word of the hour is "Get there!" String-saving, instead of being an evidence of thrift, has come to be a form of extravagance. It is only the *net* result that counts. We spend to make; we waste to save. The most extravagant waste, in these rushing days, is waste of time.

The string-saving merchant is misplaced, in this generation. A new order of economies has come about in the world of trade. Cheap stationery spells loss of command; cheap advertising means dear experience; all cheap ways are the dearest, in the new dispensation. Nothing costs too much, if the high cost comes back in proportionate profit. It is only the narrow merchant who counts the pins; there is a certain modern virtue in not even counting the pennies. The whole question of the small economies is relative; expediency all hinges on result—and on the caliber of the merchant. There be some whose thoughts run to string-saving; but it seems an expensive habit, in up-to-date merchandising.

The
Dennison Manufacturing Co.

will issue
in August

A JEWELERS' CATALOG

This edition of the Dennison book will prove of unusual value and interest to every jeweler. It really marks a new departure—accurate description and faithful illustrations making it more a book of reference than a mere catalog. Every jeweler is entitled to one. If you do not get yours, write to our nearest store.

Dennison Manufacturing Co.

Boston, 26 Franklin St.

Philadelphia, 1007 Chestnut St.

New York, 15 John St.

Chicago, 128 Franklin St.

St. Louis, 413 N. Fourth St.

Mis-Mated Partners

IT was our privilege recently to pay friendly visits to quite a number of jewelry stores, and our note book contains many interesting memoranda of things heard and observed during our peregrination. Probably the most unique of these notes is in reference to a curious exhibit placed before us by a member of a well-known jobbing firm, who favored us with many interesting business experiences. The exhibit consisted of a number of letters from the partners of a retail firm, which letters revealed a condition of affairs that may well be used to point a moral. Each of the partners evidently considered himself the managing executive of the firm, with the curious result that two letters generally came in answer to each letter sent by the jobber. The limit of absurdity was reached when two separate orders were placed for goods, one by each partner. "Later," said the jobber, "a letter came countermanding one of the orders, and after the other order had been filled and shipped some of the goods were returned with the statement that they were never ordered at all, and that we should ship certain other goods in exchange." The import of the letters was plain. There was apparently hopeless dissension between the partners; each was attending to the managerial end of the business independently of the other and an absurd confusion resulted. As such a condition of affairs could only end in disaster for the firm, the jobber showed his wisdom in diplomatically discontinuing business relations with them.

A SUCCESSFUL partnership calls for harmony of disposition, purpose and action between the partners, and this presupposes intimate knowledge of each other's habits of thought, qualifications and character. There will naturally be differences of opinion, but these will be easily adjusted by consultation and reason if the partners are congenial and have confidence in each other. Each one should have his own sphere of activity and his own special duties, and each should be free to perform his duties in his own way without interference from his partner. If a man is fit to be your partner, he is certainly fit to attend to his particular duties without vexatious supervision, and if in the course of events one partner becomes convinced of the incompetency of the other, the partnership should be dissolved as quickly as possible. Partners *must* agree if the business is to flourish, and therefore partnerships must not be entered into hastily. Ill-mated partners are as ruinous to business as ill-mated pairs are to marriage, and the same forethought should be exercised in partnerships as in matrimony. In fact, there is much less

excuse for blunders in the former than in the latter, for in taking a business partner there is no sentiment to blur the merchant's faculties or blur his reason.

Value of Personal Cleanliness

THERE is one thing which the jeweler should keep especially in mind during the melting summer months, and that is the necessity of personal cleanliness and neatness in himself and his employees. In this matter, particularly, as is the master so will be the man. If the employer keeps himself as cleanly as the season and the nature of his business demands, if he is one to whom neatness of dress and spotless linen have become a second nature, his clerks will soon cultivate the same abhorrence of slovenliness and the same pride of person. These months of profuse perspiration mean daily intercourse with the bath tub, and no clerk whose duty it is to wait on refined customers with acute olfactories, can omit with impunity this healthful, hot-weather luxury. We fear that even among jewelers there is much negligence in this regard, especially with those who combine the mechanical and mercantile branches of the business. In a branch of trade so cleanly in character as jewelry, there is no excuse for shabby dress, soiled linen, unsanitary finger nails, unpolished footgear or other manifestation of unrefined personality. We live in a time when cleanliness is as essential to competency in the store hand as any other qualification, and this is especially true of the jewelry store.

Naming a Jewelry Store

A SUBSCRIBER from a progressive town in Iowa writes as follows: "I am about to establish myself in the jewelry business and wish a suitable name for the store. I would appreciate it if you would suggest one." If the intention of the jeweler is to permanently establish himself in this town and to build up a business-bringing reputation both for himself and his store, his own name is the best to place on the front of the establishment. It is doubtful whether any high-sounding title would ever have acquired the prestige of the name "Tiffany," which still stands for reliability and excellence, even though the owner of the name has passed away. A jewelry store differs from most other mercantile institutions in that its success is largely built on the character and integrity of the proprietor. The confidence of the public is the one thing which the jeweler must cultivate and secure, and his own name should be both the store title and

trade-mark. When the local public regard Smith's name on a ring box, for instance, as *prima facie* evidence of the worth of the ring itself, Smith has gained that which, of all other things, means success in the jewelry business.

In the jewelry trade at present we have many "Diamond Palaces," etc., and, as a rule, these are not such as lend credit to the yearly trade, though there are notable exceptions. In view of what has been said, we would advise our subscriber to use his own name as the store title. One of the biggest businesses in the world has the simple title "John Wanamaker," and who will question the value of the name to the big store? It should be the ambition of every merchant to make his name stand for something, and the store should be a reflection of himself even to the name.

The Logic of Good Salesmanship

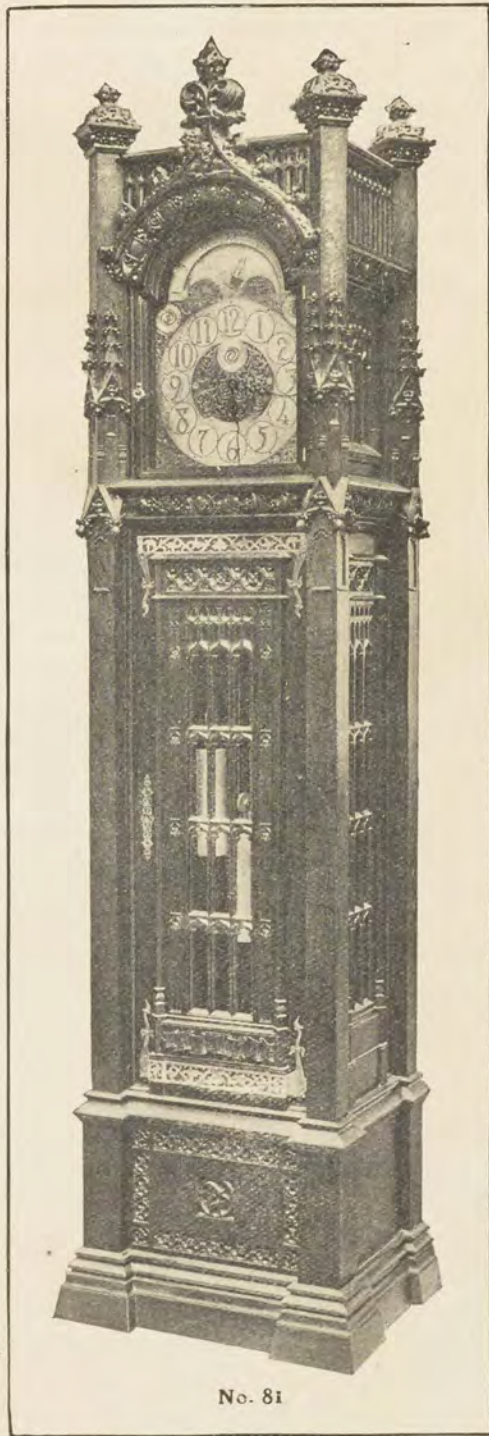
IN a lively little journal devoted to retail storekeeping there has been a vigorous discussion of the question whether it is good salesmanship to try to sell to the customer something different from what he really had in mind when he entered the store. "He is a poor salesman," says one of the disputants, "who always sells exactly what the customer asks for. Any fool can sell a man what he wants, but it takes a good salesman to sell a man what he doesn't want." To our mind there is nothing complex about this question. The fundamental essential from the storekeeper's point of view is to satisfy the customer and make him a permanent patron. If selling him something different from what he actually wanted is likely to create such dissatisfaction either with the article purchased or the methods of the salesman as to endanger his future patronage then the salesman is standing in his own light in urging such a purchase. If, however, the customer only thinks he knows what he wants, and the salesman is convinced that some other article would suit him better and give him more satisfaction, then it is the part of such salesman to place his arguments before the customer in a convincing way and make the sale accordingly. In all such cases the future must be considered in conjunction with the present. What will it avail the jeweler that his clerks should make difficult sales if such sales create subsequent dissatisfaction? An individual triumph for the clerk may not always be to the advantage of the store, and this is a fact the conscientious salesperson must never lose sight of. A sale, however difficult or profitable, that does not conduce to future business is lacking in an important essential of a really successful sale.

CLOCKS

Hall Bracket Willard

Our 1905 Catalogue is now ready for distribution, and contains illustrations of the largest and most complete line of chiming and striking Hall Clocks ever offered the trade.

We have made up for 1905-6 Season a great number of new, original and exceptionally meritorious designs of which, owing to the unusual stock which we carry, we are enabled to make immediate shipment.



No. 81

Highest Award Louisiana Purchase Exposition

We are prepared to fill any requirement both as to range of price and as to style, our patterns including examples of Plain and Ornate Colonial, Gothic, Rococo, Chippendale, Shevators, Renaissance, Arts and Crafts and other Periods.

Our Movements are thoroughly guaranteed to be unexcelled as to chiming, striking and time-keeping qualities and all details of finish and appearance.

For the convenience of the trade we have placed on display in our New York showroom a sample line of our Clocks.

Catalogue and literature upon request

GEO. W. SMITH & CO. INC.

3907-19 Powelton Avenue

New York—111 Fifth Avenue

Philadelphia, U.S.A.

THE SUCCESSFUL PURSUIT OF AN ART-INDUSTRY

By IRENE SARGENT

The typical modern smith in the precious metals uses the laws of structure, the subtleties of form, the infinity of color with the same sense of ownership and freedom as the architect, the sculptor, and the painter. He no longer sits at his bench, working out in stubborn metal a pattern which, by force of repetition, has lost all interest, like a problem whose result is given to the pupil before he has attempted the processes necessary to its solution. Now, in the revival of his craft, the smith has become a creative artist, warming into enthusiasm from a state of inertness bordering upon that of his own tools; since, formerly, as these latter received direction and impetus from him, so he himself was a tool under the power of tradition and prejudice.

Artistic Impulse in Metal Work

The art-industry of the smith in precious metals was one of the latest to yield to the modern movement which, germinating among the English Pre-Raphaelites, spread through Belgium into France, and thence

to other countries, where it now flourishes in a maturity fair and sound. But the new art of the metalsmith and jeweler, although thus tardy to appear, is found, upon examination, to be one of the most healthy and promising of recent æsthetic developments. Those who practise it have come to their work from the training of recognized schools or studios. They apply to it knowledge of the properties and limitations of material; of the principles of composition and space decoration; a scientific appreciation of color which enables them to combine and contrast, to accent and to subordinate, as accurately as painters and musical composers.

The results of this quickened intelligence, of this effectual study, are apparent to any one who has examined the gold and silver smithing shown at recent exhibitions, general or sectional, or who has noted the reproductions of such objects in the issues of art magazines during the past few years. In this work Frenchman, Austrian, Hungarian, German,

Englishman—each has displayed his racial tendencies, his historical inheritance, welded to his training as an artist, and his experience as a workman; while the American, freest of all to choose and discriminate, has wisely used his breadth of opportunity and, at the same time, asserted his individuality.

Accomplished Women Metalsmiths

Types of such American students exist in two women of Cleveland, Ohio, Miss Jane Carson and Mrs. Frances Barnum Smith, the success of whose associated efforts in metal-work and enameling has gained them recognition, alike from their fellow technicians and from the lay public. It will be profitable therefore to examine certain specimens of their work, and to determine from these objects the course of study and experiment which they have followed; also, to note the personal preferences which, skilfully treated, lend distinction to the results attained.

A first glance at the objects which we have chosen for illustration, assures us that their makers are excellent workwomen, who can not be included in the reproach sometimes justly addressed to representatives of the Arts and Crafts Movement: that they have neglected the bench for the designing board; on the contrary, they are striving to lessen the distance between these two opposite points of their activity, and to establish them upon the same level of importance.

But the purely technical qualities of strength, nicety of execution, and delicacy of finish being accepted as essentials—in the absence of which all specimens of metalsmithing must be abortive and unworthy of attention—there remain to be considered evidences of well-directed study and extended observation on the part of the designers of these objects.

Casting an inclusive glance over the work as a whole, we note two influences which have controlled the composition: first and predominant, the study of plant-form; second, the presence of modified and developed historic styles. The first influence, as one to be sought by all present followers

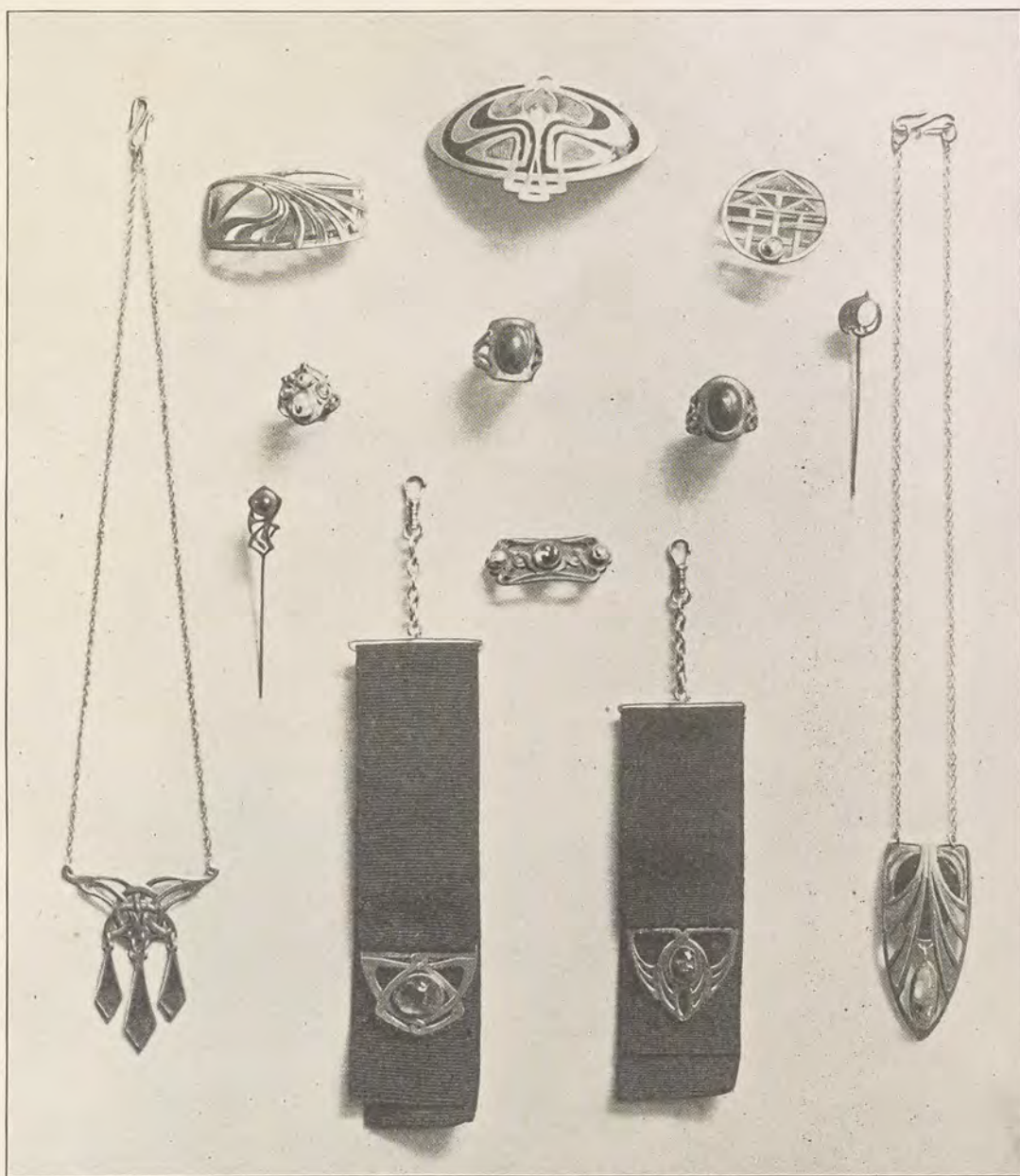
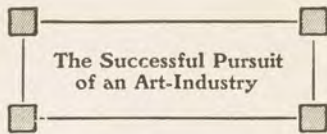


PLATE I

- Figure 1. Pendant: oxidized silver and enamel
 Figure 2. Belt-pin: oxidized silver and enamel
 Figure 3. Ring: gold, set with Australian opal, sapphire, and pearl
 Figure 4. Scarf pin: gold, set with chrysoprase
 Figure 5. Belt pin: silver and enamel
 Figure 6. Ring: oxidized silver, set with malachite
 Figure 7. Fob: oxidized silver, set with amethyst
 Figure 8. Brooch: oxidized silver, set with amethyst and baroque pearls
 Figure 9. Brooch: silver, enamel, and turquoise
 Figure 10. Ring: oxidized silver, set with green tourmaline
 Figure 11. Fob: silver, set with emerald matrix
 Figure 12. Scarf pin: enameled gold, set with Australian opal
 Figure 13. Pendant: silver, enamel, and opal matrix



of the decorative arts, as one especially beneficial to metal smithing, deserves here to be discussed with some degree of thoroughness. Although obscured, or at least unemphasized to the untrained eye, it is yet sufficiently strong in these objects to permit their acceptance as illustrative of the point to be sustained.

Plant Forms in Artistic Evolution

The study of plant-form, in its modern sense, appears in the jewel-casket; in the pendants, the brooches and the fobs of Plate I; and especially in the enamel-work of the handles of the salad spoon and fork. Its appearance is always to be welcomed as an evidence of sound design, since it precludes applied ornament, and forces the decoration to become necessary to the scheme of form. For this reason, the rational, systematic study of the plant, regarded almost as a branch of architecture, has been introduced into decorative art schools throughout Europe, from France, its place of origin; receiving the most thorough attention and development in Dresden, Stuttgart, Munich, and other centers of German culture.

The Real and the Ideal

As may be seen from our accompanying illustrations, the plant, used according to this system of design, is never presented under a natural, realistic form. Instead, the student having been taught that Nature is the basis of all logical construction, and having been referred, in proof of this teaching, to some specific flower or fruit, deduces from this example an architectural, or purely decorative form; sometimes preserving the proportions of the whole, with its general treatment of line; sometimes building upon a single element, or detail of the original by emphasizing it and increasing its power through successive drawings, until a climax is reached and something organic is evolved: just as a plant, or an animal species, through successive generations, slowly adapts itself to its surroundings. The natural object, as to its definite form, is therefore lost beyond recall, or else it appears only in faint, distant suggestion. But its spirit survives to animate the new structure. It has transmitted its valid proportions, its balance, its subtle individuality to a shape never before created, which shall afford a fresh pleasure to the human eye.

Such, in theory, is the use of plant-forms in the most advanced decorative art. They are thus simply points of departure, sources of inspiration from which to proceed to unexpected developments of grace and beauty.

These forms, through their endless derivatives, become the most obedient agents of space decoration; adapting themselves to given limits as easily as the purely linear combinations of Moorish ornament, and pos-

sessing over these latter the advantages of greater suggestiveness. They lend themselves to the most varied arrangement of the component parts of a design, and so encourage originality and fertility upon the part of the designer, as we shall find by analyzing our illustrations.

Directing our attention to the plate displaying the pendants, fobs, and brooches, we find several examples of the plant-form used as the basis of design. As a first instance, we may indicate the pendant at the left, which, as an ornament, might be accepted by the strictest followers of the commandment against graven images; since it apparently represents no created thing. Yet it is an obscured, highly conventionalized flower-form, perhaps developed from the pistil of some variety of lily, as its chief line (the wing-like shape to which the chain is attached) would seem to indicate, and then ingeniously woven into an interlaced pattern suggested by Moorish, or by Celtic ornament; perhaps, instead of being taken directly from Nature, it is a derivative of the Greek honeysuckle, as might be inferred from both the chief line and the heart-shaped central figure from which the enameled triangles fall. At all events, it is a design indicating the intelligence and the patience of the one who composed it.

Some Interesting Examples

The pendant at the right of the same plate is a good example of space decoration. Like the preceding design, it is a remote flower-derivative; but here the composition instead of being treated fancifully, is held within the limits of a severe outline. The latter approaches the form of a lanceolate leaf, which, being placed in an inverted position, becomes a natural pendant; while the metal ribs running from the middle of the base to various points of the bounding line of the composition, are distant memories of the vein-system of the leaf. The design is thus well held together—one may say, architectural—because it is based upon Nature. By its lightness and refined quality it further affords a fine mounting for the gems, which are ingeniously disposed with reference to the metal-work.

A Pretty Pendant

Suggestive designs also exist in the two simple fobs, which are probably derivatives of insect-forms; the one at the right being a less remote development than its companion piece: the emerald matrix representing the "eye" upon the wing, and the pierced silver work the wing-tissue of a moth, or butterfly. Indeed, these resemblances are emphatic, when compared with those occurring in the designs of Oriental rugs, as, for example, the continuous herring-bone enclosing a series of dots: the former standing for the spine of an alligator seen in profile, and the latter for the scales of the animal's hide; this evolution being explained by the fact that all ornament tends toward



PLATE II
Silver cross and chain: decorated with purple enamel, amethysts, and baroque pearls

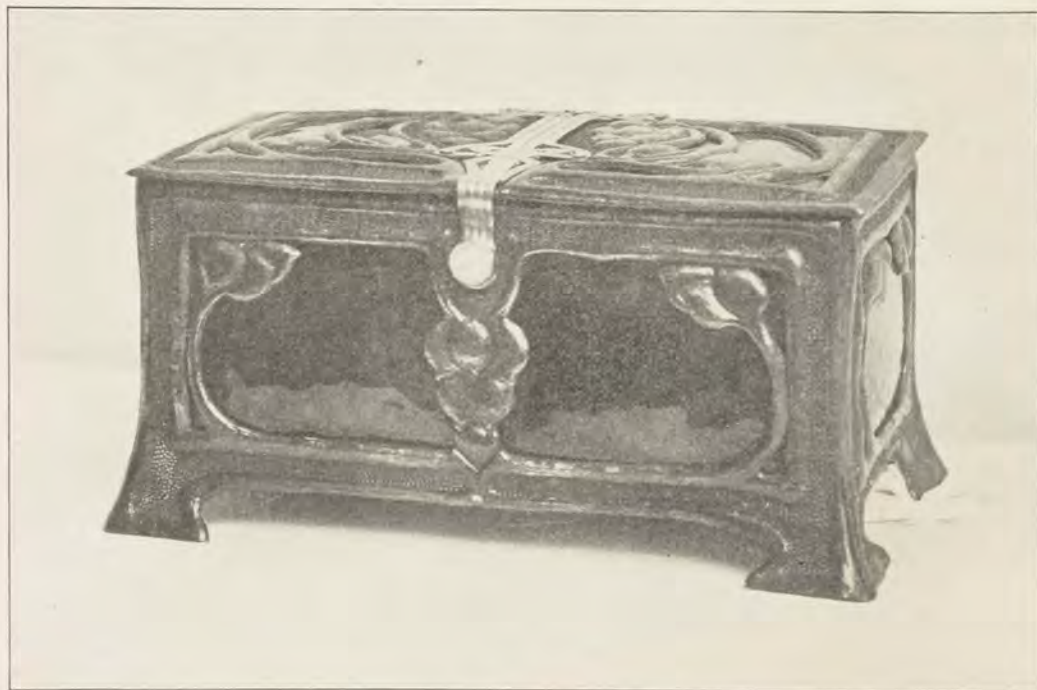


PLATE III
Jewel casket (exhibited at St. Louis): copper *repoussé*; silver hinges and hasp set with Mexican opals; enameled panels



PLATE IV
Salt cup, spoon, and pepper pot: silver and enamel
Cream ladle and sugar tongs: silver, set with Mexican opals

what is scientifically called "simplification." That is, through successive drawings, all forms lose their less important lines and their minor details; while their most prominent characteristics alone survive, and they only in bare suggestion.

A Unique Combination Motif

In the same plate, the larger of the two belt-pins offers an attractive study of ornament, worked out with the intelligence and patience which we have previously noted. Under the pencil of the designer, the *art nouveau* line acquires a pliancy

which unites by easy transition the Scandinavian, or Celtic knot-treatment of the silver with the Persian flower-motif of the enamel.

The same motif fully developed, appears in the best example among our illustrations of the plant used in decoration. This occurs in the enamel work of the handles of the salad spoon and fork (Plate V). We find here the bulb, stem, leaves, and flower thoroughly conventionalized, as must be the case when any specimen is translated from Nature into good art. We find also the knowledge of historic ornament rightly employed: that is, not to imitate, but as a capital fund upon which to base new experiments: such as we see in the well-defined, easily understood, and yet complex floral form, in which the bulb is modern, the lower foliage is reminiscent of the Greek honeysuckle, and the flower itself recalls one of the finest figures of antique Persian designs. The same may be said of the strand pattern in silver, which forms the stem of the handle, and then develops as a graceful ribbon about the

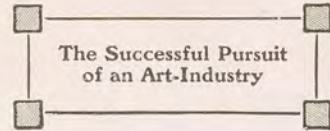
Ancient Knotted Work Modernized

enamel work. This appears to be modern and original, but yet its source lies far away in the knotted ornament of Northern Europe, found in Irish manuscripts and Runic crosses, and there typifying dragons and demons. These two pieces are therefore

a happy blending of the old and the new, an outcome of that quickening of the mind, which is excited by a well-directed study of the past, and which it is the function of the art school to produce and foster.

A much less original, although beautiful example of metal smithing is found in the jewel-casket in copper *repoussé*, ornamented with silver and gems: a specimen which might be mistaken for the work of the Maison Bing, or the Maison Moderne, of Paris, except for the mediæval air given to it by the hand tool, and the consequent slight irregularity of line. The ornamentation of the top approaches the much criticized linear fancies of Van de Velde, although the result is far from displeasing. Yet again, the principle involved is a dangerous one, since its employment usually leads, as in the case of the Belgian artist quoted, to the excesses of the "whip lash line," the most dangerous element of the continental *art nouveau*.

These modern studies of Miss Carson and Mrs. Barnum Smith, interesting because of their distinctive quality, are accompanied by others which are skilful adaptations of historic ornament. Such are the three necklaces of Plate VI,



which show designs peculiar to metal-work and jewel-setting, recalling none found in other arts, and limited to providing a framework for the inset stones, and a proper alternation of voids and solids. They compare most favorably with the objects of their class, designed with the same intentions, which have been shown in recent years at European exhibitions; being, perhaps, the most nearly related to the work of Mr. and Mrs. Arthur Gaskin, of Worcestershire, England, as judged from their display at the Arts and Crafts Exhibition, held in London, in January, 1903. They are distant developments of the goldsmith's work of the period of Charles Fifth, when the supply of gems upon the world's market multiplied in number and variety, through the opening of water ways between countries most remote from one another. Much color was given the personal ornaments then fashioned, by the use of many stones in combination; while elaborate pieces of jewelry which, owing to changes in the fashion of the dress of both sexes, are no longer worn, permitted certain beautiful treatments of the precious materials, to-day as unusual as they are attractive. Museums like the Louvre, South Kensington, and the Metropolitan of New York, preserve important specimens of this period, which students of metal smithing would do well to analyze, encouraged, as they should be, by the success of many recently produced objects showing distinctly the influence of these sixteenth century types.

A Happier Adaptation

A still happier use of historic ornament than is made in the pieces just discussed, appears in the cross and chain illustrated in Plate II. Alike in its design and in its material, it possesses an ecclesiastical quality which, while

not precluding its secular use, lends to it a dignity unusual in a piece wrought in such modest proportions and substances. This ornament, without doubt, was suggested by the so-called pectoral cross worn by bishops of the Roman Church, whose special gem is the amethyst, a large specimen of

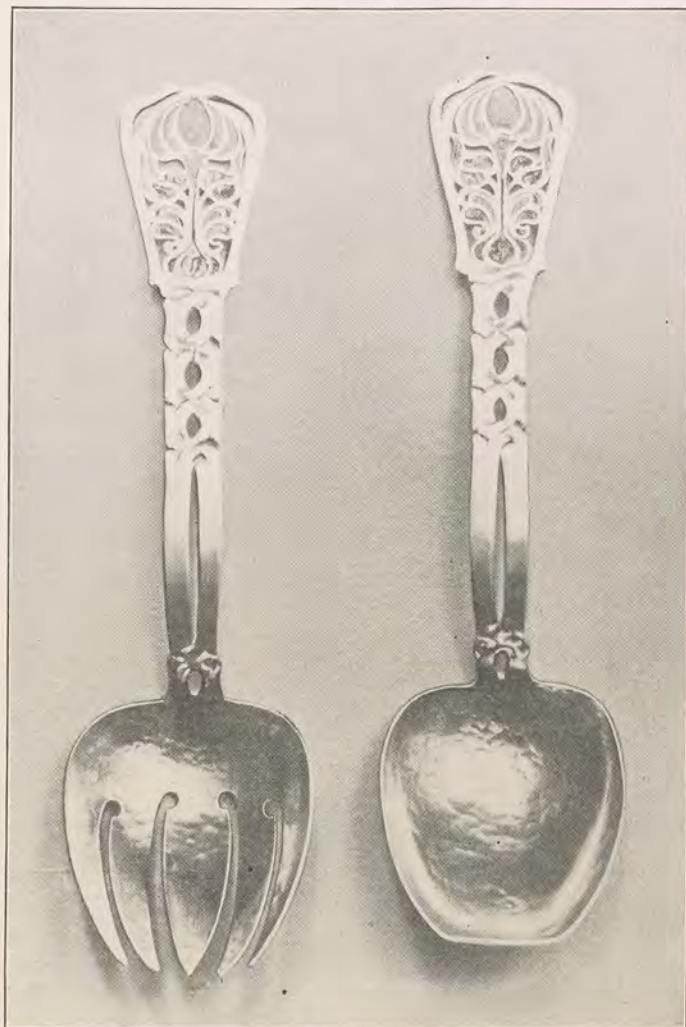
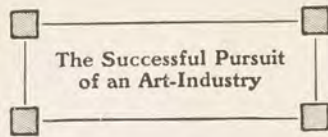


PLATE V
Salad spoon and fork: silver and enamel



The Successful Pursuit
of an Art-Industry

which is set in both their cross and their ring of office; the purple color of the stone being associated with imperial rank, and therefore appropriate to those who originally exercised the highest churchly functions.

In the object illustrated, symbol, substance and design concur to produce a unified whole. The composition is Gothic, based upon a plant-motif often found in the stone tracery of church architecture—as for instance, in the capitals of clustered columns—worked out with much skill, and carefully adapted to execution in metal. The space-divisions of the cross are excellently arranged, and the decoration well apportioned, with the four extremities of the figure presenting the floriated shapes frequently occurring in ornate English arches. Further, the chain shows the familiar trefoil, and no detail is omitted which could add completeness to the design; even the amethyst centering the cross being *en cabochon*, or cut without facets, as was characteristic of mediæval gems.

To have designed this ornament is to have shown ability both as worker and thinker. The handling of metal therein indicated is such as could be suggested only by one whose hand has felt beneath his tool the stubborn resistance of the medium of execution; while the drawing shows an adequate knowledge of the principles of design, together with that acquaintance with the history of the subject which is the mark of the refined, conscientious and enthusiastic student.

Therefore, in view of the successful work accomplished by certain American metalsmiths who regard their calling as a fine art, should not many other men and women possessed of aptitude and acquirements, decide to follow their example? In our practical age, the impetus toward the industrial arts is strong, and this in itself indicates an upward, rather than a decadent tendency. It is parallel with that impulse of the truly æsthetic Japanese which causes them to enrich and beautify their articles of domestic service, and to reject largely from their belongings things playing no active part in the routine of life. This was also the policy pursued by the masses of the Greeks and the Romans, whose love for the beautiful was adjusted to a comparative simplicity of life. For while there were among them many private collectors of marbles, pictures and *bibelots*, the majority of them were content to possess a few exquisite objects of personal use and adornment:

Noted Art Craft Devotees

this idea of embellishment sometimes proceeding to exaggeration, as in the case of the Pompeian jelly-molds, which were ornamented with scenes from the stories of the gods. The Japanese and the Greeks are but two examples chosen from many, and that age is always one of progress and increased culture which witnesses the activity of the industrial arts. Preceding the Americans, many European artists have now stepped without the limits of the purely fine arts to engage in work which, fifty years since, would have been considered trivial. Among such we may mention M. Colonna, of the Maison Bing, Paris, who compasses the whole range of design, from house architecture to the composition of an inexpensive brooch, or the border of a porcelain plate. Also, in Turin, one of the greatest centers of the modern art movement, those who have made for themselves names in sculpture and painting—the two arts honored almost to the point of adoration by the Italians—are reverting to the old racial types of artists, who worked together in populous studios, and alternately in marble, bronze,

pigments, enamels, and the precious metals: in this new instance the workshops being those of the Casa Musy, a firm of goldsmiths and jewelers which has just completed two hundred years of existence.

Successful example is at all times a powerful, convincing teacher; but a further impetus toward the industrial arts is about to be given to American students through the action of the new curator of the Metropolitan Museum, of New York, who, from his wide experience at South Kensington, recognizes the value of these arts as promoters of prosperity and civilization. The establishment of technical schools and of lectureships which he will undertake outside the city, will certainly be imitated by directors of similar institutions; so that much artistic ability which now goes to waste, through being directed into wrong channels, will be made to nourish industries and manufactures, and to beautify objects of domestic service and personal use.

Artistic Possibilities in Metal Work

Among the industrial arts there is none more capable than that of the smith in precious metals of producing beautiful objects; whether the worker fashions utensils of gold, and jeweled flowers, of the value, artistic and monetary, of those which Tiffany & Company exhibited at the last world's fair; or whether he sends out from his studio only the every-day ornaments of the people, composed from silver and inexpensive native gems. For, contrary to the statement of unpatriotic critics, the standard of taste in America is set beyond the dollar mark, and were it dependent alone upon the teaching now prevailing throughout the public school system, it would still continue to advance. Therefore, the goldsmith determined to raise his art above the deadening influences of commercialism, will find numerous clients ready to second his efforts, and, since he appeals to the love of ornament, which is a strong and constant human emotion, he may depend upon his work to supply him with abundant means of subsistence. The recent graduation at Harvard sent a winner of the usual literary degree, through his own choice, to the bench of the silversmith, and his example, as a worker with his hands, might be considered with profit by many baccalaureates of both sexes today standing at the entrance of the overcrowded professions.

Finally, strong encouragement may be derived from the career of the two associated women metalsmiths whose work forms the subject of this article. At first, students of design and decoration at the Cleveland, Ohio, School of Art, they later pursued similar courses at the Boston Museum of Fine Arts, as

well as special subjects under private instructors in the same city. Then, returning to their homes, and advancing through great difficulties encountered in providing themselves with proper tools and a workshop offering facilities for the exercise of their craft, within three years from the making of their trial efforts, they jointly obtained a silver medal at St. Louis. A third artist, Miss Watkins, coming from a four-years' fine arts course at Cleveland, has recently joined the two original workers, who, as their achievements have long since proven, represent the serious side of the Arts and Crafts Movement; who can not be taxed with the possession of the amateur quality and the affectation which have placed certain disciples of this reactionary impulse in an unfortunate light and position.

These women are successfully pursuing an art-industry which calls into play a liberal education. They constantly apply to their work a knowledge of chemistry, of history, of the laws of form, design and color: subjects which for them have long since lost the dry and dead quality of theory and have become practical resources, like the ability to read and write.

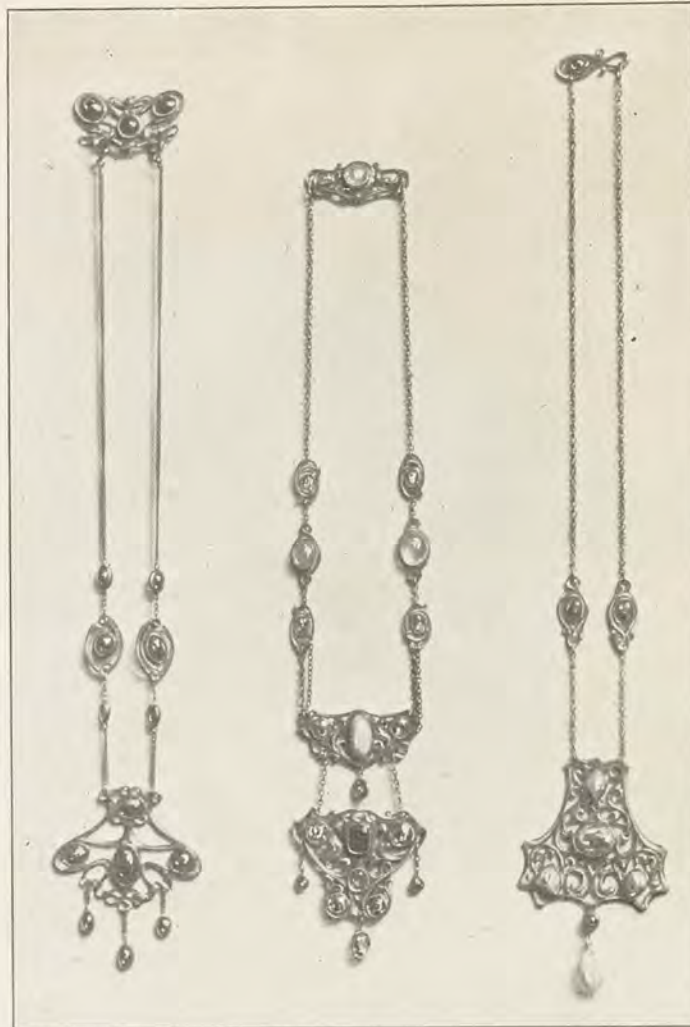


PLATE VI

Figure 1. Necklace: silver gilt, set with red Mexican opals
Figure 2. Necklace: oxidized silver, set with sapphire, opals, topaz, and aquamarine
Figure 3. Necklace: oxidized silver, set with opal matrix, emerald matrix and baroque pearls

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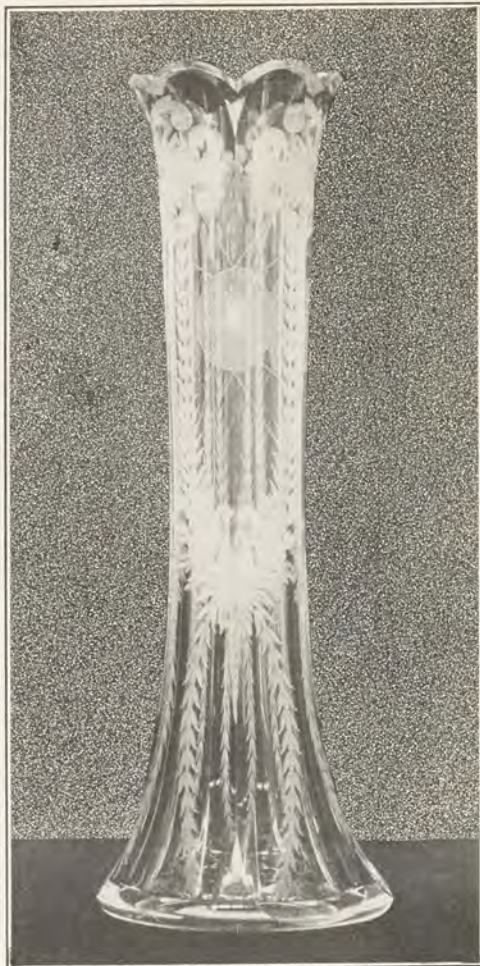
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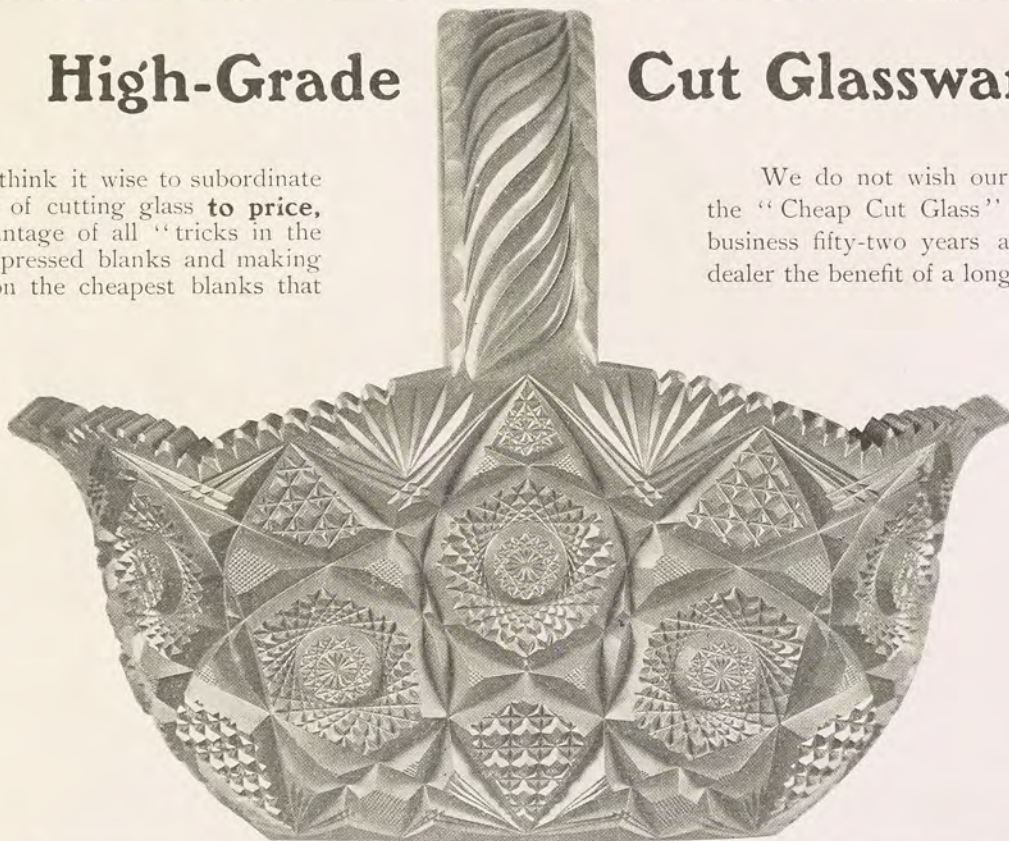
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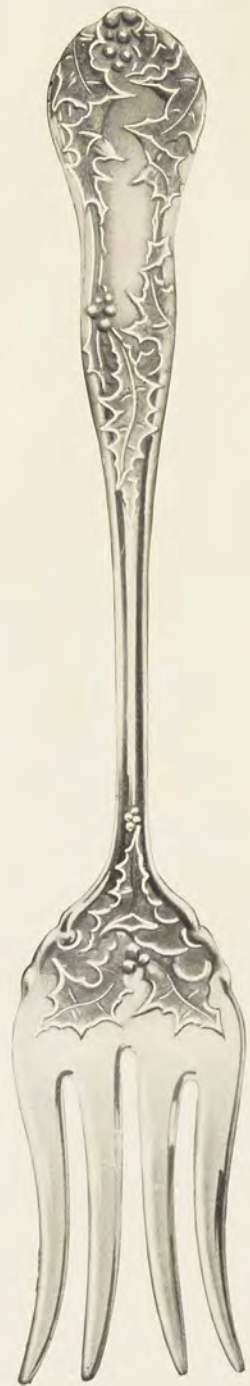
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THE inventor of the aeroplane kite, Captain Cody, who recently gave an exhibition at the Crystal Palace of his new man-lifting air machines, was considerably astonished when, on the morning of the trial, a couple of models of his invention came fluttering gayly over the grounds from outside.

Subsequent investigation, says *Pearson's Weekly*, proved that the tiny duplicates had been built to scale by a couple of precocious Penge youths, who had made mental notes of the principles upon which Mr. Cody's originals were constructed while on a visit to the Palace some days previously.

The boys had spent the whole of their pocket money in materials, had occupied their spare time in putting the kites together, and had utilized the spacious coal yard attached to the Penge Railway station for the conduct of their preliminary experiments.

Sir John Brown, who made the first rolled armor plates for modern battleships, was but a lad of sixteen when the sight of a carriage worked by a spiral spring at a village fair suggested to him the conical spring buffer for railway trucks, out of which, after a long struggle, he ultimately made a fortune.

Eli Whitney, the inventor of the cotton gin, got the germ of his great idea from seeing, through the interstices of a hut, an old negro work a handsaw among the freshly picked cotton stored within.

The teeth of the saw tore the lint from the seed easily and quickly, and young Whitney (he was barely thirteen at the time), realized at once that a machine working a number of similar saws simultaneously would revolutionize the cotton growing industry.

He said nothing to anybody, but set to work building models and experimenting. His difficulties were enormous, for he not only had to make his own wheels, cogs, etc., but he had also first to forge his own tools, and even to manufacture the paint wherewith to color his many plans and drawings.

But he succeeded in the end, and though the outbreak of war and other hindrances prevented the invention from being actually placed upon the market until many years afterward, the first complete cotton gin ever

constructed was built from those very models and plans, and with scarcely a single alteration.

Story of Watch Springs

At Attercliffe, near Sheffield, in 1760, there lived a watch-maker named Huntsman, whose temper had often been tried by the defective quality of the watch springs then in use.

He sometimes wondered if it were not possible to make these articles of like nature, and at last came to the conclusion that if he could only melt a piece of steel and cast it into an ingot, its composition would be the same throughout.

He experimented, and at last succeeded. The supply created the demand. And ere long Huntsman was turning out cast steel ingots by the hundreds of tons, and reaping a fortune.

The workmen in the mills were paid very high wages, and were sworn to secrecy. Nor did they betray their trust—at least not wittingly.

But one bitter night they gave shelter to a wan, half frozen lad, dressed in tattered corduroys. He asked no questions. Indeed, he seemed dozing most of the time in the warm glow of the furnaces.

Nevertheless, when he went he took the secret of steel casting with him, and within a half dozen weeks there were as many mill owners in Sheffield working the new process.

Samuel Crompton, a boy of 16, copied the best features of the spinning machine invented by Hargreaves and Arkwright, added to them some of his own and, after thirty months of anxious and secret experimenting, produced the first spinning mule—so-called because it was a kind of hybrid between Hargreaves' jenny and Arkwright's water-frame.

The raw apprentice lad was, however, no match in cunning for the cotton lords, who soon found out the secret of his new machine and shamelessly robbed him of the fruits of his ingenuity.

Many years afterward, it is true, they used their influence to secure for him a Parliament grant of £5000, but he was then a broken hearted and disappointed man, to whom the money came too late to be of any real service.

Holden's Historic Inventions

The late Sir Isaac Holden's inventions in connection with the wool combing industry have almost obscured from the public's remembrance the fact that he was also the originator of the lucifer match.

This happened while filling the position of lecturer on chemistry at the Castle Street Academy, Reading. He used to rise at four in the morning in order to pursue his studies and found the old-fashioned flint and steel extremely inconvenient. So, one day, he made a paste of phosphorus and other substances, stuck it on the end of a sliver of wood and found it would ignite on being rubbed against any rough substance.

Holden himself did not realize the importance of his discovery. Not so, however, a pupil of his to whom he showed it. This youngster, who chanced to be the son of a London manufacturing chemist, at once wrote to his father about it; and shortly after lucifer matches were issued to the world.

Lord Armstrong as a boy was intended for the law, but as it happened there was a water wheel of curious construction near the office where he worked, and the man who owned it explained its mechanism to the inquisitive lad. He also explained to him an idea he had for utilizing the power of falling water in order to lift great weights.

A few brief words set young Armstrong thinking. A little later he started experimenting. And the result of it all was that there was perfected, in due course of time, the enormously powerful hydraulic crane, which has rendered possible the ambitious enterprises of the modern builder.

Last, and most wonderful of all, comes the case of the little Italian lad Guglielmo

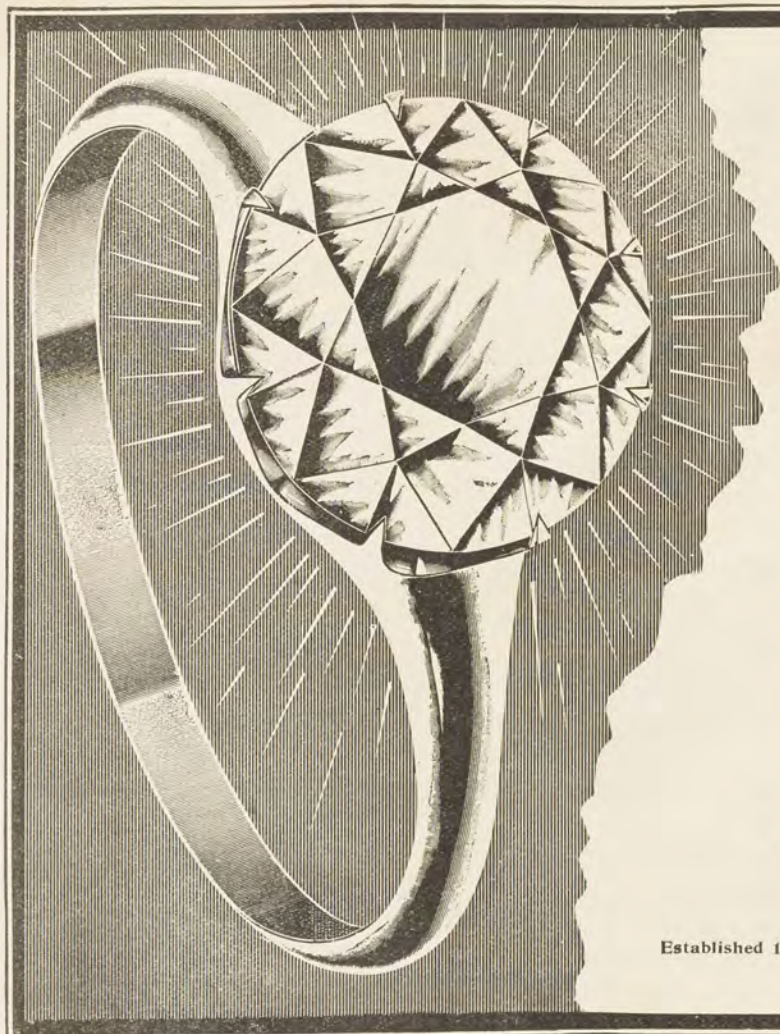
Marconi's Boyish Achievements

Marconi who, through seeing a conjurer perform certain tricks by means of electrical agency, was enabled not so very long afterward to astonish the world with wireless telegraphy.

His first experiments were carried on in a field on his father's farm, and his apparatus consisted merely of tin biscuit boxes set up on poles of varying heights, one of which was connected with a crude transmitter and the other with an equally crude receiver, both of his own manufacture.

This was in 1886, when he was in his fourteenth year; and he barely 21, a shy, modest, beardless stripling when he was in London explaining to the greatest scientists of the age the greatest discovery of the century.

His later achievements in perfecting his invention are known to all, and there is to-day no spot on earth where man need get out of communication with his fellow-men.



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New York Letter

New York a Century Ago

A summary view of New York at the very beginning of the nineteenth century has come to light in a stray copy of Aynès' "Nouveau Dictionnaire Universel de Géographie," published at Lyons in 1804 (An XII). To this city is apportioned just half of an octavo page, from which the *Sun* reproduces the following interesting information: "New-Yorck, an American city, capital of the province of the same name, built on the little island of Manhattan, at the mouth of the Hudson River, 36 miles northeast of Amboy. It was partly burnt in the war of independence. All that has been rebuilt is quite fine. We cite particularly the street of Broadway, which is a mile and a half long and 70 feet wide, and at the south ends in a handsome park where there is a promenade. The water is generally bad. The prisons are well built and well conducted, their interior administration being entrusted to the Quakers. The number of inhabitants was very considerable, but yellow fever depopulated in 1799 and in 1803. The finest building in New-Yorck is Federal Hall, where Washington and Congress took the oath at the beginning of the federal Constitution. Beyond the park there is building to-day the elegant and new City of Hall (*ville de Hall*). The pound of 20 shillings of 12 pences is current and is worth 13 francs 15 centimes."

A Chromatic Symphony

Fifth Avenue on Saturday afternoon, from Sixteenth Street to Forty-second, offers an attractive panorama of color. This is not afforded by the passing show, for the street is almost deserted at this season, but is to be found in the window shades of the closed shops. They present a Venetian riot of color. Green in all its tones is a favorite, and yellow is a good second, varying from a listless buff to a bright sunlight effect that makes one think kindly of the man who selected it. A brilliant scarlet flashes into view, and is answered by a ripple of mauve from the shop of a French milliner. A big brown-stone building paneled in daring purplish blue, that brings out the plum tones in the stone, is a striking feature of the avenue and as French in its way as the milliner's creation. A stupid place, shrouded in dull gray, makes one feel sorry for the owner, and then one hastens to forget him in the more joyous red velvet draperies of a big importing house. One shop—managed by a woman, of course—has its windows damascened with white lace of sumptuous design laid flat against the glass, and a bit of burnt orange lights up another brownstone front.

Jewelry Here and in Brazil

"There's a pattern of scarfpin," said the foreman of a jewelry factory, on Maiden Lane, to a reporter, "that is far and away our leader, yet we do not sell a single one to our local trade, nor have we listed it in our catalogues for United States sale for thirty years. It looks like a banjo upside down, a disk anywhere

from the size of a dime to a quarter and a stem to carry the pin that fixes into the scarf or into the bosom of the shirt. We get the mounts from a factory in Connecticut, in all grades, from near gold to the real thing. In the same way we mount everything from glass to gems, a big one in the middle and a cluster in a ring about it. If you will look at a collection of Civil War photographs, you will see that they were then all the rage, but they went out of favor about the time of the smashing of the Tweed ring. There is a steady demand for that style in Brazil. Our drummer has just made a trip on the Amazon from Para all the way to Belem, and I wouldn't dare to show you the orders he has booked for just that one pattern in all the grades; it might attract competition."

Record Year of Diamond Imports

Official statistics recently made public show that during the year ended June 30th, importations of pearls and precious stones attained to record proportions. The uniformly increased volume of monthly importations regularly reported in these columns in the past, made this practically a foregone conclusion. It is no less notable, however, on that account and it is especially significant in view of the substantial extent to which it surpasses all its predecessors. The total volume amounted in value to \$33,223,164.59, or \$5,904,522.46 worth more than that for the year ended June 30, 1903, which hitherto held the record. It is greater by \$11,390,045.42 than the aggregate for the corresponding period in 1904 and it is \$3,254,943.45 more than double the total for a like term in 1900, which was the lowest for the past six years. Of this year's enormous total the cut precious stones and pearls made up \$22,942,522.36 and the uncut, chiefly diamonds, amounted to \$10,280,642.23. Notwithstanding this vast tide of imports, there has been continuous clamoring for stones of specially desired qualities. The returns of General Geo. W. Mindil, jewelry examiner at this port, show the aggregate imports for the fiscal periods ending June 30th, of the past six years to be as follows:

Year ended June 30,	Value
1905	\$33,223,164.59
" " " " 1904	21,843,119.17
" " " " 1903	27,318,642.13
" " " " 1902	22,938,531.62
" " " " 1901	21,919,053.86
" " " " 1900	14,984,110.57

The imports for June this year were likewise the largest ever recorded for that month, amounting in all to \$3,442,043, or \$1,437,595 more than those for the same month of 1904. Thus, there is no abatement in these imports, nor is there any sign of one. The June total consisted of uncut stones valued at \$834,537, and cut valued at \$2,607,505. The figures for June for the past four years are appended:

June,	Uncut.	Cut.	Total.
1905	\$834,587	\$2,607,505	\$3,442,043
1904	950,766	1,053,682	2,004,448
1903	781,190	1,879,486	2,660,676
1902	568,399	1,786,626	2,355,026

Imports of general merchandise through the port of New York for the year ended June 30th, were valued at \$684,497,042, as compared with \$600,170,033 last year. They exceed those of

any previous year by \$66,000,000. The exports of domestic merchandise were valued at \$506,448,437, as compared with \$493,698,208, those of foreign merchandise being \$13,491,306, as compared with \$13,102,304.

Interesting to Importers

The Board of United States General Appraisers handed down a decision some weeks ago, to the effect that gold stones and gold fluss are dutiable at 20 per cent., as imitations of precious stones, and that gold fluss abfalle, being more than an inch in diameter, as imported, is subject to duty of 45 per cent. as a manufacture chiefly composed of paste. Among the protests before the board regarding the duty on these commodities was that of Albert Lorsch & Co., which was partially sustained. Portion of the decision in this case read:

We find from the oral testimony and an affidavit signed by the manufacturer of the material in dispute, that the merchandise is prepared by a secret process from paste and copper filings, the value of the paste being 80 per cent. of the total cost of the finished product, and we hold as to the merchandise described on the invoices as gold stones and gold fluss that it is imitations of precious stones less than one inch in dimensions, and that it is dutiable at 20 per cent. ad valorem under Par. 435.

Regarding the merchandise invoiced as gold fluss abfalle, we find it to be composed of the same materials, prepared by the same formula and designed for specific use, viz., to be cut to form and size suitable for settings for jewelry, after importation; hence, we hold that it is not waste as claimed by the protestants and overrule the protestants in this particular. The slabs or lumps of gold fluss abfalle are severally of greater dimensions than one inch, and for this reason would seem to be excluded from classification under Par. 435. We therefore affirm the correctness of the collector's decision in assessing duty on the same at the rate of 45 per cent. ad valorem under the provision of Par. 112 for manufactures composed in chief value of paste.

Albert Lorsch & Co.'s protest regarding the duty on imitations of whole and half pearls, etc., was, however, fully sustained and the case made a precedent for others of a similar character. This case is summarized in the appended extract from the appraisers' decision:

The merchandise covered by these protests consists of imitations of whole and half pearls, some being mounted on wire and intended for purposes of manufacture, and some being pierced and intended to be strung. They were classified by the collector as manufactures of paste, n. s. p. i., under Par. 112 of the Tariff Act of 1897, except those mounted on wires, which were classified as parts of jewelry under Par. 434, and those pierced or drilled, which were classified under the provision of Par. 406 for "beads of all kinds, not threaded or strung." The importers claim that the same should have been assessed with duty at the rate of 20 per cent. ad valorem as imitations of precious stones, under Par. 435.

The death of Mrs. H. Kaufman, mother of Louis Kaufman, of Louis Kaufman & Co., ring manufacturers, 82 Fulton Street, occurred last month at her home in Arverne, L. I. The deceased lady had reached the venerable age of eighty years. The funeral obsequies were held on Friday, July 7th, and interment was in Cypress Hills Cemetery.

PLAIN GOLD RINGS



A



B



C



D



E



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

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

Prices and Ring Blanks on request



HAYDEN W. WHEELER & CO.

RING MAKERS

TWO MAIDEN LANE, NEW YORK

"CENTENNIAL" Split Second Timer

In Nickel O. F. case

Anchor Escapement

Thoroughly Accurate

The best Split Second Timer made



Timer is $\frac{1}{2}$ larger than cut

CROSS & BEGUELIN, Manufacturers, 17 Maiden Lane, New York

(A Corporation)

Eliassof Bros. & Co.

A LARGE ASSORTMENT OF DIAMOND-MOUNTED JEWELRY CARRIED IN STOCK

IMPORTERS
AND
JOBBER OF

**Diamonds
Watches
Jewelry**

9-11-13 Maiden Lane
NEW YORK

100 State St.
ALBANY, N. Y.

New York Letter

(Continued from page 1243)

Bogus Watch Marks

All the defendants in the suits instituted by the American Waltham Watch Co., for selling as "Crescent Walthams" watches bearing the monogram V. C. W., have appeared and submitted to decrees, and injunctions have been duly issued by Judge Lacombe against Samuel Robinson, Nathan L. Rogers and Harry J. Livingston, dealers, and John Davis, Jacob H. Spandau, Jesse Rogers, Edward Wagner, Albert Sebastian and Harry Harrison, auctioneers. Defendants are thus enjoined:

First. From using the combined words "Waltham Watch," or the combined words "Crescent Waltham," or any colorable imitation thereof, in selling, advertising or offering for sale watches or watch movements, except as to watch movements made by complainant, and watches containing watch movements made by the complainant and from in any way selling, advertising or offering for sale watch movements or watches containing watch movements under the name of "Waltham Watches" or "Crescent Waltham Watches" or "Crescent Walthams," or under any other designation whatsoever, upon the representation that such watches or watch movements were made by the complainant, or with words or acts calculated to impress customers with the belief or convey to them the idea that such watches or watch movements were made by the complainant, unless the watch movements so sold, advertised or offered for sale, either separately or as parts of watches, were so made by the complainant.

Second. From selling, advertising or offering for sale watches or watch movements having inscribed upon their dials or upon any other portion of such watches or watch movements the letters "C W" unaccompanied by other letters or any others so arranged or inscribed as to appear to an observer using ordinary care as if they were solely the letters "C W," and specially from selling, advertising or offering for sale watches bearing the monogram said to be composed of the letters "V C W" or "V W C" or "C W" referred to in the bill herein, and which appears upon the dials of the watch exhibits submitted by the complainant in this suit, or any other monogram composed of the said letters, but said injunction shall not prevent the defendants from selling or offering for sale watches bearing the letters "V W C" inscribed in that order separately and distinctly, but not in the form of a monogram, upon the dials or other portions of such watches.

Increased Postal Receipts

Besides a comparison of population, of bank clearances, of school attendance or of tax valuation, a method of determining the real importance of an American city is afforded by the volume of its post office business. Under this test, New York, of course, stands at the head of American cities with a year's postal receipts to July 1st, of \$15,500,000, New York and Brooklyn having separate post offices. There was a clear profit to the Government on the New York business done. The receipts for last year are unprecedented. They not only exceed any other city, but also are in excess of the postal receipts of many European countries.

A rather clever robbery was perpetrated some weeks ago when a trunk containing jewelry valued at about \$12,000, the property of S. Nathan & Co., wholesale jewelers, 65 Nassau Street, was stolen while in the hands of the New York Transfer Co. At this writing the alleged thief has been apprehended and more than half the property recovered. It was while in transit between Philadelphia and its New York destination that the property disappeared. S. Nathan, head of the firm to which it belongs, was returning

from the first-named city over the Pennsylvania Railroad and before the train had reached Jersey City he gave the check for the trunk, with directions for its delivery, to an agent of the New York Transfer Co. It is said that the trunk with other baggage was loaded on a wagon at the foot of Cortlandt Street. The wagon, abandoned, was found that night near Lexington Avenue and Fifty-eighth Street, and all the goods were accounted for except the trunk of jewelry. The driver of this wagon had been in the transfer company's employ only two days and his credentials had still been under investigation. He called himself Michael Burnham, of 959 Third Avenue, and gave his age as twenty-five. The police were immediately notified of the theft, and the arrest in Boston of a man calling himself "Frank Riley" followed. The authorities believe that he and "Burnham" are identical, but that he is none other than Joseph Haley, who had lately been released from Elmira Reformatory, where he had served a term for grand larceny. His alleged wife was with him when arrested, and in the room which they occupied was found a drummer's sample case containing about 500 diamond, sapphire, ruby, emerald and opal rings, a quantity of unset stones, gold chains and other jewelry. The jewelry firm will, it is stated, hold the transfer company for any loss incurred.

24-Karat Club's Outing

The 24-Karat Club, of New York City, has decided to hold its fourth annual outing at Cove Hotel, Livingston, Staten Island, on Saturday, August 5th, and it goes without saying that the event will be a highly enjoyable one in every particular. Some admirable recreative pastimes have been arranged for, and a Rhode Island clambake will be a feature of the gastronomic activities. Vouchsafed a fine day, the attendance should be large, and it is not too much to anticipate that in the light of former successes and ripening experience in the delightful art of entertaining, the club will mark another advance upon its very creditable achievements heretofore in a social and recreative way. The boat will leave Staten Island ferry, at the foot of Whitehall Street at twelve o'clock, noon, and at St. George landing, the party will board trolley cars for their destination. Tickets are \$5 each, but, of course, every member of the club is entitled to one ticket free of charge for his own use. The arrangements are in the hands of a very capable and energetic committee consisting of Messrs. James R. Gleason, 21 Maiden Lane; Percy H. Savory, 11 John Street; Albert H. Stearns, 21 Maiden Lane. Under favorable conditions the outing should be brimful of fun for a goodly muster of the metropolitan trade.

Jacob Cantor, a retired jeweler and watchmaker, passed away at his home, 413 Adelphi Street, Brooklyn, on Friday, July 7th, aged eighty-one years. He was an Englishman by birth and had resided in Brooklyn thirty years. He is survived by a widow, two daughters and a son, the latter of whom succeeded him in business. The funeral obsequies were held at the son's home, 254 Garfield Place, and interment was at Greenwood Cemetery.

G. Kern, the Gay Street jeweler, of Knoxville, Tenn., spent a week or more in this city last month buying his fall stock and taking in the attractions of the nearby pleasure resorts.

James H. Bright, of Knight & Bright, Elizabeth City, N. C., was one of the Southern buyers in this city. Mr. Bright bought a good stock of goods, which would indicate that this firm is figuring on a good business in their vicinity this fall.

The recent report in New York papers to the effect that the Reed & Barton, silversmiths, factories have passed into the control of certain other silverware manufacturing interests, is entirely without foundation. Overtures have been made in the past to the Reed & Barton corporation to enter into a silver combine, but every such offer has been ignored. Reed & Barton remains an independent concern, having affiliations with no other company, and confining its business strictly to selling through the recognized jewelry trade.

The marriage of Miss Ruby Handforth Kunz, daughter of Geo. F. Kunz, the noted gem expert, of Tiffany & Co., to August Zinsser, took place at Wild Farms, near Peekskill some weeks ago. Following the ceremony there were an open air reception and wedding supper. Mrs. Theodore Roosevelt made the happy pair the recipients of a beautiful box of flowers.

Prentice Luckey, manager for the Geo. T. Brodnax Co., Memphis, Tenn., was one of the Southern buyers in this city last month. Mr. Luckey was a heavy buyer in this market and reported the prospects very good for the fall business in his city. During his stay here he managed to avail himself of the many opportunities for recreation afforded by the nearby summer resorts, and thus combined pleasure with business.

The disappearance of a sample case containing watch movements valued at \$500, from the custody of S. A. Giraud, a traveling representative of D. Gruen, Sons & Co., Cincinnati, Ohio, was reported at the New York office of the Jewelers' Protective Union. It appears that the case was left by the traveler in one of the rooms of a hotel at El Paso, Tex., and during his absence it disappeared. Detectives have been put to work on the case but, up to the time of this writing, without result.

Charles F. Wood, the well-known diamond dealer, left on July 12th for a two-months' trip to Europe. While Mr. Wood will spend some time in the diamond markets, the greater portion of his time abroad will be devoted in recreation and building up his health, which has been somewhat run down of late.

Hiram New, who recently returned from a three-months' sojourn in New Mexico and the Pacific Coast, has left for a long stay in the Adirondack Mountains. Mr. New found that the improvement made in his health while on the ranch in New Mexico was not sustained after he came back to the city and resumed his indoor duties. Consequently he decided to take another long lay-off in the mountains and endeavor to fully recover his health and strength. His many friends in the trade wish that this may be fully accomplished by the present trip.

Scofield & De Wyngaert, manufacturing jewelers, 48-50 Walnut Street, Newark, N. J., have almost completed an L addition to their factory. The new building will be used as a general office and shipping department and will enable the firm to double their factory force and thus meet the growing demands of the trade for their product.

The Mauser Manufacturing Co., silversmiths, 298 Fifth Avenue, have leased for a term of years the plant of the J. B. and S. M. Knowles Co., Providence, and will consolidate it with their new factory at Mt. Vernon, N. Y. The Providence firm will continue as a corporate body with an office in that city. William C. Burwell, its principal stock owner, will retain his joint office of president and treasurer. All the articles hitherto made at the Knowles plant, will now be produced by the Mauser Manufacturing Co.

(Continued on page 1247)

'If it burns alcohol, we make it'

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OUR NEW SHOWROOMS

Broadway, corner Park Place
Opposite the Post Office

Our new fall line is now on display. We shall be pleased to have you call

S. STERNAU & CO.

Manufacturers of METAL WARES OF HIGHEST QUALITY

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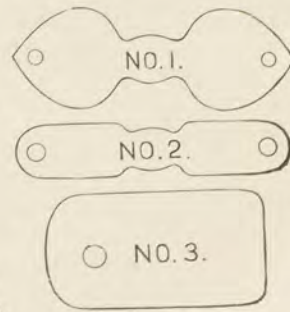
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"THE" Machine for Tagging Rings, etc.

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

Price complete, \$5.00 net



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Hand Pliers are Useless for Tagging Rings

Pat. applied for

The HOLD-ON CLUTCH

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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

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New York Letter

(Continued from page 1245)

Jewelers' Security Alliance The regular monthly meeting of the executive committee of the Jewelers' Security Alliance was held on July 14th, with the following members present: Vice-president Champeois, Secretary Noyes, and Messrs. Alford, Bowden, Brown and Stern, of the committee. The following were admitted to membership:

- | | |
|--|---|
| G. H. Craun, Park Rapids, Minn. | Henry Doepke & Bro., Cincinnati, Ohio. |
| Oscar Homann & Co., Des Moines, Iowa. | Gebhardt Bros., Cincinnati, Ohio. |
| Mermod, Jacquard & King Jewelry Co., St. Louis, Mo. | P. C. Joel, Rochester, N. Y. |
| I. Wartell, New York City. | Theo. Neihaus & Co., Cincinnati, Ohio. |
| C. P. Barnes & Co., Louisville, Ky. | Henry C. Rocker, Cincinnati, Ohio. |
| Milton L. Ernst, New York City. | Stanton Jewelry Co., Nassau, Iowa. |
| C. W. Ernsting, San Diego, Cal. | M. E. Carrano, New Orleans, La. |
| C. B. Linn, Prescott, Ariz. | The Gustave Fox Co., Cincinnati, Ohio. |
| A. E. Motch, Covington, Ky. | Louis G. Klotter, Cincinnati, Ohio. |
| E. W. Reynolds, Los Angeles, Cal. | H. J. Levi, Cincinnati, Ohio. |
| Arthur Schneider, Louisville, Ky. | Sol. J. Levi, Cincinnati, Ohio. |
| Louis C. Seng & Bro., Louisville, Ky. | The Clemens Oskamp Co., Cincinnati, Ohio. |
| Richard G. Tafel, Louisville, Ky. | Palace Jewelry Store, Newport, Ark. |
| Edward F. Kaelin, Cincinnati, Ohio. | Queen City Watch Case Mfg. Co., Cincinnati, Ohio. |
| The Dorst Co., Kansas City, Mo. | Anthony Schemel, Cincinnati, Ohio. |
| The Dorst Co., Cincinnati, Ohio | Chas. F. Seutz, Clifton Forge, Va. |
| Fidelity Watch and Diamond Co., Indianapolis, Ind. | M. J. Soukup, Decorah, Iowa. |
| Rudolph Jacobs & Co., Cincinnati, Ohio. | J. E. Springer & Co., Valdosta, Ga. |
| Peck, Schneider & Peck, Cincinnati, Ohio. | Abner C. Thomas, Anniston, Ala. |
| Jacob Reinstatler, Cincinnati, Ohio. | Walter W. Winton, Scranton, Pa. |
| E. H. Simper, Cincinnati, Ohio. | Wilson Bryant, Saratoga Springs, N. Y. |
| Geo. Simper, Cincinnati, Ohio. | L. T. Oleson, Webster City, Ia. |
| G. W. Seifried, Cincinnati, Ohio. | E. C. Burrows, Dows, Iowa. |
| Thoma Bros., Cincinnati, Ohio. | Canty & Goodenough, Watsonville, Cal. |
| Cincinnati Gold and Silver Refining Co., Cincinnati, Ohio. | Robert H. Cherry, Streator, Ill. |
| | Lewis & Van Sickle, Oskaloosa, Iowa. |
| | E. Max Fasoldt, Albany, N. Y. |

The annual convention of the **Jewelry Workers' Convention** International Jewelry Workers' Union, which met in the hall of Local No. 2, Newark, N. J., was brought to a close on Friday, July 14th, having been in session five days. The gathering was presided over by George Brady, Providence, R. I., president of the union, and the proceedings all through were marked by a spirit of harmony and conciliation. Sixty-five delegates were reported in attendance, representing, it is said, a total membership of 9000. Practically all the large cities of the Northern States were represented and delegates also came from Toronto and Hamilton, Ont. Reports of the officers showed that there had been an agreeable absence of strikes and only a few disputes, which latter were speedily adjusted as a result of the good will and conciliatory spirit of both employer and employed. There was a gain of seven hundred in membership and new branches were reported to have been organized in Brooklyn and Chicago. Naturally the cities having the largest membership are Newark, N. J., Providence, R. I., and the Attleboros. An increase in the number of concerns using the union label was also reported, which seemed to please the delegates very much. Applications for charters were received from Memphis, Tenn.; Dallas, Texas; Portland, Me.; San Francisco, Cal. and Baltimore, Md. Other questions with which the meeting was occupied were the nine-hour rule, the further increase of membership and the establishment of more branches. President Brady was re-elected and other officers chosen are: Vice-president, R. J. Peterson, Buffalo, N. Y.; second vice-president,

W. Wulff, Chicago; third vice-president, Herman A. Schellhamer, Newark, N. J.; fourth vice-president, J. P. Campbell, Brooklyn, N. Y.; secretary Wm. Schade, Philadelphia, Pa.; treasurer, R. H. Schueler, Newark, N. J.

Death of W. R. Alling

The death of William R. Alling, of Alling & Co., gold jewelry manufacturers, 180 Broadway, occurred at his home, 974 Broad Street, Newark, N. J., on Monday night, July 17th, culminating a sickness of six months from diabetes. Mr. Alling was one of the most widely-known jewelers in this city because of his long connection with the trade and his fruitful activity in promoting its general interests. Probably his chief claim to distinction in this connection is that he was the founder of the New York Jewelers' Protective Union, the value of which service is best evidenced by the work of this useful body.

Hering & Co., 17 John Street, report that their plant is running to its full capacity and is working overtime to meet the demand for their fountain and stylographic pens.

Ignaz Strauss & Co., manufacturers of fan novelties, 621 Broadway, have purchased from Herman Scheuer, 435 Broom Street, the plant, stock, patent rights, etc., for making the patented Fatinitza and Telescope fans. The firm has also recently received large importations of fans especially suitable for fall trade.

A. Roseman, the well-known jobber, is recovering from a severe attack of influenza, which threatened to develop into pneumonia. As so often happens in cases of this character, the trouble developed from a cold, but fortunately was checked before it became serious. This is the first illness Mr. Roseman has experienced in a long while, and his many friends will be glad to learn that it was no worse.

Franklin Hardinge, of Hardinge Bros., chuck and watch tool manufacturers, of Chicago, was a visitor in this city last month. Mr. Hardinge was accompanied by his wife and daughter, and was making a two-months' tour of the Eastern States and Canada. The party had stopped to take in the wonders of Niagara Falls and the whirlpool rapids, and, later, relatives had been visited in the northern end of the State. Boston was to be the next objective point, and the trip home made via Canada, stopping off in the principal cities and taking in the glories of the Thousand Islands.

Geo. W. Welsh's Son, for the past twenty years located at Barclay and Greenwich Streets, has moved to 256 Broadway, where he has a fine store with new fixtures and stock. The new establishment is the only retail store on Broadway between Benedict's and Tiffany's.

A Jersey City judge has decided that when a young man slips a diamond ring on the "business finger" of a young lady to whom he has been making love, the ring is hers for keeps. The plaintiff said he lent the ring to the defendant, and she refused to return it. She testified that he called on her frequently, escorted her to church, sang duets with her and made himself agreeable in many ways. The judge non-suited the plaintiff, and in his decision said: "He (the plaintiff) played the piano; she sang and they danced together, and the Court presumes that while in that elated state the plaintiff transferred the ring to the business finger of the young lady. The Court has no doubt that he gave her the ring, and the whole thing might have had a more happy ending, only, as she says, he came to her house intoxicated one night and she gave him the mitten."



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Festoons, Necks, Locketts New styles in Secret Lock and Nethersole Bracelets Combs, Fobs, Rings, Waist Sets, Hat Pins, Collar Supporters, etc., etc.

Specialties in 14 K. Jewelry

SEND US YOUR ORDERS

Newest ideas in

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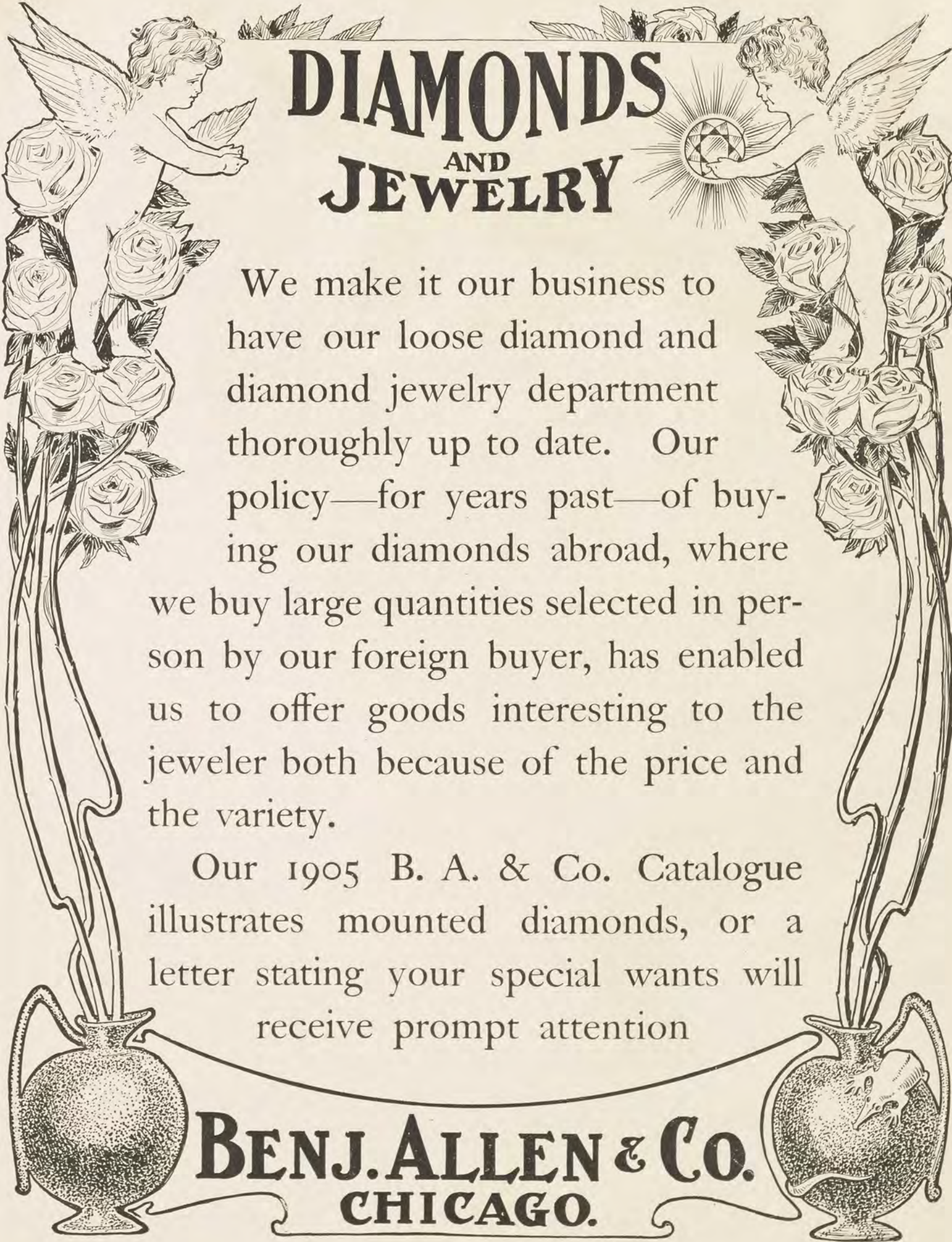
Exceptional Lines

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Gold Filled Jewelry Silver Jewelry Gun Metal Novelties Ebony, together with Silver Novelties and Toilet Sets



15 Maiden Lane New York



DIAMONDS AND JEWELRY

We make it our business to have our loose diamond and diamond jewelry department thoroughly up to date. Our policy—for years past—of buying our diamonds abroad, where we buy large quantities selected in person by our foreign buyer, has enabled us to offer goods interesting to the jeweler both because of the price and the variety.

Our 1905 B. A. & Co. Catalogue illustrates mounted diamonds, or a letter stating your special wants will receive prompt attention

BENJ. ALLEN & Co.
CHICAGO.



WESTERN BUREAU OF THE KEYSTONE
ROOM 1201 HEYWORTH BUILDING
CHICAGO, July 26, 1905

Trade Conditions and Prospects

The past month has been a harvest season throughout the West. By the time this is read the harvest season will be on in the Northwest. Consequently, somewhat of a lull in trade is in order. But, generally speaking, business conditions continue favorable in the West, Southwest and Northwest. Midsummer business is running along as usual. Several of our Chicago jobbing houses say that the fall business is opening up earlier and with more vim than it did last year. For this reason they say that their July sales will exceed those of last year for the same month. Midsummer dullness is upon the retailer, and trade is quiet with them. However, the large retail stores in Chicago claim that their sales will run ahead of July last year. Reports from traveling salesmen who got out earlier this year than last, are that the retail dealers, as a rule, are feeling good over crop conditions and prospects for fall business and are buying more liberally than at this time a year ago. Crop conditions continue most favorable. Small grains are already harvested, except in the Northwest. The yield is very large and the quality well up to the average. The weather recently has been about all that could be desired, with the exception of a superabundance of moisture, which has somewhat retarded the growth of the corn crop as far as the low or bottom lands are concerned. Corn is the main crop in Chicago's territory, and upon the production of this cereal the prosperity of this region depends. From extended reports received, there appears to be hardly any doubt but that a heavy crop of corn will be harvested. Farmers are obtaining substantial values for all their products; consequently money is plentiful in the West, and business men generally are looking forward with confidence to a good business this fall and winter.

Chicago the Great Central Convention City

The Chicago Commercial Association is going after conventions with a vim. At the regular weekly meeting of the ways and means committee of the association this idea assumed special significance and importance by reason of the fact that this subject was up for discussion. The establishment of a convention bureau for securing Chicago's full share of conventions was made the order of exercise, and there were a number of specially-invited guests. Chairman A. M. Compton presided and opened the discussion, also naming the following as a conven-

tion committee: C. A. Stevens, chairman, Chas. A. Stevens & Bro.; Joseph Beifeld, vice-chairman, White City; Joseph Basch, Siegel, Cooper & Co.; Edwin S. Conway, W. W. Kimball Company; Jacob L. Kesner, general manager the Fair; Harry J. Powers, Powers' Theater; Mason B. Starring, general manager City Railway. L. M. Stumer, Stumer, Rosenthal & Eckstein; John R. Thompson, John R. Thompson's restaurants; W. C. Vierbuchen, president Chicago Hotel Association. John G. Shedd, president of the association, voiced the spirit of the meeting in the following words: "We want every kind of a convention here, everything from the annual conference of school teachers to the labor conventions. Delegates to a convention attend the convention to spend money. If Chicago could have secured a proportionate number of conventions during the last year the local merchants would have realized thousands of dollars. Merely as a business proposition we should follow out the suggestion of the committee to make Chicago an attractive convention center. Chicago has plenty of attractions, and delegates want to see something outside the convention hall. A larger number of conventions will give a great impetus to Chicago trade. Every order placed with a Chicago merchant is an advertisement to the city. Chicago spirit is one of congeniality. We have a reputation to maintain. It is for us to let the Western merchant know that he is wanted and to take care of him when he gets here. The investment will pay us a hundredfold. The association does not want charity—simply investment."

Personal

Paul Juergens, Mrs. Juergens and Miss Juergens returned the early part of the month from a four-months' trip to the Pacific Coast, and are now summering at their country home on Powers' Lake. They were met at Butte, Montana, by Hans Juergens, and the party together did Yellowstone Park during June to their great delight and pleasure.

The sudden and untimely death of Bernhard Redepenning, the well-known West Side jeweler-optician, who was suddenly stricken while bathing in the swimming pool of the Chicago Athletic Club at noon of July 19th, was a great shock to the trade, as Mr. Redepenning was one of the best-known and most popular dealers in town, as well as quite successful in his business. His store was at 742 West Madison Street, and the business will be continued by his brother-in-law, Mr. Bannerman. The cause of Mr. Redepenning's death was heart trouble, brought on by the intense heat of last

week. He was a man much given to physical training, and was noted as an expert swimmer. For some time past his friend, J. T. Brayton, Chicago manager of the Julius King Optical Company, had been trying to prevail upon him to enter the fall swimming contests at the Athletic Club, and Mr. Redepenning had about consented to be one of the entries. On the day of his death he was Mr. Brayton's guest for a lunch and a swim, with a view to looking over the club's swimming tank. He had taken several shower baths. He then took a dive and had swam around the pool once and shouted to Mr. Brayton that he was getting on fine, when he was noticed to be in distress by those nearby. He vainly tried to raise himself out of the pool, but fell back into the water, and was caught by bathers who were right at hand, but life was extinct before they could get the body out of the water. The funeral occurred Sunday, July 23d, and was largely attended by the trade. Mr. Redepenning for several years past was prominent in trade organizations, having served as president of the American Horological Society. He was also a member of the Illinois Optical Society and the Jewelers' Club.

Almer Coe, the State Street optician, has just returned from a trip to New York, where he attended the annual meeting of the Kryptok Association.

George W. Wells, president, and H. C. Cady, superintendent of the American Optical Company, Southbridge, Mass., and their wives, are in Chicago this week visiting at the home of friends in Evanston. They are en route home from an eight-weeks' trip to Alaska and the Portland fair. Both gentlemen were seen to-day among the wholesale and manufacturing optical trade and remarked that they had enjoyed their trip to the far-away Northwest possessions of Uncle Sam, which they found to be a most delightful summer outing and a trip which seems to be popular among the tourists this season. Alaska they found to be a wonderful country for summer travel but they do not think much of it as a place of permanent residence. They were highly pleased with the Lewis and Clark Exposition, which is a wonderful show for a new country like the Pacific Northwest. These gentlemen were also glad to note the improvements and prosperity abroad on every hand throughout the West.

J. T. Brayton, Chicago manager for the Julius King Optical Company, and Mrs. Brayton, returned ten days ago from a six-weeks' trip to Portland, where they visited at the home of Mrs. Brayton's relatives, and did the Lewis and Clark Exposition to their hearts' content. At Portland, Mrs. Brayton tells us, there are attractions to meet the most varied tastes. In mere size the Lewis and Clark Exposition does not, of course, pretend to compete with some of its predecessors, but in variety, taste and attractiveness it does not avoid comparison with the larger shows. Mrs. Brayton further assures us that a very excellent and impressive spectacle is this Portland exposition—one which does credit to its promoters, and which will attract thousands of visitors from regions far distant from the Pacific Northwest.

M. A. Mead, John T. Montgomery and Warren Owen went to Pittsburg, July 15th, to open up the new branch office of M. A. Mead & Co., in the Farmers' Bank Building, in that city. Mr. Mead, after remaining in Pittsburg a week, has returned to town. Messrs. Montgomery and Owen will remain in Pittsburg, together with C. H. Davison, the traveler for the branch office, to look after the business of the new establishment.

(Continued on page 1251)

Another Diamond-Selling Season

now confronts you, and a pressing duty is the selection of suitable stock. This season, as in the past, we pride ourselves on having the diamond stock that best fits in with your requirements. We guarantee you satisfactory selections at prices that will mean a quick and profitable turnover.

Why we can do this is easily explained: We take charge of our diamonds from the time they leave the market until they reach the dealer. We import them in the "rough," cut them in our own cutting works, see with our own eyes that the work is perfect, and give our patrons the benefit of our economy in cutting and our knowledge and experience in selection.

For this reason we can always furnish the particular kinds and grades that the jeweler wants, at bottom prices, because we do all the work ourselves, know the goods and are responsible for them. Experience has taught our patrons the advantages of buying their diamond stock of us; a trial order and comparison of prices will make these advantages plain to you.

Stein & Ellbogen Company
Wholesale Jewelers and Diamond Cutters
Columbus Memorial Building ✻ CHICAGO

Chicago Letter

(Continued from page 1249)

Dr. J. B. McFatrach, president of the Northern Illinois College, and his family, are spending the summer at their cottage at Lake Geneva. The doctor comes down to the city three or four days in the week to look after business.

Frank Barger, of M. F. Barger & Co., and family, enjoyed a delightful outing the early part of the month at Mr. Barger's old home in Greensburg, Ind.

Percy W. Smith, of the Geneva Optical Company, and Mrs. Smith, have just returned from a delightful fortnight's outing spent among the Wisconsin lake resorts.

N. B. Barton, of the Ostby & Barton Company, the widely-known ringmakers, of Providence, R. I., spent several days in Chicago last week, visiting among the trade and conferring with Manager Wilkins, of this firm's Chicago office. Mr. Barton has fully recovered his health, which has not been the best for some months previous to June of this year. He is looking well and says that he feels quite himself again.

Edward M. Cox, jewelry buyer for Benj. Allen & Co., has just returned to his desk from a fortnight's fishing and camping up among the lakes of Wisconsin.

H. M. Lane, Chicago manager for Reed & Barton, and Mrs. Lane, are enjoying an outing among the Michigan resorts.

C. W. Pixley, formerly practicing optician with the L. Manasse Company, has recently associated himself with A. H. McDougall & Co., retail opticians, 42 Monroe Street.

P. J. Christoph, who handles The Keystone Watch Case Company's products in Brazil, with headquarters at Rio de Janeiro, spent a day in town last week en route to his old home in Wisconsin, of which State he is a native. Mr. Christoph has spent several years in Brazil, and now rather enjoys life south of the equator. Mr. Christoph tells us that the sales of American goods in that country are gradually on the increase.

Harry Kohn, of the Stein & Ellbogen Company, has gone to Ottawa Beach for a fortnight's rest and recreation.

F. A. Hardy, the head of the house of F. A. Hardy & Co., and family are spending the heated term at their summer home on Les Cheneaux Islands, near Mackinac, Mich.

Emil Despres, of Despres, Bridges & Noel, spent his summer vacation this month on a two-weeks' trip among the firm's customers in Northern Wisconsin and Michigan.

Fred. G. Thearle, of C. H. Knights & Company, has been elected vice-president of the Englewood State Bank, a new financial institution only recently opened up in the southwestern part of the city.

John T. Montgomery has gone to Pittsburg, where he will have charge of the branch office just established there by M. A. Mead & Company. The Eastern trade will find Mr. Montgomery an up-to-date business man, full of Western push and energy. He is largely social in his make-up and a most genial and companionable gentleman—one of those salesmen that are born and not made. We predict a successful career for Mr. Montgomery in the watch business.

A. C. Smith, general time inspector for several of the leading railway lines of the Mexican Republic, with headquarters in the City of Mexico, was in Chicago several days last week, calling on his friends in the trade.

Dr. Geo. W. McFatrach and Mrs. McFatrach, Prof. Geo. A. Rogers, Dr. Chalmers Prentice and A. C. Larson, of the Julius King Optical Company, composed the Chicago contingent who went to Minneapolis this week to attend the annual convention of the American Optical Association, which convenes at Minneapolis this week. The three first-named gentlemen are on the programme for addresses. There are but few delegates from the East passing through Chicago en route to the convention.

H. E. Cobb, Chicago and Western manager for Daggett & Clap, the Attleboro manufacturers, is being congratulated by his friends upon the marriage of his only son, Bert, to a Chicago young lady.

Roy H. King, formerly with Moore & Evans but latterly Western traveler for the John T. Mauran Manufacturing Company, has associated himself with D. A. Wilkins, Chicago and Western manager for the Ostby & Barton Company, and will assist him in his work.

Max Gluck, Iowa and Nebraska traveler for H. F. Hahn & Company, returned last week from his summer vacation spent in an extended Western trip devoted entirely to sight-seeing and pleasure. Mr. Gluck traveled over seven thousand miles in the five weeks he was away from Chicago, taking in the principal points in California, Oregon and Washington, going as far north as Vancouver, British Columbia, and as far south as Los Angeles, taking in the Portland Exposition and the Yellowstone Park on his return. Mr. Gluck says that travel to the Pacific Coast is surprisingly large this season and that you can take an exceedingly interesting trip for a comparatively small expense this summer.

Charles W. McKee, well-known in the optical trade here as a practicing optician and for several years past located at 65 Washington Street, has sold out his retail optical business and is now with Bartels Optical Company as city salesman.

Norbert Gunzburger, Chicago and Western representative of the New York diamond house of L. & M. Kahn & Co., returned last week from a two-months' absence in Europe. While abroad Mr. Gunzburger visited his parents, at his childhood's home in the fatherland. Mrs. Gunzburger accompanied him, but remained behind, and will not return before September. Mr. Gunzburger reports a most enjoyable trip.

S. Swartzchild, of Swartzchild & Co., who is traveling in Europe, accompanied by his wife, was last heard from through a pictorial postal card, showing a quaint Alpine hostelry four hundred years old. Mr. and Mrs. Swartzchild were then spending several days in the Alps, and among the sights which they had witnessed, was the famous passion play at Oberammergau, and the beautiful scenery in the vicinity.

Harley Allen, Eastern manufacturer's agent, and wife, returned last week from their trip to Portland and the Pacific Coast. Mr. Allen reports that the Lewis and Clark Exposition is a good show and creditable in every way for that country.

Gossip

The Towle Manufacturing Company are now nicely located in their new quarters on the seventh floor of the Heyworth Building, where they have an enlarged, up-to-date, thoroughly modern office and salesroom. The new premises are a noticeable improvement over their former quarters. Mahogany fixtures of new and novel design have been installed throughout, and their arrangement is most happy and convenient. Manager Lunt is to be congratulated upon his elegant new quarters and the handsome appearance they make.

It took fifteen cars to handle the jolly crowd that attended the Jewelers' Club picnic, Saturday, July 15th, at Glenwood Park, near Batavia, Ill., on the line of the Aurora, Elgin and Chicago electric railway. The estimated attendance was about eight hundred. The day was fine and the affair was voted a large success. The programme was a long one, and though the day was hot, it was well carried out amid great fun and jollity. The Jewelers' Club is establishing an enviable reputation for its annual outing, and the next picnic will be looked forward to with great interest.

The possibilities of the wholesale jewelry business are well illustrated in the new location of Otto Young & Company, now on the sixth floor of the Heyworth Building, the new modern eighteen-story office building, at Wabash Avenue and Madison Street. The new store contains about 14,000 square feet of floor space. The firm occupies the entire sixth floor of this enormous building. It is said to be the largest wholesale jewelry establishment in America, and doubtless is the largest in the world. It is doubtful if a more conveniently arranged place of business than this could be devised. The fixtures are of mahogany and are entirely new and modern. They began moving Saturday morning and by Monday morning they were taking care of their orders as usual. The moving was a big undertaking, but it was carried through without a hitch. The layout of the immense room is fine, and it presents a beautiful appearance.

News from the Trade

A. F. Strasburger, for a number of years past assistant manager of the Mermod, Jaccard & King Company, the widely-known retail house, of St. Louis and New York, spent a few days in Chicago the early part of the month. Mr. Strasburger brought the news that he had retired from the above firm after many years' service and accepted the managership of the jewelry and optical departments in John Wanamaker's New York store and had already entered upon his duties.

John Schmelzer, of Centralia, Ill., has just finished remodeling and improving his store by putting in a new modern front and other improvements, all of which have added greatly to the attractiveness of his establishment.

M. Henriksen, of Duluth, Minn., has just made extensive improvements in his store and enlarged his premises by taking in the room adjoining. He has put in a new modern front, tile floor and new fixtures, all of which have greatly improved his establishment and made it one of the most attractive in his section.

L. J. Viersen, a well-known Chicago watchmaker, has recently established himself in the retail jewelry business in Roseland, one of our southern suburbs.

This office has just received news of the death of Raleigh G. Stoner, pioneer and successful jeweler, of Larned, Kans., who died July 10th at his home in that place.

Jeweler B. F. Anderson, of New Castle, Nebr., was married June 28th to Miss Mattie Schoup, of Smithland, Iowa, at the last-named place.

E. W. Reynolds, the well-known Los Angeles jobber, was in Chicago for a few days recently. Mr. Reynolds was en route to the Eastern manufacturing centers.

Ed. Lehman, of the Edward Lehman Jewelry Company, wholesale, Denver, spent a day or two in town last week, calling on the manufacturing trade.

E. H. Pudrith, head of the E. H. Pudrith Company, wholesale, Detroit, spent a day in Chicago recently among his friends in the manufacturing trade.

J. E. Regan, manager of the Baldwin-Miller Company, the well-known wholesale house, of Indianapolis, passed through Chicago the early part of the month, accompanied by Mrs. Regan and the children, en route to Luddington, Mich., where they will spend the summer in their cottage at Epworth Heights.

A. I. Agnew, of the Columbian Optical Company, wholesale, Denver, spent a few days in town recently, calling on the manufacturing trade.

Prof. John J. Lewis, of the Northern Illinois College, mourns the loss of a devoted mother, whose death occurred recently at his old home in Australia.

G. W. Macomber, of West Branch, Iowa, is spending a month in Chicago perfecting himself in engraving. Mr. Macomber brings the news that he has sold out his business to R. S. Huston, formerly of Winfield, Iowa, and that he is now on the lookout for a new location.

Jeweler Ed. Newcomb and wife, of Big Rapids, Mich., spent a day in Chicago recently, en route to the Pacific Coast and the Portland exposition. They will be absent six weeks, spending sometime in Washington and Oregon, besides doing the Lewis and Clark fair thoroughly before returning home.

Ed. McKee, manager of the St. Louis branch of the Geneva Optical Company, spent a few days in town last week, conferring at headquarters and visiting with his family at the home of his parents in this city.

J. J. Freeman, Toledo, Ohio, the head of the retail house that bears his name, and Mrs. Freeman, were in Chicago for a day last week calling on their friends in the trade. They were en route to Waukesha, Wis., where they expect to spend the heated term.

The trade here have received the wedding announcement of Jeweler H. G. Anderson, Fremont, Nebr., whose marriage to Miss Gretchen Nye, of his home town, will take place on the morning of July 26th, in the Saint James Episcopal church at Fremont. THE KEYSTONE joins Mr. Anderson's many friends in the trade in wishing him much joy in his new relation.

(Continued on page 1253)

Announcement

We have the pleasure and take great pride in announcing to the trade that we have removed from our old quarters on State Street, where we were located for thirty-four years, to the sixth floor of the new Heyworth Building, one of the finest modern business structures in America.

We occupy the whole of the sixth floor, 80 by 180 feet, or over 14,000 square feet of floor space. All of the fixtures are entirely new, and we claim to have without a doubt the finest, best arranged and largest exclusively wholesale jewelry establishment in the world.

We shall continue to do business as heretofore, viz: Be square with our customers and sell reliable goods at lowest possible prices. Pay us a visit when you come to Chicago and make our premises your headquarters. We will be pleased to see you.

Otto Young & Company

Heyworth Building

Madison Street and Wabash Avenue

Chicago

Chicago Letter

(Continued from page 1251)

Will. H. Queenman, who represents the F. C. Happel Company in both Eastern and Western territory, had the misfortune while at Cleveland, Ohio, recently, to have a trunk fall on one of his limbs, injuring it severely but not seriously. Mr. Queenman is at the Hunter Mineral Springs, Kramer, Ind., nursing the injured limb. At last accounts he was getting along nicely, and expects to get out on the road again sometime in August.

News has reached the trade here that Joe Friedlander, of Memphis, Tenn., has sold out his business to his brother, Sam. The new firm will hereafter read Sam. Friedlander & Brother.

Arthur J. Perry, of the traveling force of J. W. Forsinger, left headquarters the first of the week for an extended trip over his territory. Mr. Perry enjoyed a month's vacation at his home in Chicago during July.

Dana B. Ward, of the Woodstock-Hoefler Company, wholesale, Kansas City, and Mrs. Ward, were in Chicago for a few days recently en route to Michigan Lake resorts, where they expected to enjoy their summer outing. Mr. Ward was a congenial caller at KEYSTONE headquarters while in town, and said that crop prospects and trade conditions in the great Southwest country were never better at this time of the year. Like most everybody from Kansas City, Mr. Ward thinks his is the best town on earth. He believes that Kansas City will double her population in less than ten years, and take rank as one of the foremost cities of the country. The fact that Kansas City is destined to a great future cannot be denied. There is a development in the town so great that it is difficult for anyone to realize it. "Every prospect in connection with our city," continued Mr. Ward, "pleases, and in a few years you will see the realization of what I have already said, that Kansas City will double her population in less than ten years, and be reckoned as one of the six leading cities of this country."

The Chicago Post-Graduate Optical College, Prof. Geo. A. Rogers, principal, has removed to larger rooms in the Trude Building, 67 Wabash Avenue. The new quarters comprise a testing and dark room, a school room, reception room and office. Prof. Rogers contemplates fitting up a mechanical room for the adjusting and fitting of frames, etc., and also such an expansion of the clinical department as will enable students to obtain a few weeks' practice on regular patients towards the end of their course. The evening classes will begin in September. Among the recent attendants at the college were: Dr. Geo. E. Ehle, of Grand Rapids, Mich.; Frederick O. Zeltz, of Chicago; M. C. Wilder, of Boston, Mass.; Harry M. Wink, Chicago; Fred. M. Wallace, Columbus, Ohio; W. T. Crocker, Sault Ste Marie, Mich.; John V. Bowers, Chicago; Dr. W. H. Bennet, Chicago; Louis B. Bigelow, Chicago; O. E. Petitdidier, Chicago; Edward M. Schalek, Chicago; Isaac J. Smit, Chicago; A. C. Oesterle, Joliet, Ill.; Wm. G. Moore, Chicago; David P. Barton, Chicago; Adna H. Bowen, Jr., Chicago; Dr. Ernest S. Heilman, Ida Grove, Iowa; A. Walker Montgomery, Chicago; Dr. T. E. Sample, Crete, Nebr.; A. B. Couery, Chicago, and Geo. B. Ward, Chicago.

Webb C. Ball, of the Webb C. Ball Watch Company, Chicago and Cleveland, has been appointed general time inspector of the Union Pacific Railway, with headquarters at Omaha. This change was effective July 15th.

A. H. Michelsen, practicing optician, has opened a retail optical parlor at 681 North Humboldt Street, this city.

Steve Bridges, of Despres, Bridges & Noel, left the early part of the week for his early fall trip with the most extensive line of his life.

We are accustomed to a good many bear stories from the West these days, especially since President Roosevelt has made bear hunting a popular sport. Three cinnamon bears, killed within fifteen miles of Salt Lake City, Utah, in one afternoon, is a record worthy of mention in THE KEYSTONE, when made by members of the jewelry trade. This is the record of John F. Boes, the well-known Main Street jeweler, of Salt Lake City, and Mr. Siligman, who is connected with the Weil Jewelry Company, wholesale, also of Salt Lake City, on a recent hunting expedition. Mr. Boes is

said to be a hunter of considerable skill and experience, but the above hunt was Mr. Siligman's first experience in hunting for bear. Both gentlemen believe that they are now destined to become noted bear hunters.

A. L. Haman, the well-known watch jobber, of St. Paul, Minn., spent a day in this market last week, calling on the manufacturers.

A. C. Williamson is a new jeweler in Fulton, Ill. He opened up there the last week in June and is already doing a nice trade.

Jeweler Rainsburg, of Brooklyn, Iowa, and family enjoyed a lake trip early in July, traveling by boat from Chicago to Buffalo. They report a delightful outing.

George Davis, of Newton, Iowa, has just recently moved across the public square to a new store, which he occupies entirely by himself. He now has a very neat and attractive store room.

Charles W. Fleming, of Lincoln, Nebr., has been making extensive improvements in his store of late by lowering his floor and putting in a new modern plate-glass front. Mr. Fleming now has one of the neatest stores in Nebraska's capital city.

James Dalglish, of Grundy Center, Iowa, has moved into a larger store, which he has fitted up with new fixtures. He now has a modern and much-improved establishment.

W. H. Carew, the well-known and successful jeweler, of Streator, Ill., will spend the month of August on a trip to Portland and the Pacific Coast. Mr. Carew will look over the Lewis and Clark Exposition while away, as well as do the leading cities of the coast.

Out-of-Town Visitors

J. W. Newshan, of Ottumwa, Iowa, spent a few days in town last week on a business trip.

L. G. Bolt, watchmaker for Theo. Borgstrom, of Susquehanna, Pa., spent a few days in Chicago recently, calling on the trade and looking over the sights of the Western metropolis.

E. F. Fowler, of Boise City, Idaho, was among the far Western jewelers in the Chicago market recently, on a fall purchasing trip.

G. G. Gross, of Bangor, Mich., spent a day or two in Chicago recently, selecting his fall bills.

Geo. B. Lord, who has recently purchased the jewelry business of Howard Thomas, at Independence, Iowa, is in Chicago this week, looking over the market for the latest fall novelties.

Geo. M. Howe, of Wichita, Kans., was among the many buyers in this market recently, doing some buying and enjoying a few days' outing in a great city. Mr. Howe reports trade conditions and crop prospects as fine in his section.

R. N. Clark, well-known among the Chicago trade from his long connection with the retail firm of Clark, Giddings & Company, Sterling, Ill., but for the past two years engaged in the retail optical business at Manila, Philippine Islands, has been spending the past month at his old home in Sterling. Mr. Clark has visited Chicago several times since his return and has been warmly welcomed by his old friends. He tells us that the optical business in Manila is prosperous and growing nicely right along. He also says that Manila will soon be quite a modern city as well as quite a large trading center.

H. L. King, the well-known practicing optician, of Spokane, Wash., is spending some little time in Chicago, combining business with pleasure.

Frank Le Bron, the well-known Iowa jeweler, for years located at Keokuk, is spending this week in Chicago, combining business with pleasure. Mr. Le Bron has only recently returned from a four-months' trip to the Pacific Coast, returning home by way of the Yellowstone Park. He says no American should go abroad until they have viewed the wonders of our national pleasure ground, which abounds in scenery which cannot be surpassed.

Charles M. McKee, of Wolcott, Ind., was in Chicago this week looking over the market selecting his fall bills.

L. Lowenstein, of Menominee, Mich., was a visiting buyer in this market last week, selecting his fall bills.

Geo. A. Clark, of George A. Clark & Son, Lorain, Ohio, spent several days in Chicago recently, combining business with pleasure.

E. O. Furen, of the firm of T. L. Combs & Company, Omaha, Nebr., was in town recently en route to Europe, where he expects to spend two months visiting at his old home in Sweden.

The Michael Reese Hospital

A notable event in the Jewish community of Chicago was the laying of the corner stone of the new Michael Reese Hospital Building at Twenty-ninth Street and Groveland Avenue, on July 4th.

This interesting function was performed with impressive ceremony by a well-known member of the Chicago trade, Herman F. Hahn, of H. F. Hahn & Company, before an assemblage of over a thousand people, including scores of the most prominent figures in the mercantile and professional life of the city. Among the municipal and State functionaries who made addresses on the occasion were Governor Deneen and Mayor Dunne, both of whom paid eloquent tributes to the scope of this great charity which succors regardless of race, creed or condition, and to the philanthropic spirit of Michael Reese, its founder.



Herman F. Hahn

Mr. Hahn has been on the board of trustees of the hospital seven years, was its vice-president ten years and is now serving his fifth year as its president. In formally presenting him with the ivory-handled, silver-bladed trowel for use in the foundation ceremony, Leon Mandel said:

It is with profound gratitude that we enter upon the event about to take place. I am sure that it has been looked forward to with rejoicing by all our friends. The funds for this new hospital, like other great achievements in Chicago, have been raised in a remarkably short space of time. This was made possible by a public who recognized our need, and responded to it quickly and munificently. Mr. President, I hand you this silver trowel, which is used by masons to spread mortar and cement into a firm union.

Mr. Hahn took the trowel and said:

We are here to dedicate this building to the glory of God and the good of man. We consecrate it to the service of suffering humanity of every creed, nation and condition of life. There is no mortal who does not know sorrow at times, and who does not sink into despair when pain and disease visit him. Here he will find refuge, rich or poor. Here he will find a home where all faiths stand on the same footing, where the equal rights of all consciences are respected, and where the essential oneness and intrinsic dignity of all human beings are acknowledged.

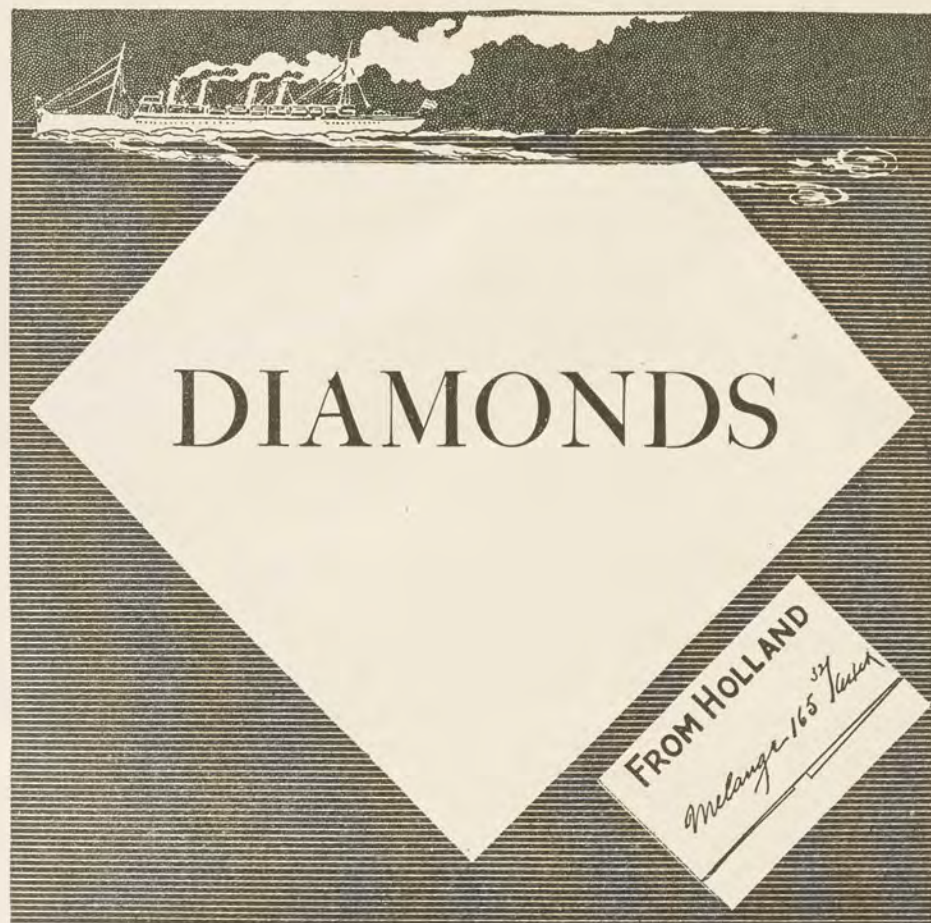
This corner stone, which is to become a part of the main structure, rests upon the surest foundation—the loving hearts of men and women who have given with unbounded generosity for the alleviation of human woe. The cement which binds the stone and brick into one solid mass typifies the close and harmonious co-operation that makes its direction possible. The roof which is to protect its inmates represents the spirit of universal brotherhood that will guard them. The sunlight of the eternal heavens will shine upon the walls, but it will not be more gladdening than the light of love and sympathy that will glow within them. Let the stone slide into its bed. May this noble work go on without delay or hindrance until it shall be completed.

Mr. Hahn spread the mortar and cement over the foundation, the copper box containing the hospital records was slipped within the stone, and the massive block slowly lowered to its place. On its completion this hospital will cost \$500,000, and be one of the finest structures of its kind in equipment, modern conveniences and in the service given to patients. The trustees propose to make it a model in every respect.

(Continued on page 1256)

R., L. & M. FRIEDLANDER

97 Hatton Garden, LONDON, ENG.



Our Mr. Richard Friedlander has just returned from Europe, after having purchased an unusually large stock of ROUGH and CUT DIAMONDS.

We are now receiving weekly shipments of these goods and we are prepared to give you unusually low prices. Large dealers will find it to their advantage to call.

We are also closing out below the regular market prices, a few small lots left over from our last importation.

New Monarch Catalogue No. 60

The most complete and most elaborately illustrated Jewelry Catalogue ever compiled. Hundreds and hundreds of new and unique designs in every line of goods: Watches, Locketts, Fobs, Chains, Bracelets, Brooches, Scarf Pins, Studs, Collar Buttons and all manner of novelties. No jeweler can afford to miss this catalogue. A copy will be sent free on request.

Please note that our name does not appear in this catalogue. So jewelers may show it freely to customers

R., L. & M. FRIEDLANDER

Wholesale Jewelers
Jobbers in American Watches
Importers of Diamonds

30 Maiden Lane, NEW YORK



SAN FRANCISCO
LETTER

Business conditions in this city and section continue favorable, with prospects of a fine fall and holiday trade. Already there is a great influx of retailers to the city and liberal purchases are being made.

Frank Golden, the enterprising jeweler, of Nevada, who conducts a chain of stores at Carson City, Reno and Tonopah, was among the out-of-town buyers in this market recently, selecting ready sellers for his three establishments. We are ready to believe that everybody in the 'New Eldorado,' Tonopah, is prosperous, and there is a ready market for first-class diamonds and up-to-date jewelry. This new camp is liable to remain, as the surface has barely been scratched and there is ground enough in this vicinity to promise work for a score or more years.

Jeweler Schuchard, one of Seattle's leading retail dealers, and his wife, stopped off here for a few days and visited their friends in the wholesale trade, and continued their journey. They were on a vacation to their old home in Salinas, where they will spend a little time visiting their parents and many friends in the section.

A. Eisenberg and family have just returned from visiting the Lewis and Clark Centennial Exposition at Portland, after spending a delightful vacation in and around the latter city. This was Mr. Eisenberg's first visit to Portland in seven years, and his many friends in the retail trade made his stay among them a very pleasant one.

M. M. Johnson, treasurer of the H. F. Wichman & Co., Ltd., jewelers and silversmiths, of Honolulu, was among the passengers reaching our shores via the steamship *Manchuria*, last month. Capt. Johnson is en route to Sea Girt, N. J., as representative of the rifle team of the First Regiment, National Guard of Hawaii, who are to defend their shooting titles at the national shooting competition, that is to be held at the latter place during the latter part of August. The captain, while in the East, will visit several of the largest manufacturing plants in that section.

The trade are extending their sympathy to Geo. E. Butler, the California Street chronometer and watchmaker, upon the sudden death of his youngest son, who died suddenly on July 1st.

Phelps & Adams, Pacific Coast agents for the Gorham Manufacturing Co., are open for business at the same old stand, 120 Sutter Street, this city. The fire which broke out in their building early in the morning of July 5th, was under control before it reached this wholesale jobber's floor. The entire top floor of this building was consumed, and the damage sustained by the many manufacturers' agents who are tenants, was mostly by water. All of the claims have been adjusted, and after the rooms have been retinted in the several offices on the first and second floors, there will remain very little trace of this twenty-five thousand dollar fire.

Mr. and Mrs. Fred. C. Roth, of M. Schussler & Co., have returned from their six-months' European trip greatly benefited by their long vacation. It is needless to say that Mr. Roth is showing some very fine papers of gems that he accumulated while away, as he visited all of the principal diamond markets of Europe, thereby combining business with pleasure.

Fred. C. Ewert and family, of Woodland, Cal., were among the visiting tradesmen in town recently and his show windows will show the result of his buying excursion, as he picked out some very attractive novelties for display.

Jesse Waterman, one of the firm of M. Schussler & Co., Inc., is the proud father of a son, born on July 4th. This young American hereafter will celebrate two events on his natal day. We join Jesse's many friends in offering our congratulations, and wish Jesse Schussler Waterman a long life and a happy one. We are pleased to state that the young man and mother are doing nicely.

E. W. Reynolds, of Los Angeles, is visiting the manufacturing jewelry centers of the East, and will be away from his place of business for five or six weeks. Mr. Reynolds makes this pilgrimage annually, thereby keeping posted on new things in his many lines. No doubt his retail friends in the southern part of this State will be greatly benefited, as he will look over the Eastern market for novelties for the fall holidays.

Ed. F. Mayer, the retail jeweler, of Butte, Montana, spent two weeks recently visiting the retail jewelers in this city after an absence of seventeen years. Mr. Mayer usually visits the jewelry centers in the East, but favored us this year instead of making his annual pilgrimage to Chicago. While here, this enterprising young man laid in a fine line of ready sellers for future trade.

L. Koberg, Healdsburg's enterprising retail jeweler, was among the visiting tradesmen in this market last week, laying in a few small lines for his summer trade.

Ralph Bernhardt, who has represented M. L. Levy on the coast for several years as traveling representative, has accepted a position with the wholesale house of A. Eisenberg & Co., located at 126 Kearny Street. Mr. Bernhardt will cover the Southern territory formerly controlled by J. C. Feige.

C. H. Allen, of Cloverdale, has opened a new jewelry store in Arbuckle and started in to do business the first day after his formal opening.

Another Eastern retail jeweler has joined the ranks. P. C. Pulse, after looking over the Pacific Coast for a desirable store, will open a new place of business in Oakland and will strive to cater to some of the first-class trade in that growing city.

The buyer of the wholesale jewelry house of Los Angeles, J. P. Trafton Co., Inc., is on a buying trip East. This is Charles Adams' first trip; that is, in the interests of this house. Mr. Adams was formerly in the employ of one of the largest wholesale houses in the East. He will be away only a short time, and when he returns the retailers will be shown all of the novelties in jewelry that he is now selecting.

Jos. Schwartz, of Honolulu, H. I., who is closely allied to the jewelry trade in the Islands, arrived on the steamship *Manchuria* and after shaking off the effects of the voyage, started on a tour of inspection through all of the larger manufacturing plants in the East. Joe will visit the large movement factory in Elgin, Ill., and the large case establishments in Philadelphia, Pa., and Riverside, N. J., before visiting his friends in New York. Mr. Schwartz expects to return to San Francisco in four or five weeks.

J. P. Rasmussen, secretary of the Bartlett Company, Inc., retail jewelers, of San Bonaventura, Cal., spent a few days calling upon his friends, the wholesale jewelers, in this city last month. Mr. Rasmussen was en route to Vancouver, B. C., via the Pacific Ocean route, and on his way back he

will spend at least a week visiting the Lewis and Clark Exposition at Portland, Oregon, reaching home on or about August 10th.

E. D. Grandmason, the new retail jeweler in Santa Monica, has purchased a fine new street clock, which he will erect in front of his store. The clock will stand close to the curb, so that those that run can read the flight of time.

Arthur G. Prouty, one of the rising Pacific Coast agents, is now in New York and will be away for quite awhile. This is Arthur's first trip to the jewelry centers of the East, and when he returns we expect him to have annexed a few of the finer lines of jewelry.

Geo. DuCommen, the retail jeweler, who was formerly located in Hanford, was in town recently, selecting an entire new stock for his new store in Watsonville. Mrs. DuCommen also displayed her good taste in selecting salable goods for the fair sex.

D. Vassala, formerly manager for P. Forzani & Co., the retail jewelers, located at 1230 Dupont Street, San Francisco, is away on a two-months' vacation. He will visit all of the principal points of interest throughout Europe before returning.

Amos W. Huggins, A. I. Hall & Son, Inc., wholesale jewelers, of this city, is back from his Eastern trip, with a large assortment of new novelties for the retail trade.

Alphonse Judis, president of the jobbing house of that name, returned from his Eastern diamond purchasing trip, and is showing some nice papers of stones to his friends in the retail trade.

Mutilation of Coins by Jewelers

In an article on page 1145, of our July issue, after stating the law in regard to mutilating coins, we said: "The safest course to pursue would be for the jeweler to write the Treasury Department, specifying the particular form of mutilation intended, and thus get official permission to do this class of work. We would be pleased to hear from any of our readers who have done this." Several have responded to this request and it would seem, from the letters sent us, that the U. S. Treasurer's office has a stereotyped reply, which leaves the jeweler free to exercise his own discretion. A sample letter of inquiry, made by the jeweler, is as follows:

Treasurer of United States, Washington, D. C.

HONORABLE SIR:—My vocation makes it necessary to turn various coins into different forms of jewelry, as per customer's ideas, always, however, rendering them impassable.

Am informed by those who ought to know, that this is legal, while others claim it to be illegal.

Being entirely ignorant as to laws governing above, ask you to kindly advise me on this matter.

Awaiting your favor, for which I hope to thank you in advance, I am,

Respectfully yours,

Newport, Pa.

CHAS. E. P. KEIM.

This letter was promptly returned and on the back of same was the following, signed by the U. S. Treasurer: "The law is silent as to the mutilation of coins where no fraud is shown or intended." This implies at least negative permission to the jeweler to mutilate coin in the course of his business, where there is, of course, no intention of fraud.

"We could not tell you how you could improve *The Keystone* unless you bound them in morocco. It is the only journal we look for."—C. R. Church & Co., Jewelers, Homer, Michigan.



Louis Gutfreund, superintendent of the Eisenstadt Company's factory, has just returned from a five-weeks' outing spent on a trip to the Pacific Coast, Mrs. Gutfreund accompanying him. They spent ten days at Portland, doing the Lewis and Clark Exposition. Mr. Gutfreund says that the Portland fair is a most creditable show, which they enjoyed very much. He thinks the Pacific Northwest is a great country with a wonderful future and well worth the trip to see.

John T. Wells is a new man on the traveling force of the Bauman-Massa Company. Mr. Wells will cover the territory formerly looked after by W. F. Wilmes. He is already out on his trip, giving a good account of himself. "Johnny" Wells, as he is best known, though still a young man, is an old traveler, having represented several of the silverware houses in the Western territory for a number of years past. He is a lively and genial salesman and will doubtless prove a popular man in his new connection. He expects to move his family to Kansas City and make his home in that town.

J. W. Cary, head of the wholesale material house of J. W. Cary & Co., is spending the summer at Harbor Beach, Mich., with his family.

Mrs. Edward McKee, wife of Manager McKee, of the Geneva Optical Company's St. Louis branch, has returned from a six-weeks' visit to their old home in Chicago.

Jeweler Reeves, of 1621 Market Street, has recently returned from an Eastern pleasure trip, which included Niagara Falls and a number of other Eastern resorts. Mrs. Reeves accompanied him.

St. Louis Bank Clearings

St. Louis Bank clearings for June were $7\frac{3}{4}$ per cent. greater than for the same month in 1904. For the six months ending with June, the increase over last year was slightly in excess of 7 per cent. The total of St. Louis' bank clearings for the year 1904 was \$2,793,000,000, which, of course, broke all records for this city. It is evident now that the aggregate for the year 1905 will be in the neighborhood of \$2,900,000,000, and may reach \$3,000,000,000. The gain, too, is in face of the fact that we are now comparing with the world's fair period. St. Louis' prosperity may have been, and probably was, advanced by the fair, but the city's business and its physical advantages are on such solid basis that the effects of the fair are not especially marked.

The Frisco system is the latest railroad to take up an educational campaign to induce the farmers along its lines in Missouri, Oklahoma and Texas to raise more and better crops. The railroad proposes to furnish a car in which to display samples of grain and fertilizers, literature bearing on the subject, advertising matter and an expert who will give lectures at different points on the road, and who will demonstrate the class of grain best adapted to the soil and the fertilizers which will produce the best results.

Herman G. Bergfeld, a well-known jeweler, of this city, died at Eureka Springs, Ark., whither he had gone for his health on Wednesday, July 12th. His body was brought here for burial, the funeral being held from his late residence, 8214 Water Street. The deceased was a member of Cache

Lodge, No. 416, A. F. and A. M.; Missouri Chapter, R. A. M.; St. Aldemar Commandery, K. T.; Brillante Lodge, K. of P. He is survived by two children, George and Augusta; three brothers, Charles E., George H. and William K. Bergfeld, and one sister, Miss Louisa P. Bergfeld.

George Winzer, a pioneer manufacturer of mathematical instruments, and one of the oldest opticians in St. Louis, passed away at his home in this city, July 11th. He had been suffering for several months with liver and kidney trouble. Mr. Winzer was born at Hiburghausen, Germany, in 1827, and came to this country in 1849, settling at Philadelphia, Pa. There he met Miss Mary Langguth, to whom he was married in 1850. Mr. Winzer came to St. Louis in 1860 and embarked in business at 325 Market Street. He afterward removed to 419 Chestnut Street, and for the last fifteen years has been located at 22 South Fourth Street. During the Civil War Mr. Winzer was a member of the Home Guards and was stationed at the arsenal. He is survived by his wife, four sons—Herman, William, George and Edward M. Winzer, and two daughters—Mrs. Mathilda Ahern and Miss May C. Winzer.

Missouri's Mineral Wealth

Missouri is not a State which anyone would name offhand as rich in minerals, yet it produces 80 per cent. of all the zinc and 90 per cent. of all nickel mined in the United States, while the percentage of lead taken from its mines is nearly as great. The demand for all these metals is increasing rapidly, and new districts in Missouri are being developed every year. It may not be an idle boast that Missouri will ultimately produce as much treasure in these base metals as California has produced of gold and silver.

The St. Louis Clock and Silverware Company are hard at work on their annual catalogue, which will be larger and more interesting than any of its predecessors. The new book will be sent out to the trade sometime in October.

L. E. Willis, of Edwardsville, Ill., was a trade visitor in the St. Louis market the early part of last month.

M. C. Scott, of Wright City, Mo., was in town for a day recently on a buying trip.

N. S. Weiler, of Cape Girardeau, Mo., was a visiting buyer in this market last month selecting his fall bills.

A. P. Wolff, of Chester, Ill., was in St. Louis for a day last month selecting his new fall lines.

Ulysses Studler, a well-known watchmaker and pioneer citizen, died here last month.

L. A. Fassett, of the Weiss Jewelry Manufacturing Company, enjoyed a few weeks' outing at Petoskey, Mich., last month.

J. W. Steidemann, of J. W. Cary & Co., and family are spending the heated term at Atlantic City and other seashore resorts.

August Kurtzeborn, head of the retail house of A. Kurtzeborn & Sons, is spending the summer with his family at Battle Lake, Minn.

E. P. Stewart & Brother, of Hope, Ark., were represented in this market recently, by the head of the firm, who was here on a purchasing trip.

A. L. Mullins, Hillsboro, Ill., was among the visiting buyers in this market last month collecting their fall bills.

P. P. Meill, of Clarendon, Ark., spent a few days in this market last month selecting goods for his fall trade.

R. L. Maxwell, of Rockport, Texas, spent several days in St. Louis recently looking over the market and selecting his fall bills.

Chicago Letter

(Continued from page 1253)

Wissing & Anderson, of Sioux City, Iowa, were represented in this market the past week by Carl Anderson, who was here selecting the firm's fall lines.

S. W. Crofts, of Greenland, Mich., spent a day in this town recently, selecting his fall bills.

E. B. Cayse, of Franklin, Tenn., spent several days in Chicago recently, combining business with pleasure.

James G. Mines, of Wayne, Nebr., was a visiting buyer in this market for several days last week, on the lookout for late fall novelties.

C. S. Hays, of Norfolk, Nebr., a familiar figure in this market, was here for several days last week laying in his fall stock.

F. L. Steller, of Wall Lake, Iowa, spent a few days in this market last week, combining some buying with pleasure. While here Mr. Steller was a guest of the Elgin National Watch Company, on an inspection trip through their big plant at Elgin.

E. S. Proper, of Ames, Iowa, was a visiting buyer in this market for several days last week, selecting his fall bills.

Jeweler H. F. Peters, of Moline, Ill., spent a few days in this market the early part of the month, doing some buying and enjoying the sights of a great city.

Mr. and Mrs. Herman Chron, of Memphis, Tenn., are spending a fortnight in Chicago, enjoying life together in the Western metropolis, while Mr. Chron attends to some of his fall buying.

E. L. Seidel, of Marengo, Iowa, was met in one of our wholesale offices last week, where he was doing fall buying for his home store. Mr. Seidel reports good crop conditions in Iowa this season, with the most encouraging prospects for a bountiful harvest. He was of the opinion that there would be a good fall trade in Iowa this year.

Jeweler H. E. Gragg, of Morocco, Ind., spent a day in the Chicago market the early part of the month, doing some fall buying. He was a pleasant caller at KEYSTONE headquarters and reported conditions in his section as most encouraging for a fine fall trade.

Robert Woodward, of Sandwich, Ill., spent a day in town recently on a buying trip.

C. F. Graff, of Elkhorn, Wis., paid the Chicago market a visit recently, selecting his fall bills while here.

H. A. Roberts, of Veedersburg, Ind., was a visiting buyer in this market recently. While in the city he found time to drop in at KEYSTONE headquarters and say that crop conditions and the business outlook were very encouraging in his section for a fine fall trade and that he was buying accordingly.

R. Beskow, head of the Beskow Optical Company, of Greenville, Texas, spent a day in Chicago recently, calling on the wholesale and manufacturing optical trade. Mr. Beskow reports Texas as enjoying fairly prosperous times.

A. Klein, of Wichita, Kans., has been spending the last month in Chicago, pursuing a post-graduate course in optics at the Northern Illinois College. Mr. Klein was a pleasant caller at this office during his stay in town, and reports that Wichita is growing faster at present than at any other time in her history, that crops are excellent in her territory and that prospects for a good fall and holiday business are bright.

David Lochman, of Lochman Bros., Springfield, Ill., was in town this week looking over the market for late fall novelties.

A. Krautheim, the well-known jeweler, of Muskegon, Mich., is in town this week on a purchasing trip.

Arnold Buchman, of Clay Center, Kans., spent a few days in Chicago recently, combining business with pleasure.

A. S. Schwink, of Quincy, Ill., spent a few days in the Chicago market last week, doing some buying and enjoying the sights of a great city.

Harry E. Richardson, watchmaker with Jeweler Andrew Wilson, Winfield, Kans., is spending a few days in Chicago this week, on the lookout for business-building ideas, which are furnished on every hand in the business district of the Western metropolis. Mr. Richardson was a pleasant caller at KEYSTONE headquarters during his stay in town.



No. 491-Nv. Kelva Jewel Box

THE C. F. MONROE CO.

Manufacturers

Address all communications
to

Factory

Meriden, Conn.

New York Salesrooms
28 Barclay St.



No. 531. Ariel Jug

WAVE CREST

has made us famous as manufacturers of most striking novelties.

KELVA

the proper thing. Richly gold mounted. A distinctive style of artistic merit that has made it a winner.

CUT GLASS

excelling in beauty of finish and design. An immense assortment of novelties innumerable.

STERLING SILVER

Originality combining every feature of this line of goods.

Our new catalogue will show all our latest productions. If you want one mailed you, kindly advise
When in New York, by all means stop at our store, ground floor, 28 Barclay Street

ROSEMARY
FOR REMEMBRANCE

FULL LINE of this CHARMING
PATTERN now ready for delivery

Send for price-list if you have not
received our salesman's advance card

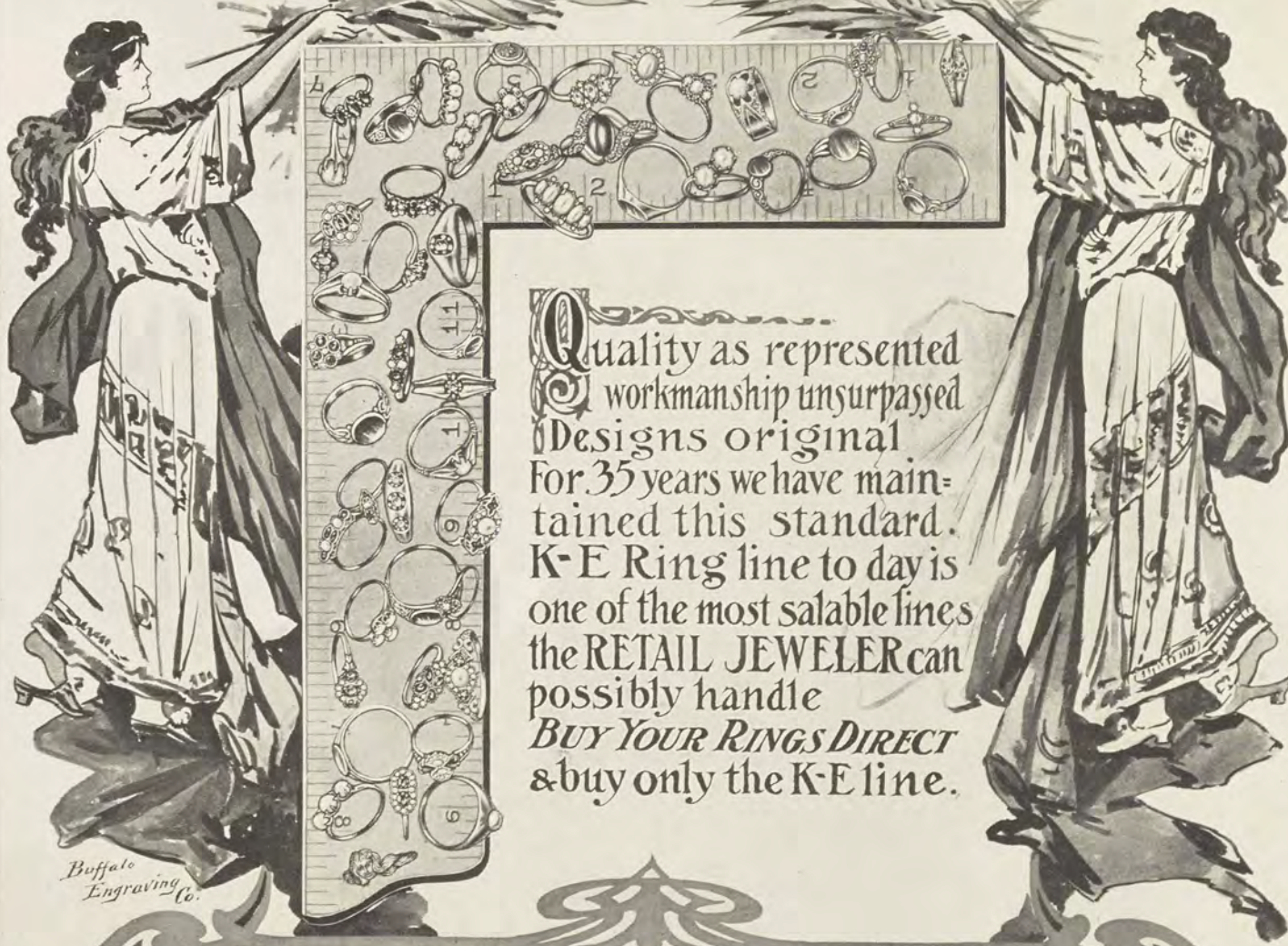
**Only Jewelers Can Buy
Rockford Goods**

Order early and you will have to order
often to supply trade

Rockford Silver Plate Co., Rockford, Ill.

K-E RINGS

HAVE ALWAYS BEEN FOUND
ON THE SQUARE



Quality as represented
workmanship unsurpassed
Designs original
For 35 years we have main-
tained this standard.
K-E Ring line to day is
one of the most salable lines
the RETAIL JEWELER can
possibly handle
BUY YOUR RINGS DIRECT
& buy only the K-E line.

Buffalo
Engraving Co.

KING & EISELE
BUFFALO, N.Y.

COMMUNITY SILVER

Our extraordinarily effective magazine advertising has already made "Community Silver" a household word.

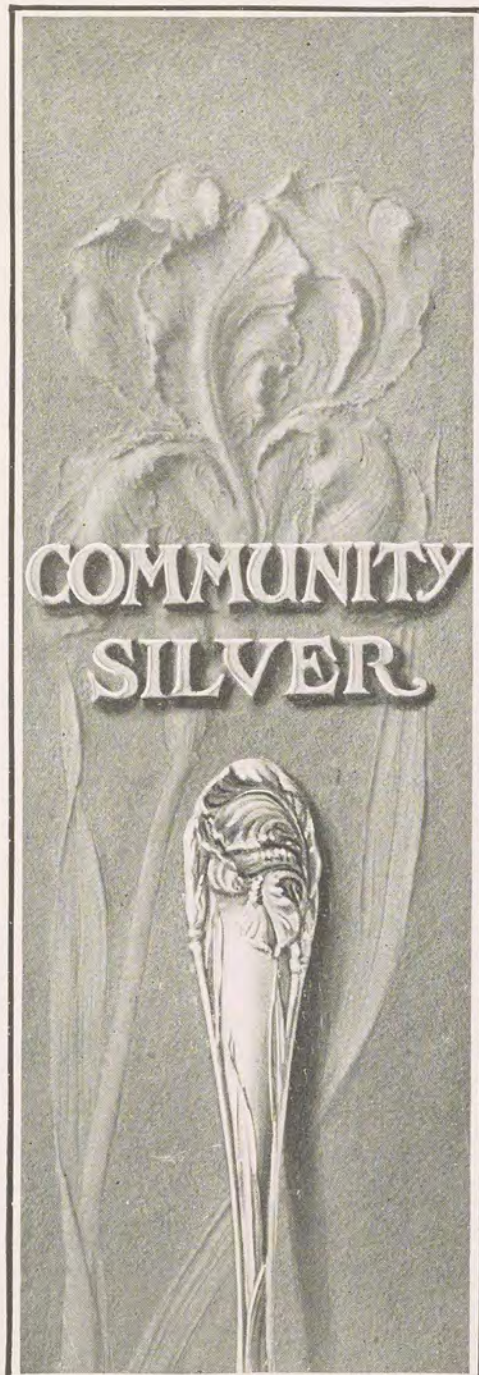
The series of advertisements which we shall run this Fall will do more—they will create a demand for "Community Silver" which will be unprecedented, and are sure to bring you many inquiries.

If you do not carry it in stock now, you should ask to see it. The margin of profit is unusually large.

Write either to your jobber or to us direct.

ONEIDA COMMUNITY, LTD.
ONEIDA, N.Y.

Founded in 1848



This is the upper half of our advertisement for September in the ladies' magazines.

The completed advertisement, when it actually appears, will show a Flower-de-Luce Tea Spoon, with scroll and reading matter beneath it.

Captains of Industry and Messengers of Commerce

are our six representatives who will show you our fall line of Rings this year, which comprises over 1000 different patterns of 10 K. Solid Gold Stone Set Rings of the very latest designs. It will pay you to look at our line before placing your orders elsewhere. Drop us a postal whether one of our men should call upon you this fall.

Are you next to the fact that we do one of the largest selection package businesses in the United States? We give you three reasons why you should write **to-day** for a memorandum package:

1. We size our rings free of charge.
2. We replace all stones except diamonds in our rings free of charge for two years after you have sold them.
3. We exchange all unsalable rings for new styles of stone-set rings at any time.

Write us to-day. We pay express charges both ways and give you January 1, 1906, terms on all goods selected.

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

The United States Government

has the best mail service in the world, and we have recognized that promptness in repairing comes next to good work and low prices. We have adopted all three as our standard, and if you appreciate promptness, good work and low prices, give us a trial as the best method of convincing yourself. We guarantee the following service:

STATES	Repairing leaving your store on	Will be back in your store on
Ohio, Pennsylvania, New York	Monday	Wednesday
Indiana, Michigan, Virginia, West Virginia	"	Thursday
Iowa, Illinois, Wisconsin, Minnesota, Carolinas	"	Friday
Nebraska, Kansas, Dakotas	"	Saturday

We Set Stones in Ladies' Rings for 3c.
 We Set Stones in Gents' Rings for 7c.
 We Make Rings Smaller for 8c.
 Other Repairing Accordingly.

We make all kinds of Rings to order
 the same day order is received



STANDARD STONE SIZES

PRICES

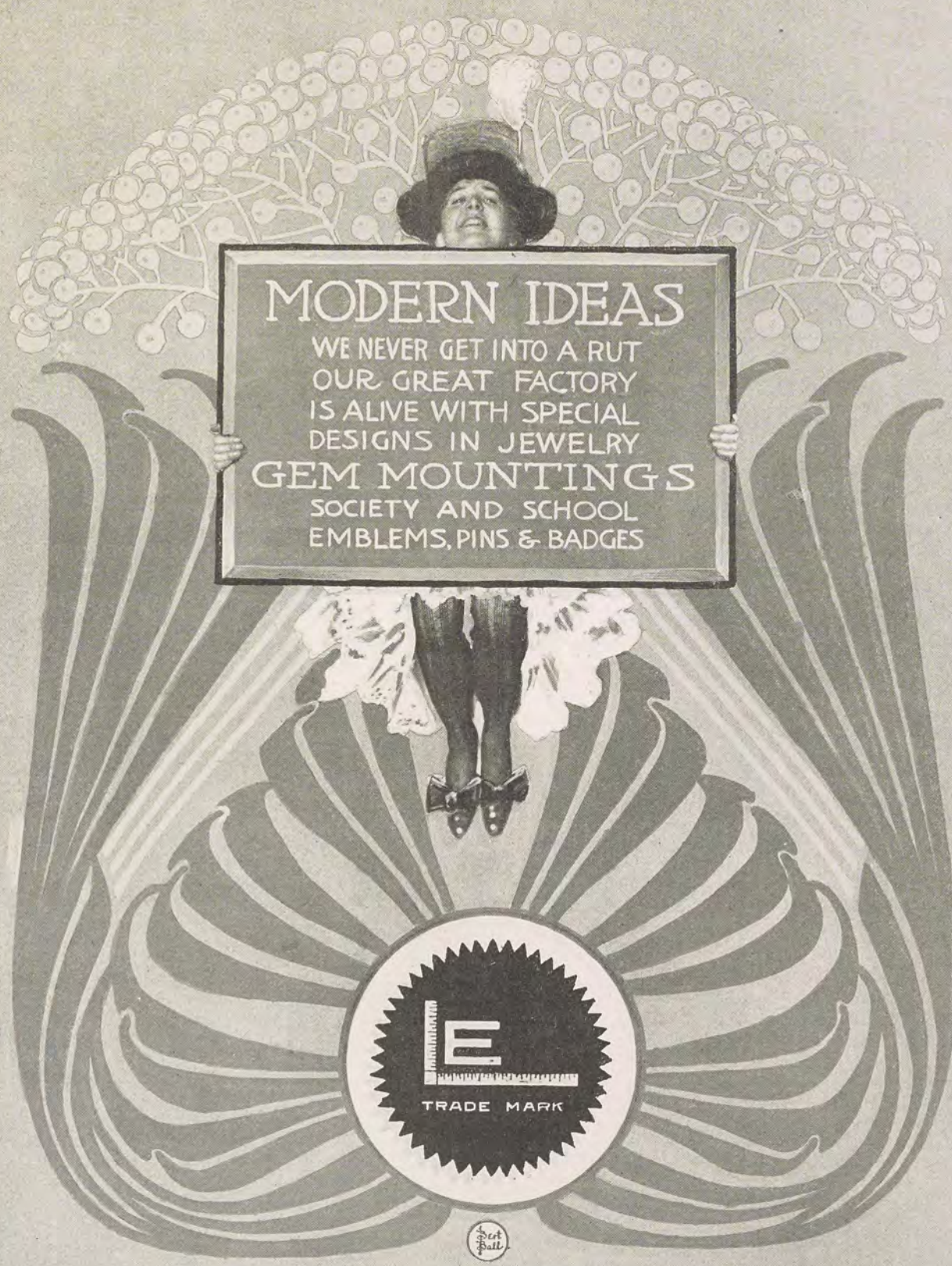
FIRST-GRADE DOUBLETS				BEST HUNGARIAN OPALS			
ROUND		OVAL		ROUND		OVAL	
Size	Price	Size	Price	Size	Price	Size	Price
1-10	3c.	3 m/m	6c.	1-6	4c.	3 m/m	6c.
11-15	4c.	4 m/m	7c.	7-8	5c.	4 m/m	14c.
16-20	5c.	5 m/m	8c.	9	7c.	5 m/m	19c.
21-25	7c.	6 m/m	9c.	10	9c.	6 m/m	39c.
26-30	11c.	7 m/m	12c.	11	12c.	7 m/m	60c.
31-35	15c.	8 m/m	16c.	12-15	20c.	8 m/m	91c.
36-40	20c.	9 m/m	20c.	16-17	27c.	9 m/m	\$1.41
41-44	28c.	10 m/m	26c.	18-21	35c.		
				22-23	45c.		
				24-26	70c.		
				27-29	84c.		
				30-31	\$1.03		
				32-34	1.22		
				35-36	1.40		

Order your stone stock from us. The above prices are for single stones ordered or used in repairing. Ten per cent. off in quantities of six dozen or over.

Terms, January 1, 1906, net

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

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

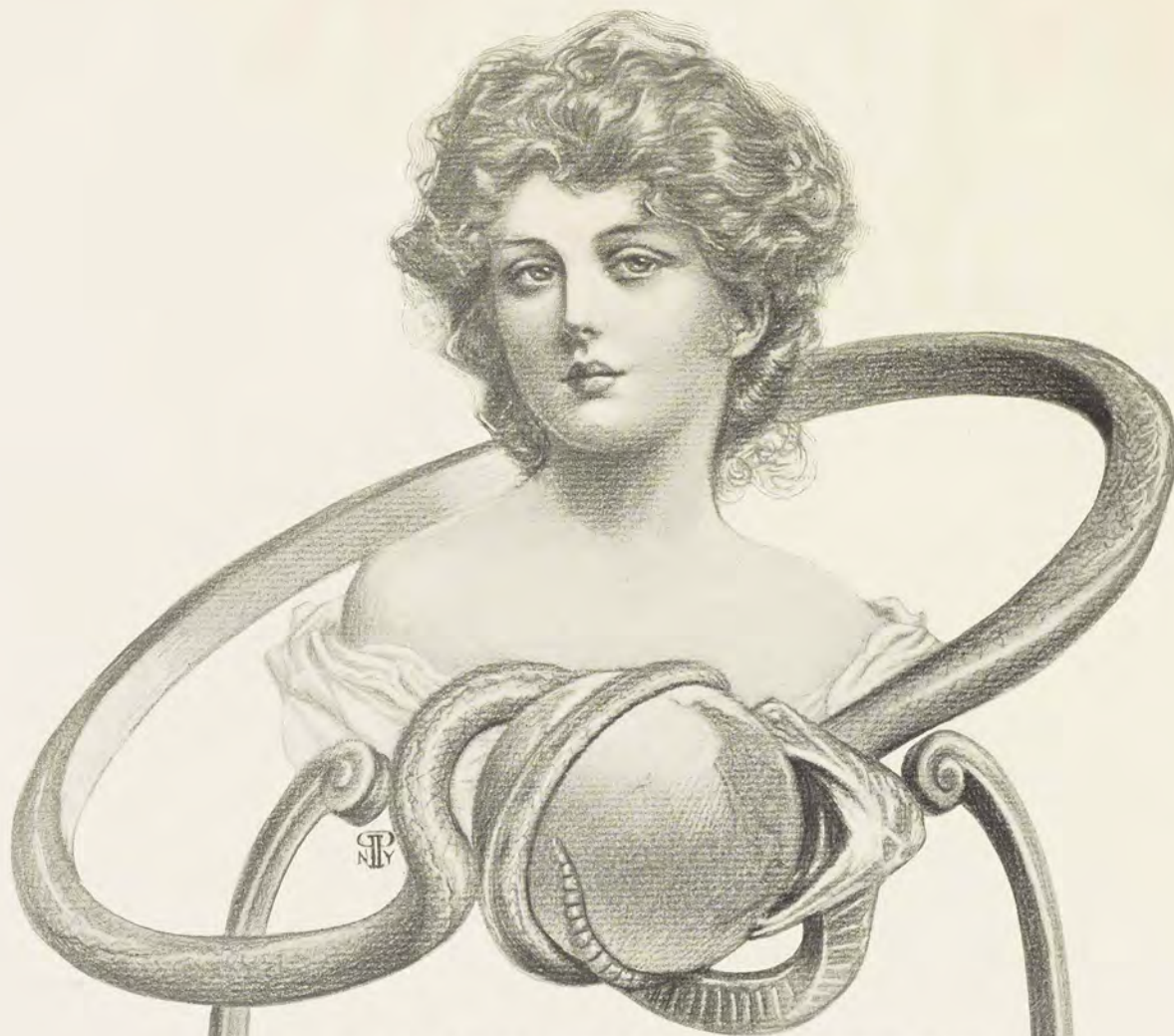


MODERN IDEAS

WE NEVER GET INTO A RUT
OUR GREAT FACTORY
IS ALIVE WITH SPECIAL
DESIGNS IN JEWELRY
GEM MOUNTINGS
SOCIETY AND SCHOOL
EMBLEMS, PINS & BADGES



EISENSTADT MFG CO.
SAINT LOUIS

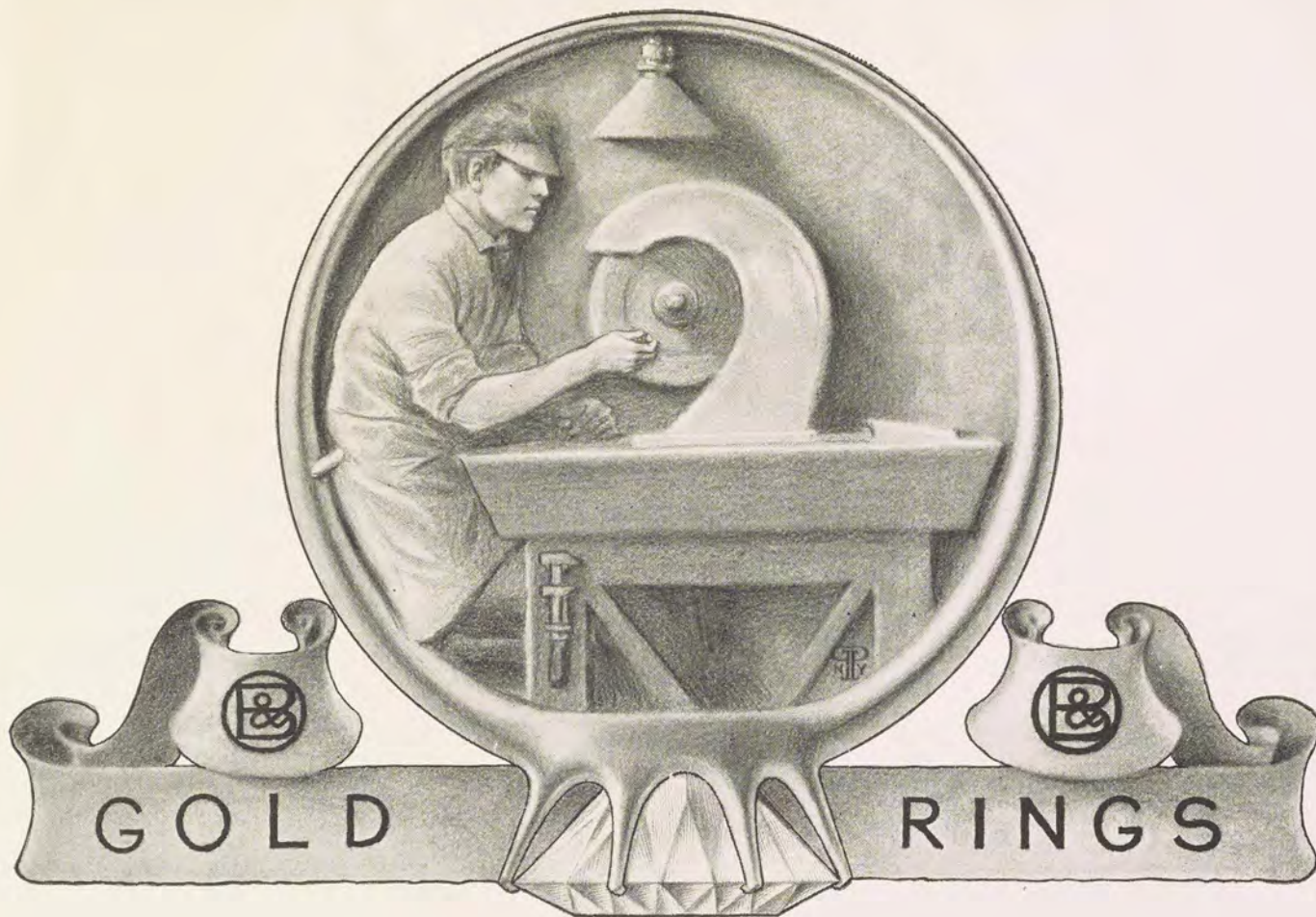


"WELL-JUDGED" BUYERS KNOW HB RINGS

LET us eliminate all thought of exclusive and artistic designs—handsome finish—superior workmanship—and the like. All "well-judged" buyers know HB Rings—know their quality. And isn't it a pleasure to know?—to have confidence in your house? ¶ We have recently increased our facilities—added to our factory, and *this* fall want *your* order. Why not be a "well-judged" buyer? Will we enter your name for a memorandum selection?

HEINTZ BROTHERS, BUFFALO, N. Y.

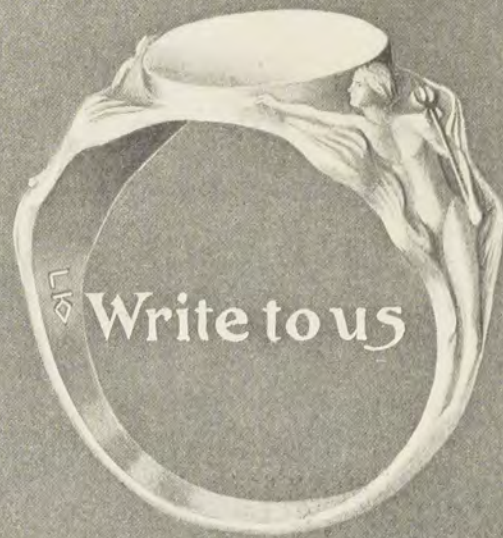




ISN'T it interesting to watch the evolution of an O & B Ring from a crude piece of gold? While our factory is equipped with every modern machine; every useful device necessary to manufacture our product—it requires time—yes, quite a deal of time, before the completed article is ready for the jobber's inspection.

The jobber, of course, has a different story to tell, and saves time through the excellence of our product. * * * Our unlimited assortment of new designs, makes his end a simple matter. If you want business this fall—Ring business—sell the O & B product.

OSTBY & BARTON CO
 PROVIDENCE R I
 9 MAIDEN LANE 103 STATE ST
 NEW YORK CHICAGO



"LK" Shorthand for Ring Superiority

The Kaufman Travelers can't go everywhere, so its possible you've never seen our peerless line of solid Gold Rings. If you don't handle them we both lose money. That's all wrong! Write us and we'll try to make it right.

THE BEST
DESIGNS
WORKMANSHIP
FINISH

LOUIS KAUFMAN & Co.,
RING MAKERS,
82 AND 84 FULTON ST.,
NEW YORK.

RINGS
OF EVERY
DESCRIPTION
ENDLESS VARIETY.



With the Kansas "bumper" wheat crop now moving, things look rosy for trade this fall. Kansas, which is lately so used to prosperity that it can't abide anything else, got a case of something resembling stage-fright recently, when the famous Devlin bank failure in Topeka came to light. The collapse of \$2,000,000 seemed very much of a calamity at first, and purse-strings were instinctively tightened. But two millions are a drop in the bucket to such a State as Kansas, and after the first flurry that follows the suspension of a prominent bank, Kansas settled comfortably down again to harvest and market its great wheat crop as speedily as possible. The Kansas City wholesale jewelers maintain that business is above the standard, and prospects more than ordinarily good. One firm announces an increase of between twenty-five and thirty per cent. in business. All agree that collections are good and prospects fine. The manufacturers are rushed with work, even in mid-summer, and the cry is for more help.

The record price for Kansas City real estate was reached July 15th, when the property at the northeast corner of Eleventh and Main Streets was sold for \$190,000, or \$7916 for every one of the twenty-four feet front. The property was sold by Louis and Michael Oppenstein to Aaron Waldheim, of St. Louis. The Oppensteins bought the property only seven weeks ago from C. W. Armour, paying for it \$153,750, so it may be seen that they made a fine profit. Louis and Michael Oppenstein, who sold the property, are owners of the Streicher Jewelry Company, at 1015 Main Street, and of a jewelry store in Petticoat Lane. J. R. Mercer's jewelry store is in the building just sold, and Mr. Mercer has a lease on the entire building, for which he pays \$12,000 a year, and which has five years yet to run.

J. R. Mercer recently presented to Elmer N. Powell, assessor and collector of water rents, a large office clock for use in his department in the city hall.

The Jaccard Jewelry Co. is already exhibiting several handsome trophies which it has made for prizes at the American Royal Live Stock Show to be held here in the fall.

Mr. and Mrs. S. E. Woodstock are in Iowa for a two-weeks' visit.

H. W. Porter, designer and engraver for Edwards & Sloane Jewelry Co., and Clarence Chapman, Mercer's watch man, are fishing in Northern Minnesota.

Otto Knaul and bride are occupying their new home at 2615 East Thirtieth Street.

The three children of George Edwards are spending the summer on a ranch near Alma, Kans.

M. L. Gibson, of Linneus, Mo., visited the Kansas City wholesale houses recently.

Ed. Girard, of Edwards & Sloane Jewelry Co., has taken the place recently given up by Mr. Wilcox at C. A. Kiger's. His place as chief order clerk at Edwards & Sloane's has been taken by J. H. Whitney.

T. L. Mendenhall, of Burr Oak, Kans., is here attending the Southwestern Optical College.

Mrs. C. C. Hoefler is spending the summer in the North. Mr. Hoefler has returned to Kansas City, after a Northern and Eastern trip.

Basil Dickey, of Merry's, is spending two weeks in a Northern trip.

Ernest Mansur, of Gurney & Ware's, accompanied by Mrs. Mansur, is spending several weeks at Eureka Springs, Ark.

R. B. Irwin, of Chandler, Okla. Ter., was in Kansas City last month.

Miss Darsie Harrod, of Merry's, is in Minneapolis for a short stay.

Mr. and Mrs. J. R. Mercer are accompanied on their Canada outing by Mr. and Mrs. Fred. S. Doggett.

T. L. Baskett, of Warrensburg, Mo., visited the Kansas City wholesale houses recently.

Miss Williams, of Woodstock-Hoefler's has returned from Excelsior Springs.

D. B. Ward, of Woodstock-Hoefler Watch and Jewelry Co., is in Chicago.

Miss Maude Alexander, with Edwards & Sloane Jewelry Co., is attending the Epworth League Convention in Denver.



The usual mid-summer dull season is upon us and buyers are coming here in sparse numbers. Then, too, this has been an unusually hot month and the oppressive temperature has had a languorous effect on the retail trade.

Other lines of business are good, however. Take the iron ore business, for instance. It has, so far in the season, reached proportions that eclipse the banner year of 1903. Coal, too, is good, as far as volume of tonnage is concerned, though the price has been low all the season.

A. T. Hubbard and family have returned from a month's trip to the St. Lawrence.

L. M. Sigler, of the Sigler Bros. Co., has returned from his annual European trip.

J. H. Danforth, secretary and treasurer of the Cowell & Hubbard Co., has left the city with his family on a well earned vacation.

C. C. Sigler has moved into his new country home in Courtland, Ohio.

H. W. Burdick, W. H. Kennon, W. H. Wagner and Geo. Tipling attended the convention of the American Retail Jewelers' Association, which met in Detroit the last of the month.

Webb C. Ball was recently appointed watch inspector by the Erie Railroad. This adds still another to the long list of roads whose time service is so well administered by Mr. Ball and his staff.

Geo. Scribner and family will spend the next few weeks at their cottage on the Georgian Bay, near Penetang.

Burt Ramsay has just returned from a trip to New York. Mr. Ramsey is making changes in his new store room in the Scofield Building. A new front is to be put in.

Frank Martin, manager of the porcelain department of the Cowell & Hubbard Co., will return about the first of the month from his annual buying trip to the European trade centers.

F. J. Kempel has opened a new store in Ashtabula Harbor, Ohio. Mr. Kempel was formerly located in Wisconsin.

J. P. Johnston, the well-known optician, who in past years has contributed to literature several books dealing with the "strenuous life," is now writing a series of articles under the caption of "The Grafters I Have Met." These articles have been syndicated and are being published in over twenty newspapers, such as the Cincinnati *Inquirer*, Toledo *Blade*, Rochester *Herald*, Washington *Star*, Omaha *World-Herald*, etc.

W. B. Blood, formerly with G. L. Black & Co., Detroit, Mich., has joined the traveling staff of the Scribner & Loehr Co. H. W. Hurlbut, another of the staff has returned from a vacation in Virginia.

C. S. Moross, manager of the material department of Sigler Bros., recently spent a few days in Milwaukee.

A. B. Sprosty, 862 Broadway, will have his formal opening of his new store this week. Mr. Sprosty has just completed his new block and will occupy a portion of the ground floor for his new storeroom.

W. G. Hildebrand has removed from 267 Pearl Street, to his new room, 297 Pearl Street.

The three crooks, who were convicted last month of the robbery of Jeweler A. D. Erne, Colonial Arcade, were granted a new trial by Judge Fiedler, who reviewed the testimony of Rodig, the clerk of Jeweler Erne, and of Alfredo, the crook, who turned State's evidence, and pronounced it as not of sufficient importance to cause conviction. Hence a new trial was ordered.

Walter F. Miller, of the traveling force of Bowler & Burdick, has just returned from a visit to the East and the seashore, and is now ready to leave on his trip.

F. S. Blackford has been in Pittsburg and West Virginia the past month on a little vacation.

Stein & Joliet, of Alliance, Ohio, have opened a new store in the above town. Mr. Stein was for some years with A. E. Oyster, the well-known jeweler, and will, undoubtedly, make a success of the venture.

Herbert Farrow, of Newark, N. J., spent ten days in the city on a well-earned vacation. Mr. Farrow is the chief designer of the Carter, Howe & Co. plant in the above town.

John Rich, Jr., of Painesville, Ohio, was recently married to one of his town's most estimable girls, and the honeymoon is being spent on a trip up the lakes.

The following jewelers have had sons born to them the past month: A. J. Heiman, Barberton, Ohio; W. J. Kappler and Ralph Hogan, of Akron. There is evidently no race suicide among the jewelers.

The firm of Hanna & Eroe, New Castle, Pa., has been dissolved by mutual consent, Mr. Eroe retiring from the firm. The business will be continued by Mr. Hanna.

It was erroneously stated in these columns last month that Chas. Sheingold had "taken the store-room formerly occupied by Geo. Pugh, on Superior Street, near Erie Street." On the contrary, Mr. Sheingold has retired from the jewelry business and has never occupied a store on Superior Street.

The following jewelers from various parts of the State were in town the past month: M. R. Zimmerman, Doylestown; J. R. McClintock, Chagrin Falls; D. Leonheiser, Huron; C. J. Duncan, Massillon; Walter Deuble, Canton; W. J. Gilger and wife, Norwalk; L. J. Goddard, Ravenna; Al. Nolf, Wadsworth; Harry Downs and son, Bellevue; E. J. G. Lovett, Titusville, Pa.; J. C. Joss, New Philadelphia; R. R. Moore, Cuyahoga Falls.

WE take pleasure in announcing the opening of our Pittsburg Office, in the Farmers' Bank Building, which is now fully equipped and established for the wants of the Eastern, Southern and Middle Western trade.

We are equipped with the goods that will build up your Watch Department.

Our goods are of one quality—the best—selected from the products of the American Waltham Watch Company, the Elgin National Watch Company, The Keystone Watch Case Company, the Crescent Watch Case Company and the Philadelphia Watch Case Company.

We want you for a customer and feel sure you will appreciate us. You are cordially invited to inspect our lines either by selection package, mail order or a personal call at either our Pittsburg or Chicago office.

M. A. Mead & Company

WATCH JOBBERS

Farmers' Bank Building
Pittsburg, Pa.

Columbus Memorial Building
Chicago, Ill.

INDIANAPOLIS LETTER

Local Conditions Favorable

The city building inspector reports a notable increase in the amount of building done in the first six months of the present year, and predicts that 1905 will be the greatest building year in the history of Indianapolis. For the six months ending July 1st, permits were issued for buildings having an aggregate value of \$3,306,513, an increase of \$1,213,746 over the same period for 1904.

Early Closing Movement

The manager of the Indianapolis Merchants' Association finds that the five o'clock closing movement is being more generally observed by the city merchants than ever before. One hundred and forty leading stores now close at five o'clock in the evening except Saturday during July and August. The Saturday half-holiday is also much in vogue. All the larger jewelry establishments, wholesale and retail, have signed the agreement and are living up to it.

By the middle of July, the selling forces of the local jobbers were all on the road with fall lines, looking forward to a brisk trade. Crop conditions were very favorable, collections good and prospects encouraging. The annual meeting of the State Dental Society, the July races, the great American handicap last month, and the annual State encampment of the Indiana National Guards at the new United States army post early in August, all helped to bring many visitors to the city and increased the sales of the retail merchants.

Last month Ikko Matsumoto turned out eight hundred gold pins for the Young Men's Institute, a rapidly growing Catholic organization. The emblem is a laurel branch with a cross and star combined. C. A. Slinger, watchmaker for Matsumoto, is deputy grand organizer for the State of Indiana.

S. T. Nichols & Co. have adopted a new method of supplying the city trade with watch material. A small neat wall case containing a variety of material conveniently arranged and marked, is placed in a store or repair shop on memorandum. Every three months an invoice is made and the customer given a bill for goods used. So far the scheme has worked very satisfactorily to both parties. The watchmaker quickly supplies his needs, while the dealer saves the time necessary to wait on him.

Ben Couchman who was quite ill last month, is again at his post as manager of the material department of S. T. Nichols & Co.

Carl F. Rost reports his diamond business as unusually brisk for the summer months. Mr. Rost anticipates a fine fall and holiday trade in stones.

History of the Local Trade

The Indianapolis *News* recently printed an interesting article under the title: "Business that has seen changes in recent years." "There have been great changes in the jewelry business in the last twenty-five or thirty years," said Julius C. Walk. "I can remember when watchmakers, silversmiths and jewelers were all rated together as being of one occupation, and the same person was expected to do everything from repairing a watch or cleaning a clock to mending a broken ring or making a pair of gold spectacles. It isn't so now. The business includes

several distinct lines of work, and a man who is skilful in one needn't know anything about the others. Like most every other line of trade, and even the professions, the business is divided up into specialties." The growth of the jewelry business in Indianapolis kept pace with that of the city. In 1858, the principal watch and jewelry stores here were: E. J. Baldwin & Co., the old Bates House corner; C. A. Ferguson, 7 West Washington Street; Charles G. France, 37 West Washington Street; W. H. Talbot, 24 East Washington Street; T. Zurnbusch, 16 East Washington Street, and S. H. Daumont, 9 South Meridian Street. At that time William H. Craft, who afterwards became a leading jeweler, and was popularly known as "Harry" Craft, was learning the trade as a watchmaker with C. A. Ferguson. Jeremiah McLene was the managing partner of Baldwin & Co. He afterward failed in the jewelry business, and went West, where he engaged in mining and died. In 1860, the name Julius C. Walk appeared as watchmaker, 17 North Illinois Street. At that time there were three silversmiths and nine watchmakers here, all of whom dealt to some extent in jewelry as a side line. In 1870, the jewelers were: W. P. Bingham, 50 East Washington Street; Craft & Cutter, 24 East Washington Street; C. C. French, 18 North Meridian Street; McLene & Herron, old Bates House corner, and Phipps Bros., 32 West Washington Street. Julius C. Walk was watchmaker with Bingham & Co., in which firm he afterward became a partner.

The manufacture of jewelry has become an industry of some importance in Indianapolis. In 1876, there were three small manufacturing establishments in this city, those of J. H. Colclazer, 12 East Washington Street; T. C. Comstock, 37 West Market Street, and Cordray & Co., 3 Odd Fellows' Hall. Now there are nine manufacturing jewelers here. Indiana jobbers and retail dealers in jewelry who used to place their orders in Chicago or Cincinnati, now deal here.

Ikko Matsumoto recently finished a unique pair of gold-coin bracelets. Each bracelet is composed of seven coins. Two and a half and one dollar gold pieces, joined by links. One side of the coins has been skilfully raised into figures such as lion, fox and dog heads, chrysanthemums and roses, the reverse side still showing the lettering and date of the coin, the whole representing skilful handiwork and artistic designing.

Charles L. Kiefer is a member of the Arts and Crafts Society of Indianapolis, which has filed articles of incorporation. The society intends to open a permanent salesroom early in the fall, in which will be placed work of local artists and craftsmen and of leaders in handicraft throughout the country. It is thought the salesroom will fill a need in this city of a convenient place where artistic hand work may be seen and bought. Mr. Kiefer has been elected one of the directors, and takes a keen interest in the new venture.

On July 8th the G. Grohs Jewelry Co., of Indianapolis, was incorporated, under the State laws, with a capital stock of \$25,000. The directors are Isadore Grohs, Emanuel I. Fisher and Leo Markowitz, all residents of Indianapolis. The company, which had three traveling representatives, have added two more, S. Grohs, son of the president, and H. D. Owmy. Their quarters in the State Life Building are being enlarged to accommodate the increased business. A strictly wholesale business will be conducted.

Henry Reed, second son of J. H. Reed, has entered a school for the study of jewelry designing at Cleveland. While an art student in the City

High School, young Mr. Reed did some highly creditable designing in belt buckles, brooches, etc. He will, undoubtedly, make a success of his chosen profession.

A Slick Pair of Thieves

A man and a woman having the appearance of innocent country folk turned out to be bold thieves, who robbed Michael Drozdowitz, proprietor of the Chicago Loan Office, 203 East Washington Street, of a tray containing thirty gold rings valued at \$100. It was about the noon hour one day at the close of June that the couple entered the store and expressed the desire to be shown some rings. The woman carried a small cape on her arm, which she shifted from one arm to the other while examining the rings. After looking over all the rings in the trays, they asked to see some that were on display in the window. The couple followed Drozdowitz as he crossed the room to reach the window, a little later the strangers left the store, saying they would return. When Drozdowitz started to return the two trays to the case, one of them was missing. Supposing it had been carried off under the woman's cape, the police were immediately notified, but the dusty, traveled-stained man and woman had disappeared, and police investigation has since developed nothing as to their whereabouts.

Charles F. Whittaker, a Delaware Street jeweler, was recently fined \$10 and costs in the local police courts, on his plea of guilty to the charge of selling a lottery ticket. Whittaker, in his statement, disclaimed the charge that he was an agent for the tickets. He said several tickets had been left at his store by a friend, and upon the request of F. Anderson, a resident of this city, he sold him one. Anderson's wife swore out the warrant that led to Whittaker's arrest. She claimed that her husband was paying part of his wage money for lottery tickets, when she thought he was making payments on a watch bought of Whittaker.

Mr. and Mrs. F. M. Herron spent July at Georgian Bay, where Mr. Herron is known as a skilful fisherman and an expert whist player.

Albert Berg, who has been employed as watchmaker for Carl L. Rost for the past three months, has brought his family here from Pittsburg for permanent residence.

Charlie Kiefer, accompanied by his mother, spent several weeks at Lake Maxinkuckee, Ind. Louis Kiefer, of the same firm, recently fell from a stepladder, without apparent injury at the time, but later trouble developed along the sciatic nerve, which caused him much pain and lameness.

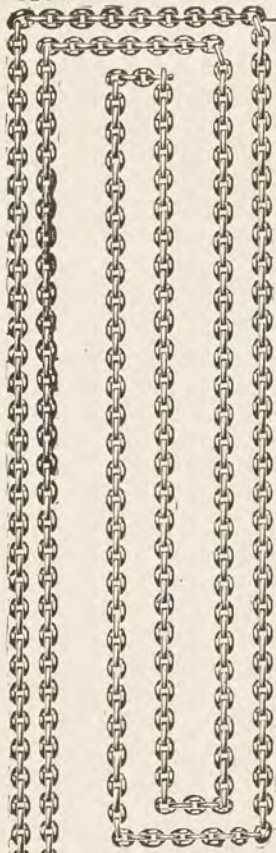
The Fidelity Watch and Diamond Co. recently placed on sale a beautiful line of Japanese shell necklaces.

Gus Craft, of the A. P. Craft Co., has returned from a successful business trip through Wisconsin. The firm turned out with their July orders a very handsome and massive department commander G. A. R. badge of gold and enamel set with diamonds.

The sons of H. Cohen, who has closed out his jewelry business on South Illinois Street, will open about September 1st a new store at the corner of Pennsylvania and Market Streets. It is the ambition of the Cohen boys (the style of the firm has not been definitely determined) to conduct one of the handsomest and up-to-date jewelry stores in the West. Handsome new fixtures have been ordered and an unusually fine stock, including diamonds and mounted goods, will be displayed in most attractive quarters.

Ed. Kappler, watchmaker for Henry Schergeus, made a recent visit to his old home at Palestine, Ind.

(Continued on page 1269)



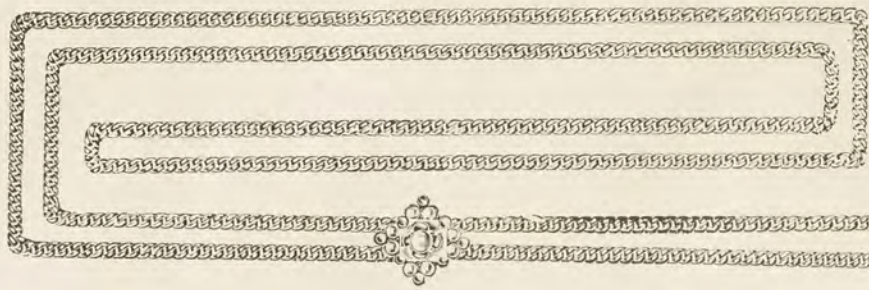
TRADE-MARK

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COMBINATION**



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Makers of Fine Chains



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The Chatelaine Pin may be worn separately or in combination, as desired

We manufacture a full line of **LADIES' LORGNETTES, MARSH COMBINATION, NECK CHAINS and FOBS.** Also **GENTS' FOBS, VEST CHAINS** and **GRAND VIZIERS** in great variety, which are sold through the leading **WHOLESALE** houses.

Ask your jobber for the Marsh Combination, the best-selling ladies' chain on the market

C. A. Marsh & Co.

ATTLEBORO, MASS.



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Learn Watchmaking, and Learn It Right

To learn watchmaking right, it is necessary to attend the best school. That the St. Louis Watchmaking School has the best methods of teaching the various branches of the jewelry business is evidenced by the wide reputation given its graduates by watchmakers and jewelers in all parts of the country, and a Diploma, signed by its faculty, is a guarantee of knowledge and ability.

The chief value of the St. Louis Watchmaking School lies not in *what* it prepares you for, but in *how* it prepares you. Our manager is a past master; a man of high professional ideals, perfectly educated in every branch of the work, and practical to the last degree. Under his able guidance you progress step by step so easily and gradually that you are unconscious of any effort. The work is absorbingly interesting throughout the entire course. "Practical" is the key to our whole scheme of instruction. Our aim is to make you a finished, first quality workman, in the least possible time, capable of handling the most delicate work.

Our catalog explains the business, our methods of teaching it, terms, etc. Send for it to-day.



St. Louis Watchmaking School, 5815 Easton Ave., St. Louis, Mo.

Indianapolis Letter

(Continued from page 1267)

Andrew Oehler has associated with him his son, William, to whom he has taught the watch-making trade. Mr. Oehler has been in the same building (which he owns), on South Delaware Street, since 1864. The wholesale commission business has gradually crowded out the retail trade, until the Oehler jewelry store is about all that is left. Mr. Oehler sometimes talks of selling his four-story building, which he also occupies as a dwelling, and taking life a little easier, but old associations and habits keep him tied to his bench, where he has made a good many dollars that have been turned into some fine real estate. Mr. Oehler is one of the oldest subscribers to THE KEYSTONE in Indianapolis.

Chas. W. Lauer, of C. W. Lauer & Co., has bought out the interest of Wm. Beatty in the wholesale material house of Hoffman & Beatty, ninth floor of the State Life Building. The firm will be known as Hoffman, Lauer & Co., with William Hoffman as manager. Mr. Lauer will represent the firm on the road and his son, C. W., Jr., will become house salesman. Mr. Beatty has resumed his retail business at West Lebanon, Ind., where he has a host of friends, who welcomed his return.

Jos. E. Reagan, secretary and treasurer of the Baldwin-Miller Co., will spend the month of August with his family at his summer home, "Happy Hollow," at Ludington, Mich.

Miss Emma Binsac, head saleswoman for Horace Comstock, has returned from a two-months' visit to her mother in California.

L. D. Belasco, foreman for the A. P. Craft Co., enjoyed a visit from his family last month. Mr. Belasco contemplates removing his family residence to this city from Chicago, where he was formerly employed.

Albert Lock, who in the spring sold his watch-repair business to A. B. Swift & Co., and removed to Denver, has returned and entered the employ of the above firm.

Enrique C. Miller, vice-president of Baldwin-Miller Co., carries a quaint old English watch. The case is gold and a curiosity in style and workmanship. It is reversible, allowing the timepiece to be used either as an open-face watch or as a closed hunting case. The watch has been in the Miller family for many years, and is still a good timekeeper.

Carl F. Walk has taken a cottage at Lake Maxinkuckee, Ind., for the summer. Mr. Walk spends Saturdays and Sundays with his family.

The families of Silas Baldwin and E. C. Miller have a cottage at Harbor Point, Mich., for the summer.

O. H. Farr, Wabash, Ind., has moved his store from the old Bedford Block to handsome and commodious quarters in the Daugherty Block.

C. A. Kendall, who some time ago sold out his jewelry business in Dana, Ind., is now representing in Indiana and Illinois the wholesale house of Joseph Mehmert, Cincinnati.

E. A. Wiley, Mooresville, Ind., has gone out of the jewelry business.

J. A. Pickett, New Castle, Ind., has been very unfortunate during his last two visits to this city. First he lost two seal rings and later a diamond, which he had expected to have mounted in a ring for a home customer.

George F. Beach, formerly of Valpariso, Ind., has removed to Crown Point, in the same State, and opened a jewelry store.

F. T. Harmon is the happiest and proudest man in Scottsburg, Ind., and all on account of a fine boy, who recently arrived at the Harmon home.

C. C. Seaton, who some months ago sold out his business at Clayton, Ind., and went to Arizona for his health, returned last month so much benefited that he has re-entered the jewelry trade in the same town.

Johnson & Son, Pennville, Ind., have discontinued their jewelry business.

J. A. Miessen & Son, Cicero, Ind., represent a firm who have successfully combined the jewelry business and the practice of dentistry. Alfred Miessen, the son, is a graduate of the Indiana Dental College and finds time to assist his father in business as well as to practice his profession.

John Bryant has just completed remodeling and improving his store at Bedford, Ind. All new fixtures have been put in and an increased stock will be added a little later.

Ed. Hoke, of Fort Recovery, Ohio, was a trade caller in this market the latter part of July.

Matt. Irion, of Louisville, Ky., visited the city during the North American Gymnastic Festival and made some purchases from local jobbers.

F. L. Lisher, Morristown, Ind., and C. W. Neal, Franklin, Ind., were recent buyers in the city.

Chas. M. Leland, formerly of Michigan City, Ind., who recently graduated with honors from the Northern Illinois College of Ophthalmology, has begun to practice his profession at Kokomo, Ind.

James J. Scott and B. H. Orndoff, of Valparaiso; Henry J. Todd, of Florence, and E. A. Harden, of Knox, are four young Indiana men who are at present pursuing the study of optics in Chicago.

Jenkins & Co., Richmond, Ind., have one of the most complete jewelry establishments in the State. The main room is 80 by 20 feet, handsomely fitted with mahogany cases. In the rear is a well-equipped workshop. A broad staircase leads to the second floor, which is a model optical department, containing all the up-to-date appliances.

Philip Masias, formerly of Newark, N. J., has taken a position in the optical workshop of S. T. Nichols & Co.

John Wimmer attended the meeting of the Kryptok Association held in New York the last of June. Mr. Wimmer extended his trip, taking in some of the Eastern pleasure resorts.

Dr. H. E. Woodward, an active member and officer of the Indiana Optical Society, has returned from a pleasure trip to Rochester and Syracuse, N. Y.

During July, E. S. Fishback, of South Bend, Ind., visited relatives in Richmond, Va.

C. W. Shafer, Mentone and C. R. Eaverson, Madison, are two Hoosier jewelers who have recently gone out of business.

John Becks, one of the best known and most successful jewelers in Northern Indiana, recently died at the age of fifty-six years, at his home in Michigan City. A widow survives him.

A. B. Wahl, of LaFayette, Ind., and his bride, included Indianapolis in their wedding tour last month, receiving the congratulations of many local friends.

J. C. Sipse, the Indianapolis diamond dealer, spent the past three winters with his mule team and covered wagon, his palace on wheels, hunting and camping in the mountains of Arizona, Colorado, Mexico and New Mexico, returning to Indianapolis every summer much improved in health. Upon his last trip, which extended from October to July, he was accompanied by his wife, who is an excellent shot and can number more than one deer among her personal spoils. The July KEYSTONE contained an article about Mr. Sipse's trip and his great success as a sportsman. His friends are a little undecided as to which subject he can talk best or longest upon—"Diamonds" or "Bears?"—his twin hobbies.



The elemental uncertainty is one of the chief disturbing factors in this State. The long period of dry weather was followed by a period of excessive rains, with the result that the crops in some sections will fall considerably below normal. A good average yield is expected, however, and there are prospects of very good prices for our great staple, cotton. Business for some weeks past has been decidedly quiet, but an improvement is noticeable at this writing.

The Southern Horological Institute, under management of C. E. DeLong and H. L. Dickson, opened for business July 3d. They were well pleased with their opening attendance.

The bankrupt papers of the Morgan & Hawley Co. have been filed, and liabilities are placed at \$90,000, assets \$153,000. As yet no disposition has been made of the business.

John Owen, jeweler, of Bonham, Texas, was in Dallas recently making some purchases. Mr. Owen expects to move his jewelry business to Tulsa, Ind. Ter., in the near future.

J. W. Pittman, of Cleburne, Texas, was a buyer in the city recently.

J. A. Harris, a prominent jeweler, of Waxahachie, Texas, has admitted his brother to a partnership; the firm-name now being Joe A. Harris & Bro.

J. H. Greer, of Fort Worth, Texas, had business in Dallas recently.

W. G. Young, of Frost, Texas, was a recent buyer in the Dallas market.

W. C. Vickers, a jeweler, of Mansfield, Texas, is taking a course in engraving at the Southern Horological Institute.

Mr. Mitchell, formerly of Narry & Mitchell, of Venus, Texas, expects to make his future home at Amarilla, Texas.

Mr. Benninger, watchmaker, with J. W. Pittman, Cleburne, Texas, was called to the bedside of a sick mother at Louisville, Ky., who was reported very low.

R. H. Kilgore has recently opened up a jewelry business at Alvarado, Texas, and reports conditions very flattering indeed.

S. White, the senior partner of Largent & White, of McKinney, Texas, was in the city recently. The firm of Largent & White have sold out their business to the McKinney Drug Co. Mr. White will continue to run a repair shop at that place.

W. H. Gumm, jeweler, of Van Alstyne, Texas, was in the city last month making some purchases for the fall trade.

Paul Mertens, jeweler, with C. L. Norsworthy, made a pleasure trip to Galveston, Texas, recently, and reports a very enjoyable visit.

Will Mitchell, formerly of the Shuttles-Mitchell Co., has accepted a position with T. J. Hines, of this city.

R. H. Shuttles, of Shuttles Bros. & Lewis, has recently purchased a home in the Colonial Addition, of this city, and reports "there is nothing like a home that you can call your own."

B. Z. Friedman, formerly watchmaker with J. H. Greer, Fort Worth, Texas, has resigned his position and opened up a repair shop at the corner of Seventh and Houston Streets, of that city.

Neil Curry, formerly assistant watchmaker with C. L. Norsworthy, has accepted a position with Joseph Linz & Bro. of this city.

(Continued on page 1273)

GEO. B. BARRETT CO.

NEW STOCK FOR FALL AND HOLIDAY TRADE

Accurately informed as to the requirements of the trade for the coming Fall and Holiday Season, we have now ready for inspection the largest and most carefully selected stocks ever placed at the disposal of our patrons.

These stocks include the latest ideas—models, styles and patterns—in all the standard lines of goods:

DIAMONDS

WATCHES, CLOCKS, MATERIALS, JEWELRY,
SILVERWARE, NOVELTIES, Etc.

Whatever the character or extent of your needs in these lines, we are in a position to furnish same promptly and to greatest advantage.

Orders sent by mail will be carefully filled and shipped same day as received.

GEO. B. BARRETT CO.

WHOLESALE JEWELERS
AND DIAMOND IMPORTERS

347 FIFTH AVENUE
PITTSBURG, PA.

PITTSBURG LETTER

Local Business Conditions

The heated term, with its depression and languor, has come to Pittsburg and has had the usual effect on the jewelry trade. In spite of this, however, most of the wholesalers report a fair movement of stock, and, considering all conditions, they think that there is really little to complain of. The golf season has been an unusually active one. Trophy cups and other pieces in silverware and fine-art goods have been quite extensively called for. This line of trade has benefited those dealers making a specialty of such goods.

The vacation season is now in full swing. The business hours of the stores have been cut down and weekdays find many of them closed at five o'clock. Two Pittsburg jewelers are now in Europe on a combined mission of business and pleasure. Sam. F. Sipe, of Fifth Avenue, went on July 11th, sailing on the *Kaiser Wilhelm II*, and will be gone for some time, securing new diamond stock and enjoying a well-earned rest. A. A. Gillespie, of Gillespie Brothers, of the Park Building, sailed on July 6th, on the steamship *Blucher*, and went to Amsterdam, after which he intended to visit Paris and London, and while looking after diamonds, is also to come back with a fair stock of imported art goods and novelties. He will be gone about seven weeks. Mr. Gillespie will not only utilize his time for business but intends to enjoy a vacation as well.

An Anomalous Situation

In discussing the trade developments of late in Pittsburg, some interesting statements were made by local dealers. It was noticed that with the steady operation of nearly all of the large industries of the Pittsburg district, and the general employment of mill workers, miners and wage earners generally, there has been a quieting down of general demand for luxuries. This is accounted for in various ways. One is the savings banks, which are making unusual efforts to secure savings accounts, and securing much of the money that used to circulate quickly. The other is the activity in the land deals, by which lots are sold to the wage earners on the instalment plan and which takes up all of the spare cash they can gather to keep up payments. Both are admitted to be worthy causes, but it is said that, in a measure, they have affected the trade.

Greater Cost of Living

Another factor that is working detrimentally is the higher cost of living with the lowering of average wage rates. This has become a serious matter in Pittsburg. The cost of living here has been steadily increasing from year to year and with rents going up and groceries and all necessities climbing higher, the ability of the people to buy anything but the most urgent supplies has been curtailed in a painful manner and is really putting a damper on one of the best sides of Pittsburg trade. It has also put a check on the opening of new business houses and enterprises. Few stores are able to start these days, it is said, without unusually large capital. The old times when a jeweler could secure a good start on from \$1000 to \$2500 are almost over. Rents for a suitable site for business are exorbitant and must also be protected with a bond that practically ties up all of the capital of the dealer, without counting what is necessary

for stocking his place. As it is, there has been little change in the trade situation in the city and practically no new store of any account has opened for over three months.

The Outlook Favorable

More than one jeweler has voiced these sentiments, and some with bitterness born of experience. They, however, admit that so far as present indications are concerned, the outlook for the fall trade is bright. Stocks among the retailers are unusually small, and the field is a good one for placing new goods when the season has opened fairly. This outlook may change, but it is not considered probable that it will.

One of the new stores to open during the past month is that of the Prosser Optical Company, which for some time was in lower Sixth Street near the river. The company announced that it would have the best appointed optical store in the city, and the results of its efforts certainly seem to have proven their assertion. The store is handsomely finished in mahogany, and the new front is of the kind with stained glass over the windows and doors of a highly artistic type. The interior is darkened and in the subdued light is displayed optical goods, and the general design of the store is such as to at once appeal to the highest taste.

The old stand of B. Aarons in Smithfield Street, which was abandoned the past month through the bankruptcy court in which the business of Mr. Aarons was wound up, has not been rented. It took but a short time to dispose of the stock carried. The Guaranty Title and Trust Company acting as receiver, began a sale of all of the stock on June 28th, and continued it for a week without interruption. There will be no attempt to revive the business, which is an old one, and has many friends.

Charles S. O'Brien & Company, of Wood Street has, during the past month, been the center of interest in the display of magnificent silver trophy cups and of other prizes for golf and tennis tournaments. Another display was of cups and prizes for the automobile races held on the Brunots Island track on June 28th and 29th, and which drew some of the swell set of the entire country to the scene and also many of the famous speeders of autos. Barney Oldfield was among the speeders present and taking part in the contests.

A Banking Consolidation

Financial interests in Pittsburg have been considerably interested in the merger of the Union National Bank, one of the oldest and strongest national banks of the city, with the private bank of N. Holmes & Sons, which is also the second oldest private banking house in the country. The latter was organized in 1822, and has been in continuous existence ever since. The banking offices of the private banking firm was taken over and under the name of the Union National Bank, the business has been continued. The new consolidated institution announces that next year it will begin the building of a twenty-story skyscraper on its lot at Wood Street and Fourth Avenue. Aside from this incident to disturb the serenity of the Pittsburg financial centers, there has been no special change. The bankers regard the general trade and business conditions as excellent and healthful. The money market is comparatively easy, and the needs of the merchants have been well cared for this year. Confidence is unquestioned, and while the buying power of the working classes may have been curtailed somewhat by the unsettled condition of the

relative cost of living with that of the wage earning, the opinion is that such conditions will ultimately right themselves, and the people of this busy district would be the better for it.

The Annual Exposition

The exposition season in Pittsburg is to open next month and some fine displays are expected to be made as usual. Heeren Brothers & Company's booth is one of the conspicuous features of the main building exhibits, and this will be filled with new goods which are coming over from Europe this summer. The Heeren Brothers Company are enjoying a full and generous share of the current wholesale business of the season, and are hopeful of a good fall and winter business. The house will be represented on the coming trades excursion of the Merchants' and Manufacturers' Association which starts for a two-days run up the Monongahela river on August 10th, for the purpose of visiting many of the towns and boroughs along that famous stream, where Pittsburg's business houses are well-known. The shop of this company is also busy, and activity is displayed throughout the huge building in Penn Avenue.

Geo. B. Barrett Company is making a fine showing of stock in all lines. New stores, they report, are not numerous, but trade is holding up fair for this season. The watch trade is a little off, and the supply is now equal to the demand.

Notwithstanding the temporary quietness there is no weakening of confidence in the situation or outlook. Another prosperous fall and holiday season is now practically assured, and the work of preparation for the jeweler's harvest time has already begun.

Fashionable Engraving Brings Fancy Prices

The more exclusive a jeweler's patronage the more profitable it is.

Style comes high, but stylish people are always willing to pay the price.

Herein lies your opportunity.

For instance, society is especially critical and exacting in the matter of engraving.

It's a question of excellence rather than of cost, and only an artistic engraver can hold such patronage.

If you do engraving for the social set or desire to do it, procure at once a copy of that wonderful compilation of stylish lettering "Hornikel's Engravers' Text-Book."



This portfolio represents the standard of excellence in monogram work.

Show it to customers and it will make you trade; use it as a model and it will insure big price work.

It's a mine of suggestion for the high-class jeweler who can't afford poor engraving.

The work consists of sixty-one page plates of letters and monograms, pretty patterns and all manner of combinations—all styles of monograms for all kinds of purposes, for lockets, spoons, trays, cigarette and match cases, loving cups, rings, fobs, etc.

A copy will be sent postpaid to any part of the world on receipt of price, \$6.00 (£1 5s.)

For sale by THE KEYSTONE
19th and Brown Streets, Philadelphia, Pa.
42 Madison Street, Chicago —Adv.

THE WATCH HOUSE OF THE NORTHWEST



G.1609



PLANS for the fall campaign should now be carefully considered and arrangements made for a most vigorous and successful fall trade in Watches. For this reason we want to impress on the minds of the retail jewelers of the great and growing Northwest that we deal in watches at wholesale exclusively, that "we have the goods," that we are the logical supply source for the Northwestern trade and that we save you money in expressage and time in shipment.

We are sectional headquarters for the products of the Elgin National Watch Co., the American Waltham Watch Co., The Keystone Watch Case Co., Crescent Watch Case Co. and Philadelphia Watch Case Co. We issue no catalogue and sell to jewelers only. We make a specialty of Railroad Watches.

These are points worth while. Let us prove them by a trial with your mail orders.



G.1999



ALBERT L. HAMAN, 281-282 Endicott Building, St. Paul, Minn.

"In the good old Summertime
Use N Solder and keep cool."



Jewelers' Supplies, Badges, Medals,
College Goods and Original Novelties

F. H. NOBLE & CO.

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

Factory, 59th & Wallace Sts.

CHICAGO, ILL.

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.**

**10-50 Seventh St.
MINNEAPOLIS,
MINN.**



July reports are favorable without any exception. Jobbers report a heavier business than usual and are feeling jubilant. They feel confident that it will continue and have every reason to believe the fall trade will run ahead of last year's. While the Northwest had an over-abundance of rain all spring, the downpour has come to an end, and, on looking over the ground carefully, no damage worth mentioning has been done. With even fairly favorable weather, this section, owing to the increased acreage, should present one of its most valuable crops. Small grain is heading nicely and harvesting will soon be under way. Corn will need plenty of good hot weather to help along its backwardness, but from the sample we have had of what the weatherman can do, if he wants to, we have no doubt there will be plenty of it before September 1st.

Retailers report good sales, caused by numerous fashionable weddings, and all agree that the sterling silver line has had quite a boom. The meetings of the Minnesota State Retail Jewelers' Association, the Minnesota State Optometrists' Association, and the American Association of Optometrists, at Minneapolis, reports of which will be found in our other columns, brought a grand influx of visitors and were very successful. The State associations, intending the summer meetings to be more entertaining than instructive, joined in planning the entertainments, and they proved so successful that, in future, few will miss them. There's nothing like a little vacation, just to see how nice a fellow the other one can be and how pleasant you can be yourself, if you only try.

L. E. Bryant, Clarkston, Wash., will move into his new store August 1st. Lute can't help showing his old Minnesota aggressiveness.

H. W. Hilborn, who recently started in business at Portal, N. Dak., spent several days in the Twin Cities buying goods.

John C. Marx, Shakopee, Minn., made the run to St. Paul, to take in the "auto" races last month. John reports the roads in good shape, and that his "auto" did not get stuck in the mud.

Perry N. Waters has succeeded John B. Pederson at Leeds, N. Dak.

John B. Erd, Duluth, Minn., was called to St. Paul by the announcement that his brother-in-law, Emil Geist, had been taken to the hospital for eye treatment.

Paul W. Berens, lately with L. Schaefer, Lakota, N. Dak., has succeeded M. J. Kaliher, at West Hope, N. Dak. Mr. Kaliher has been compelled to quit business and go to Arizona for his health.

W. J. Kruger, North Branch, Minn., who came to the Cities to spend a quiet 4th of July, says its too noisy at home.

Burglars entered the Abrahamson Jewelry Store, at Helena, Mont., June 30th and succeeded in getting away with about \$500 worth of watches and rings. There's no clue to the thieves.

C. S. Sutter, St. Paul, Minn., has filed a voluntary petition in bankruptcy. Liabilities, \$11,354.76; assets, \$11,650, of which \$3450 is claimed exempt.

J. M. Flugstad, a graduate of Stone's School, St. Paul, has started in business at Hamilton, Mont.

J. C. Gerde, Paynesville, Minn., spent a week in the Twin Cities last month, buying goods and seeing how other people do business.

A. Eberhart, Elkador, Iowa, passed through the Cities on his way to Sentinel Butte, N. Dak., where he will spend a three-weeks' vacation visiting his sister.

R. A. Beard, manager of the jewelry department of Sisco & Beard, St. Paul, spent his vacation at Bald Eagle Lake, and looks as though it did him good.

E. McAyeal, Morris, Minn., has returned after an absence of five weeks, taking treatment in a Twin City hospital. He reports himself well and sound again.

F. E. Williams, Augusta, Wis., is taking in the fair at Portland, Wash.

S. Pierce has begun business at Park Rapids, Minn. Mr. Pierce is an old-timer in the jewelry line and we are glad to see him back to his first love again.

Fred Ohm, Jr., for the past year with Bullard Bros., St. Paul, is now with M. L. Finkelstein.

W. P. Mulholland, late of Mulholland & Murphy, Livingston, has bought out Richard Roberts, of Big Timber, Mont.

M. Henriksen, Duluth, Minn., has greatly improved his store by putting in a new front and new steel ceiling.

J. Gruesen, Duluth, has moved into his new store, 129 W. Superior Street, which has been specially remodeled for him, and he prides himself on having just as nice a place as anyone now.

I. S. Phippeny & Co., Manistique, Mich., have sold out to A. S. Putnam & Co., who have consolidated the two stores.

We regret to announce the sudden death of Mrs. H. H. Starr, New Richmond, Wis., June 26th.

The Weber Jewelry & Music Co., St. Cloud, Minn., are the latest addition to the trade in that lively city, and should prove winners. With new stock and fixtures just purchased, and their popular ways, the boys should and undoubtedly will make their mark.

Nels Peterson, Superior, Wis., has just moved into his new store.

Albert Rohrer, Eveleth, Minn., spent a few days in Duluth last month. "Just resting," is the way he puts it.

John Johnson, Superior, Wis., is mourning the loss of his wife, who recently died from heart failure.

A. E. Palmer, Grand Forks, N. Dak., was called to Mankato, Minn., last month by the illness of his father.

D. R. Cohen, St. Paul, Minn., has gone to Lincoln, Nebr., where he has charge of the jewelry and optical departments at Herpolsheimer's.

Albert L. Haman, the St. Paul watch jobber, has just returned from an extended trip through the Northwest.

E. J. Siegrist, with Birely & Son, Oshkosh, Wis., spent a week visiting his brother Ralph, at St. Paul, Minn., on his way to the Portland exposition.

Henry Bertossi, for the past two years with F. A. Defiel, St. Paul, Minn., is now with F. A. Ubel.

Chas. E. Proctor, lately with J. B. Cook & Co., Bismarck, N. Dak., after spending two weeks in camp with the Dakota National Guard, is now visiting his uncle, S. B. Millard, Minneapolis.

Thieves entered the store of F. E. Lenhart, Argyle, Minn., July 18th, and helped themselves to what was outside the safe.

J. F. Mitchell, watchmaker and jeweler, of Newark, S. Dak., was married on June 22d, to Miss Euleta Hitchcock.

Visitors noticed the past month in the Twin Cities were: E. McAyeal, Morris, Minn.; I. M. Radabaugh, Hastings, Minn.; R. G. Ingraham, Menomonie, Wis.; Dr. E. C. Roberts, Redwing, Minn.; A. E. Palmer, Grand Forks, N. Dak.; A. L. Kleme, Albert Lea, Minn.; J. C. Gerde, Paynesville, Minn.; C. J. Weber, St. Cloud, Minn.; S. Pierce, Park Rapids, Minn.; Fred. A. Klass, Hibbing, Minn.; F. Willman, Stillwater, Minn.; Wm. R. Crandall, Mankato, Minn.; John C. Marx, Shakopee, Minn.; A. Eberhart, Elkador, Iowa; Fred. E. Williams, Augusta, Wis.; W. J. Kruger, North Branch, Minn.; J. M. Chalmers, Lake City, Minn.; H. W. Hilborn, Portal, N. Dak.; J. L. Moody, Ellsworth, Wis.; H. Kunath, Spencer, Iowa; W. Edelman, Stillwater, Minn.; W. M. Thurston, Ashland, Wis.; John B. Erd, Duluth, Minn.; C. J. Larson, Park Rapids, Minn.; E. J. Siegrist, Oshkosh, Wis.; Chas. E. Proctor, Bismarck, N. Dak.

Dallas, Texas, Letter

(Continued from page 1269)

H. H. Hawley, formerly watchmaker of R. M. Hutchison, Greenville, Texas, has resigned his position and accepted a similar one with T. B. Bond, Hillsboro, Texas.

B. M. McGregor, who was formerly in business at Rockwall, Texas, has accepted a position as watchmaker with W. T. Moorehead, Sulphur Springs, Texas.

S. H. Babb, who has been in the jewelry business at Willsboro, Texas, for a number of years, has moved his business to San Angelo, Texas, where he expects a good trade.

Robt. Blankenship, order clerk of Shuttles Bros. & Lewis, made a pleasure trip to Galveston, Texas, recently.

The Texas Optical Association held a meeting in parlors of the Bristol Hotel, Houston, Texas, July 24th and 25th. Reduced rates were offered on all roads and the attendance was very satisfactory.

C. L. Norsworthy, material dealer, of this city, made a business trip to Fort Worth recently.

N. Deal, of Grogan & Deal, Arlington, Texas, has been here making some fall purchases.

R. L. Russell, of Farmersville, Texas, was a recent buyer in the Dallas markets.

P. J. Narry, of Narry & Alexander, Venus, Texas, is spending a while in Mineral Wells, Texas, for his health and reports his condition improved.

E. C. Harrington, formerly of this city, has accepted a position in Juarez, Mexico.

S. A. Gordon, of Lockhart, Texas, was a recent visitor in the Dallas markets.

W. E. Brown, of Boyd, Texas, made a business trip to Dallas recently.

E. J. Thomason, of McGregor, Texas, spent a day in Dallas last month.

W. M. Finklestein, jeweler, of Forney, Texas, was in Dallas recently.

W. C. Ballew, who sold his business to G. W. Haltom, of Haltom & Bro., Fort Worth, Texas, has again opened up a similar business in that city. The store is furnished with entire new fixtures.

A. T. Threadgill, traveling salesman of Shuttles Bros. & Lewis, has just returned from an eight-weeks' trip and reports business in the sections he visited very good.

T. J. Hines, whose quarters are 286 Main Street, will move to a very handsome store on Elm Street.

J. B. Russell, watchmaker for D. E. Austin & Co., Grapevine, Texas, is spending a few days' recreation in Mineral Wells, Texas.

J. L. Rutherford, of Mt. Vernon, Texas, recently spent a week in Mineral Wells for his health.

H. H. Hawley, formerly of Morgan & Hawley, is visiting relatives in Huntsville, Texas.

C. A. Randolph, jeweler, of Huntsville, Texas, has added to his stock a complete line of fashionable stationery.

The La Nora Engraving Co., of this city, expect to move their present quarters to a more desirable location.

O. W. Simmons, of Cooper, Texas, spent a few days in Dallas recently.

J. A. Martin, watchmaker for J. H. Greer, Ft. Worth, Texas, was a recent visitor in this city.

In reporting, last month, the acceptance by Tom Armstrong of a position with G. A. Pfaeffle, of Greenville, Texas, it was stated that the first-named was "a partner of the Platt Jewelry Co., Cisco, Texas." This firm, however, writes to state that Mr. Armstrong is not one of its partners and that he is not connected with it in any capacity.

The Giant } in Quality of } in Sales Collar Buttons }



The Standard Collar Button

Millions of Krementz
One-Piece Collar Buttons
made, and are sold
all over the world

WHY? Because of their HIGHEST QUALITY, BEST CONSTRUCTION, GIVING THE MOST WEAR, AND GREATEST COMFORT and their IRON-CLAD GUARANTEE.

To verify this we invite the trade to read "The Story of a Collar Button, with Illustrations," which may be had FREE for the asking, and to try the experiment suggested on page 5 of that booklet, by which all may easily determine the exact amount of 14 K. gold in Krementz plate.

Extract from "Printers' Ink,"
Nov. 23, 1898.

The Little Schoolmaster now suggests, to every pupil in his class, to send a two-cent stamp to Krementz & Co., 49 Chestnut Street, Newark, N. J., and ask to be favored with a copy of their leaflet, "The Story of a Collar Button." Afterward, if any pupil will send to *Printers' Ink* another leaflet, new or old, that is half as good as this one, or that approaches it in excellence, the deserving student will be rewarded with one of *Printers' Ink's* souvenir spoons as an acknowledgment of his discovery and contribution. "The Story of a Collar Button" is the best piece of advertisement construction that has come to *Printers' Ink's* attention in the year of our Lord 1898.

Should you wish to utilize this booklet to increase your collar button business, we will, on receipt of you order, print your card upon and send you a quantity of them.

The several qualities of Krementz One-Piece Collar Buttons are stamped as follows, ON BACK:



Patent Sustained by United States Supreme Court

Quality and Construction have made Its Reputation

All Krementz Collar Buttons—of every quality—
are Manufactured by

KREMENTZ & CO.

in their Factory

49 Chestnut Street
NEWARK, N.J.

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

"CUPID'S SPIDER WEB"



No goods genuine without registered trademark stamped thereon



Cupid spins his web and has many willing captives; in business it's quite different—it is often hard to convince a buyer that you have a superior—better-selling product. Fifty years of locket-making and a reputation for "setting the locket styles" should be a very convincing argument to the judicious buyer.

3 Maiden Lane New York Wightman & Hough Co. Providence R. I.

Ohio Flint Glass Company

LANCASTER, OHIO

WE desire to call the attention of the Jewelry Trade to a line of goods which is made by a different process from the ordinary methods used for producing a high-grade line of goods. We call this line the **CONCORD**, and this name is covered by trade-mark.

We make it in a large variety of goods, and samples will be furnished at the regular prices. Illustrated catalogue will also be mailed, with complete price-list to cover it.

The line is well worthy of attention, and the goods are without competition, both in quality and in prices.

LANDIS SCHOOL OF ENGRAVING

Fall Course Opens
Monday, Sept. 4th



M. L. Landis
Proprietor and Instructor

WRITE US AT ONCE. If you wish to take a Course this Fall, please write us and we will assign and hold a place for you.

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

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

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

M. L. LANDIS, 119 Koch Ave., DETROIT, MICH.



Several hundred merchants, **A Buyers' Influx** some with their families, arrived at Broad Street Station, this city, recently, on special excursions from Western Pennsylvania and points in Virginia and West Virginia. Merchants taking advantage of these special rate trips are allowed a ten-days' stop-over here, either before or after going to their destination—seaside resorts in New Jersey, Delaware and Maryland. This plan has been arranged by the Trades League and the railroads so as to afford the business men in this city a chance to get some of the orders which the merchants give before returning home. Most of the buyers went direct to the seashore, intending to take advantage of the stop-over on their return trip, but some stayed over, visited the wholesale districts and ordered their goods before going to the seashore. On the excursions were prominent merchants from Pittsburg, Oil City, Butler, Tyrone and Altoona, Pennsylvania, and Huntington, Charleston and Montgomery, West Virginia, and Lexington, Staunton and Basic, Virginia. They had been more widely advertised in the South and West than last year, and the number of travelers who took advantage of the trips far exceeded the expectations of the League committee that arranged the itinerary.

To Unite Trade Bodies A movement to unite into a central body all the business men's associations of the city was launched on Friday evening, July 14th, at a meeting held in the rooms of the Northwest Association, 2412 Montgomery Avenue. Delegates from fifteen organizations attended and the idea was received with enthusiasm. Attorney A. F. Daix presided, with John J. Kenny as secretary, and brief addresses were made by a number of men interested in the movement. The new organization will be known as the Central Business Men's Association, and it will be made up of five representatives from each affiliated local association. It is proposed that the central body, when organized, shall keep an eye on municipal political matters, as well as upon all questions of importance to merchants of all sections. One of the strongest arguments in favor of the new organization was made by B. W. Amerling, of the Germantown Business Men's Association. "It is the duty of clear-minded, intelligent people to band together for the protection of the whole," he said, "and I think in these lines also an association such as it is proposed to organize can do great good." A committee on permanent organization was appointed, and in this committee each of the minor organizations is represented. Chairman A. F. Daix was made an ex-officio member of the committee.

Traveling Jeweler Murdered The dead body of William Crosby, a traveling watchmaker and salesman, whose home was in Germantown, was found lying on Halliday's Road, near Narberth, Pa., on July 17th. Crosby was twice shot and then beaten to death. On the ground near him an empty valise, in which he had been carrying a number of valuable watches, told the police that robbery was the motive for the crime. The police are searching for three men who are said to have been seen following the murdered man as he walked along Halliday's Road toward the spot where the crime was com-

mitted. His nose was broken, one of his eyes gouged out, his skull fractured and there were two bullet holes in his body. He was fifty-four years old, and his family, comprising a widow, four daughters and a son, reside in Germantown. At the inquest held by Coroner King, on July 20th, no new fact was brought out, however, and the jury returned a verdict of "murder at the hands of parties unknown."

Biggest Gold Shipment

The biggest shipment of gold ever received at the mint—\$3,000,000 worth of the yellow metal from the Klondike—was stored away in the vaults on Friday, July 14th. The shipment came in plain, unmarked wooden boxes, and was guarded by six Federal agents, all armed to the teeth, but who had an uninterupted, uneventful journey from Alaska to this city. The gold arrived before daybreak and was at once taken in a government wagon to the mint, where Assistant Assayer Poland soon afterwards began the work of re-assaying it.

Harburger Bros., hitherto of 117 South Thirteenth Street, have become established in their new building, at 808 Chestnut Street. In their new location the firm enjoy all the accommodation and enlarged general facilities demanded by their increasing business.

The Bailey, Banks & Biddle Co. have been awarded the contract for the gold, silver and bronze medals to be awarded at the annual rifle shooting matches to be held at Sea Girt, N. J., during the latter part of this month.



Foreign Trade Possibilities

Attleboro jewelry manufacturers have received from the Massachusetts Bureau of Statistics a circular setting forth the vast opportunities that exist for the development of foreign trade. This circular is said to have been issued in response to numerous requests for information upon this subject. It emphasizes in especial the rapidly multiplying trade opportunities of the South American countries. Regarding the methods to be pursued, the circular urges the manufacturers to make a systematic study of South American business procedure, and in all transactions conform to the customs and ideas of dealers there. To the eagerness of British and German manufacturers to studiously defer to South American trade ideas, in packing, shipping and credit arrangements, is attributed the very high proportion of trade enjoyed by these countries with the people of Latin America.

An Interesting Exhibit

There was placed on exhibition in one of the large windows of Simpson's drug store, Attleboro, lately, a splendid moose-head, the property of Arthur A. McRae, of the firm of McRae & Keeler. The head was presented to Mr. McRae by S. C. Mutter, of Sherbrooke, Quebec, and the moose was killed last February by an Indian about forty miles east of Quebec. The animal weighed more than sixteen hundred pounds and was one of the finest specimens ever seen in that district. The hide was large enough to cover a large dining-room table,

and the head, which has been on display here, is, perhaps, the finest specimen of the kind in this section of the country.

The factory of J. F. Sturdy's Sons, at Robinsonville, was the scene of a patriotic function, last month, when a large and handsome United States flag was formally hoisted over the building. As the flag was being unfurled, Miss Theresa Cassidy sang the "Star Spangled Banner," the other participants heartily joining in the chorus.

An increasing volume of business has made it necessary for the North Attleboro firm of Mason, Ruggles & Co. to enlarge their quarters, and accordingly J. F. Sturdy's Sons, in whose factory they are located, are about to erect an addition to the building to meet the contingency.

The semi-annual allocation of profits took place at the factory of R. F. Simmons Co., Attleboro, last month, when it was made known that during the half year, beginning January 1st and ending July 1st, the company paid in wages \$61,000. A dividend at the rate of 2.2 per cent. of the wages earned was declared pro rata for all employees who had been in the company's service three months or over.

Col. S. O. Bigney, of S. O. Bigney & Co., Attleboro, who is just now a candidate for the Governor's Council, was the subject of an interesting biographical sketch in a recent number of a Boston publication entitled *Practical Politics*.

The annual summer outing is, perhaps, the most popular and beneficial feature of the year's activities in the local jewelry trade and it seems to grow in favor with the passing of each twelve-month. The relaxation incidental to a day of this kind should certainly conduce to more work and better. Among the working forces which recently enjoyed a day's amusement are those of the Watson & Newell Co., and Carter, Quarnstrom & Remington, Attleboro, the former of whom disported themselves at Rocky Point, and the latter at Leaconnet Point, R. I.

The jewelry manufacturing plant of Sadler Bros., South Attleboro, was the scene of a fire recently, which must have had serious consequences had it not been discovered in good time. The prompt arrival of the fire brigade was also a fortunate feature. As it was, however, damage to the extent of \$1000 was done. The fire broke out in the dip room, where a new dip had lately been installed.

The departure of R. A. Buckley from the services of Straker & Freeman, North Attleboro, for whom he had been foreman, to become manager of Kranz & Co., Providence, in which firm he has an interest, was availed of by the employees of the first-named concern to make him the recipient of a handsome meerschaum pipe as an expression of esteem.

Thomas McCarthy, formerly with the firm of R. Blackinton & Co., Philip McGivney, and Edward J. O'Neil, are the members of a firm which has recently been formed in North Attleboro for the purpose of manufacturing hat pins and brooches. The firm is located in the Price Building, on Mount Hope Street.

Augustus N. Baker has resigned his position as chief clerk of the Narragansett Hotel, Providence, and retired from active business life. Mr. Baker has been connected with this well-known jewelry hostelry for about nineteen years, during which time he has "booked" a large number of visiting jewelers. He has a wide acquaintance among the manufacturers in the East, all of whom will miss his polite and agreeable services, but are glad at his good fortune in being able to enjoy a well-earned tenure of ease.

SEE THE NEW HOWARD WATCHES

16 Size Hunting and Open-Face

Sold complete in Boss or Crescent 25-Year Filled
and 18 K. or 14 K. Solid Gold Cases

A. G. SCHWAB & BRO.

Wholesale Agents

CINCINNATI



Patent applied for

THE NEW BAG-NALL CATCH

A new catch for Neck Chains, Bracelets, etc. A decided improvement on snaps, spring rings and locks; useful and ornamental; never breaking or getting out of order.

BE the first to CATCH ON to this useful ATTACHMENT that will make your customers happy.

For sale to the Manufacturing and Jobbing Trade by the manufacturers,
DORAN, BAGNALL & CO.

Patent pending which will be fully protected.

NEW YORK : 194 Broadway CHICAGO : 67 Wabash Ave. SAN FRANCISCO : 126 Kearny St.

Doran, Bagnall & Company

Successors to Young, Bagnall & Co.

Established 1870

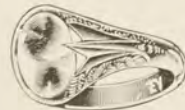
MANUFACTURERS OF

*Fine Rolled Gold Plate and Sterling Silver
Chains, Bracelets and Novelties*

NOTICE Having bought a large part of the tools and equipment of the late J. G. Fuller Co., we are prepared to make anything in their former line if sample is submitted.
DORAN, BAGNALL & CO.

North Attleboro, Mass.

10 Kt. Rings



DAMM & BLOCK
BUFFALO, N. Y.



Promising Trade Conditions

Trade for the past month has been good in general, although the retail trade has not been unusually busy. The business has been of a superior character, the heaviest buying having been of the higher grades of jewelry and precious stones. Traveling men working in the Southern and surrounding States of the Ohio Valley report a good line of fall orders, with indications of a heavy holiday trade.

A. B. Wahl, a jeweler, of Lafayette, Ind., slipped into town some weeks ago accompanied by a young lady, and proceeded to Covington, Ky., where they were married. After a brief visit here, the couple returned to Indiana.

Arno Dorst, of the Dorst Jewelry Company, was in Kansas City part of last month looking after the Kansas City branch, which is reported to be increasing its business very rapidly.

Information was received early in July by D. Gruen, Sons & Co. from their salesman who was making the State of Texas, that his sample trunk had been robbed at El Paso. A large number of watch movements valued at several thousand dollars were stolen, and are supposed to have been taken across the border into Mexico. The Jewelers' Protective Union has reported the case to the Pinkertons.

William Preuer, formerly with A. G. Schwab & Bro., has opened a retail store at 5 West Seventh Street, and has put in a handsome line of goods.

Albert Young, a member of the Miami Silver Company, and Miss Agnes Schmidt, daughter of William Schmidt, show case manufacturer, were united in marriage June 28th, and went East on their wedding trip.

George Kink is disposing of his retail business on upper Vine Street, and expects to open a music store in a short time at Wheeling, W. Va.

S. & H. Gilsey are now settled in their new and larger quarters on Race Street above Fourth, and are well pleased with the location.

Judgments were secured in the local courts against Dan. Bacharach, the Central Avenue jeweler, who disappeared from the city some weeks ago, and who was subsequently located in Texas by his wife. Bacharach has returned home and will continue in business. Illness is said to have caused his leaving the city.

John Bryant, of Bedford, Ind., was here some time ago buying fixtures for his store, which he is completely remodeling and enlarging.

A. Lischkoff, of Jacksonville, Fla., was here some days buying stock. He reports the retail business to be rather quiet at the present time but looks for a heavy holiday trade when the winter tourists begin to arrive.

J. Halin, a watchmaker employed at Fowling Green, Ky., spent a part of his vacation visiting friends in this city.

Harry Rasch, a Cincinnati boy employed by Meyer & Schamber, at Meridian Miss., recently visited his home and friends for a brief period.

A New Savings Bank

The new Queen City Savings Bank and Trust Company, a half-million-dollar financial institution, of which Jeweler W. H. Oskamp was originally selected as the head, has opened for business with several hundred thousand dollars of deposits. Mr. Oskamp declined at the last moment to accept the trust involved in the presidency, because of the pressure of regular business affairs, and a desire to eventually retire from active business life.

C. J. Scholler and wife, of Van Wert, Ohio, were recent visitors in this city, combining business with a brief vacation.

J. H. Baker, head watchmaker for the A. Graves Company, of Memphis, Tenn., was a recent visitor in this city, and subsequently left for Northern summer resorts.

Vincent Perra, jeweler, at 25 Arcade, a short time ago lost his estimable wife, after a brief illness. The Arcade Jewelers' Club, of which Mr. Perra is a member, sent several beautiful floral designs.

J. G. Webb, of Saxton, Ky., was among the local jobbers several days. He is located in the coal belt of Southeastern Kentucky, and reports that the completion of the new railroad being built by the L. and N. into the South, which is to complete a trunk system, has done much for that section of the State. Business has been favorably influenced by the work which is going on, and the entire contiguous section is said to be experiencing prosperity of an enduring character.

August Herrmann, president of the water works commission, and also president of the Cincinnati Baseball Club, was robbed of a thousand-dollar Elk pin while attending the Buffalo convention. The pin was made by a local jeweler, and was presented to Herrmann by friends. It was of solid gold and studded heavily with diamonds. Jewelers in other cities are asked to be on the lookout for it.

Mr. and Mrs. Charles G. Schlenker, of Hickman, Ky., paid a brief visit to the city. Mrs. Schlenker continued to Eaton, Ohio, her old home for a visit, while Mr. Schlenker returned to Kentucky after making some purchases.

Charles Swigart, of E. & J. Swigart, recently spent a vacation in Michigan. John Solar and Eli Donize, traveling for the firm, spent their vacations in Ohio. The company has sent Mr. Moore into Pennsylvania, which is a new territory for the firm. They expect to open an extensive business in the Keystone State.

E. B. Cayce, Jr., of Franklin, Tenn., was among the Southern buyers to visit the city during the month. He was impressed by the opportunities for purchasing profitably here, and said he expected in the future to do more business with Cincinnati firms.

A Merchants' and Manufacturers' Exposition in Preparation

A Merchants' and Manufacturers' exposition is to be given at the Music Hall during a period of two weeks in September, under the auspices of the Inter-State Exposition Company. The affair is welcomed in view of the fact that the fall festival association will give no festival until next year. The exposition is expected to bring thousands of visitors to the city during its progress.

Joseph Noterman, of the Race Street wholesale firm, accompanied by his wife, attended the annual gathering of Elks, at Buffalo, some weeks ago, and subsequently took in points of interest in the neighborhood.

Herman Koshin, a springer formerly employed by the Keystone Watch Case Co., in Philadelphia, died while at work at Dayton, Ky., a few weeks ago. The deceased was thirty-eight years of age, and until a few years ago was a resident of Philadelphia. Death was due to heart failure. The funeral was held at Dayton.

Solomon Fox, of Fox Brothers & Co., has returned from an extended trip through Europe, where he went to make purchases of precious stones.

Roy Kagy, employed by E. & J. Swigart, was married to Miss Lenora L. Schatz on July 8th. The young couple spent their honeymoon among the lakes.

W. H. Geyer, with Miller Brothers Jewelry Company, this city, spent some weeks vacation in Canada.

A Daring Theft

The local police department has been unable to discover any clue to the persons who recently visited the Cincinnati Art Museum and stole a number of valuable medals and exhibits. The greatest loss was the gold medal awarded to Robert Blum, a local artist, by the Academie des Beaux Arts, of Paris. The medal with a number of others of less intrinsic value were contained in a glass case, and appeared to have been disturbed some time prior to the discovery being made that there had been a robbery committed.

George H. Newstedt, retail jeweler, at present located at 404 Walnut Street, has signed a five-years' lease for the corner storeroom in the Neave Building, at Fourth and Race Streets, which is at present occupied by the passenger offices of the Queen and Crescent road. The annual rental of the corner is \$5000. Mr. Newstedt expects to shortly secure possession of his new quarters, which will be handsomely furnished and decorated with bronze work.

Sir Moses Ezekiel, the famous sculptor, who still retains his residence in Cincinnati, has been visiting Ambassador A. D. White, at Ithaca, N. Y.,

and Professor Goldwin Smith, in Toronto, Canada, where he received commissions. Subsequently he sailed for Naples, from which city he will continue on to Rome, to complete work left unfinished in order that he might be in Philadelphia to superintend the erection of his Drexel statue in Fairmount Park. He expects to return to Cincinnati next spring.

A. G. Schwab, of the firm of A. G. Schwab & Bro., was in the East a few days recently on business matters. Mr. Schwab, as president of the Cincinnati Club, has been busy during the month attempting to effect a settlement of financial losses suffered by the club through the failure of the brokerage firm of Holzman & Co. Ross Holzman, senior member of the latter firm, has left the city. He was the treasurer of the Cincinnati Club, and as such, was indebted to the club to the extent of about \$6000. His bondsmen have agreed to make good the amount.

Magnificent New Hotel

Contracts have been awarded for the erection of the new hotel on the old Pike site. The estimated cost of the new building when completed is placed at \$1,750,000. It will occupy the ground upon which the old Pike theater was located. The Pike was destroyed by fire more than two years ago, but litigation over the title to the ground delayed the work upon the new hotel, which the promoters expect to have completed by next summer.

A smooth short-change thief recently victimized a number of merchants in the Arcade out of various sums of money, among the losers being C. A. Culbertson, president of the Standard Optical Company, of 13 Arcade. The trick in each case was played off on clerks.

Lindner & Co., in the Carlisle Building, have installed a printing department.

S. Lindenberg, of Lindenberg, Strauss & Co., is home from a trip to Atlantic City and Eastern resorts.

Joseph Smith has opened a new store at Doddsville, Ga., and was recently here to buy fixtures and stock.

A. C. Thomas, formerly of Sistersville, W. Va., has opened his new store at Anniston, Ala. His stock was purchased in this city.

Eugene Frohmeyer, with Gutmann & Sons, accompanied by his wife, spent several weeks in Canada and among the lakes.

J. H. Duhme, of East Twelfth Street, Covington, Ky., has purchased a store on Madison Avenue, where he will combine the business of the two places.

D. H. Munson announces that he expects to open a store at Stewartsville, Ill., within a short time. He was for years employed in this city as watchmaker.

The following jewelers were among the visitors to the trade during the past month: C. G. Scholler and wife, Van Wert, Ohio; Joseph Drake, Lebanon, Ohio; J. B. Hesselbrock, College Corner, Ohio; Mr. and Mrs. C. G. Schlenker, Hickman, Ky.; Oscar Fuchs, Chillicothe, Ohio; J. N. Calvert, Dillsboro, Ind.; L. Baldwin, with Baldwin Brothers, Winchester, Ky.; Edward Israel, Harrison, Ohio; J. G. Webb, Saxton, Ky.; Frank Carey, Lebanon, Ohio; Henry Reisinger, Lawrenceburg, Ind.; William A. Metzger, of King & Metzger, Lexington, Ky.; A. Wahlraub, Dayton, Ohio; C. H. Thompson, Greensburg, Ind.; E. B. Cayce, Jr., Franklin, Tenn.; G. H. Hansgen, Bethel Ohio; James C. Fisher, Flemingsburg, Ky.; C. M. Wallace, Huntington, W. Va.; John Bryant, Bedford, Ind.; A. B. Wahl, Lafayette, Ind.; Mr. and Mrs. Albert Beinhorn, Winona, Minn.; J. H. Boiarsky, Huntington, W. Va.; L. Schoner, with the Guarantee Jewelry Company, Pittsburg, Pa.; R. Baldwin, Winchester, Ky.; Samuel Amster, Chattanooga, Tenn.; L. Bell, Knoxville, Tenn.; J. Hahn, Bowling Green, Ky.; Lee Damsar, Camden, Ohio; Charles F. Maskell, Knoxville, Tenn.; Frank Schario, Danville, Ill.; Herman Rohs, Cynthiana, Ky.; C. A. Gossard, Washington Court House, Ohio; W. O. Amann, Sidney, Ohio; C. K. Weaver, Miamisburg, Ohio; J. C. Davies, with Frank G. Meyer, Dayton, Ohio; E. Mueller, Hamilton, Ohio; M. Marcoffsky, Portsmouth, Ohio; O. Sherwood, Falmouth, Ky.; A. Lischkoff, Jacksonville, Fla.; A. J. Winters, Paris, Ky.; Miss Lillie Reichel, Cynthiana, Ky.; C. W. Uhrig, Gallipolis, Ohio; William Davidson, Oxford, Miss.; W. F. Kennedy, Huntington, W. Va.; E. Bundy, Lawrenceburg, Ind.; J. H. Baker, Memphis, Tenn.

1278



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NEW ENGLAND LETTER

A Mid-Summer Lull

The heat and humidity last month put a decided damper on the July trade. Though not hoping for a large month, it is the opinion of many that it did not even equal their expectations, although some acknowledge that the gain in June sales more than compensated for the setback in July. The vacationists leaving town have curtailed sales to a great extent, and the continuous warm spell has had a decidedly deadening influence on the purchasing spirit as well as the salesman's enthusiasm. The diamond business seems to have been especially affected, as all are complaining of a big decrease in that line. It is the general opinion that August will be a good month.

The Subway Decision

The recent act of the Legislature, providing for a four-track subway from Harvard Square, Cambridge, to Boston, is, at present, the subject of much discussion. The Boston Elevated Railroad directors claim it will cost from \$8,000,000 to \$10,000,000 to construct the subway, while the figures handed in by City Engineer Hastings to Mayor Daly, of Cambridge, were but \$5,000,000. This is a decided disappointment to the citizens of Cambridge, who have been under the impression that the subway was an assured fact. The probable reason for the disparity in City Engineer Hastings' figures, is that he had planned on the L. going over the West Boston Bridge, while the railroad directors have undoubtedly been estimating on the additional expense of a subway under the Charles River.

George H. Wilcox and family, of Meriden, Conn., are spending the summer at Fisher's Island.

The many friends of Alfred Nathan, of Boston, join in wishing him a speedy settlement of his present embarrassing financial condition.

We are glad to see the thoughtfulness and benevolence displayed by G. K. Webster in pensioning one of his employees, John Miner, who has been with him for the past twenty-five years, in fact, since Mr. Webster started in business.

Frank Nathan, of Nathan & Hurst, has been spending the past three weeks in Dover, N. H., where he was accompanied by his wife and two children. His big touring car came into good advantage in that section.

John Moore, the popular engraver with A. F. Scherer, has returned from a most delightful cruise.

Gen. H. S. Tanner, of Providence, has had quite a busy month in his official capacity. He was marshal of the parade held under the auspices of the city government, on July 4th, as well as having command of the State troops at their muster at Quonset Point. General Tanner was visited by many friends, all of whom he entertained liberally.

A new plate-glass front, new show cases and wall cases are soon to be added to the store of H. P. N. Dahl, of Maynard. The front of the store will be extended eighteen feet, thus giving him considerable extra room.

For the past four weeks C. W. Finley, with A. Paul & Co., has been confined to bed at his home in East Boston, with a complication of diseases. It will probably be some time before he resumes active business.

The summer vacation of Wm. Carrick, of Park Square, Boston, is being spent in South Lincoln, Mass., with his wife and sister.

The business of C. A. Senter, of Lawrence, Mass., is now installed in its new quarters in the Bay State Building. The opening was patronized by many, who saw for the first time the arrangement of his new offices. He occupies three rooms, all of which are tastefully and suitably furnished.

We regret to announce the death of A. P. Hendricks, of Nashua, N. H., who has been ailing for some time. He was seventy-two years of age, and is survived by two sons and two daughters.



The above picture was taken at the recent annual outing of the Boston Jewelers' Club, at Ferncroft Inn, Danvers. In the upper row, from left to right, are: Herbert French, of Riley, French & Heffron; Mr. Burnham, of Ripley-Howland Mfg. Co.; James Blake, of Kettell & Blake; C. M. Smith; H. W. Patterson; D. C. Percival, Sr. Those in the lower row, from left to right, are: J. B. Humphrey; E. W. Martin, of Martin, Copeland & Co.; Chas. O. Lawton, of Harris & Lawton, and Mr. Melcher.

Edward D. Cole, with D. C. Percival & Co., has returned from Oakland, Me., where he and his wife have been spending their vacation on their farm.

C. M. Parker, of the Parker & Stiles Optical Co., has returned from his honeymoon, which was spent very enjoyably traveling through New York State and the South.

Mr. Howard, of Howard & Pollard, and his wife, are spending their vacation traveling through the White Mountains. Herbert L. Gruber, of Boston, is also a member of the party.

The mother of Geo. R. Barbour, who died on July 18th, in Congress, Ariz., has just returned from that State with his body. He was formerly in the employ of D. C. Percival & Co., but went West for his health about six years ago. He was very popular, and his death is a great shock to his many friends.

One of Boston's best known jewelers, C. W. Beals, having a store at 11 Mills Street, recently died at his home in Newtownville at the age of sixty-nine years. Mr. Beals, besides being an expert watchmaker, was widely recognized as a connoisseur on antique jewelry, always displaying in his window a fine assortment of such coveted articles as fobs, brooches, signet rings and watches of by-gone days.

H. R. Arnold and family, of D. C. Percival & Co., are spending the summer in Scarborough, Me., occupying the Owl's Nest Cottage.

A Stoneham jeweler, H. E. Bellows, was recently married to Miss Bessie Trask, of Reading. The ceremony was performed in Tremont Temple, Boston, after which they left for New York on their honeymoon. They will reside at 16½ Chestnut Street, Stoneham.

A few of the popular salesmen with Smith & Patterson have had a much-needed rest after a winter of hard work. Fred. Chick, of the diamond department, has been stopping at Nantucket. Edward Lyons, his assistant, at the Weirs Hotel, Lake Winnepesaukee, N. H., while H. C. Martin and Charles Day have been at Wolfboro, N. H., also on the lake.

Wm. Tuttle, of Smith & Patterson, has recently become engaged to a Clitendale young lady.

The manager of the A. Stowell Co., A. T. Maynard, spent the month of July at the Samoset, Rockland, Me.

At last Plymouth has a fine souvenir spoon. B. D. Lowing, of that city, has recently produced a spoon containing a view of the famous Plymouth Rock and the many other points of interest in town. The success which has already attended its introduction promises well for future sales. This is merely another example of the possibilities open to the jeweler, when he cares to hustle and exercise his ingenuity.

One of the oldest manufacturing jewelers of New England, Thos. D. Gard, of Worcester, died at home on July 7th. He was a 32d degree Mason and is survived by a wife and two children. The business will be continued by Alfred T. Howarth, his grandson.

It seems quite probable that Col. Sidney O. Bigney, of S. O. Bigney & Co., will be elected to the Governor's Council next fall. The Boston papers have spoken quite highly of him, and seem to think well of his possibilities. If he is but as strong in politics as he is in business, we might well offer our congratulations now. He has excellent support among the jewelry fraternity, who feel it is about time they had a good, hustling representative to help their cause.

Miss Cora Burton has resumed her work in the Mason-Ruggles Co. factory, of North Attleboro, having recovered from the effects of her injuries sustained by an explosion of gas in the vault.

The Jewelers' Association spent a very pleasant and enjoyable day on their outing, which was held at Nantasket Beach. Dinner was served at the Rockland House. Autos were furnished for a few of the party by Frank Nathan, president, and F. G. Butler, treasurer.

An old New England jeweler, C. A. Lyman, of Randolph, Mass., having recently lost his leg by amputation, is seriously handicapped in doing watchwork owing to his hands being cramped by the use of crutches, and calls on the New England jewelers for assistance.

He is confident that an artificial limb would help him out of his difficulty, and thus make him self-supporting. Subscriptions have already been received, and any desiring to help in this worthy cause may send their subscription, no matter how small, to Arthur S. Kelley, 272 Main Street, Everett, Mass.

The progressive house of Myers & Frank, of Boston, has completed extensive alterations in their Hanover Street store. Besides enlarging their present quarters, new show cases have been installed.

The removal of a large bone from the finger of Harold Sweet, with R. F. Simmons Co., has seriously inconvenienced him for some time past.

The recent opening of the new store of True & Blanchard, of Newport, Vt., was a grand success.

We are pleased to hear of the complete recovery of Col. Osgood, of Lewiston, Me. A good constitution, combined with strong will power and careful attention, had much to do with his recovery, which at times was despaired of.

The following jewelers have been in town: A. S. Ashton, Lynn, Mass.; A. S. Sandberg, Quincy, Mass.; Gustave A. Schmidt, Lawrence, Mass.; A. C. Tucker, Whitman, Mass.; G. W. DeMars, Lawrence, Mass.; N. C. Squire, Lynn, Mass.; H. L. Graham, West Gardner, Mass.; E. F. Welch, Westboro, Mass.



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

Arkansas

The wedding of Miss Gertrude Mosby, daughter of Charles Mosby, the well-known jeweler, of Batesville, to Will Landers, another popular Batesville business man, was solemnized recently at the home of the bride's parents. THE KEYSTONE joins with the numerous friends of the young couple in extending felicitations.

District of Columbia

A. O. Hutterly, the jeweler, of 732 Seventh Street, N. W., Washington, has of late been engaged in renovating the tower clock of the United States post office building. The work incident to this includes changing the hands, taking the counter-poise off the minute hand and placing same on the inside; re-painting the dials and changing the illumination. The dials are 14' in diameter and about 200' high.

Georgia

J. Dorenfield, of Atlanta, has issued an interesting booklet, printed in red and green, and exclusively devoted to testimonials which he received from individuals in various spheres, testifying to his skill and efficiency as a watch repairer. There are eleven testimonials in all, each one of which is reproduced in its entirety. The top margin of every page contains a pointed quotation from the testimonial beneath, and on the bottom margin Jeweler Dorenfield's repairing ability is expressed in a pithy phrase.

Idaho

E. E. Teape, manager of the Sandpoint Jewelry House, Sandpoint, and Mrs. Teape, are mourning the loss by drowning of their twelve-year-old daughter, Dorothy. The child, with a juvenile companion, was playing on a raft which floated by a lakeside, when, unconsciously, they drifted into deep water and in a desperate effort to regain the shore, the little one dropped beyond her depth and was lost. The other child, the elder of the two, was clinging to the raft far out on the lake. The fatality was universally mourned in the vicinity of Sandpoint, the funeral of the little victim was the largest ever seen there and the floral offerings touching in their profusion. THE KEYSTONE extends its sympathy to the sorrowing family.

Indian Territory

The jewelry store of C. M. Crossno, of Salsaw, was recently the subject of a laudatory and extended notice in the columns of a local paper. Mr. Crossno is a pioneer jeweler of that section, who has built up a substantial trade. He carries full lines of watches, clocks, jewelry, silverware and optical goods. Repairing is also one of his specialties, and he enjoys a valuable reputation as a skilful workman. No doubt many years of further success await him in this rapidly developing section of the country.

Iowa

Fred. Wehler, who has had twenty-five years' experience at the bench, and for the past four years was manager for Dingley & Co., Algona, has accepted a position on the road for W. F. Smith, wholesale jeweler, Des Moines.

H. F. W. Roby, hitherto of Norway, has opened business in Davenport. Jeweler Roby prides himself on having been a subscriber to THE KEYSTONE for eleven years and he now looks forward to its advent with even more pleasure than ever before. He is a native of Germany, who came to the United States twenty years ago. Even in his youth he was a mechanical genius, having, at the age of fourteen, constructed and successfully operated a complete metal steam engine and boiler. At this time he could likewise take apart and put

together clocks and watches of the most complicated makes. He has now been at the trade seventeen years and has had, during that time, all manner of repairing experiences. He has made a complete wheel-cutting outfit for his lathe, which works admirably, and besides has made many useful tools for watch and clock work.

E. L. Marsh, jeweler and diamond dealer, Fort Dodge, has purchased the Mills Jewelry and Piano Co., of Streator, Ill., and sold it out at auction, having disposed of the fixtures and part of the stock to R. H. Cherry, of Streator, and shipped the remaining goods to his own establishment at Fort Dodge.

Louisiana

The copartnership heretofore existing between Mrs. M. A. Scooler and I. Loewengardt, in the jewelry business at 615-617 Canal Street, New Orleans, has been dissolved. This business will be continued at the same location by Mrs. M. A. Scooler, who takes over the assets and assumes the liabilities of the firm.

Maine

Charles H. Osgood, the well-known jeweler, of Lewiston, and Mrs. Osgood, unite in returning sincere thanks to their many friends for the numerous expressions of sympathy and cheer, of which they were the recipients during the illness from which Jeweler Osgood recently recovered.

Mexico

The electric clock system will be installed on the lines of the Mexico Electric Tramways Co., Mexico City, within a short period under the supervision of W. Allan Odell, Mexico City. A large clock built of steel and aluminum, having facilities for being illuminated at night, will be placed in front of the company's office at the Zocalo, for train service, as well as for the benefit of patrons of the company. This clock will be connected by cable wires and operated by a master clock placed in the general offices in Indianilla. All clocks on this system will show to the second the correct Mexican standard, or ninety-ninth meridian time, as endorsed and adopted by the General and Southern Time conventions in 1883, and which took effect on November 18th of the same year. Mr. Odell will enjoy the distinction of being the first to instal and operate these clocks in the Mexican republic.

Michigan

The jewelry store of H. B. Shellito Co., Sault Ste Marie, was recently the subject of a long and laudatory notice in the Sault Ste Marie and Chippewa County *Trade Review*. This store is situated in the Mead and Fowle Block, 210 Ashmun Street, and is a very fine example of modern commercial equipment. The cases and display facilities are of the most improved variety and the stocks carried are elaborate in scope and exclusive in character. The optical department is replete with the best refractive appliance, and in this branch, Jeweler Shellito, himself a graduate optician of ability, is well assisted by C. W. Norton, an optician of many years' experience.

Edward Allen and O. L. Arnston are opening a watch, jewelry and repair business in Newberry under the firm-name of E. L. Allen, Bros. & Co.

Mississippi

Jos. Sarphie, of Natchez, has altered his determination to remove from that place, and has decided to continue business at the old stand. He has, however, opened an additional store at Woodville, but Natchez will continue to be his headquarters.

Missouri

The firm of Thurber Bros., Warrensburg, dissolved partnership on July 1st; E. L. Thurber having purchased the interest in the business which was held by his brother, George A. Thurber.

New York

Pending the completion of repairs to his building, which was partially destroyed by fire some time ago, H. A. Thayer, the Sherman jeweler, has of late been doing business on a small scale. This, of course, is only temporary, as he will continue on the old lines as soon as possible.

Ohio

Louis B. Fuchs and Fred. P. Fuchs have opened a jewelry store at 35 West Street, Newark, under the firm-name of Fuchs Bros.

Oscar J. Fuchs, the Chillothe jeweler, is about to remove from 78 North Paint Street to 18 South Paint Street. His new store will be one of the prettiest in the city. It will comprise a patent glass front, ornamental steel ceiling and side walls, will be brilliantly lighted with electricity and replete with modern equipment. Its dimensions are 65 x 15 feet.

The handsome jewelry store of the Macdonald Jewelry Co., Lima, said to be the finest in the State, was recently the subject of pictorial representation in the Lima *Daily Times*. Six different views of the establishment were shown in group form.

Pennsylvania

Louis Weber, of Louis Weber & Son, 165 N. Queen Street, Lancaster, died on Sunday, July 2d, of Bright's disease. Deceased was born in Philadelphia fifty-seven years ago and learned the jewelry trade with Riggs & Bro., jewelers and nautical instrument dealers, of that city. Going to Lancaster when still a young man he entered the service of Augustus Rhoads, but a few years later opened business in that place for himself. He subsequently took in as a partner George R. Weber. A widow survives him.

John Thomas Sauter, the well-known jeweler, of Patton, and Miss Mary Blanche Deitrick, eldest daughter of Mr. and Mrs. Philip J. Deitrick, were married recently by Rev. Edwin Pierron, at the rectory of St. Mary's Catholic Church, Patton. After the ceremony the happy couple left on a wedding trip to Buffalo and Niagara Falls.

South Dakota

Chas. H. Wood, a well-known jeweler and early pioneer, of Flandreau, died recently, as a result of blood poisoning brought about by accidentally running a wire under his finger-nail. Deceased was sixty years old and a native of Illinois. In his seventeenth year, in company with his father, he went to Kansas, enlisted in the Twenty-third Kansas Regiment, served in the Civil War and afterwards settled in Minnesota. In 1878 he went to Flandreau and resided there continuously until his death.

Texas

J. E. Copeland has purchased from the estate of his father, D. Copeland, the latter's interest in the Copeland jewelry store at Palestine and will hereafter conduct that business under his own name. It was in 1897 that D. Copeland opened this business, at which time he was appointed general watch inspector on the International and Great Northern Railroad. This and a similar office for the Texas and Pacific and Texas Southern Roads, he held until the advent of his son to proprietorship. The last named went to Palestine in August, 1899, took over the management of the concern and has since remained there. He recently visited New York to purchase a general line of goods for the fall and holiday trade.

Virginia

Dave Rauch Co., Inc., is the name of a firm which recently began business at 325 Main Street, Norfolk. The president of this company is J. B. Bennett, of J. B. Bennett & Co, and Dave Rauch, for many years with the last-named concern, is its secretary.

T. A. James, formerly located at 136 Sycamore Street, Petersburg, has moved to 131 Sycamore Street, where he has a much larger store than his former one. It has been refitted, too, with modern fixtures, and the rear has been turned into a well-equipped optical department.

W. Reichenstein, 444 Church Street, Norfolk, has opened a branch store at 296 Church Street, in that city.

Wisconsin

J. C. Harcum, sheriff of Fond du Lac, desires information of Roy Smally, for alleged embezzlement from Furstnow Ring Co., Fond du Lac. Smally is about twenty-four years old, five feet ten inches in height, weighs about one hundred and sixty-five pounds, is fair of complexion and clean shaven.

STERN BROS & CO



THE SENTIMENT OF A RING—

THE trade has known for years the splendid qualities of our rings. ¶ We show a few of the many new designs which we have added this season. They are all made in that same excellent style and finish peculiar to our line of high-class jewelry at popular prices.

STERN BROS. & CO., 33-43 Gold Street, New York

MANUFACTURERS FOR THE JOBBING TRADE EXCLUSIVELY

Salesroom and Offices,
Diamond Department:
68 Nassau Street, New York

Diamond Cutting Works:
142 West 14th Street, New York

Branch Offices:
103 State Street, Chicago, Ill.
29 Ely Place, London
12 Tulp Straat, Amsterdam

Hello, There!

Did you know that every retailer who carries a large assortment of S. O. Bigney & Co.'s Gold Filled Chains and Safety Fobs is satisfied with the results? Design, workmanship and quality play their part.



Those who neglected the golden opportunity should not let another season pass without laying in a large variety of our Chains

*Procrastination is the thief of time,
He who hesitates is lost.
So get busy and buy our line—
Be in the front ranks at any cost.*

Remember, opportunity knocks at your door and mine but once
on any single mission

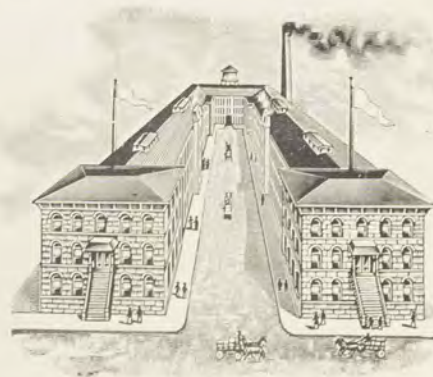


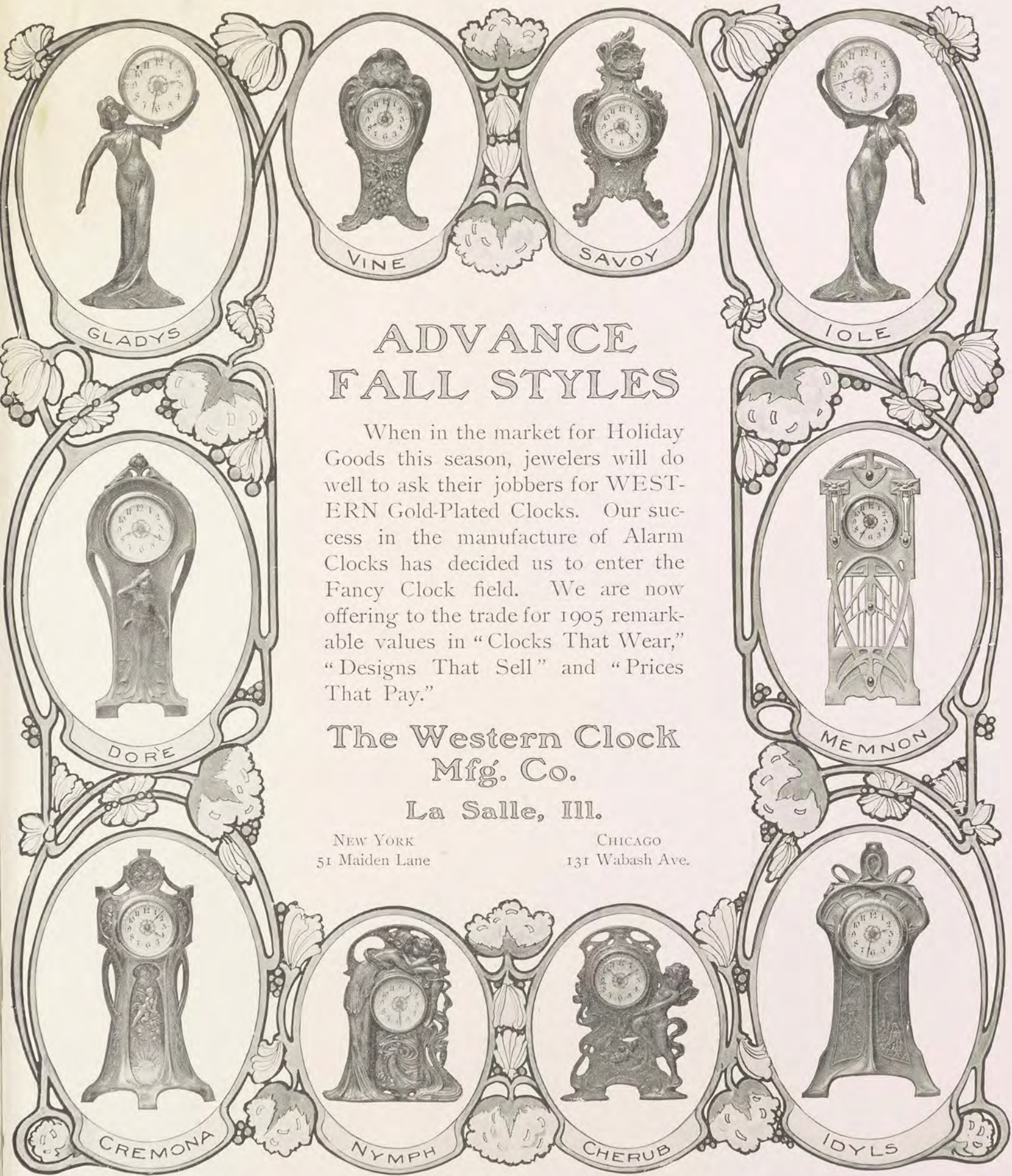
S. O. Bigney & Co.

Factory

Attleboro, Mass.

New York Office, 3 Maiden Lane





ADVANCE FALL STYLES

When in the market for Holiday Goods this season, jewelers will do well to ask their jobbers for WESTERN Gold-Plated Clocks. Our success in the manufacture of Alarm Clocks has decided us to enter the Fancy Clock field. We are now offering to the trade for 1905 remarkable values in "Clocks That Wear," "Designs That Sell" and "Prices That Pay."

The Western Clock
Mfg. Co.

La Salle, Ill.

NEW YORK
51 Maiden Lane

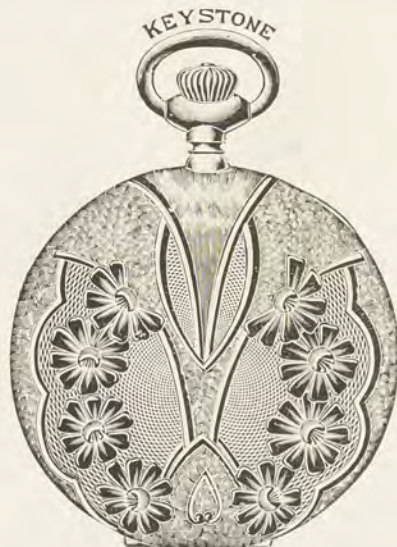
CHICAGO
131 Wabash Ave.

Keystone Solid Gold Cases

Guaranteed 14 K. 585 thousandths fine



G. 1677.
Bascine
Vermicelli and floral effect
16 size Htg. and O. F.



G. 1679.
Bascine
Flower effect in combination with vermicelli
and engine-turning
16 size Htg. and O. F.



G. 1785.
Bascine
New brocade effect, richly colored, in combination
with vermicelli and bright cutting
16 size Htg. and O. F.



G. 1715.
Bascine
3/4 engraved vermicelli and bright cut pattern
Plain or satin
16 size Htg. and O. F.



G. 1732.
Bascine
New brocade effect, richly colored, very handsome
and striking design
16 size Htg. and O. F.



G. 1730.
Bascine
Fancy bright cut, in combination with new
brocade, richly colored
16 size Htg. and O. F.

A few of the new effects, in the large line of fall patterns. Have you seen the new brocade? Full line now in the hands of your jobber.

The Keystone Watch Case Co.
Philadelphia

New York Chicago San Francisco Cincinnati

Keystone Solid Gold Cases

1285

Guaranteed 14 K. 585 thousandths fine



G. 1675.

Basine
Bias engraved. Plain or satin
12 size Hunting



G. 1892

Basine
Rich top and bottom, bright and bold effect
12 size Hunting



G. 1772.

Basine
Rich bright cut and vermicelli. Handsome
color effect
12 size Hunting



G. 1768.

Basine
Richly engraved, floral design, in combination with
new brocade in rich color scheme
12 size Hunting



G. 1547.

Fancy bright cut, engine-turned engraved
12 size Hunting



G. 1832.

Basine
Fancy bright cut with moire background
richly colored
12 size Hunting

More of the new effects. Over 2000 assorted patterns in the new fall line. Ask your jobber for them.

The Keystone Watch Case Co.
Philadelphia

New York Chicago San Francisco Cincinnati



New England
LADIES' WATCHES

Their charming daintiness of design and beauty of finish, coupled with their absolute reliability as time-keepers, have given them the widest popularity among people of discrimination and refinement. Made in hundreds of styles and at prices to suit everyone. Ask your dealer to show you the "New England Trays" and judge for yourself as to their delicate beauty and exquisite workmanship.

Our New England Blue Book, illustrating the complete line of watches, is now ready and will be sent to any address upon application. Every intending purchaser should see this book before making their selection.

THE NEW ENGLAND WATCH COMPANY

NEW YORK CITY CHICAGO
37-39 Maiden Lane 131-137 Wabash Ave.
SAN FRANCISCO, Spreckels Building



New England
AMBASSADOR



A WATCH that suits the fashion of the day. Most appropriate for the use of gentlemen of discrimination. This watch is guaranteed to keep perfect time, while in appearance it is the equal of watches costing many times as much.

Ask to be shown the **NEW ENGLAND AMBASSADOR** at any jewelers. You will be surprised when you learn the cost.

Our *New England Red Book* (illustrating men's watches) and our *New England Blue Book* of Ladies' watches are gladly sent on request.

THE NEW ENGLAND WATCH CO.

37-39 Maiden Lane, New York City 131-137 Wabash Avenue, Chicago
San Francisco, Spreckels Building

WATCH ADVERTISING

sells watches. *That's a proven fact.* New England Watch advertising has been planned to give the retailer the direct benefit of every dollar spent. The thousands and thousands of men and women who answer our "ads." and receive our "follow up" letters could not buy a watch direct from this factory for love or money. They have *got to go* to a New England dealer, and *we supply them with his address.*

The fact that the "New England trays" are in your show case will put your name directly before the people in your town who have the purchase of a watch under consideration.

If you could see the piles of correspondence that flood our advertising department you would realize better just what this might mean to *you.* If you want to sell the watches that people want to buy, stock with the New England line.

Watches for men, women and children in every style and at all prices. Lots of Novelties, too, such as the Skeleton Watch, that are making such talk among the trade.

The "New England Blue Book" of Ladies' Watches and the "New England Red Book" of Men's Watches will be sent to any address upon application.

New England Watch Co., Waterbury, Conn.

37-39 Maiden Lane
New York

131-137 Wabash Avenue
Chicago

Spreckels Building
San Francisco



OUR FALL LINE

is more complete than ever, showing many new ideas in

- Fob Chains
- Lorgnette Chains
- Vest Chains
- Neck Chains
- Festoon Necks
- Stone Lorgnettes
- Chain Bracelets
- Nethersole Bracelets

Sterling Silver and German Silver Bags

Ask your jobber for our goods

LOUIS STERN & CO.
Chainmakers & Silversmiths
PROVIDENCE·R.I.


J.W.C. & Co. N.Y.C.

EN ROUTE



OUR REPRESENTATIVES are now in their respective territories and will shortly call on you. Their lines this season excel all of our previous efforts. It will pay you to defer purchasing until you have seen them.

Henry Freund & Bro.

DIAMONDS, WATCHES AND JEWELRY

ELK and F. O. E.
Goods a Specialty

9 Maiden Lane, New York



A FULL LINE

IN ALL GRADES OF

ELGIN AND WALTHAM MOVEMENTS

We are also headquarters for the standard brands of Silver Plate, Flat and Hollowware.

ROGERS & BRO. ★ BRAND
1847 ROGERS BROS.

COMPLETE LINE STAG HANDLE CARVING SETS, Etc.

H. O. HURLBURT & SONS, 14 South Tenth St.
Philadelphia, Pa.

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 XX.)

Since equilibrium exists in the system, the forces N and N' , which have the same alignment must be equal; in consequence, one has, after simplifying,

$$\frac{F}{F'} = \frac{O b}{O' b'}$$

The two triangles $O b a$ and $O' b' a$ are similar; their homologous sides give the proportion

$$\frac{O b}{O' b'} = \frac{r}{r'}$$

but since (3)

$$\frac{r}{r'} = \frac{n}{n'}$$

one will also have

$$\frac{O b}{O' b'} = \frac{n}{n'}$$

therefore,

$$\frac{F}{F'} = \frac{n}{n'}$$

from whence one finds the value

$$F' = F \frac{n'}{n}$$

202. The value of F' , identical to that which we have determined in the preceding case, is then realized, and the force transmitted from one wheel to another will remain constant, if the normal common to the point of contact of the tooth and of the leaf passes, in no matter what position of the movement, through the point of tangency of the primitive circumferences.

203. To recapitulate, we can deduce from the preceding demonstrations the following rule, which is the basis for the determination of the forms of contact of teeth and leaves.

In order that the transmission of force by gearings may remain constant, it is necessary that the acting surfaces of the teeth-ranges be formed by such curves that at any instant of the movement the normal common to the point of contact passes always through the same point of the line of centers; which is the point of tangency of the primitive circumferences.

204. It follows from this law that when the contact takes place on the line of centers, this point is blended with the point of tangency of the primitive circumferences.

205. Let us remark that, if the normal cuts the straight line $O O'$ between the points O and O' , the gearing is exterior and the movements of the two mobiles take place in opposite directions.

If the normal cuts the straight line $O O'$ outside of the points O and O' , the gearing is interior, and the movement of the two wheels takes place in the same direction.

If the normal cuts the line $O O'$ at the point O' , the radius r' becomes nothing and one has

$$F' = F \frac{0}{r} = 0;$$

the transmission of the movement of the force is impossible.

If, on the contrary, the normal cuts the line $O O'$ at the point O , one has in this case $r = 0$ and consequently:

$$F' = F \frac{r'}{0} = \infty;$$

the force F' becomes infinitely great, but the transmission of the movement is wholly impossible, since the primitive radius of the wheel is annulled.

If, finally, the normal was parallel to the line $O O'$, one would then have

$$F' = F \frac{\infty}{\infty} = F.$$

This could be the case with the entrance pallet of the anchor escapement if the escape wheel should traverse the same angle α as the anchor which it drives; one has thus (193):

$$r = D \frac{\alpha}{\alpha - \alpha} = r' D \frac{\alpha}{\alpha - \alpha} = D \frac{\alpha}{0} = \infty;$$

the primitive radii are then infinite.

206. The law which we have formulated (203) shows us, even from the beginning, that the problem whose object is to find the curves of the teeth and leaves is susceptible of a great variety of solutions, for one may give to the teeth of one of the wheels any special form and find such a curve for the teeth of another wheel as should satisfy it, in its successive contacts with the first, according to the conditions given. However the laws of the resistance of the materials, the wear of the rubbing surfaces, the inflexions of the curves, are so many causes which make us, in practice, reject the use of a number of these solutions.

207. Let us further remark that the formula $F' = F \frac{n'}{n}$ is independent of the absolute value of the primitive radii r and r' and depends, consequently, only on the relation of their primitive circumferences.

Determination of the Forms of Contact in Gearings.

208. There are several methods serving to determine the bearing surfaces of teeth and leaves; the basis of these different constructions rests generally on the law which we have set forth (203). We will study here three of the principal of these.

209. First—Graphic Method. Exterior Gearing. The fundamental condition, that the common normal to the point of contact of two forms which drive each other should invariably pass through the point of tangency of the primitive circumferences, furnishes an easy graphical means to determine one of the curves, when the other is given.

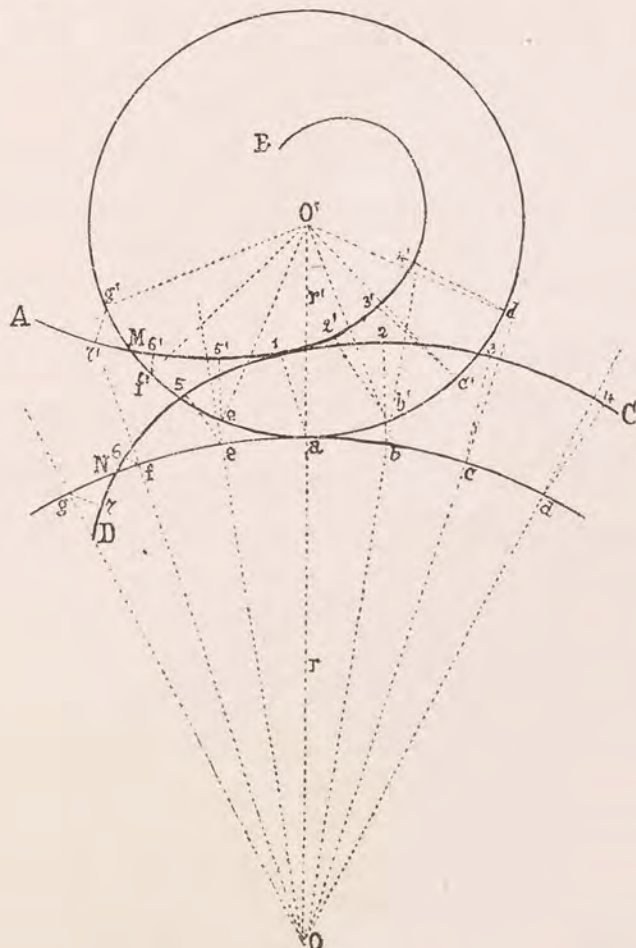


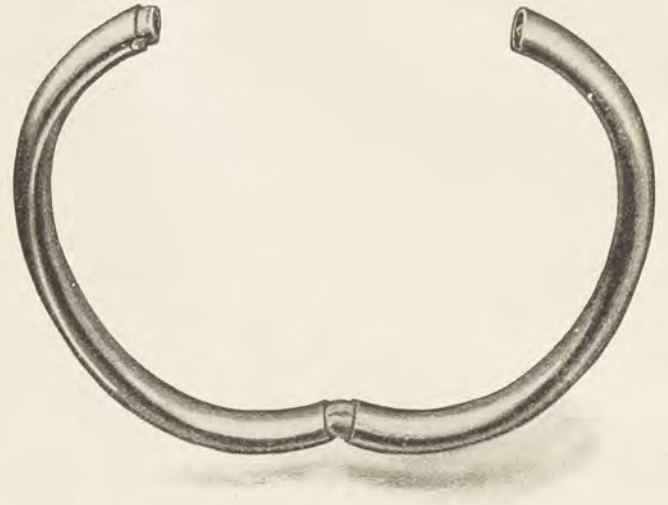
Fig. 48

Let O and O' (Fig. 48) be the primitive circumferences of a gearing and AB the given curve of the pinion in any position.

If from the point of tangency a we draw a normal to this curve, we will thus have the point of contact i of the leaf of the



The Greatest Seller of the Season



The "Sturdy" Bracelet

Patented Feb. 28, 1905

Bracelets are having a greater sale this season than for many years. The new Sturdy bracelet has made a distinct hit, being the most perfect and complete bracelet ever produced. It is made of gold filled stock, in the plain finishes, hand-chased designs and stone sets. The joints are invisible, and when closed the bracelet presents the appearance of a solid circle.

Jewelers who have not been supplied can obtain samples from any representative jobber.

Made only by

J. F. STURDY'S SONS

Makers of

The Sturdy Line of
Standard Watch Chains
ATTLEBORO FALLS, MASS.



Established 1865



Lessons in Horology

(Continued from page 1289)

pinion and the tooth of the wheel corresponding to the position described.

Let us remark that, in this position, the normal $a 1$ forms the same angle with the radius r' of the pinion as it does with the prolongation of the radius r of the wheel, since these two lines run into each other.

Let us afterwards mark on each of the primitive circumferences a point, b and b' , determined in such a manner that one may have $\text{arc } a b = \text{arc } a b'$.

Through the points b and b' draw the radii $O b$ and $O' b'$, prolonging the first sufficiently beyond the circumference of the wheel; from the point b' trace the normal to the curve $b' 2'$, then lay off from the point b as summit, an angle equal to $2' b' O'$ and mark the point 2 making $b 2$ equal to $b' 2'$. The point 2 belongs to the curve sought, for if the points b and b' arrive at the position a , the radii $O' b'$ and $O b$ will have the same alignment and the points 2 and $2'$ the same position.

One can thus determine as many points as one wishes, and, on connecting them by a continuous curve, one will obtain a form such as $D C$, possessing the ability to drive the curve $A B$ in such a manner that the transmission of the movement may be uniform.

If one conducts the curve $A B$ in such a way that the point M , which belongs both to this curve and to the primitive circumference of the pinion, presents itself at the place of the point a , the point N , which belongs to the curve sought and to the primitive circumference of the wheel, should enter into contact with the point M .

Thence it follows that one has

$$\text{arc } a M = \text{arc } a N,$$

and also that when the contact takes place on the line of centers it is found at the point of tangency of the primitive circumferences.

210. Interior Gearings. For an interior gearing, one determines the curve of contact in the same manner as for an exterior gearing.

One describes the primitive circumferences O and O' tangent to the point a (Fig. 49) and the curve given $A B$, which we will suppose anew to be that of the pinion. On drawing from the point a

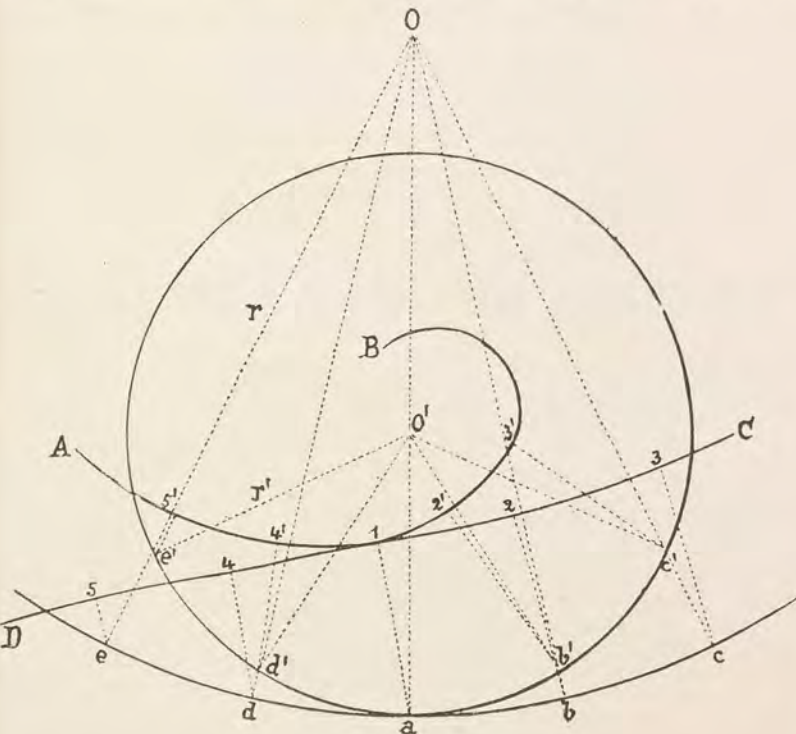


Fig. 49

the normal to the curve, one determines the point of contact 1 corresponding to the position given.

Let us indicate afterwards on the two circumferences the equal arcs $a b$ and $a b'$, $a c$ and $a c'$, etc., laying off from the points b, c , etc., angles equal to the angles that the normals $b' 2'$, $c' 3'$, etc., form with the radii $b' O'$, $c' O'$, etc. Afterwards making $b 2 = b' 2'$, $c 3 = c' 3'$, etc., we determine the points $2, 3$, etc., belonging to the

curve sought. The only difference between this drawing and the preceding one lies in the fact that for the exterior gearing, one lays off the angles $2' b' O'$, $3' c' O'$, etc., on the prolongation of the radii $o b$, $o c$, etc., of the wheel, while for the interior gearing one lays these angles off from the radii themselves.

Since we can choose arbitrarily one of the two curves and seek for the other, we can see that the problem allows an infinite number of solutions; let us remark, however, that a number among them present inconveniences, and even impossibilities, for practical execution.

211. Second—Method of the Envelopes. The centers of rotation of the two wheels are habitually fixed and the mobiles turn around these points.

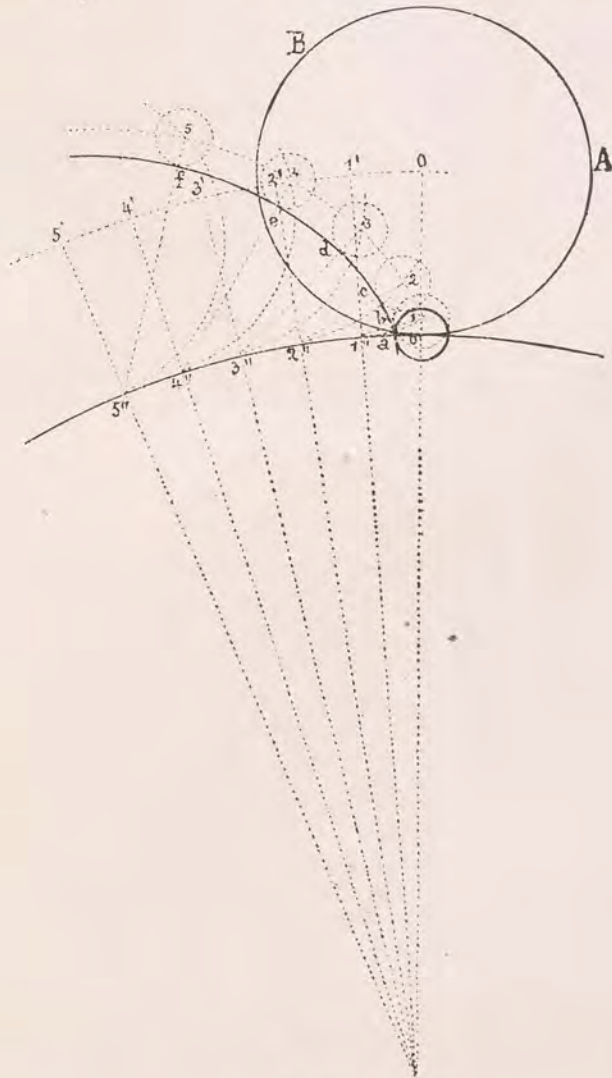


Fig. 50

Let us suppose, however, that a movement of rotation may have been imparted to the whole system around one of the centers, that of the wheel, for example, and that this movement is executed in such a manner that its angular speed may be equal to, but in a contrary direction to the angular speed animating the wheel O . It is evident that from this method the wheel remains in a state of repose and that the working of this gearing will remain the same as if the two centers were fixed and the two wheels turned simply around their respective centers.

The gearing of the fourth wheel with the escape pinion in timepieces called "tourbillon" offers an example of such a movement. The wheel is screwed on to the plate of the watch; its movement is, therefore, null with relation to this plate. The escape pinion, pivoted in a mobile cage, turns around its center and simultaneously with the cage, whose center of rotation is also the center of the fourth wheel.

The principle of the method of the envelopes rests on this sort of movement.

Let us adopt, in short, any form of leaf; on representing the pinion in several successive positions of its movement, around the wheel, we will obtain the form of the tooth, on joining by a tangent curve the positions that the leaf will occupy during this movement.

(TO BE CONTINUED)



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.

WENDELL AND COMPANY,
ASSAYERS, SMELTERS AND REFINERS.

Established 23 years.

Polishings, crucibles, bench and floor sweeps economically handled and proceeds promptly remitted.

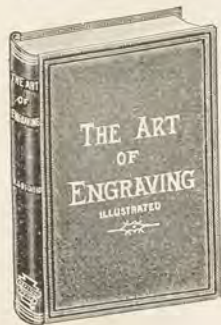


103-105 William St.
New York



57 Washington St.
Chicago

THE ART OF ENGRAVING



To fill one of the chief wants of the trade in technical instruction we have compiled this serial, which will be continued monthly till completed. It is the most complete treatise ever written on this subject, being wider in scope and more copiously illustrated than any previous work on engraving. Those who desire the entire serial at once may procure same in book form, a handsome volume, bound in silk cloth, containing over 200 pages and 216 specially executed illustrations. A copy of the book will be sent postpaid to any part of the world on receipt of price, \$1.50 (6s. 3d.)

(Continued. Part XXX. Begun in March, 1903)

One of the common errors of beginners in engraving fine line old English is that they think it necessary in order that a line should be engraved very fine, to hold the graver so as to cut a V-shaped incision. This is not so. A fine-line letter should be engraved with very fine lines, it is true, and the lines should be left in V-shape, but it is not necessary to cut the lines in that way, and the effect is not obtained by cutting them V-shaped only.

At Fig. 116 we illustrate the correct method of cutting fine lines for jewelry and silver engraving. *A* represents the plate upon which the lines are engraved, and *B* the graver, which in actual operation is supposed to be pushed forward in the direction of the arrow. It will be seen by the position of the graver that it is tilted apparently to the left, but if held in the engraver's hand it would be to the right, and by holding the graver thus an incision is engraved, as shown at the end of the line, which proves that the angle on the left of the incision is less than the angle on the right. This is the form of the incision when used in connection with shaded letters. In cutting the fine lines, it matters not whether in lettering or monograms, the lines are always cut from the operator. In other words, the first line to be cut is the one nearest the operator, and as he cuts the lines he cuts from him. You will, therefore, see that the second stroke of this graver, if placed on the extreme edge of the incision and the surface of the plate, will split the line so as to leave the original stroke cut with the angles on the sides of the incision equal.

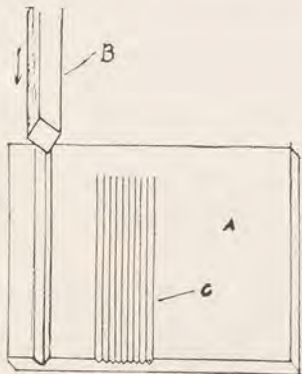


Fig. 116

Cutting to Prevent Quick Wear

Referring to the series of lines illustrated at *C*, on plate *A*, Fig. 116, it will be seen that the highest points of the lines are, when cut in this way, below the original surface of the plate as they should be. By so cutting the lines the work is not subjected to as much wear as it would be if they were cut just even with the surface. The method described here and illustrated by the position of the graver *B*, thoroughly explains how it is that we are able to lower the lines below the surface. Not only are we, by this method, enabled to lower the lines below the surface, but it will be found that a graver used in this position is much easier to operate, and also that while we are doing rather coarse work, the work left behind is fine. And it must be borne in mind that the last stroke of any bar should be engraved with the graver held in a position to cut a V-shaped incision, which is done by tilting the graver towards the operator from the position shown at *B*, so as to cut a stroke with the angles on each side of the incision equal. When cutting fine work on polished surfaces it will, of course, be necessary or advisable to use a graver in the condition that it comes from the oilstone, thereby producing a deadened surface, due to the roughness of the graver making apparently additional fine lines. The effect of work when done in this way when the lines are cut with extreme accuracy, is most beautiful, and is by far superior to any other kind for richness and plainness.

It is the practice of some engravers, and it is preferred by some jewelers, to cut fine-line work on to a deadened finish by making the lines bright cut. It is difficult to say which is best.

Of course, it is true that lines cut in this way are more effective than they would be if they were cut with a deadened finish. The author's experience has been, in observing the work of some of our most skilled artists, that they very seldom polish a graver for this work. It would not, however, be wrong to do so, and might in some cases be advisable. It is one of those cases in which the judgment of the engraver should be exercised. It is difficult to illustrate fine-line work as it should appear. As here shown the lines appear to be separated. This, from the illustration shown at Fig. 116, and the description given with reference thereto, will prove to the student that there is no surface showing between the two lines.

In Fig. 117 we have the main bar of the capital letters of the old English alphabet. It will be here seen that the first line starts down and does not come up as high as those that remain, and so on through the bars of the letter. Sometimes we find old English letters engraved where the operator has commenced all the lines and ended them all equal. This, of course, should not be. After the lines have been cut, as here described, a line should be cut along the edge of the lines at the top and bottom as here shown. In Fig. 118 that portion of the bar at *A* is cut by cutting the strokes out from the bar, all of which should be cut perfectly straight, excepting possibly at the extreme end, where a slight curve should be given. It would be better, however, to make no curve at all than to make too much of a one. Each line as it is cut upward is shorter, until the last line is reached, which line is short horizontally, but after starting from the main bar it turns and curves down and just touches the extreme end of the other lines, thus finishing the stroke. It is needless to say that the cut shown at Fig. 119 would be the most difficult in fine-line work. This, it will be remembered, is termed a roll cut. The correct way to cut this stroke would be to begin at one end with a very fine line and make the line increase as it is pushed forward, and as the opposite end is reached a gradual decrease in the width of the line should be made, thus allowing each and every line to begin at the same point and end at the same point. This is quite an easy operation to describe, but very difficult to execute. It will be found difficult at the turning point at the beginning to cut the lines smooth and clean and not allow the second line to run into the first one and so on. At the last curve also the natural tendency is to increase the width of the lines at the point where they should be diminished. Great care should be exercised in this matter.



Fig. 117



Fig. 118

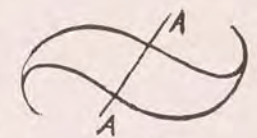


Fig. 119

Variations from Set Rules

The method above described is the correct one in which to cut this bar. However, we find that even our most expert engravers avail themselves of a variation from what might be described as the exact method as practice necessitates. The objection to cutting the line in the manner referred to, that is, by cutting the half of the stroke at the right of the line *AA* to the right and that at the left to the left, would be that the lines being turned in an opposite direction, an opposite effect of light would be produced, showing very plainly that the work had been done in this way. However, it will be found necessary in some cases to cut the lines in this manner. Of course, they can be cut with a higher degree of accuracy and much smoother around the curves, the only drawback being that above mentioned.

Now, the objection to the other method, as previously stated, would be the roughness and the tendency to run one line into another. In deciding which method to use the engraver should decide between the two evils, remembering that if he cannot so master the work as to cut the lines smoothly and accurately, the first method is the one he should use. Those bars of old English letters of the form of the one shown at Fig. 120, are very easy to cut and need no special mention. It should be borne in mind, however, that the lines should all begin at the same point and end exactly on the line designated for their termination. The width of the bar is increased and diminished as the case may be by the width of the lines.



Fig. 120

(TO BE CONTINUED)

THERE IS GOOD MONEY

in your old gold and silver. You know it in your own heart. But how often do you realize the full value?

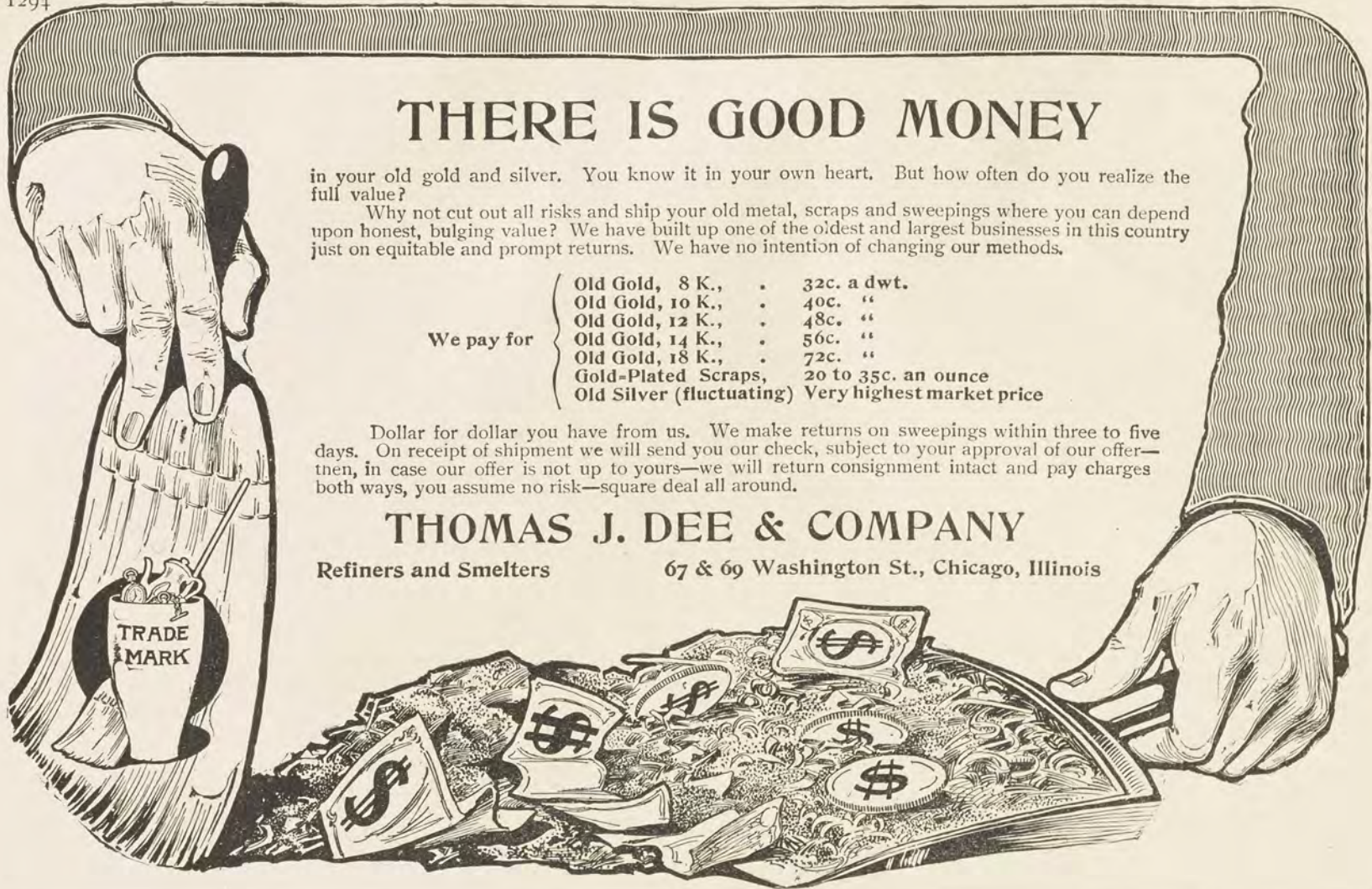
Why not cut out all risks and ship your old metal, scraps and sweepings where you can depend upon honest, bulging value? We have built up one of the oldest and largest businesses in this country just on equitable and prompt returns. We have no intention of changing our methods.

We pay for	}	Old Gold, 8 K.,	32c. a dwt.
		Old Gold, 10 K.,	40c. "
		Old Gold, 12 K.,	48c. "
		Old Gold, 14 K.,	56c. "
		Old Gold, 18 K.,	72c. "
		Gold-Plated Scraps,	20 to 35c. an ounce
		Old Silver (fluctuating)	Very highest market price

Dollar for dollar you have from us. We make returns on sweepings within three to five days. On receipt of shipment we will send you our check, subject to your approval of our offer—then, in case our offer is not up to yours—we will return consignment intact and pay charges both ways, you assume no risk—square deal all around.

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THE MODERN IDEA

A distinguished college president has said recently that one year in school will more than equal four years in business as a means of training. This is noticeably true in the watchmaker's trade; but until within a very few years past it has been impossible to secure good education in this line. Through the munificence of Mrs. Lydia Bradley, the **Horological Department of Bradley Polytechnic Institute, at Peoria, Illinois**, has been magnificently equipped for this purpose. A visit to this school is most interesting. One finds here a fine building of Bedford stone erected in 1897 and devoted exclusively to the uses of the Horological School.

It has a beautiful location on a campus of nearly twenty acres, situated in the outskirts of an attractive and thriving city. Its students come from every state and country. Here is a man from Illinois; on one side of him works a man from Massachusetts, and on the other a man from Mexico or South America. They are all in the same business. By visiting this school one gets a new idea of what can be done to prepare young men for one of the best trades—that of watchmaker and jeweler.

Our regular school year begins September 1st, and this would be a good time for you to begin work. Make up your mind to-day and address a postal card to the **Horological, Peoria, Illinois**.



HOROLGY HALL

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

Casting Gold and Silver in Bath Brick

Article No. 58 of the serial entitled "Gold Working," begun in the November, 1900, issue of THE KEYSTONE.

THE process of casting gold and silver in molds made of bath brick is an art of which more should be known. This kind of brick is manufactured in England, and the clay of which they are made is composed chiefly of a fine sand. They are largely employed in domestic affairs for various kinds of domestic purposes like the cleaning of table knives and tin ware. Bricks of this kind are quite soft, and they are made into molds by carving out a recess in them, in which the melted metal is poured. As in all other mechanical operations the best plan in describing the construction of a device or method of using the true policy to pursue, is to commence and follow the process of making or use through successive stages.

Acting on this policy we will take a Belcher finger ring and carry the operation of making a mold in bath brick and casting a gold or silver ring. We select two pieces of brick, and after grinding or rubbing two of the surfaces together proceed to making a mold in them and then casting a ring in said mold. We show at *A A'*, Fig. 1, two such pieces of bath brick coming together on the line *y*. At the point at which we intend to carve, or cut out, the recess in which we are to cast the ring, we drill a hole, say, 1/8" in diameter, passing through both portions of the joined brick. We will suppose in the present instance the hole is located at point indicated by the dotted line *z*. The next operation



Fig. 1

is to carve or cut out recesses in the faces of the two pieces of brick into which the melted metal is poured to cast a ring. To form such a recess, a special tool is required to scoop out the surface of the bath brick to the desired form. The special tool referred to is similar in action to a carpenter's center bit. We show at Fig. 2 a side elevation of such a tool. It consists of a solid piece of brass rod about 7/16" in diameter and 1/2" long, inserted in a ferrule, provided with a wood handle, said handle being in every way like those used for brad awls. In the lower end of the piece of brass rod is in-

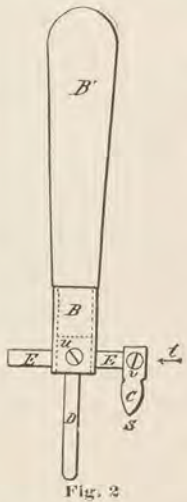


Fig. 2

serted a center pin, shown at *D*. This center pin enters the 1/8" hole at *x* and guides the cutter *C* as it scoops out a recess in which the ring is to be cast.

In making such a device, it is not important that the cutter *C* should be hardened, as such a tool made of hard spring sheet brass will answer every purpose. The center pin *D* is best made of steel drill rod, as also is the face *E*, said face being adjustable by means of the set screw *u*. At Fig. 3 we show a face view of the half of *A'* shown in the cut at Fig. 1, and as if seen in the direction of the arrow *w*, the double circle at *r*, showing the recess formed by the tool *C*. It is to be understood, that precisely such a channel is cut in each half of bath brick shown at *A A'*, Fig. 1. To ensure the two halves going together accurately, a piece of wire or a well-fitting wood pin is passed through the holes at *z*. It is also well to provide an extra steady pin, say, at *q*, Fig. 3.

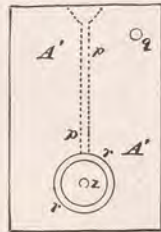


Fig. 3

An entrance for the melted metal is secured by cutting a channel in one or both of the halves *A A'*, as indicated at the dotted lines *p*, Fig. 3. The halves *A A'* can be held together by means of one of those malleable iron clamps, to be had at any hardware store. Such molds should be heated to about 200° F. for fully an hour before pouring the melted metal. The gold or silver to be cast can be melted in a crucible, or a recess can be made in one of the pieces of bath brick and the metal melted in such recess. This idea will be got from inspecting Fig. 4, which is a top view of Fig. 1, seen in the direction of the arrow *k*. The dotted circle at *o*, indicating the position of the recess in which the gold or silver is to be melted. With an automatic blow pipe, this is a very convenient way to cast small articles. To be a little fuller in details would say: After heating the molds up to about 200° F., the metal to be cast is placed in the recess *o* and heated to the melting point, when by a dextrous tilt of the hand it is caused to flow into the opening *p* and thence into the mold.



Fig. 4

Casting Band Rings

Band rings are best cast flat and thin, bent around and soldered. To do this, take a strip of some moderately soft metal, say silver, and on this engrave, or rather carve, such design as we wish the ring. We show such a strip of metal at *F'*, Fig. 5. After the engraving is satisfactory, we form a recess in the face of a piece of

bath brick, which will freely receive the engraved strip. We next place the piece of bath brick in water to soak. After it has

absorbed all the water it will, we take the piece of brick out and



Fig. 5

let drain. We next make a mixture composed of 3 parts of brick dust, sifted through muslin; 1 part of plaster of paris and 1 of calcined magnesia.

The brick dust employed for making cores and the purpose just named is the ordinary red brick, carefully pulverized and sifted through a fine sieve of some kind. The above-named ingredients are mixed into a rather thick paste with water and plastered into the recess in the bath brick. The engraved strip shown at Fig. 5 is slightly oiled and pressed into the composition and the whole allowed to dry, after which the engraved strip is removed, and if everything has gone right a perfect impression of the engraved strip will be found in the composition. To make castings in this way we should have three pieces of bath brick; two of these go together, as shown at Fig. 1, while the piece which contains the impression of the engraved strip sets at the bottom. The dotted outline *G*, Fig. 1, shows the position of the piece of bath brick in which the impression is made from the strip *F'*. We show the piece *G* separate, as if seen in the direction of the arrow *i*, Fig. 1, at Fig. 6. There are no especial guides required for determining the exact position of the piece *G*, all that is required is to have the recess *F*, Fig. 6, come opposite the channel *p*, which lets the melted metal run into said recess. The vertical length

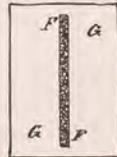


Fig. 6

of the opening *p* should be at least 2 1/2", in order to ensure the proper hydrostatic pressure. The mold just described, as it comes apart in three pieces, will enable the casting to come out free, after which the excess of metal can be cut off. This method of casting can be applied to many other kinds of castings than those described. Bath brick molds can, in most instances, be used for several castings before they will cease to give good castings. Our readers will see the principle of cutting out or carving molds in bath brick admits of many applications, and the workman who properly comprehends the principles involved, will soon be able to master the idea and apply it in many instances. There are many customers who would be willing to pay liberally for a setting for a valuable stone which had an artistic departure from the conventional styles, besides these there is a self-satisfaction in being able to master a job in high-grade jewelers' work.

[TO BE CONTINUED]

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Made of oak, finished light antique, golden or flemish oak, or made of birch, imitation of cherry or mahogany finish. Glass, double strength AA quality.

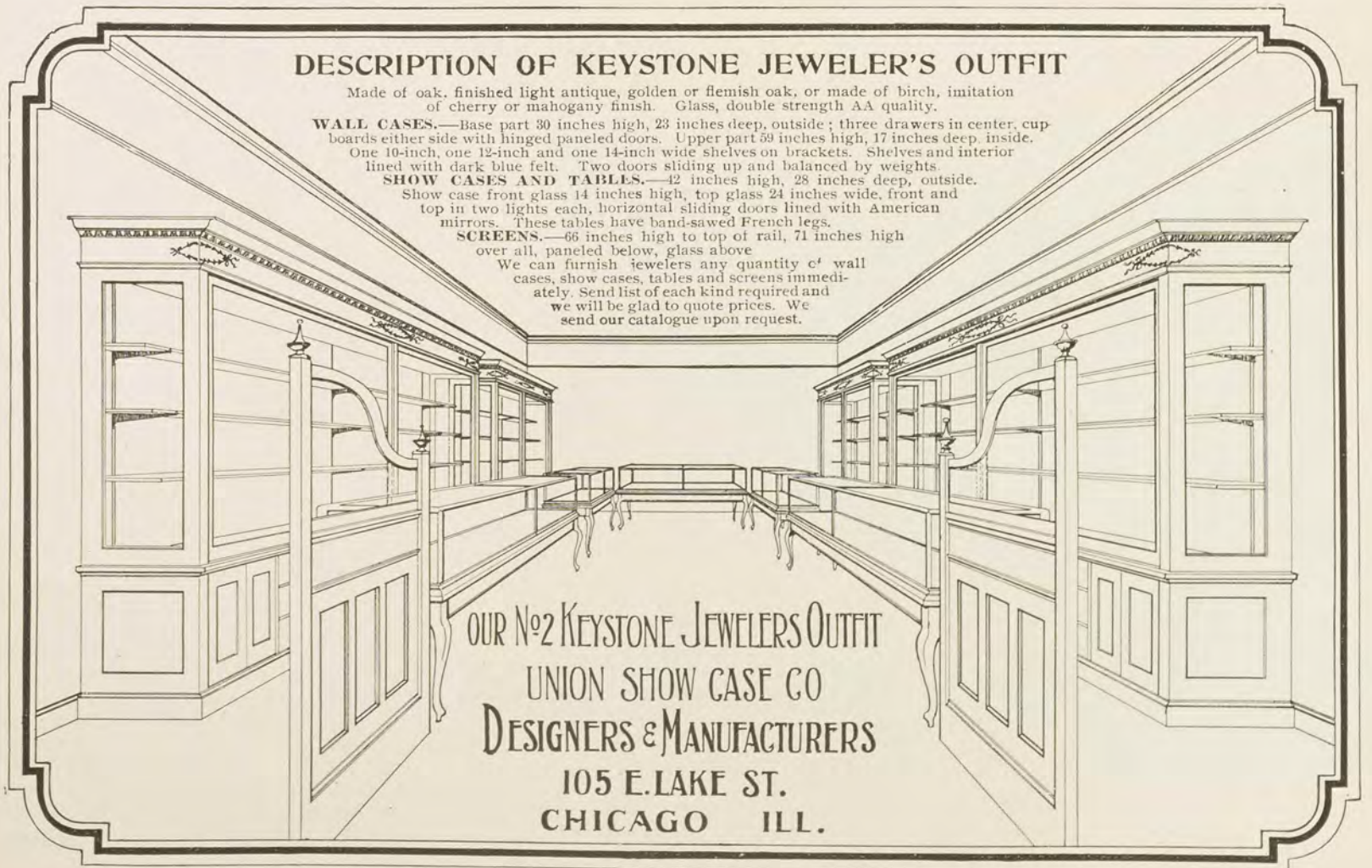
WALL CASES.—Base part 30 inches high, 23 inches deep, outside; three drawers in center, cupboard either side with hinged paneled doors. Upper part 59 inches high, 17 inches deep, inside. One 10-inch, one 12-inch and one 14-inch wide shelves on brackets. Shelves and interior lined with dark blue felt. Two doors sliding up and balanced by weights.

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Show case front glass 14 inches high, top glass 24 inches wide, front and top in two lights each, horizontal sliding doors lined with American mirrors. These tables have hand-sawed French legs.

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Repairing of Repeating Watches

[Translated for THE KEYSTONE from the French of H. L. MARCHARD in the "Almanach de l'Horlogerie."]

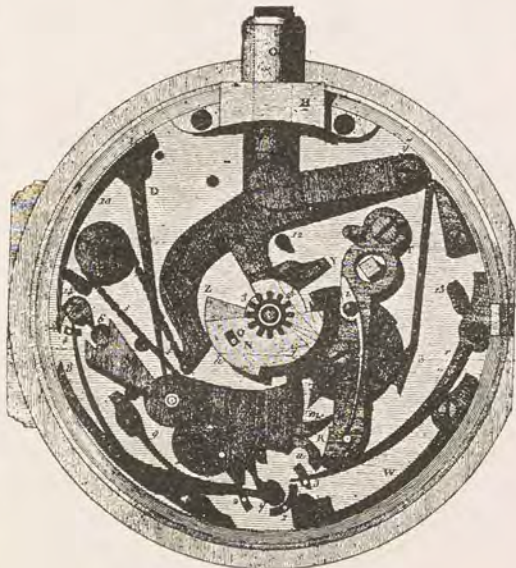
EVERY watchmaker who has had occasion to repair repeating watches, whose working is defective, knows what difficulties are met with in putting them in condition, for imperfect mechanism is abundant, whilst the good is rare. We therefore propose to explain how movements badly prepared may be made to work perfectly.

How the Repairer Should Proceed

First, ascertain with certainty whether the hands touch either the dial or the glass, and whether they have a little play between them. See before taking from the case whether the hammer banking pieces have at all points and particularly at their extremities, sufficient play with the rim and the bridges. Verify the hour piece with the winding stem; if there is little or no space between them, and if the stem is large enough, the latter should be diminished at the point where it touches the banking piece. On taking from the case and removing the dial, verify the gearing of the motion-work with the cannon-pinion and with the intermediate wheel, as well as the gearing of the locking plate. This done, examine carefully the height of the star-wheel and of the hour-snail. When the snail is fixed on the star-wheel, this ought to be slightly lower than the surface of the plate on which the rack works; if under the star-wheel, the lower face of the latter ought to be higher than this surface. In both cases it is necessary to see that there is sufficient play with the surprise-piece of the snail of the quarters. Afterwards, see whether the motion-work has play with the quarter-snail. If a little is needed, a small steel washer of one-tenth of a millimeter can be placed under the shoulder of the stud of the motion-work. Then, the play of the motion-work under the dial must be carefully adjusted, by diminishing the height of the pinion. If the surprise-piece has not sufficient play with the hour-snail, although it may be sufficiently thin, see whether the play that the center wheel has with the barrel and with the balance allows of lowering the wheel. If so, a little can be taken off in the slide rest; then the bridge can be slightly sunk in order to diminish the play above. Make sure, before taking the movement from the case, that the end of the surprise-piece moves freely around and especially that it does not touch the barrel. This being frequently the case, the periphery of the barrel should be turned, but only as much as necessary, in order not to reduce the security of the hook.

Examining the Movement

After verifying the force of the escapement, and letting the spring run down, in order that the train on revolving may not break the pivots of the escape wheel, the movement may be taken out. The gearing is to be verified, and especially the pivot of the fourth wheel should be examined, which, while being free, ought not to have too much play in its stone. When there is too much, and a suitable stone is not at hand, it is preferable to stop it up and make a new hole in the brass; at least there will be the advantage of having the seconds hand quite parallel with the dial. The rack and the ratchet of twelve are to be taken out and the small train examined. It is necessary that the gearing



An Old Repeater

should be strong and the wheels quite round. If, for instance, the gearing of the fusee with the first wheel is rather feeble, in order to avoid displacing the wheel, the click and the circular spring of the fusee may be removed, and a brass washer adjusted in their place. It may then be easily worked and the rounding cutter applied. The shoulder of the square on which the ratchet of twelve is adjusted must be examined to see that it is a little beyond the cavity in the plate, and also the end of the pivot of the center wheel. The hammers ought to be quite free, without having too much play above, and the passage of the pins worked by the levers should be sufficient. In any case, when the hammer touches the banking piece, the pin ought still to have room at the extremity of its course, and ought also to have it backward. If the hammer of the quarters passes near the small train, the necessary play must be given by filing at the spot where it approaches the wheels. If the hour-hammer passes near the cock, it must be seen that there is also sufficient play.

In three-quarter plate pieces having striking barrel screwed by two ears, it often happens that the hole of the arbor, already sufficiently large, is badly centered, and that the collet of the fusee touches one of the sides of this hole, which will impede the small train. In this case it is necessary to put the barrel in position without the spring, to center it on the slide-rest by the hole of the fusee arbor, and slightly pass the graver in the hole.

Putting the Parts Together

After the cleaning of all the pieces, comes the work of putting them together. This commences by seeing whether the extremity of a pin or screw of the dial-work may interfere with the wheels; the two trains are put in carefully, applying oil to all the pivots as well as to the springs of both barrels. After making sure that everything is right, the escapement is to be put in place; afterwards the banking pieces, seeing that their screws hold tightly in order to obtain proper striking. The hammer-spring should work regularly with their conical screws; that is, the hammers should be able to be brought nearer or removed farther from the banking-pieces, care should be taken that the fusee may be developed three and half turns, or at least three turns; the spring is to be shortened in case of need, and then the movement put in the case.

The ratchet of twelve being put in position as well as the hammer-springs, the lever of the hours with double-acting springs is to be placed and the striking of the hours tested. If the hammer-springs are strong and but little energized, the levers may raise them, but the blow will not be sonorous. In this case it is necessary to strengthen the springs by heating them to the blue, while they are held in the position which they are to have, and then worked down with a smooth file. It must be seen that the banking pieces of these springs are kept apart from the plate, and the parts rubbing against the hammer-studs are to be smoothed. The spring is armed one turn and a half, and the ratchet placed in the position where the hours and quarters are struck. Then the rack is put in place with its arm, its bar and the spring. Before putting in the bridge, oil should be slightly applied, and twelve o'clock struck. Account should be taken of the ease of the repeating slide, and at the same time of the speed of the striking and of the hammer-lift. The spring is to be examined to see whether it should be energized a little more. If the hour-hammer does not rise enough, the lever must be lengthened, while closing it a little, striking with the plane of the hammer on its outer side.

If the repeating slide does not work well, it is often the fault of the gearing of

(Continued on page 1299)

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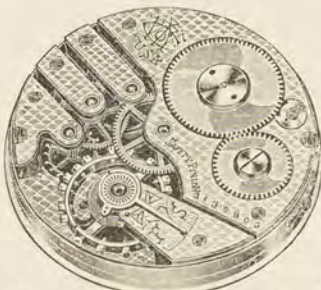
No. 310. "FORTUNA." 6 Size, 7 Jewel, Hunting and Open-Face, Pendant Setting

Nickel damaskeened, cut expansion balance, safety pinion, screw bankings, straight line lever escapement, hardened and tempered breguet hairspring, quick train, exposed winding wheels, handsome white enamel dial with depressed seconds and red marginal figures. Open-face, without seconds.



No. 320. "FORTUNA." 12 Size, 7 Jewel, Hunting and Open-Face, Pendant Setting

Nickel damaskeened, cut expansion balance, safety pinions, screw bankings, straight line lever escapement, hardened and tempered breguet hairspring, quick train, exposed winding wheels, handsome white enamel dial with depressed seconds and red marginal figures. Open-face, without seconds.



No. 135. Bridge Model, 16 Size, 11 Jewel, Hunting and Open-Face, Pendant Setting

Nickel damaskeened, quick train, straight line escapement, exposed pallets, cut expansion balance, hardened and tempered breguet hairspring, safety pinion, screw bankings, exposed polished steel winding wheels, dust band, depressed center and seconds white enamel dial with monogram "T. W. Co."



No. 140. Bridge Model, 16 Size, 15 Jewel, Hunting and Open-Face, Pendant Setting

4 pairs in settings, micrometer regulator, nickel damaskeened, quick train, straight line lever escapement, exposed pallets, cut expansion balance, hardened and tempered breguet hairspring, safety pinion screw bankings, exposed polished steel winding wheels, dust band, roman or arabic depressed center and seconds white enamel dial and red marginal figures.

No. 130. Bridge Model, 16 Size, 7 Jewel, Hunting and Open-Face, Pendant Setting

Nickel damaskeened, quick train, straight line escapement, exposed pallets, cut expansion balance, hardened and tempered breguet hairspring, safety pinion, screw bankings, exposed polished steel winding wheels, dust band, roman or arabic white enamel dial with monogram "T. W. Co."

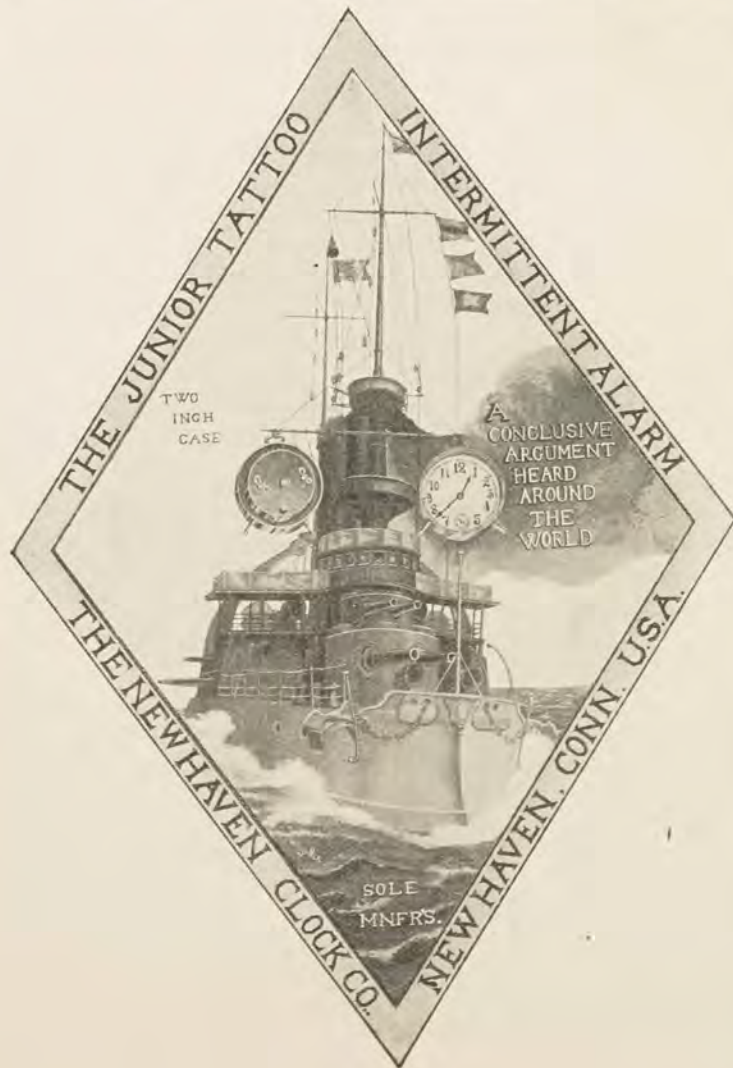
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Repairing of Repeating Watches

(Continued from page 1297)

the rack. In this case, the parts are to be ground on the lathe with the Turkey stone. Afterwards, the lower part of the rack should be smoothed with an emery buff to diminish the friction, and a little slope made under the teeth. The star-wheel is put in place with the hour-snail and its jumper. The tooth of the star-wheel ought always to be in line with the pivot of the center wheel.

The position of the star-wheel may be corrected by retouching the inclined planes of the jumper. These planes should not be too much nor too little inclined, and they should be well stoned. Neither the banking-piece nor the head of the jumper should rub against the plate. All the hours should be struck, one after the other. At each hour, the beak of the rack being pressed against the snail it is necessary that this should have a certain recoil; but if this recoil is too great, especially on the twelve o'clock notch, the snail is moved on the star-wheel. After this operation the beak of the rack will perhaps incur the risk of not pressing sufficiently on the one o'clock notch. It will then be necessary to file the snail.

Then it must be seen that at each hour the corresponding tooth of the ratchet twelve passes freely. If at some of the hours only, the piece strikes an hour less, the corresponding degrees of the snail are to be filed, and if it is an hour too much, the beak of the rack is to be filed.

Afterwards, the set-hands arbor is to be put in place, with the cannon-pinion, the snail of the quarters and the surprise piece, taking care that the latter is perfectly free. The intermediate wheels and the motion-work are to be placed, and the time-setting verified. If it is found that the set-hands arbor is not perfectly round, it is easy to correct this in place, working it carefully. If, however, there is a stone for the center wheel, the operation is to be performed on the lathe. Then the two levers of the quarters are to be placed and the quarter piece, its spring and the finger. The striking should be tested on the three quarters, and care taken that the hammers rise sufficiently, and that the quarters are in accord. If they are not so, and if the two strokes of each quarter are too near, the quarter hammer should be examined to see whether it rises too much, which, it is true, rarely happens. In such a case the end of the lever worked by the teeth of the quarter piece may be filed off a little. The lift usually not being too great, it is preferable to lengthen the three teeth of the quarter piece which work the hour hammer, and if then the lift is too great, the levers of the quarters of the large hammer may be filed at its point of contact with the pin. When the two strokes of each quarter are too much apart, the three teeth working the small hammers are to be lengthened and if the latter rises too much, the lever is to be filed where it touches the pin. This done, it should be examined whether on striking the one and the three-quarter hour the finger is sufficiently disengaged

from the quarter piece, so that the latter can fall surely on the three-quarter mark; not, if it is to be filed, either at the finger or at the quarter piece in order to produce the necessary clearance.

Necessary Verifications

The long piece or the hooking spring is now to be put in place, after making sure that it is of a suitable strength, and whether the quarter-piece, after reaching its resting point, is well locked. Then the slide is to be worked on the twelve o'clock stop, but not enough to cause the unlocking of the quarter-piece, and the teeth of the ratchet of twelve should be examined to see that they pass with the necessary clearance before the extremity of the hour-lever which is kept back by the quarter-piece. If this security is lacking, the extremity of the long piece is to be filed in

the verification of the unlocking of the quarter-piece. The slide is to be pushed slightly to the necessary point for unlocking the quarter-piece successively on all the hours. If an hour less strikes on all the notches of the snail, the finger rising the long piece is to be filed a little, so as to secure a later unlocking. If it strikes an hour less on some of the hours only, the curve on the long piece is to be corrected. If, on the contrary, it strikes an hour more on some of the hours, the notches of the snail are to be filed, on which the striking is correct, in order to bring them into accord with the others; then, an hour more will strike on all the notches, and to correct the defect, the arm of the rack is to be filed, either at the extremity pressing against the snail, or at the part which presses against the rack. These verifications and corrections made, the locking plate is to be put in place, making sure that it has play with the pipe of the quarter-piece, as well as with the spring. The dial is to be put on, enlarging the holes if necessary, in order that the hour and the second hands should not be impeded.

If all these operations have been well conducted, and if the escapement as well as the balance spring have been verified and kept quite clean, a correct timepiece can be counted on.

All the parts of the dial-work liable to friction are to be oiled except the surprise-piece and the jumper of the star-wheel, because they are made of brass. It is to be recommended also, when a piece of tempered steel is to be lengthened, that it should be annealed and retempered after the operation in order not to break it.



The Modern Repeater

order to make the quarter-piece recoil more. Often it is necessary to give a little more room to the bolt of the case. Then, twelve o'clock is to be struck without the quarter. It happens at times that on striking, the pin carried by the hour-lever butts against the part of the quarter-pieces which impels it and that the striking is stopped by this cause. It is then necessary to see whether the hour-lever when brought back by the quarter-piece is removed too-much from the ratchet of twelve, and in this case to file the part of the quarter-piece which presses back the pin of the hour-lever. If there is nothing to be done on this side, it will be seen whether on the degree of the quarter zero there is sufficient surety, in order that it may be filed concentrically, which will allow of the quarter-piece descending more. Often this can be secured by a little work on the two sides. Care must be taken that when the star-wheel leaps from one hour to the next, the surprise-piece has sufficient room, so that the jumper may fall to the bottom between the teeth of the star-wheel. Care should also be taken to see whether the drop of the quarter-piece on the snail corresponds to the teeth working the two levers.

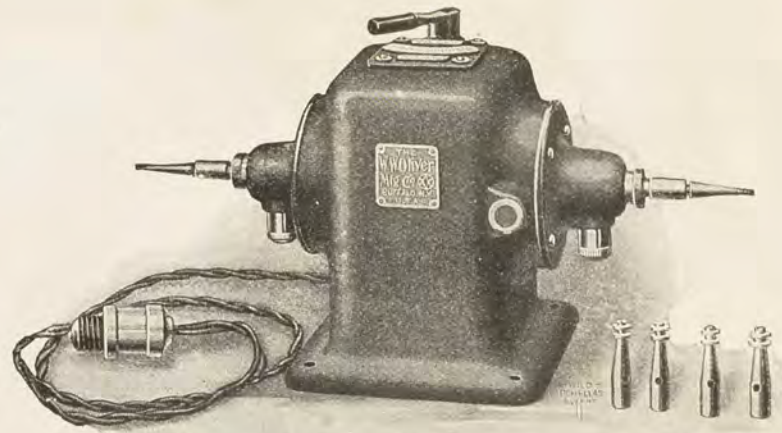
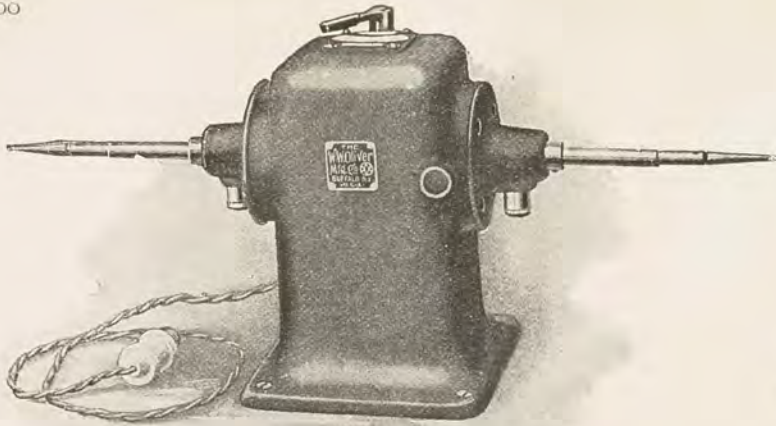
These operations are to be followed by

[To this elaborate article, written by an artisan of acknowledged skill we subjoin a cut, which has been engraved specially from a drawing furnished to us by the firm of Le Coultre & Co., of Sentier, Switzerland, a house celebrated for its complicated movements. It represents mechanism repeating the quarters, and has been enlarged, so that the details may be seen more clearly.]

This is the modern repeater; and it has seemed to us of interest to reproduce at the same time the mechanism of an old repeater of the year 1750. It will be seen that the principal difference between the two consists in the way the striking part is set in action. Otherwise, the changes are principally in form, the essential pieces being recognized in both calibers.

It is known that the mechanism of old repeaters was actuated by means of a push-piece fitted to the pendant of the watch. Instead of acting by simple gearing, the rack rewound the small spring by means of a chain. The star-wheel and the snail of the hours were not fixed on the plate, but adjusted under the unlocking piece, then termed "the all or nothing piece."

Another improvement has been effected in regulating the speed of the small train; this regulation was obtained by modifying the depth of the gearing of the last pinion, whilst at present the speed is adjusted by means of a small lever, whose movements may be retarded or accelerated at will.—Ed.]



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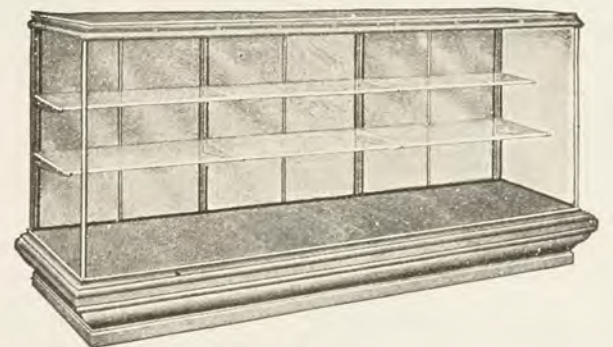
is taking some of your trade away from you, decide at once to do the only thing which will turn the tide in your favor—become a better workman than your competitor. Become so well versed in watch-lore that you will be looked up to as *the authority* on it in your section; business follows such a man.

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WORKSHOP NOTES

Subscribers wishing inquiries answered in this department must send name and address—not for publication, but as an evidence of good faith. No attention will be paid to anonymous communications. Questions will be answered in the order in which they are received.

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.

"Bridge."—*I have a new bridge model, 16 s. Trenton movement, that has never been repaired, just received from factory, and I have trouble with it. I would like to know where the fault lies. It has been tried for escapement, and one of the pallet stones was loose, and I reset it, but it does not make any difference as to fault. It has a fine motion when holding same dial up horizontally, but loses motion when holding same dial down or vertically, has plenty side shake for impulse pin. I examined top pivot and top jewel, also hairspring and wheel, but find them all right; train seems to be all right, as it will go all right for hours when held in first position, but the instant it is reversed it will lose motion gradually. Now, I shouldn't think this ought to happen in a new movement. Does or has the escapement any effect on the balance-wheel motion with dial up or any position?—If a watch runs and takes a good action in one or two positions, then loses action the instant it is placed in a certain position, it proves there is something wrong with the balance or balance jewels. Remove the fork from the watch, also the hairspring. Then replace the balance alone, start the balance revolving, hold the watch in the same position in which it takes the sluggish action, and you will find that either the balance rubs and strikes something or the pivot on which the balance is running is bent or rough, hole jewel cracked, or some such trouble you will surely find, if you will try the balance as stated. We do not think that the escapement has anything to do with it.*

"Cleaner."—*In cleaning watch movements, I use wood alcohol and sawdust, but I find it quicker when cleaning the plates to wash them and then brush them, instead of drying in the sawdust. Now, I want to know if that is proper, or whether there is anything in the alcohol which can be taken off with the sawdust and not by brushing that might prove injurious to the movement.—Wood alcohol is not the best thing to use in cleaning watches. Grain alcohol is much better, and it is profitable to pay the difference. After washing the parts, dip them in the alcohol and then dry in sawdust. While they are drying, do something else; such as cleaning the balance and jewels, truing the balance wheel, or any other repairing that may be needed; This will give the wheels, plates, etc., plenty of time to dry. Always make it a rule to leave a little work just for this purpose.*

"Pewter."—*What ought to be used to clean pewter and similar metals?—There are several methods by which pewter can be cleaned and polished, the best of which are described in Massé's work on pewter plate: On some specimens of old pewter a kind of efflorescence will be found resembling rust. It is probably due to some change or decomposition in the antimony used in the pewter, as tin itself is not liable to changes of this nature. It cannot be removed by cleaning. To keep pewter clean in old times it was found necessary to oil it. At the present day, if pewter is to be left exposed for any length of time without being occasionally rubbed, it is a good plan to rub it over with a rag or cloth saturated with vaseline. There is no necessity to leave a thick deposit of vaseline upon the pewter, as a very thin coating is all that is required. Unlike anything in the nature of a lacquer, it only requires rubbing to remove it. To remove the obstinate black oxide that has formed on pewter that has been lying unforgotten for any*

length of time there are two methods, the one drastic and the other slow. Care is required in the former, and it is best to proceed by having a brush—an old shaving-brush or a pastry-brush serves the purpose well—with which to apply hydrochloric acid to the parts affected. The acid may be applied with a rag held in the fingers, but as it renders the finger-nails brittle this course should be avoided. If a rag is preferred it should be held in a piece of bamboo split at one end; with a rag so held more pressure can be applied than with a brush. After applying the acid its action must be watched, and as the scale softens, the part so cleaned should be wiped with a wet sponge. The slower process consists in using paraffine oil, applied locally or as a bath in obstinate cases. It is absolutely useless to attempt to remove the oxide by scraping, as a series of ugly scratches will be the result. Scratches may be removed, if it be considered necessary, by a preliminary rubbing with the finest (o or oo) emery cloth, the rubbing being applied with a movement parallel to the direction of the scratch, or with a circular movement if the scratches are shallow and general. The emery paper will cause a series of very fine scratches, so fine that they can be easily removed with a burnisher. These may be bought of various types, according to the use for which they are required. Very fine scratches may often be removed with the smooth side of the emery cloth. It is a mistake to try to remove the marks caused on plates and dishes by the ordinary daily use of a knife. Polishing can best be done on a jeweler's polishing lathe, a by no means expensive tool, and one which would also be found of immense use in polishing silver plate. Cleaning can be easily done with rotten-stone and oil—the final rubbing being with dry rotten-stone on a soft cloth or leather. Whitening, too, or better still, precipitated chalk, can be used, mixed with water, or applied with a piece of lemon-peel. Rotten-stone made into a paste with yellow soap (or soft soap) mixed with turpentine is a good cleaning medium, dry rotten-stone being used afterwards. It may be noted here that in using such abrasive substances it is well to sift them through two thicknesses of muslin, so as to remove any chance particles of grit that may be in the powder. The ordinary polishing pastes on the market may also be used, but the secret of success with them, as with any other cleaning medium, is to see that the polish is used in moderation, and that it is all rubbed off after it has done its work. Nothing looks worse than a deposit of polish in the corners or interstices of metal-work. If the polish can get into such places, it can and must be removed.

"Levers."—*I very often find that lever watches, after having been cleaned, come back about three months thereafter with a very bad action, and then after putting a little oil on the escape wheel they run as well as ever. Do you think that the washing of the escape wheel and other parts in benzine or gasoline has anything to do with this trouble?—We do not think benzine or gasoline has anything to do with it. The cause may be that just these few watches did not get enough oil on the escape-wheel teeth or pallet stones.*

"Brighten."—*I want a polish to brighten up old furniture or show cases, clock cases, etc.—The majority of the so-called polishes for wood are based on a mixture of boiled linseed oil and shellac varnish, made by dissolving shellac in alcohol in the proportion of four ounces of shellac to a pint of alcohol. A little of the dissolved shellac is poured on to a canton-flannel rag, a few drops of the boiled linseed oil are placed on the cloth, and the wood to be polished is rubbed vigorously. About half an ounce of camphor gum dissolved with the shellac in the alcohol will greatly facilitate the operation of polishing. A soft woolen rag, moistened with olive oil and vigorously rubbed on dull varnished surfaces, like show cases and old clock cases, will brighten the surface wonderfully. Some workmen add a few drops of a strong solution of camphor gum in alcohol to the olive oil. The polishing of piano cases is accomplished by applying several coats of the best coach-painters' rubbing varnish, when, after perfect drying, the surface is rubbed with a canton-flannel rag, folded flat, using water and the finest pulverized pumice stone. This operation depolishes and smoothes*

the surfaces. The final polishing of such work is done by rubbing with rotten stone and olive oil, with the smooth side of canton flannel. To remove the last traces of smear caused by the oil, an old, soft linen cloth and rye flour is used. Of course, such work as we see on pianos is not likely to be produced by one who is unaccustomed to it; a man must serve a good, long apprenticeship in the piano business before he is deemed competent for it, and even then some polishers fail to obtain the fine results achieved by others.

"Support."—*(1) I am making a chronometer for my show window and I would like a few words of information on points that are not exactly clear to my mind. Should the hairspring support any of the weight of the balance wheel?—No; the hairspring should not support the balance in any timepiece, no matter what escapement is employed.*

(2) Is it proper to put a regulator on a chronometer, something like the lever movements have?—Yes; pocket chronometers have regulators, and those which have none are regulated by timing screws. All ship chronometers are regulated by screws.

(3) The balance-wheel rim will be four inches in diameter; now, what would be the proper relative dimensions of the escape wheel? The movement is to beat seconds.—Make escape wheel two inches in diameter.

"Lac."—*What are the ingredients of shellac and varnish?—Shellac is merely crude lac-resin formed into cakes after being melted and strained, though upon analyzing it is shown that it contains several peculiar resins. As to the composition of varnish, there are so many different kinds that we could fill page after page with various formulae. Shellac enters largely into the making of varnish; in fact, the well known "French polish" is little more than shellac dissolved in alcohol, and a fine thin varnish made of this material makes a most excellent lacquer to cover metals, such as silver, etc., to prevent discoloration by the action of the atmosphere. In a general way, it may be said that oil varnishes are made from the resinous gums; that is, copal and anime, and spirit varnishes from the lacs and gum mastic.*

"Fan."—*I would like to know what ought to be done to a French clock that is all right to make it strike the hours slowly, the same as it does when new.—The fan governs the speed of the striking train of the clock; the larger the fan, the slower the clock will strike. The cause of your clock striking so fast may be that the fan is bent inward, causing it to act as if it was smaller; or, perhaps, the fan is loose on the pinion.*

"Busher."—*(1) Please instruct me how to remove the hairspring from an American balance wheel without throwing it out of true, expansion in particular.—Some of the American balances are so soft that it is very near impossible to remove the hairspring, if the collet fits tight, without throwing the balance out of true. The best thing to use is a pair of hairspring collet removing pliers, which can be bought in any wholesale tool house.*

(2) Also in fitting a new staff when the staff does not fit the balance hole friction tight.—A proper fitting balance staff should fit the hole in the wheel friction tight, but you will find that it is impossible to get staffs of that kind to fit all American watches. If the staff fits the hole in the balance, without any side shake, it will answer and can be riveted to the balance with very little trouble. Select a ball-face punch that contains a hole just large enough to go over the hairspring collet shoulder, when a few light taps with a mallet or brass hammer will bring the balance tight.

(3) The best and simplest way to bush a pivot hole in watch plate and correctly center it.—See answer to "Universal," page 791, May, 1905, KEYSTONE.

"New."—*What is the best way to repair hook in safety mainspring barrel when old one is broken out?—A new barrel is the cheapest and best way in the long run.*

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**WORKSHOP
NOTES**

Subscribers wishing inquiries answered in this department must send name and address—not for publication, but as an evidence of good faith. No attention will be paid to anonymous communications. Questions will be answered in the order in which they are received.

"Electrolysis."—We experience trouble in making a gold solution by dissolving gold from the anode into a cyanide solution. We use a fine gold anode 1½ inches square.—You failed to state the strength of the cyanide solution you employ. For this purpose, the solution should be quite strong—3.52 ozs. of c. p. cyanide of potassium to a quart of water. It is best in making a gold solution in this way to employ two sheets of gold, not too small, which are suspended as electrodes in the cyanide solution. It seems that all authorities now agree that a solution made in this way should contain 3.52 ounces of cyanide of potassium and 0.7 ounce of fine gold to the quart of water. The amount of gold in the solution can be determined by weighing the sheet of gold serving as anode, or an article may be immersed in the solution and connected to the negative pole (removing the sheet of gold therefrom), and if it takes on a beautiful, warm tone, the quantity of gold in solution is correct.

"Frenchy."—Would you kindly let me know of the best solution you have found to clean French clocks? I have one and would like to hear of something better.—In cleaning French clocks, as much care should be taken as cleaning watches. Remove all movable parts from the plates; place the wheels, plates, etc., in benzine, brush each part as you take it out of the benzine with a soft brush, and peg out the pivot holes, then string the plates on one piece of brass wire and the wheels on another; dip them in a solution of 1 ounce of cyanide to a quart of water, then rinse well in running water; dip in alcohol and dry in sawdust, when we will have a perfectly clean clock. The cyanide, as a rule, will remove all marks from the plates; but should you find any on them after cleaning, take a hand buff containing a very little rouge when a few rubs will remove all such marks.

"Recovering."—After dissolving any karat of gold in nitro-muriatic acid and precipitating the gold by adding a solution of copperas, how can I tell when I have added enough copperas? Is there any absolute test to determine when the gold is all precipitated before throwing the solution away? How long should it take to precipitate all the gold after the copperas solution is added?—Gold of any karat should not be employed for solution in nitro-muriatic acid, from the fact that almost all gold alloys contain silver, which would be precipitated and rest in the vessel containing the gold solution. You cannot add too much copperas if the copperas solution is free of oxide of iron. The air slowly decomposes ferrous sulphate (copperas), with a tendency to form insoluble oxide of iron; consequently the copperas solution should be filtered before it is added to the gold solution.

"Toughener."—Some time ago I read in The Keystone a formula for refining, or rather toughening, gold. It was either salts or powders, and was thrown over the metal while in a melted state. I would now like to use it, but cannot locate it—can you help me out?—We have published several formulae for the toughening of gold, and do not know to which one you refer. It is quite probable, however, that the method you wish information about is that for ridding the alloy of any of the baser metals, such as zinc or lead. This can be done with the aid of ammonium chloride (sal ammoniac) and mercuric chloride (corrosive sublimate). The metal is melted and the surface covered with sal ammoniac. The sublimate is then added, a little

at a time, and the furnace brick quickly replaced after each addition. The impurities are converted into volatile chlorides and escape, together with some of the refining agents, which are also volatile. The dense vapors given off are very poisonous, and should only be permitted to escape by means of the flue. The metal may be tested by removing a little with a dipper and casting it into a thin bar. If this shows the necessary toughness the operation is finished; and the metal is then covered with charcoal, well stirred by means of a plumbago rod, and poured.

"Over-banker."—Have a twenty-one jewel watch with double-roller escapement, which over-banks. How do you correct this fault?—The safety action (over-banking) is adjusted the same in the double-roller watch as in the single roller, the only difference is the guard pin is placed in a horizontal position and the point acts on the second or safety roller. See Fig. 1, where E

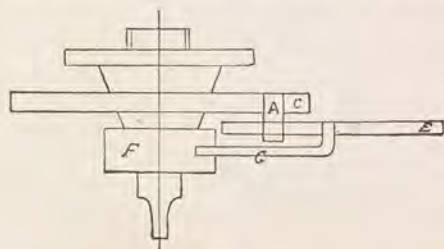


Fig. 1

represents the fork, G the guard pin, F the safety roller. If your watch over-banks, caused by your guard pin being too far away, you can bring it closer by bending the pin G at the elbow, causing the elbow to become rounded (see Fig. 2), which will make it longer, or closer to the safety roller. Some guard pins are put in the fork as shown at Fig. 3, and in this case the pin can be pushed forward. Fig. 4 gives an end view of the point of the guard pin. For the proper position of the guard pin, so as to have a

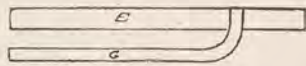


Fig. 2

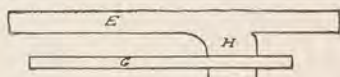


Fig. 3

secure safety action, see answers to "Ruby," page 69, January, 1902; "Guiana," page 1413, November, 1902; "Nine," page 1735, November, 1903. All of these answers pertain to a watch containing a single roller and, as stated above, the safety action is adjusted the same. The same results must be obtained with the single or double-roller escapements while being adjusted.

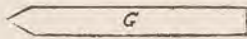


Fig. 4

"Promptly."—(1) Suppose a pallet stone fails to bring the lever promptly to the banking after escape wheel is on the locking. How can it be remedied?—That will depend what causes the lever to stay away from the banking pin. It may be caused by several things. No end shake to pallet staff, bent or rough pivots, cracked jewels, or holes too large for the pivots, locking face of pallet stone chipped or rough, pallet stone not clean (some shellac on the locking face). Any one of which would cause the fork to stay away. But, should everything be in good condition and still the fork acts the same way, then the pallet has what we term "no draw," which cannot be altered without some trouble. The draw is created by the angle of the locking face of the pallet stone and escape tooth. See answer to "Banking," page 721, July, 1901, KEYSTONE.

(2) If the notch for roller jewel were measured with a graduated needle, and the needle were measured with a Grossman degree gage, how much shake should the jewel have in fractions of a millimeter?—About .03 mm.

"Cop."—How is copper bronzed by heating?—Bronzing copper by the well-known method of heating it over a fire is a tedious and not altogether satisfactory process. It involves the exercise of some skill, and a considerable amount of labor must be expended in the preliminary processes of cleansing and polishing; and very often the whole operation has to be performed over again, owing to some accidental blemish imparted to the surface of the article in some subsequent process—e. g., brazing or soldering. The polishing powders principally employed are crocus and plumbago, the latter giving a deeper and more permanent color to the finished article than the former, while shades between can be obtained by mixtures of the two powders. There are several secret processes employed by the principal workers in the art, the substances used in which are known, but the exact methods are undescribed. Potassium sulphide and ammonia hydro-sulphate are both capable of imparting to the surface of clean copper an appearance of antique bronze. The solution is brushed on carefully and allowed to dry, the metal being previously heated to about 70° F. A solution of verdigris and sal-ammoniac in vinegar, diluted with water, boiled and filtered, is used as a sort of pickling bath for brass and copper articles it is desired to bronze. The bath must be kept at the boiling point, and care must be taken that the articles must be removed as soon as the desired effect is produced. A bronze, said to be used by the Chinese, is made, like the last, of sal-ammoniac and verdigris, with the addition of alum and vermilion (i. e., the pure article prepared from mercury and sublimed sulphur). These ingredients, when reduced to a fine powder and made into a paste with vinegar, are spread over the surface of the article to be bronzed, which is then placed in an oven, where it heats slowly but uniformly. When thoroughly warm, the paste is carefully washed off in hot water, and the article is rapidly dried, with the assistance of hot box sawdust, if of special value. If the bronzing is not of a sufficiently deep tone, the process is repeated immediately after the washing. The common bronzing solution for metallic statuettes is made by dissolving about 1 part potassium binoxalate and 3 of sal-ammoniac in strong vinegar, or preferably in a vinegar made by adding pure acetic acid to distilled water. The articles to be bronzed are placed in a warm but moist chamber, and are repeatedly painted over with the solution, a soft brush or mop being used for the purpose. In the majority of the methods employed, the actual proportion of the ingredients are not stated, or when stated are not to be relied upon; in every case a trial should be made on clean pieces of copper, and repeated at least once. As a rule, it will be found that the sal-ammoniac must be in excess of the other salts.

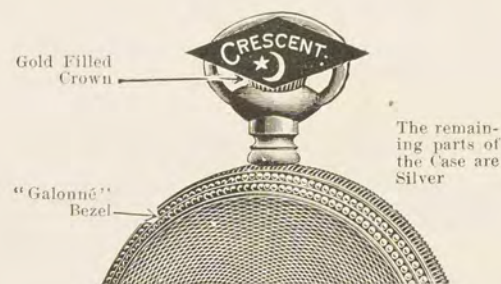
"Britannia."—In plating articles of britannia metal we experience great difficulty in getting an adherent deposit of silver. We plate all kinds of metal at once, using same solution.—In silver plating, copper, brass and the other alloys of copper can be directly plated after amalgamating, while the other metals, such as tin, lead, zinc, steel, iron, nickel and britannia metal should first be coppered or brassed and then amalgamated, in order to get a good adherent deposit. In the light of the foregoing, it would appear that your trouble is caused by using the one process for all metals. If after coppering goods of britannia metal, you will use a quicking solution consisting of a weak solution of potassium mercury cyanide in water, we do not think you will experience any further trouble. After the articles have been in the quicking solution long enough to acquire a uniform white coating, they are rinsed in clean water, lightly rubbed with a soft brush and immediately placed in the silver bath. The slinging wires for this class of work should be of pure copper, or still better, of pure silver.

"Green."—Will you please inform me how to color gold green—what solution to use?—This is obtained by adding to a solution of double cyanide of gold and potassium a small proportion of cyanide of silver solution, until the desired tint is obtained. The solution should be worked cold, or nearly so. The amount of silver solution to be used can only be determined by experimenting.

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A Palatial Jewelry Store

NOTHING more impressively evidences the progress of the jewelry trade than the evolution of the jewelry store from the severe, utilitarian simplicity of former years to the studied and spectacular elegance noticeable in the new stores of today. In earlier times we had to look to the very large centers of population for the ideal jewelry store, but many comparatively small cities now boast of palatial establishments of truly metropolitan dimensions and beauty. One of these is the magnificent new store of George E. Feagans, the well-known jeweler, of Joliet, Ill., two views of which are shown on this page.

If we may momentarily digress, perhaps it is not too much to say that this remarkable store affords a rare object lesson on the power of advertising as a business builder, and, in turn, the power of progressive methods and rich display as a joint advertising force. Jeweler Feagans has long been noted as an accomplished advertiser, and his business methods generally are no less original and progressive. That the public are ever ready to reward with liberal patronage the dealer who displays these qualities, irrespective of location, is shown by the fact that Joliet lies within an hour's journey of Chicago, the great and rapidly-growing metropolis of the West. Truly, individuality, personal initiative, business courage are characteristics hard to eclipse in any latitude. Under the cautious direction of a thoughtful mind, these are the things which make for achievement. The external conformation of this store is handsome in appearance and constructively ample. There is a steel and marble front with mosaic panels and a steel and glass canopy



An Interior View, Showing Front of Store

entrance. The interior fixtures are of mahogany. On the entire north side is a series of art rooms, each beautifully lighted from its ceiling by a number of illuminated art-glass domes. These rooms afford splendid display facilities for cut glass, porcelains and choice potteries. The center of the store is spanned by a giant horseshoe, within which stand mahogany columns extending from floor to ceiling, and upright cases for the display of choice leather goods, bric-a-brac and silver.

Massive wall and counter cases run the entire length of the south side, ending in the splendidly-equipped shop for diamond setting and jewelry work. At the end of center cases is a steel and concrete vault large enough to accommodate the most valuable portion of the stock and all the repairs. The lighting effects are especially attractive, no less than five hundred incandescents and sixteen large electric arc lamps being used in the store and windows.

In connection with Mr. Feagans' new store we may state that "making a good appearance" is one of the chief concerns of the up-to-date retailer. The moving force of competition now demands attractive surroundings for goods as well as attractive goods. The thousands upon thousands that a single department store expends to make its interior artistic in the highest degree, would easily support several smaller establishments. So, too, the more humble merchant finds that his buying public seeks out the store that is brightest looking and most attractive.

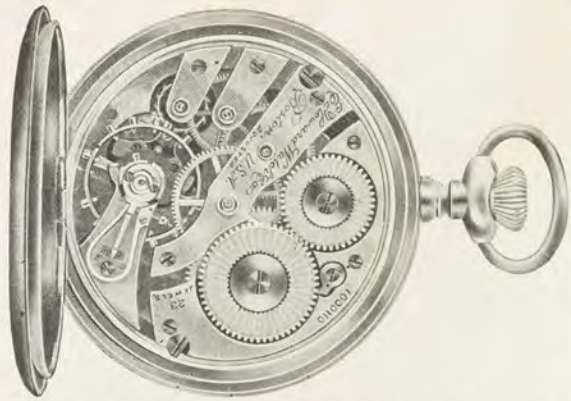
A writer in one of the current magazines wisely observes that art is making its way in this hustling country of ours, and the best of it is that it is coming naturally, unobtrusively, as an expression of a new spirit in modern business. And—what is even more to the point—he concludes that "it is a fact that the display of art is a step ahead for a business from a purely commercial point of view." This is a tendency of a most pleasing sort.

Many merchants are deterred from embellishing their store because to them it is seemingly an expense from which there are no direct pecuniary results. To the contrary, however, the results seem to be most direct. The quest for the artistic in retailing of to-day, therefore, is not alone a step forward in general progress, but in specific profits as well.



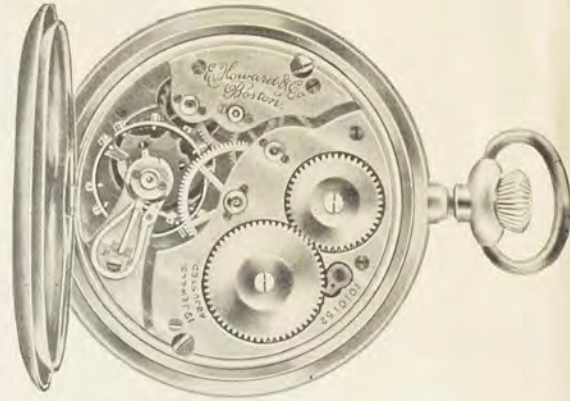
An Interior View, Showing Cases and Display Tables

1304 b



23 ruby and sapphire jewels (raised gold settings); adjusted to 5 positions, temperature and isochronism; breguet hairsprings; micrometric regulator; gold train wheels; double roller; steel escape wheel; sapphire pallet stones; all steel parts highly finished; extra fine, hand-made, double-sunk dial; **timed in the case and certificate of rating furnished with each watch.**

The
Most Profitable
Watch
for the
Jeweler!



19 ruby and sapphire jewels (gold settings); adjusted to 3 positions, temperature and isochronism; breguet hairspring; micrometric regulator; gold center wheel; double roller; steel escape wheel; sapphire pallet stones; all steel parts highly finished; extra fine, hand-made, double-sunk dial; **timed in the case and certificate of rating furnished with each watch.**

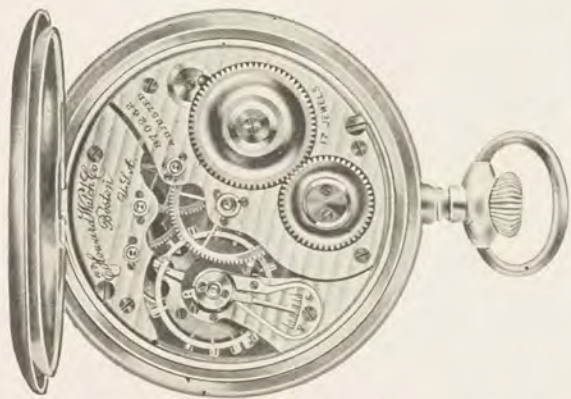
Here is a Watch which presents every possible argument for the Jeweler's favor. In the first place, it is absolutely **the best** now before the trade. Jewelers whose first considerations are **Quality** and **Finish** will turn to this matchless line. Secondly, through the measures we have provided to insure the jeweler in a handsome profit, he will want to handle this line for **the money** that can be made on them.

The New Line of 16 Size Howard Watches

The **retail** selling price of each Howard Watch is **fixed by the manufacturer.** No cutting of these prices is permitted. No publishing of trade prices is allowed.

These Howards are sold only as **Complete Watches**, cased in heavy 18 K. or 14 K. Solid Gold and **Boss** or **Crescent** 25-year Filled.

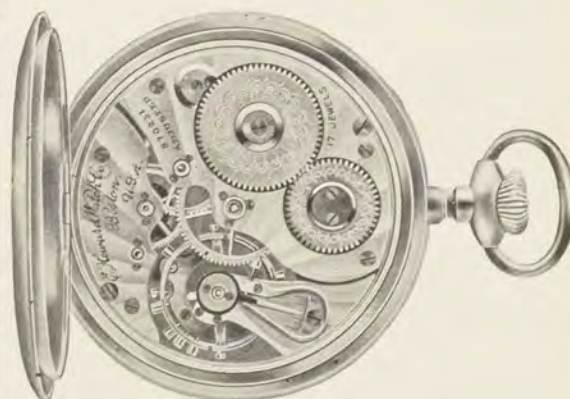
Each Watch is enclosed in a highly finished, silk-lined Mahogany Box.



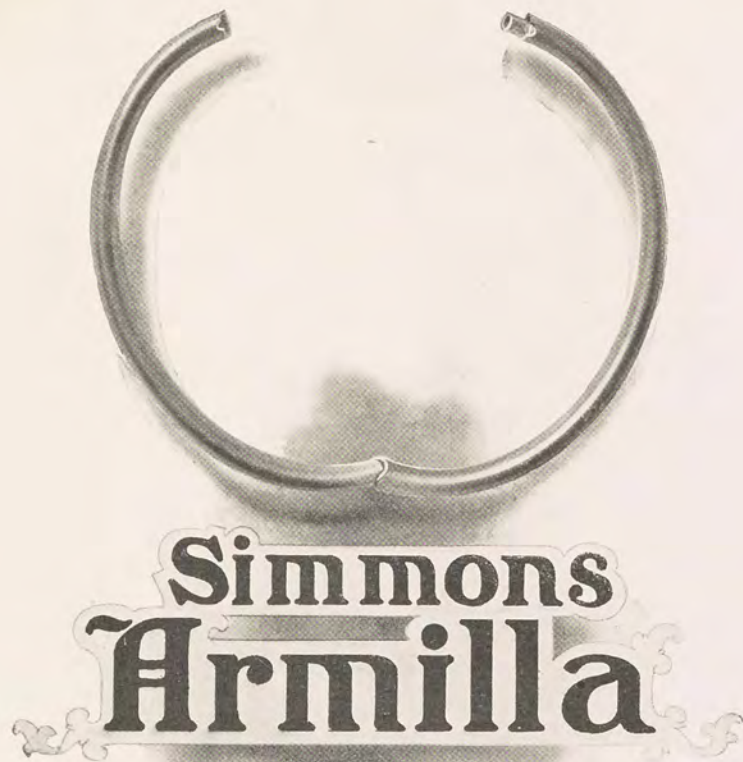
17 ruby and sapphire jewels (gold settings); adjusted to 3 positions and temperature; breguet hairspring; micrometric regulator; gold center wheel; double roller; steel escape wheel; sapphire pallet stones; all steel parts highly finished; extra fine, hand-made, double-sunk dial; **timed in case.**

Write us for Booklet giving full descriptions, and prices at which these Watches are to be sold to the public; also a list of jobbers from whom they may be obtained.

E. Howard Watch Co.
Waltham, Mass.



17 ruby and sapphire jewels (gold settings) adjusted to temperature; breguet hairspring; micrometric regulator; gold center wheel; steel escape wheel; sapphire pallet stones; all steel parts highly finished; extra fine, hand-made dial; **timed in case.**



*The Fashion Bracelet
of the Season*

THE Simmons Armilla is a patented joint and catch bracelet that has the appearance of a solid one-piece bracelet when worn—but fits the wrist snugly, as none of the one-piece kinds can.

The joint and catch are ingenious, positively secure and practically invisible when closed.

The Armilla is made in a variety of patterns—both plain and handsomely chased—and may be had in Roman or English finish or plain polished, and in either gold-filled stock or 10 K. or 14 K. solid gold.

This bracelet is now in the hands of the wholesale watch and jewelry trade.

A handsome easel card for displaying the Armilla attractively, will be sent free on request.

R. F. Simmons Company

Main Office and Works, ATTLEBORO, MASS.

Salesrooms: 9-13 Maiden Lane, New York
and 103 State Street, Chicago

SESSIONS CLOCKS

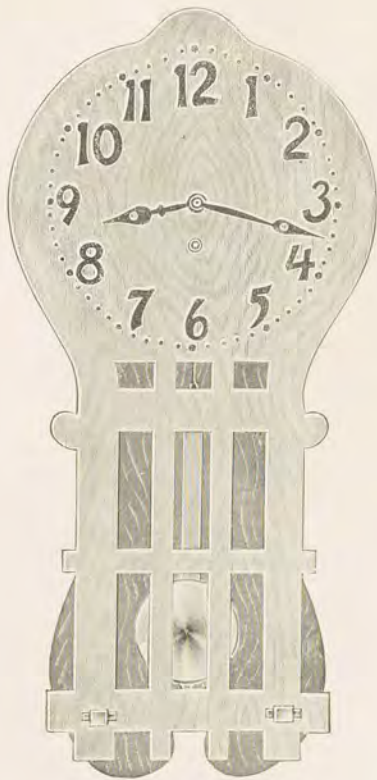
SUPERIOR FINISH

REASONABLE PRICES

Have you seen our **New and Exclusive Designs**
in **Mantel and Hanging Clocks?**

Write for catalog and supplement

For sale by leading jobbers



JUANITA

31 inches high 12-inch dial
Raised Cast Figures

THE SESSIONS CLOCK CO.

Main Office and Factories

Forestville, Connecticut
U.S.A.

New York Salesrooms

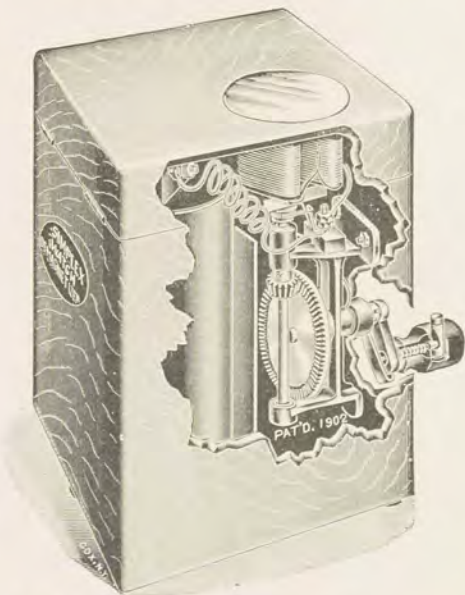
37 Maiden Lane



ASTORIA

12½ inches high 17 inches long

THE SIMPLEX WATCH DEMAGNETIZER



Self-contained—requires no outside current.
Automatic—switch prevents batteries from
burning out.
Portable—can be used anywhere.
Compact—size, 6 x 6 x 8; weight, 9 lbs.
Send for descriptive circular.

Price, \$12 net. May be purchased through your
jobber.

THIMBLES Gold and Silver



144



143

ESTABLISHED 1832
KETCHAM & McDOUGALL
MANUFACTURERS
GOLD & STERLING SILVER THIMBLES
AUTOMATIC EYEGLASS HOLDERS
37 AND 39 MAIDEN LANE, N. Y.
SEND FOR CATALOGUE, "E"



149



163

The Automatic Eyeglass or Pencil Holder



203

204

307

507

205

206

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



Lighting the Retail Store

SOME of the most beautiful effects in modern store lighting are to be credited to the jewelry trade. Elsewhere in this issue we illustrate and describe a new jewelry store in which no less than five hundred incandescent and sixteen large electric arc lamps are used to light the store and window. The dazzling effect may well be conceived, and the advertising value of the illumination is correspondingly great. Not all can afford such a wealth of light as this, but each, according to his resources, should see to it that his store is properly lighted. Many practical pointers will be found in the following article contributed to a contemporary by C. D. Vail, of C. D. Vail & Co., Bay City, Mich.

The Most Suitable Light

The object to be attained in the artificial lighting of the interior of any building, particularly a store, is to have the light in amount, quality and distribution as nearly approaching day or sunlight as possible, and as sunlight is the standard by which we judge, particularly colors, any artificial light that causes colors to vary from their true shade necessarily must be ranked as poor light. Therefore, in considering the subject of lighting a store, the first subject is what kind of light is best to show goods in their true colors.

First, consider gas. The quality of the light is not suited, for the reason that any form of gaslight using a mantel, such as the well-known Welsbach, gives a light of a well-defined greenish tinge, as the light rays are made up wholly of a combination of yellow and violet. This makes any color, other than white, take on a bleached appearance. Again, the use of gas means dirty ceilings and creating an uncomfortable heat in the summer time. The only thing that commends gas to a merchant is that it is cheaper than electricity. In going over the merits of electricity as means to light a store, due thought should be given to the different kinds of electric lamps in the market. First, there is the arc lamp, giving a large candle power suited for lighting large areas, next the Nernst lamps of smaller units, and lastly the incandescent. No one kind is suitable for all places.

The Distribution of the Light

The proper object to seek after in lighting a store is not to get the light units so large that only a few are installed. This gives the appearance of very bright light in some places and corresponding dark places at other points, which is wrong. The units of light should be small enough to permit of the installing of enough points of light so that the light in the immediate vicinity of the lamps is but a little greater than at a point half way between lamp and lamp, and if the height of the ceiling will permit of the lights being hung in the neighborhood of twelve feet from the floor, this will place the lamps high enough to be out of the ordinary range of vision; that is, that when a person enters such a building they are not looking directly at the light. This gives the appearance of lighting effect which is most satisfactory, as the light is evenly distributed and high enough up so that the true condition of sunlight is more nearly approached.

Placing the Lights

No hard and fast rule can be laid down for all buildings or stores in the proper laying out of lights, as the kind of stock carried has most to be considered, but in a general way a source of light of say 200 candle power for every 400 square feet, and placed say about eleven feet from the floor, will give the best results all around. The objection to arc lamps for best results is that the unit of light is too great and the color, even though globes of frosted glass are used, runs largely to a violet ray, having somewhat the same effect as the Welsbach. The Nernst lamp seems to more readily lend itself to produce ideal effects, as the units are smaller, and to get the best results they have to be well elevated, thereby getting at the effect sought, viz., to keep the lights high enough to be out of the range of vision.

Regarding window lighting, the idea of using a row of lights, placed all around the window framing, is fatal to proper lighting of same, for the reason that a person standing on the outside, looking in at the goods, cannot help but notice that the lamps are the most prominent objects in the window, and being the brightest object, everything else is darker in comparison and suffers thereby. The proper way, as found by experience, is

to place the lamps in the very ceiling of the window and within twelve inches of the glass, surrounded by a powerful reflector with opaque back, the reflector being placed at such an angle that the light is not all thrown out on the street walk, neither is it thrown back into the store, but rather so placed that the light is evenly distributed over every part of the window space. Then, by pulling down the curtain a foot or so, the lights are not visible from the walk. This shows the goods to the best advantage, as they are necessarily the brightest article in the window, thereby attracting the most attention. The lights should ordinarily be placed about from twelve to fourteen inch centers in order to get the best effect possible.

The Art of Successful Merchandising

THE following advice to young merchants by a successful business man of national reputation is worthy of much more than passing consideration:

Seek to lead, not to follow. Don't let your excuse for having something antiquated be that "Jones has it." Formulate ideas that others will envy. Don't copy those of a moss-back. He may be a man of letters, but his methods are those of the past. Advancement is looked for, and the man of the period sought after.

Read the advertisements of others. Notice what your neighbor says of his goods, and how he says it. Then model your own ads. a little differently and make them distinctive of you and your store. If they're not a success, solicit the aid of some one and you lend your ears to the experience of your fellow-man, raze old fogy traditions, eschew ancient methods whose death-knell has long since been tolled, and wake up to the times.

Read your trade journals. Question the drummer before he departs. He's just the one to give you some happy suggestion or bit of timely news. Ask him what Smith is doing in Brownville, and what Brown is doing in Smithville. Build on the ideas of others. Pay your respects to your contemporary on the corner below. Don't just borrow his goods.

Leave the store for an hour to-day, and each day hereafter. Take a turn about town, go through the shops, peer into the windows, see what is going on around you, and keep conversant with the progress of the times.

Have system in all things. From the store room over-head to the cellar under-foot. A place for everything and everything in its place. Put style and life into your window displays. Make radical changes in their get-up. Don't be loth to part with the old schemes when they become old and time-worn. Give your fixtures a periodical coat of varnish. Sweep the cobwebs from the lofty corners. Down with the spiders, and out with the flies. Make your store look cheerful. Keep up with the times.

I. BACH & CO.

Leading Importers and Manufacturers of 484 Broadway, NEW YORK

CUCKOO CLOCKS

FANCY CLOCKS

ALARM CLOCKS

EVERY CLOCK STRICTLY GUARANTEED

Largest line of Cuckoo Clocks in the U. S.
constantly on hand

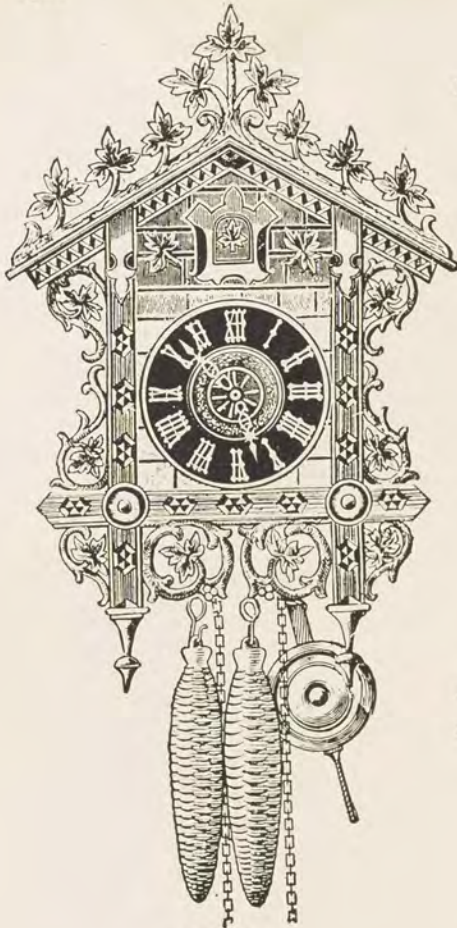
WRITE FOR OUR LATEST CATALOGUE

Ask your jobber for I. Bach's Cuckoo Clocks. They give no trouble, sell quickly and allow handsomer profits than other makes.

"OUR MOTTO"

Best Quality—Attractive Designs—Lowest Prices

484 Broadway—I. BACH & CO.—NEW YORK



No. 999



No. 4902
GET-UP ALARM

When you visit the Chicago market, don't fail to call at our Chicago agency and see our sample line



TRADE-MARK:
WHITE'S ART CO.
CHICAGO
HAND PAINTED

"The Line of Hand-Painted China That Sells"

MADE BY

WHITE'S ART CO.

CHICAGO

Make no mistake in your selection of Hand-Decorated China for the coming season. Our line of Vases, Plates, Bowls, etc., etc., in new designs and exquisite colorings is now ready, and will be presented to the trade for inspection through our travelers and selling agencies. You are cordially invited to visit our studio.

WHITE'S ART CO.

380 Ontario Street

CHICAGO

Chicago Agency
BENJ. ALLEN & CO.
Wholesale Jewelers
Silversmiths' Bldg.

New York Agency
POSTLEY & COWEN
18 Park Place



When in New York don't fail to call at our Eastern Agency and examine our new fall line of samples

Tools of the Future

The Inventors of the Past and Future—Solar Power and Its Possibilities—Interesting Predictions

HAVE you ever visited a great museum, like the National Museum in Washington, or the British Museum in London? If you have, you must have been struck by the thought that those who make museums are tremendously interested in the story of man's life on the earth. This is shown by the fact that a large part of every such museum, and by far the most interesting part, is given up to collections of such things as help to tell this story. Here are ancient human remains from the dried beds of old lakes, from the gravel of the glacial drifts, from the deposits in ancient and long-forgotten caves. Along with human bones are those of the wild animals which primitive man fought and hunted—the wild dog, the great cave bear and the saber-toothed tiger.

But more numerous than all these, and perhaps even more interesting, are the collections of tools which have been gathered along with these bones of men and animals, and which tell us more than all other things of the slow steps by which man has come to his present power and civilization.

Evolution of Tools

It is quite natural that these primitive tools should have outlasted in most cases the bodies of those who made them, for they are usually of lasting material, wood or stone or iron. As one studies them in the collections of the museum, one recognizes a steady improvement as time went on. The earliest are rude stone hammers, fit only for cracking the bones of animals upon which our remote ancestors fed, and used no doubt sometimes for cracking a neighbor's skull.

Later, flint arrow-heads and spear-heads were invented, and when the great ice-cap came down from the north and covered Central Europe and North America, man's inventive genius was taxed to provide better tools and weapons and garments for protection against cold. The evidences of these improved tools are found among the gravel deposits which the ice-cap left as it retreated slowly toward the north.

There were some rare inventors in those early days. When we name to-day the great inventors who have changed the character of the world's work, and given it new tools, we rarely go farther back than a hundred years. We tell of the inventors of the steam engine and the telegraph and the dynamo.

Those are epoch-making, indeed, but think what an invention that was when the first iron was welded into a tool; what progress was made possible when the first wheel was set rolling along the earth's rim; what possibilities for the race was opened up by him who trained the first horse to the service of man.

The Forgotten Inventors

What a delightful personal interest it would add to our collection of primitive tools in the museum if we could only label them with the names of their great inventors. The labels might read something like this:

"First stone arrow. Invented by the Red-Haired One, third cave on the right-hand bank of the Danube, B. C. 72,180."

"The first saddle. Invented by the Blue-Eyed Khingin, The Caucasus, B. C. 56,900."

"The first ax. Invented by Arpad, son of the Harelip, second island of the Euphrates, B. C. 27,552."

Alas! the names of the greatest inventors whom the world has known are buried in the forgotten records of the ages before writing was. I wonder if in A. D. 50,000 the dynamo and the telegraph will seem to the men of that day as if they had always been, and whether Morse and Henry and Edison and Marconi will be forgotten along with the inventors of the alphabet and of the wheel and of the ax!

However this may be, it is evident that these ancient inventions and tools have been used by mankind to increase the common comfort and pleasure, and that they have also inspired other men to improve them. As time went on, tools were invented for this and for that purpose, to work in stone and metal and clay and textiles.

In a general way it is evident that as man's wants and his pleasures have increased, the invention of tools has kept abreast of these wants so as to minister to them. And thus it comes about that these collections of tools, gathered into the museums from ancient caves, from the beds of old streams, from the ash-heaps of long-forgotten cities, tell the story of man's rise from savagery to civilization. So true is this that certain striking periods in this slow process have been called the stone age, the iron age and the bronze age, from the tools which characterized them.

Does this story, which the tools of the past tell us, give any sure indication of what are to be man's tools in the future? Let us see. When we study the tools which belong to the past we find that two thousand years ago or more hand tools had been brought to a high state of perfection. We have to-day no workers in marble more skilled than those of ancient Greece, no workers in metal more artistic than those of India, no weavers more cunning than those of Phœnicia.

"One-Man Power"

All these tools and machines were what the Japanese call "one-man power"—they were hand tools. The age of hand tools continued until practically the beginning of the last century, when men began to invent machines to take the place of hand labor, and the purpose in these machines was not so much to do more accurate work as more economical work, because the machine could take the place of several men.

Curiously enough, this effort brought men face to face with a new problem, the solution of which, although not yet complete, has so far progressed as to change the whole machinery by which the world's work is done, and to bring in an entirely different set of tools. This problem was the question of power, for as soon as machines large enough to do the work of a number of men came into use, it became necessary to have more power than that of human muscle to work them, and that has been the problem of the last hundred years—to furnish this power and to store it for use as it may be needed.

Now, to us who live on this globe which we call the earth, there is only one source of power, and that is the sun. Shut out the sun's rays, and except for the rise and fall of the tide, every source of power on the earth's surface would be cut off.

There is a Latin inscription which is often carved on sun-dials, *sine sole sileo*—without the sun I am silent. Such an inscription might be engraved on the earth itself, for without the sun this fair planet of ours would be silent, lifeless, powerless.

We seldom stop to think how prodigal a supply of power the sun pours out upon us, or what astonishing tasks this is put to under our very eyes. We

are lost in wonder at the exhibition of human power shown in the lifting of a stone weighing a few tons to a place in the pyramids, but the sun on a hot summer day will pick up a hundred thousand tons of water from a lake and drop it on some distant mountain top.

Men began to harness this sun power indirectly a very long time ago, in the simple water-wheels which served the old-fashioned mills, for the energy of the running water is solar energy indirectly applied, and often inconvenient for use. A great step in harnessing the sun's power was made when the steam engine was invented. Since that day man's inventions have gone forward with a rapidity unknown in all the ages before, until to-day the whole character of the tools which he uses has been transformed.

Hand tools still remain, as they always will remain, but they take second place in the world's work. The tools of to-day and the tools of the future are the great machines which can most skillfully and most economically harness the sun's energy to the world's work. The man who thus harnesses the sun, the workman of the future, is no longer the worker with hand tools, but the engineer.

Harnessing the Sun

But while this may be accepted with certainty, it is not so easy to predict the method the engineer will use to harness the sun power. For, although the engineer of to-day realizes as the workman of a century ago did not, that the sun is his sole source of power, all the machines which he employs are most wasteful in their use of this power. And what is still more curious, the engineer still takes his power second hand instead of using it directly as it reaches us in the sun's rays.

When the sun is nearly overhead it delivers power at the surface of the earth at the rate of more than two-horse power for each square yard of surface. Even after we deduct the loss occasioned by the absorption of the earth's atmosphere, it is still true that each square yard receives, when the sun is shining, the equivalent of one-horse power working continuously. This means that there is delivered on each square yard an energy able to lift a weight of 33,000 pounds one foot in one minute, and this power is continuous.

Almost all this energy at the present time goes to waste, or, as the scientific men say, is "dissipated." A little of it is used in warming the air, evaporating the water, and in other ways, but the greater part is radiated into space.

Think what could be done with this power if the engineer could turn it to man's use. What power goes to waste in your back yard! The sun delivers on Boston Common, free of charge, four times enough energy to warm and light Boston and supply all its manufactories, street railroads and other consumers of mechanical power. Why did not some engineer suggest the use of it when the coal strike made the ordinary means of warmth and light so expensive?

On the broad sunlit plains of Arizona the sun delivers an equivalent of mechanical energy which, expressed in horse power, would seem almost infinite. A small part of it would suffice for the whole world's work. Why is it not set to doing this work? This is the problem of to-morrow. The engineer has made great progress in its solution; he has enormously improved the means by which indirect sun energy is used; he transforms heat energy into mechanical energy and this again into electric energy; he has even devised a solar engine which will take up the energy as the sun delivers it, and convert that energy—wastefully, to be sure—into a form suitable for use; but the problem of storing this power and applying it when and where man may need it, that problem is the problem of the future, and the machines which will do this—for it will be done—are the great tools of humanity by which men are to work their way to a higher step of safety and of comfort and of enjoyment. —H. S. Pritchett, in *Youth's Companion*.

These illustrations show some of our leading styles in our fall line

14 K. Mounted on Real Tortoise Shell

WORKMANSHIP OF THE FINEST

PRICES ATTRACTIVE



3700



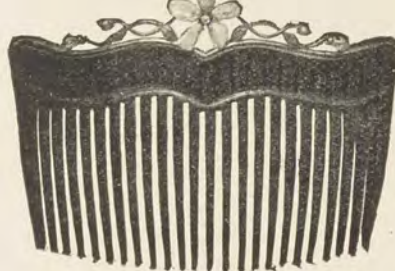
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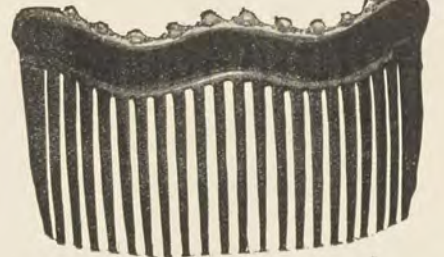
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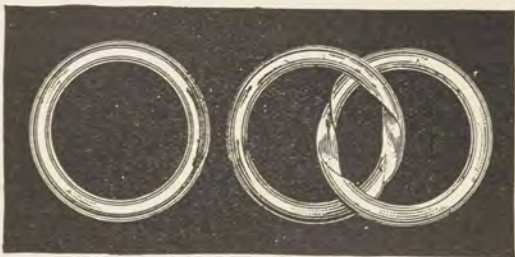
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SCOFIELD & DE WYNGAERT

MANUFACTURING JEWELERS

50 Walnut Street

NEWARK, N. J.



Numerous inquiries have been made

Who Makes The Alliance Ring?

Let us solve this question for you

WE DO!!!

The graceful style of the Alliance Ring is rapidly supplanting the use of the old-style wedding ring. We have thus far supplied the entire demand, and we take these means to inform you that should you need them, we can supply you. These rings are most carefully adjusted; the joints are barely perceptible, except by a magnifying glass. They are easily opened as shown on illustration by inserting a sharp instrument, for instance a pin, in the inside pin hole.

14 karat, 3 dwts., in 1/2 dozen lots, \$1.10 per dwt., net 18 karat, 3 dwts., in 1/2 dozen lots, \$1.25 per dwt., net

Leonard Krower, Manufacturing Jeweler, 536-538 Canal Street, NEW ORLEANS, LA.

The Show Window

Anti-Fall Bargain Displays

Extraordinary efforts must be made by the window trimmer at this season in order to stimulate and sustain public interest in his displays. His plans must be all prearranged and his work thoroughly systematized. The window must, as far as possible, present a refreshing scene and appeal at the same time to the economic or bargaining spirit, which, largely as a result of department-store activity, has become such a common characteristic of contemporary shoppers. If there are any left-over goods—and what store is without them—strenuous efforts should now be made to work them off to the best possible advantage, and to this end the window may be very effectively utilized. Rummaging and clearing out should be the order of the day, for it is imperative that old or left-over stocks, depreciating in value on the shelves and in the cases be reduced to a minimum if full justice is to be done the new fall lines.

In disposing of old stock to make room for new, it is all important that newspaper and window advertising be prosecuted in harmonious and mutually helpful relation.

It should be a time of special bargains, specially priced, specially displayed and specially advertised. Odd and obstinate lots that have hitherto failed to move and are occupying display-space to little or no advantage should be refurbished, recarded, pushed to the front, and, if need be, made the subject of a special ad. and a special display, for one lot of inert stock has a demoralizing influence upon all the goods in its environs. It will pay the jeweler to let at least one lot go at a real sacrifice by way of booming his other offerings. This sacrifice-sale should be heralded in all directions and the favorable impression created by it studiously availed of to push other slow-going lines to better advantage.

Telling of Bargains

The success of sale-displays, as they may be termed, depends almost wholly upon the determination of the dealer and his assistants. The window must be made to bristle with bargains, not palpable decoys clumsily displayed and calculated to convey a false and unfavorable impression, but offerings with a basis, reason and plausibility such as the department stores ever can contrive with ingenuity and profit. The newspaper announcement should circumstantially and forcefully state why prices have been reduced, reasons should be given which will not tax public credulity and a story told, which, instead of creating doubt in the mind of the reader regarding the reliability of the statements made, will, on the contrary, impress him with the enterprise and progressive methods of the store from which they emanate. Price tickets may state these same reasons in condensed and pithy form so as to accord with and echo the regular advertisement, to the end that the observer may be induced to investigate further. The task of designing a bargain display must be undertaken in no spirit of half-heartedness, every display factor must be forced into service, the trimmer's entire energies concentrated upon the task of focusing public attention upon his work.

Plans and Procedure

At first thought it would seem best to make a plan of the window, but sometimes it will not look as well when completed as when you planned it, while on the other hand, if you build up a window without any forethought it is just as liable to be a disappointment as a success. The safest method seems to be to start with a general idea, or what might be termed the major motif of the decoration. This can be determined by the space to be filled and the particular goods to be used. Plan first for a general effect, and

when you have attained that finish of the design, carry it further by adding to it here and there with other goods, or with interesting details of those already used. The best window dressers will tell you that frequently they have started out on a plan for a design and then completely changed it before they were through, until it bore but small resemblance to the original notion.

For a symmetrical window there is always necessary some one particular object which will center the attention; this article should, of course, aim to tell the story of the goods which are to be advertised, and all the accessories are merely aids to carry out a pleasing effect, or to conform with the laws of proportion, composition or harmony. This centerpiece may be a striking figure mounted on some elevation, or it may be some property such as an arch, a pair of steps, or an attractive novelty, but if it is any of these it should be well connected with the goods, so that the material will be appreciated, and not the mechanical object.

Good windows are sometimes made by building out the sides and drawing them forward, but it requires much skill to do this successfully, and even then the trimmer cannot ignore the center where the eye of the observer rests first and most frequently. For this reason a small window is

often more effective than a large one. The latter can, of course, show more goods and more detail, but all this is secondary, and the main idea of any big window can always be reproduced in a smaller one by leaving out some of the details and accessories, obtaining as a rule a much more desirable effect.

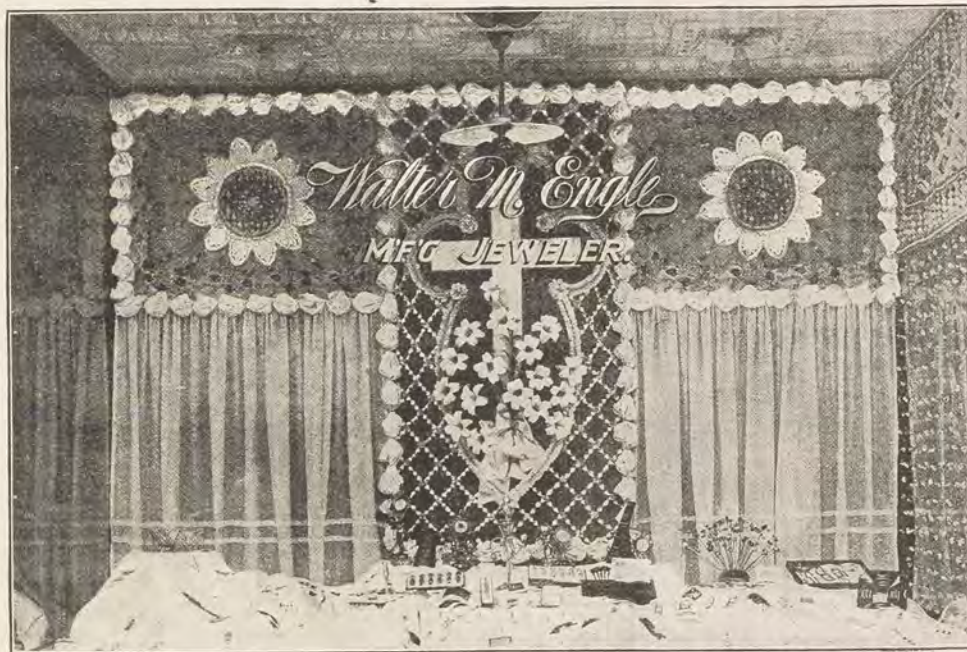
An article in the *Boot and Shoe Recorder* gives some practical advice in this connection: "When you have figured out definitely the main design," it states, "begin work by placing it well back from the pane, for if it is too close the effect is entirely destroyed. Goods properly arranged and displayed always gain by their distance from the spectator, just as in a theater, a near view often dispels all the illusions

which are so necessary to the enjoyment of the piece. Besides, the floor space in front of the main trim can always be used to good advantage, in supplementing the general design and adding those articles which will give the whole picture a pleasing finish. It is not well to allow the decoration of this immediate foreground to be too important, lest it detract from the main design. After the display has been well planned, and before actual work is commenced, the subject of the background must be carefully considered.

Suitable Backgrounds

Many trimmers regard the subject of background as the most important in window trimming and all the most successful have devoted a great deal of time to the study of the arrangement and construction of the same. If the window has no permanent background of finely-finished wood or mirror effect, make it from some fabric. What this will be depends primarily upon the nature of the goods used in the decoration. Anything from cheese-cloth to velvet, or there may be a painted scene or an imitation of nature or simply a covering of wall-paper.

"No two windows can, as a rule, be supplied with the same background, and great care and several experiments should be conducted before determining upon what to make use of. Cheese-cloth is a very serviceable article and gives a much more handsome effect than one would imagine. It may be simply spread over the wood-work or it may be treated in any of the decorative ways with which every window dresser is familiar. The best effects seem to be obtained by using a light color. By far the safest course for the young window dresser to take is in the avoiding of colors until he understands their harmony, at least to a slight degree. It is rather difficult to have a complete knowledge of that science, but one can acquire by rote sufficient information to carry him through trying places."



Chaste and Attractive Easter Window, Designed by Walter M. Engle, Philadelphia, Pa.

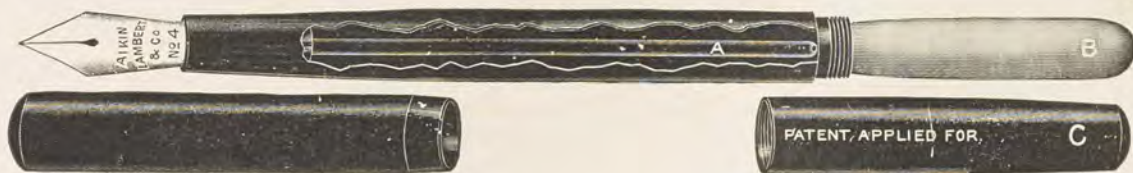
AIKIN, LAMBERT & CO.'S

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

The "Wright" Pen STRICTLY HIGH-GRADE

"Because it writes right"

NO Sweating, No Ink Dropper Required, No Leaking, No Shaking to start, No Dropping

Simplicity of construction and operation commend it to every writer

Shows compression of ink sack

Sample assortment of one dozen pens in oak show case sent on approval to responsible jewelers

Send for our New Catalogue

Wright Pen Co., 614 Locust St., St. Louis

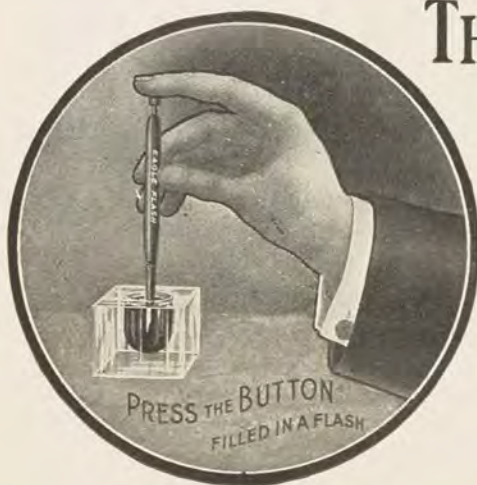
Made in Plain Black, Gold Band, Silver Filigree and Gold Filigree Holders

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., 17-19 John Street, New York



THE EAGLE "FLASH"



A self-filling Fountain Pen. Writes the moment it touches the paper.

This is the only practical self-filling Fountain Pen—it is a pen built for business. It requires no glass fillers. There is no spilling of ink—no clogging—no shaking—no loss of cap.

We absolutely guarantee the sale of these pens—we also guarantee every pen.

Send us your order for one dozen at once. 9 plain, 3 with gold bands, the dozen as assorted, \$13.50 for the lot.

M. J. Averbeck, Wholesale Distributer, 19 Maiden Lane, NEW YORK



The Jeweler-Stationer's Stationery

The jeweler-stationer should remember the advertising value of the stationery used by himself. If the stationer desires to impress on a patron the beauty and desirability of good correspondence paper let him make his own letter a sample that will impress. There is altogether too much carelessness among merchants in regard to the quality of stationery used by them and also in regard to the composition of business letters. As *Printers' Ink* aptly states: If advertising pays, and printed literature is advertising, and if its advertising value is increased in proportion to the art and skill displayed in its make-up, then why is it that houses which will cheerfully pay the highest prices for art-work and half-tone plates for their holiday booklets, and would absolutely refuse to accept any job of printing in which worn, nicked or otherwise imperfect type was used, or defective press-work was apparent, will daily put their autograph signatures to letters which are typographically, rhetorically, grammatically and orthographically inferior to their booklets and circulars—not because it is impossible to secure better, but rather because the standard is lower?

Booklets, catalogues, circulars, folders and all such literature, no matter how high the grade of workmanship they represent, will all sooner or later find their way into the waste basket; but the special letters—the daily correspondence of the house—go to the letter files and constitute the only means of permanent representation for the sender.

"Confirm your proposition by letter, so that it may be placed on file, where it can be referred to when the proper time comes."

Isn't this the substance of the terms in which many a salesman or solicitor is dismissed after a lengthy and interesting interview? The beautifully printed booklets and circulars he leaves will go into the waste basket when he leaves, for with his letter on file it is easier to refer to it and ask for a new lot of printed matter than to keep what has already been presented.

Isn't it more often the case that the catalogue represents the personality and standards of the printer and the person hired to write it up more than it does the one in whose name it is sent out? In other words, isn't a house more correctly sized up by its correspondence, which is its own product, than by the printed matter, which is the product of another shop?

If an artistically gotten up catalogue will do a house more good than a commonplace, ordinary piece of printing, then, most emphatically, let it be said, the same principles hold good in reference to its correspondence.

As one advertiser of fine stationery points out, your letter touches very closely the people you want to influence. He sees in it something besides the message "between the lines"—which bespeaks the character of the writer fully as much as the written word. Every argument in behalf of the increased value of high-class literature applies with double force to the letters which go out from any house—not only the special, but the circular letters as well.

A New Wrinkle in Advertising

Most city folks have learned through experience to recognize and discard the circulars with which their letter boxes are stuffed and, whether they come by mail or slipped into the box carefully addressed to the right name, a large percentage find their way into the waste basket unopened.

Recognizing this fact, a New York insurance company has hit upon a new idea. Instead of sending out a man to copy off the addresses on the letter boxes in the apartment houses, they send out a distributor provided with a package of circulars and a lead pencil. He goes from house to house addressing an envelope to each box, and the envelope has the appearance of a note hurriedly scribbled by some friend and dropped into the slot. In nine cases out of ten the inclosure is looked at through pure curiosity.

Stationery Supplies for a Railroad

A pin would appear to be of little use on a railroad, yet the Santa Fe finds it necessary to buy one and a half tons of pins every year. Where they all go to nobody knows.

The pencils used in twelve months by employees of the Santa Fe would, if laid in a straight line, reach a distance of more than twenty-five miles, says the *American Stationer*.

The Santa Fe used 26,000 brooms in 1904—the new kind that sweeps clean. All old broom handles are returned to headquarters and sold for a snug sum of money.

It takes more than 1000 pen points a day (just 396,000 annually) to supply Santa Fe employees who take a pen in hand to write those few lines, etc. This army of pens consumes fifty barrels of ink, and the resultant documents are bound together with 13,000 pounds of rubber bands. The printed forms used by the wielders of the pens would fill fifteen carloads during the period named.

Acknowledging Wedding Invitations

A subscriber writes: "I do a considerable stationery business of a select kind and am frequently asked questions by customers on certain formalities of fashion. By a careful perusal of articles in your journal, on the latest styles in stationery, I have been able to answer most of these questions, but a recent query, in regard to whether an invitation to a wedding should be acknowledged, puzzled me." Fashion decrees that invitations to a church wedding require no acknowledgment, unless accompanied by a card for the reception. One's presence, then, constitutes an acceptance, but a card must be sent to the bride's parents—who are the hosts—if one is unable to attend. An invitation to a wedding breakfast requires a prompt note of acceptance or regret, as for a formal dinner.

A Reflection on the Past

William Pinkerton, the detective, was praising the various cash-registering devices that have come of late years into world-wide use.

"These machines," he said, "have undoubtedly diminished crime. They have saved many weak persons from a daily, an hourly temptation hard to withstand. They have also saved employers a great deal of money, for they have driven the dishonest out of a field of work wherein they loved to labor in the past.

"I heard of a clerk in a grocery the other day who was getting \$8 a week. He had to be on duty at 7 in the morning, and he was not through till 7, and sometimes 8, at night. The poor fellow had no time for anything but work and sleep.

"He found time, though, to get married, and the week after the ceremony he asked his employer for a raise.

"'Why, Horace,' the employer said, 'you are getting \$8 a week. What ails you? When I was your age I kept a wife and two children on \$8 a week and saved money besides.'

"'They didn't have cash registers in those days,' said Horace, bitterly."

Handsomest Baby, Anyway

"I want my name engraved in the blank space on this," said a man of twenty-six years, passing a handsome, old-fashioned silver cup over the counter of a well-known Sioux City jeweler. The engraved part read:

Presented to

For being the handsomest baby in
Woodbury County.
September 18, 1881.

"Are you the baby?" demanded the jeweler.

"Yes; and I want that space filled in with my name as a testimonial. They try to make me think nowadays that I am the homeliest man in the country, and I want this as a credential."

The jeweler finally recalled having made the cup a present to the baby at a county fair, in a big competition. "Well," he said, finally, "It looks as if you needed the credential. I'll engrave it." And he took the name down.

It was Eli B. Woodford.



HOLD YOUR TRADE

by handling Bassett Chains—quick sellers, big profit makers and satisfaction guaranteed. Select styles for fastidious purchasers—popular styles for all

**TIE TO
BASSETT CHAINS
and Avoid Dead Stock
and dissatisfaction**

THE BASSETT JEWELRY CO.

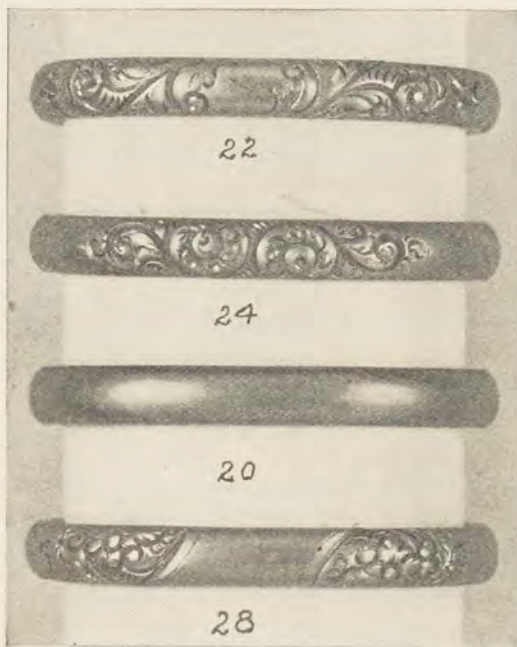
Factory
Manufacturers' Building, PROVIDENCE, R. I.

NEW YORK OFFICE
37 Maiden Lane

CHICAGO OFFICE
Masonic Temple Vaults

MINNEAPOLIS OFFICE
617 Lumber Exchange

SAN FRANCISCO OFFICE
120 Sutter Street

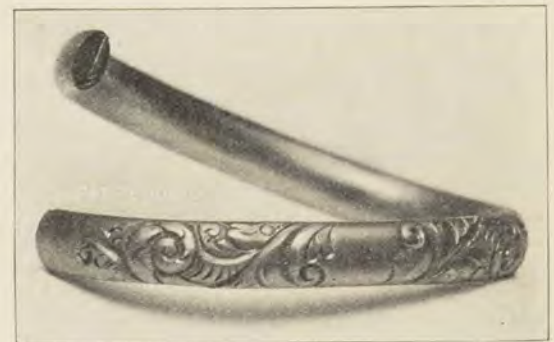


Patent Pending

The "BATES" Bracelet

You want it. WHY? (Kant Kum Off)

Because it represents everything that is good in a bracelet; good wearing quality, handsome design and unique construction, with no visible joint or catch, easy to put on or take off—just a slight pull and a twist, yet it will not become unfastened when on the arm.



It is made in plain, polished, satin, Old English, Roman, chased and stone set.

Buy the "BATES" and you buy The Best.

Our line this season is much larger and better than ever, containing many new and handsome designs in Fobs, Locketts, etc.

BATES & BACON, MANUFACTURING JEWELERS

NEW YORK OFFICE—9 Maiden Lane
CHICAGO OFFICE—103 State Street

Attleboro, Mass.



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.

Losses Through Carelessness of Workmen

ED. KEYSTONE:—When mounting a diamond should it become damaged through the carelessness of the workman who should bear the loss, the house or the workman?

Yours truly,
Atlanta, Ga. "SUBSCRIBER."

[Questions similar to the above reach us so frequently that the point raised seems worthy of more consideration than is generally given to it. We would suggest that in every case there should be some understanding on the matter of responsibility for losses from carelessness when the workman is employed, as the absence of such an understanding may at any time create an awkward situation. Supposing, however, that no such agreement exists, if the workman be thoroughly competent and paid the wages that competency demands it is reasonable that he should be held responsible for losses unquestionably due to his carelessness. This would be just, but it might not always be politic. We are all liable to make mistakes, and sticking to the letter of the agreement in contentious cases of this kind may cause a degree of friction and unpleasantness that would be more detrimental than beneficial. This is a matter for the good judgment of the jeweler, and we may add that we do not see why an habitually careless workman should be kept in the employ of anyone who values the reputation of his repair department. When it comes to holding a workman responsible for losses due to his carelessness the time is ripe for a change in the staff.—ED.]

Defective Key-winders

ED. KEYSTONE.—In reply to "Ratchet's" query on page 959, of the Workshop Notes department of your June issue, regarding defective key-winders, I wish to state that I had similar trouble sometime ago, and I found that the barrel arbor had been pivoted on the end that carries the ratchet wheel. It was neatly done and was very hard to find, as the watch would wind all right at times, and when it slipped it did it so quickly that I could not see it. I found the trouble by trying the arbor with two pairs of plyers.

Yours truly,
Shinnstown, W. Va. MUTA U. SWIGER.

Another Largest Watch

The following letter just received from one of our subscribers, adds an interesting chapter to the controversy as to "the largest watch in the world":

ED. KEYSTONE:—In the April number of your valued publication we find an article regarding Major Buck's famous large watch which you quote as being reported the largest watch in the world. Probably it will interest your readers to know that we possess the largest, heaviest solid gold watch in the world, which will be sold by us at auction before your current issue reaches the subscribers.

The weight of this watch complete is 16 troy ounces, or one ounce heavier than the watch of

Major Buck. It measures $4\frac{3}{4}$ inches in height, $3\frac{1}{8}$ inches in width, and weighs without crystal or case springs 237 pennyweights, being 14 karat gold; it is fitted with an 18-size Howard movement. It also has a chain and locket to match in size. The chain measures $21\frac{1}{2}$ inches from swivel to bar, is curb chain design, weighs 228 pennyweights, and the thickness of the large center links measures about $\frac{1}{8}$ inches. The locket is $2\frac{1}{8}$ x $1\frac{1}{4}$ inches, weighs $24\frac{1}{2}$ pennyweights, and is set with a diamond of about one karat. The complete outfit was purchased for \$1,400, as we just learned from a reliable source, and not \$1,750 as our first information led us to advertise. The case is richly engraved, of shell pattern design. The original owner of this giant watch, locket and chain possessed also a seven-karat diamond ring in a thirty-odd pennyweight mounting, which mounting, after his death, the estate being sold at auction, finally found its way into the melting pots of the Cincinnati Gold and Silver Refining Co.

Hoping you will consider this of sufficient interest to your readers to give it space in your columns, we are,

Yours truly,
Mobile, Ala. GABRIEL & FRIED.

Value of Fresh Water Pearls

ED. KEYSTONE:—In the "Indianapolis Letter," in a recent issue of your journal, it is stated that a Mr. Eaton found a pearl in Wabash River which he sold in New York for \$700. I have often read in newspapers of these wonderful pearls that are valued up in the hundreds of dollars. I never had any idea that pearls were more valuable than diamonds or rubies. I have seen some fine ocean pearls in Europe, but I never heard of solitaire pearls of the immense value these newspaper pearls are said to have. Are these pearl items "fish stories?" I have heard of a man on a desolate island giving a wad of money for a match to kindle a fire with, but that was a case of necessity, and the corner made the price, but I fail to see such necessity in this case in view of the tons of mussel-bearing pearls that are in most rivers in this country.

Yours truly,
Oregon, Ill. "ENQUIRER."

Scraping Noise in Movements

*In answer to H. M. Wollam, in June KEYSTONE, page 912, I will venture to say that the noise he speaks of is caused by jewel hole not being central in jewel setting. Now, if we take a good movement that is banked up close and put in a jewel, with hole out of center $\frac{23}{100}$ part of an inch (which is not uncommon with jewels purchased at \$1.50 per dozen), the guard pin is liable to touch roller, or roller jewel is liable to touch inside of horn of lever and cause a sound.

Truly yours,
St. Louis, Mich. W. T. GREEN.

To Clean a Balance Wheel

ED. KEYSTONE:—I would like to hear from THE KEYSTONE, and from some of its readers, as to the best way to clean a balance wheel. I have had difficulty in obtaining the desired result in the portions around the screws.

Truly yours,
Branford, Conn. JOHN H. MORTON.

Soldering a Set Ring

ED. KEYSTONE:—I have found an easy and clean way of soldering a set ring without removing the setting. It is done by use of a potato. Prepare the ring for soldering and then take a potato and cut the end evenly and smoothly. If your set is small, just crush it into the potato and lay on the inside of the ring a piece of dry asbestos. Stick a common pin in both ends of the asbestos to hold, and apply the heat. If the set is large, cut a small hole in the potato—then you can crush the set down very easily. The potato can be used a dozen or more times. I have one potato on which we have soldered twenty-three rings. The moisture of the potato runs around the sets and the sets do not get warm. The potato is much cleaner than charcoal, and is much easier to pin to. Moreover, you can hold the potato in your hand and it does not get warm. It beats the old way of wet sand, as you can pin the ring fast, and it is also a clean method.

Yours truly,
Boone, Iowa G. ECKSTEIN.

[Our correspondent's discovery merits much of the praise he gives it, but it is not new. The method has been exploited several times in THE KEYSTONE—the last reference to it will be found on page 1251, of the August, 1904, issue.—ED.]

Senator Scott's Three Rules

Nathan Scott, who has just been elected for a second term to the United States Senate, was bound out to a Quaker farmer for a term of seven years, when but nine years old, and, according to contract, was given board, clothing and schooling in return for his services. At the end of his indenture, when he would be sixteen years of age, he was to receive a lump sum of one hundred and eighty dollars, provided his conduct had been satisfactory.

He made his home with his employer, as one of the family, and the farmer's good wife mothered him, "like the genuine article," as he afterwards expressed it, binding up his cuts and bruises, and looking out for his comfort just as she did for her own family.

At length his term of service expired, and he was ready to start out into the almost unknown world, from the comparative seclusion of the farm, and the district school, the advantages of which had been conscientiously secured for him by the farmer.

Then the old man pulled a huge wallet out of his pocket, and selecting from the roll of bills it contained exactly one hundred and eighty dollars, handed them to the lad, and gave him at the same time a gratuity in the way of advice:

"Nathan, thee has been a good boy," he said; "and now that thee is going out into life by thyself, there are three things that thee would do well to specially remember. It is not what thee eats, but what thee digests, that will make thee healthy. It is not what thee earns, but what thee saves, that will make thee wealthy. It is not what thee reads, but what thee remembers, that will make thee wise."

With his one hundred and eighty dollars, and the good farmer's advice, Nathan Scott started out; and, though he gave the first three years of his manhood to his country's cause, he was not long in establishing himself successfully in business. He lived up to the honest Quaker's three empirical postulates with advantage to himself; and, when his old friend and master died poor, the erstwhile bound-boy had it in his power to prove a helpful friend.

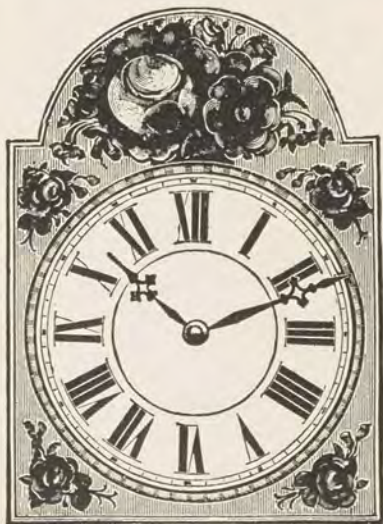
Our Salesmen Are Out

and are "doing things" already. Both Mr. Newman and Mr. Wilmes are being kindly received by the trade, who pronounce their stocks the newest, cleanest and swellest yet seen for the fall season. They will see you soon if you are located in the Missouri, Kansas and Oklahoma territory.

You owe it to yourself to investigate our lines, either when our travelers call or when you visit this market. Everything new and fresh—quality right, goods look right and will sell right.

Remember we give our personal attention to filling mail orders.

Aller-Newman-Wilmes Jewelry Company
Globe-Democrat Building, St. Louis



GEO. KUEHL & Co.


178 E. Randolph Street, CHICAGO, ILL.

Manufacturers and Importers of

Genuine Black Forest Cuckoo Clocks

with



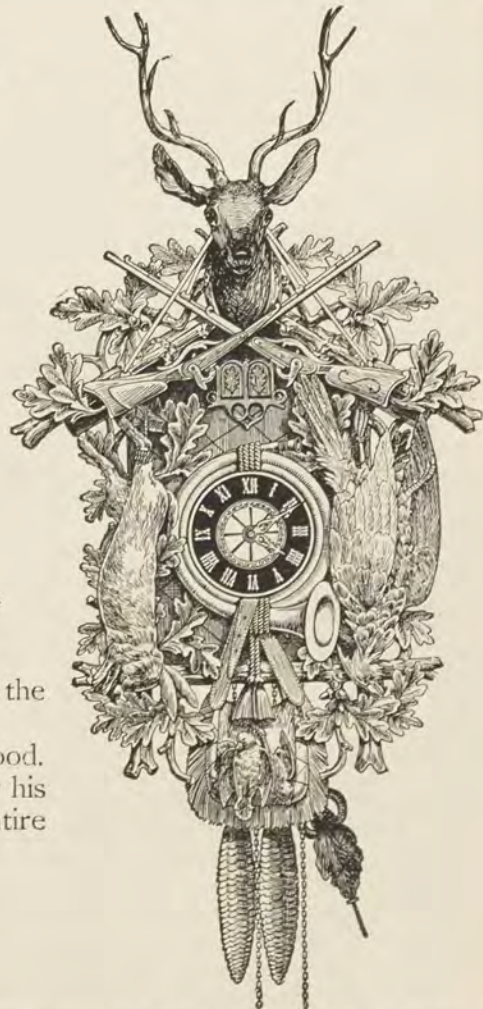
Jewelers! If you order Cuckoo Clocks,
 order them with the  MARK

They are the BEST. There are none BETTER.

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

It is not the question how cheap a Cuckoo Clock is, but how good. A customer will never remember that he paid a little less for his clock, but he will always remember if the clock does not give entire satisfaction.

Sole Agents of **400-Day Clocks** with



For sale at all Wholesale Clock and Jewelry Houses

New Uses for Small Electric Motors

So serviceable and economic has electricity become as a motive power that an electric motor of some kind is almost a necessity of every modern workshop. Even the jeweler has come to recognize this fact, and a small motor is now a much-needed and highly-valued part of the equipment of many jewelers' workrooms. Still, it is not generally realized to what an extent the use of the electric motor as a small and handy source of power has been developed. In a series of articles contributed to *Cassier's Magazine*, by Fred. M. Kimball, so many of these uses are described that it is difficult to enumerate them. We quote some of the most interesting from Mr. Kimball's final article. He says:

"Laundry machinery is largely operated by electric motors, and especially is this true of centrifugal driers and mangles. An attempt has recently been made to operate family washing machines by motors, and the results which have attended the preliminary experiments have been highly gratifying.

"In the large hotels and restaurants, motor-driven blowers, pumps, dumb-waiters, exhausters, knife-cleaners and chopping and mixing machines are in evidence on every hand, while the number of electrically operated sewing-machines in the homes of the country is increasing very rapidly.

"Recently, motor-driven polishers have been brought out for use in caring for the hardwood floors in large halls and public buildings; motor-driven sweepers, which are used in some of the large department stores for quickly sweeping the long aisles and wide open spaces; and also electrically-operated carpet-sweepers for domestic use. These last are said to perform marvelous work in removing dust and litter of all kinds from carpets and rugs. The peculiar stroke of the rapidly-moving brush whips up the finest particles out of the pile of the carpet or rug and effectually prevents the lodgment of foreign matter in it.

"The electric motor is also largely employed by the medical profession. Physicians find it of great value for operating atomizers, various special devices for massage purposes, and in connection with the many forms of apparatus which have been devised for effecting special exercises of the human body. Very ingenious

gymnasium exercisers have been developed, such as those for exercising the muscles of the body, as in horse-back riding, walking, running and various exercises of the arms and shoulders.

"Modern printing offices, book-binderies and the allied trades, too, make extensive use of electric motors. Nearly every mechanical operation necessary in the preparation of a book may owe something to an electric motor. The author's manuscript was written on a motor-driven typewriter, and the matter was set up on a motor-driven linotype machine. Stereotype plates are trimmed, planed,

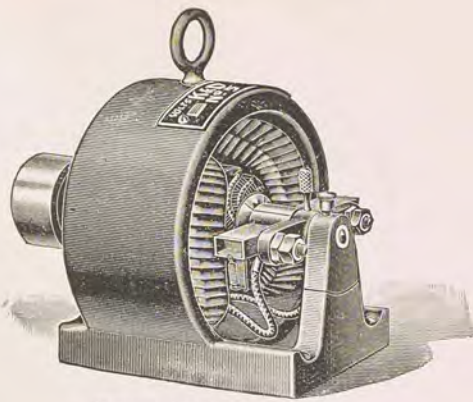
sized and formed by motor-driven machinery. The press on which the book is printed may be driven by an electric motor, for which the ink may be ground in motor-driven mills, and, if the edition be a large one, it will probably be printed on a press provided with automatic motor-driven feeders. The sheets, as printed, are folded by a motor-driven folder.

"Many interesting, special and labor-saving electrically operated tools may now be found in manufacturing establishments.

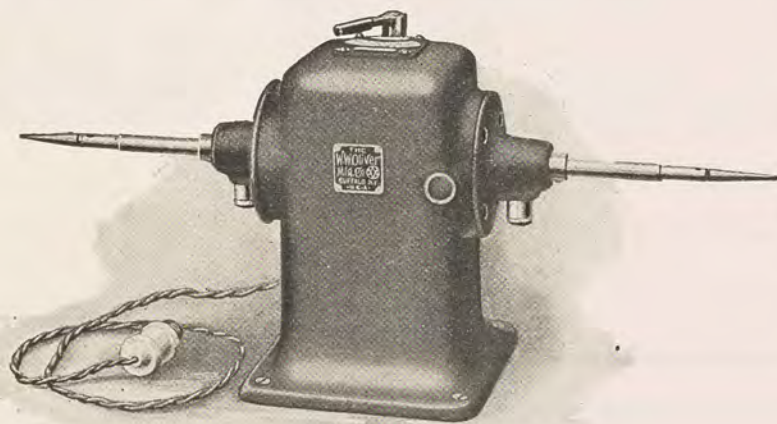
"In the western part of the United States and in Mexico the small electric motor is much used for operating pumps employed in distributing water for irrigating purposes in those sections where the rainfall is very scanty or entirely absent. Vasts tracts of otherwise fertile land, capable of raising food-stuffs to supply millions of people, have never been utilized, owing to the scarcity of water. Many of these tracts are underlaid, at a depth of a few feet, by moisture-bearing strata or subterranean water courses.

"Mining engineers are adopting the motor-drive and electric distribution of power. Pumping, hoisting, ventilating, haulage and, recently, rock drilling, by means of electric motors illustrate how the power-supply may be distributed not only more directly and compactly than by systems employing pipes, but also at materially decreased expense."

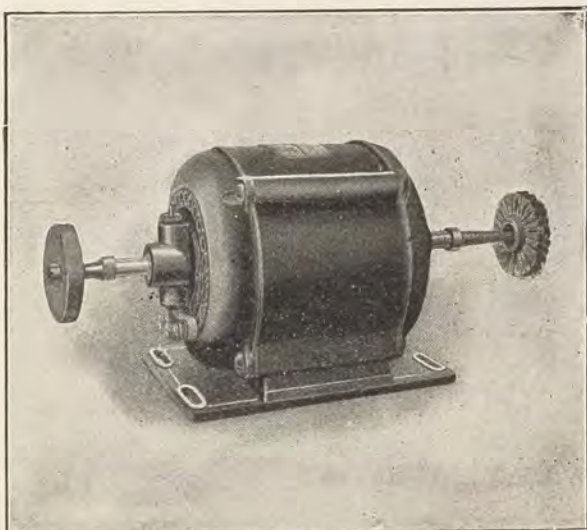
The illustrations on this page show electric motors which are especially serviceable for the jeweler.



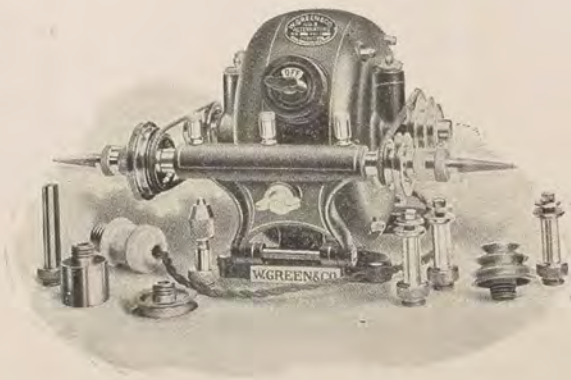
Dynamo for Electro-Plating



Direct-Current Polishing Lathe



Alternating-Current Polishing Lathe



Jeweler's Lathe Motor

1316 "SHIP'S BELL"

For use on Desks, Mantels, etc.



Suitable for Regatta Prize

In Clubs, Residences and Offices

Tells correct hour and half hour in dark rooms

THE "CHELSEA" Striking Ship's Bell Clock Fitted with Special Base for use on Desks, Mantels, etc. Ship's Bell is the best form of Striking Clock for use in sleeping rooms, Libraries, etc.

Clock in its round case, also furnished without the Base. **Hour and Half Hour Striking and Time** (not striking) movements furnished in similar Cases and Bases, when so preferred. Large variety of finishes on Cases and Bases. Auto Clocks always Yellow Brass, Ship's Bell and Marine for use on Yachts, Steamships, etc., Composition Brass, and for use in Residences, Offices, Clubs, etc., Copper Bronze, Black Oxide, Green Bronze, Red Brass, Yellow Brass, etc.

Above are a few of the many styles of Fine Clocks made by Chelsea Clock Co. All are 8-Day, High Grade. These fine goods are dealt in only by Dealers in Best Jewelry, Nautical Instruments and Yachting and Automobile Supplies, and are used by parties demanding the Best.

Liberal Discounts to Dealers. Catalogs on application.

Selling Agents for Pacific Coast

MORGAN & ALLEN CO., 134 Sutter Street, San Francisco, California

YOU want the **BEST?** Ask for the **"CHELSEA"** Clock

"CHELSEA" (TRADE-MARK)

C. C. Co. (TRADE-MARK)

AUTO CLOCK (TRADE-MARK)

Chelsea Clock Co., 16 State St., Boston, U.S.A.

Largest Makers in America of EXCLUSIVELY 8-DAY, HIGH-GRADE Ship's Bell, Marine, Auto Clocks and Office Clocks

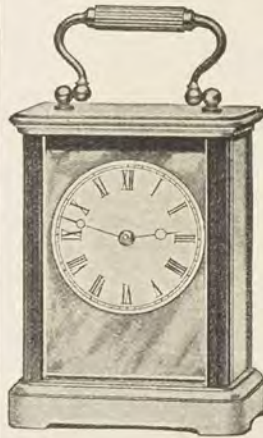
AUTO CLOCK



GOthic AND DORIC; PARLOR AND BOUDOIR CLOCKS



TRAVELING CLOCK



2 3/4 IN. "SPECIAL" AUTO CLOCK



MARINE CLOCK

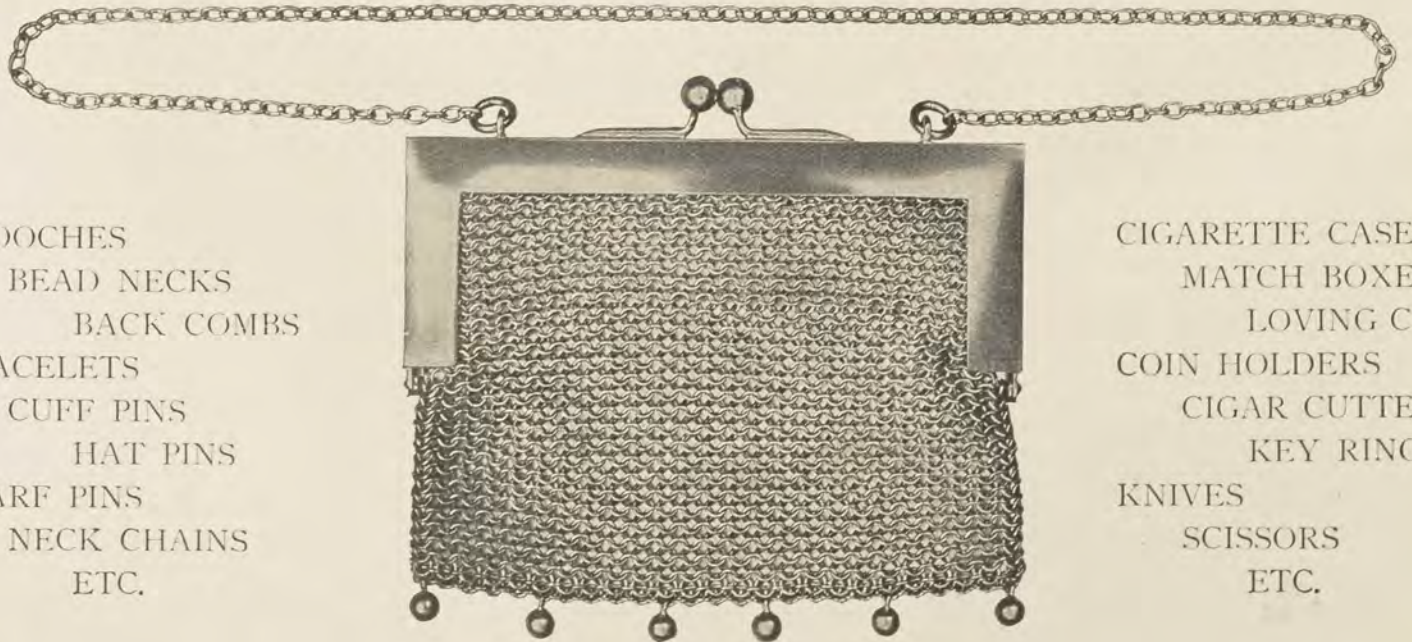


Full line of German Silver Bags and Purses

IN SIZES FROM 2 INCHES TO 6 INCHES

ROMAN, SILVER, GUN METAL and OLD ENGLISH FINISH. WHITE KID LININGS

These bags have many meritorious points in style, construction and finish. The principle upon which they are made obviates rivets, and the tops are not drilled. Just as good is but a tribute to their superiority, and should be so understood. Our Bag is the best.



- BROOCHES
- BEAD NECKS
- BACK COMBS
- BRACELETS
- CUFF PINS
- HAT PINS
- SCARF PINS
- NECK CHAINS
- ETC.

- CIGARETTE CASES
- MATCH BOXES
- LOVING CUPS
- COIN HOLDERS
- CIGAR CUTTERS
- KEY RINGS
- KNIVES
- SCISSORS
- ETC.

Codding & Heilborn Co., North Attleboro, Mass.

New York—Chas. Van Ness, 11 Maiden Lane

Chicago—G. S. Titus, 88 Monroe St.

San Francisco—H. C. Van Ness & Co., 115 Kearny St.

Compiling an Advertising Booklet

WINDING by correspondence now being received, the booklet as an advertisement continues to make gratifying strides in trade favor. Some jewelry houses issue a booklet monthly, others semi-annually, while all up-to-date jewelers of to-day consider a dainty little booklet a necessary part of pre-holiday publicity. That the approaching holiday advertising campaign is even thus early receiving the consideration of the trade, is evidenced in a number of letters of similar tenor now before us. Some six years ago we published an extended article on booklet compilation, giving a number of pages of interesting and instructive matter which could be used to advantage in any booklet issued by a jeweler. Requests subsequently received for this matter soon exhausted several thousand sheets, which we had specially printed for the convenience of the trade. In view of the fact that these requests continue to come to us, we deem it advisable to republish these sample booklet pages, and trust that our readers will carefully preserve them for future use. For the watch-wearing public, such matter as the following is always interesting:

A Delicate Matter

You carry in your lower left vest pocket the smallest, most delicate machine that was ever constructed of the same number of parts.

About 175 different pieces of material enter into its construction, and upwards of 2400 separate operations are comprised in its manufacture. On this tiny instrument you depend in some degree for nearly every action in your every-day life. However irregular your own habits may be, its habits must be unfailingly regular; and whenever appealed to, at any hour of the day or night, in cold or in torrid climate, on the mountain top or in the mine, it must tell the time within a variation of a fraction of a second a day, or you will want to know the reason why.

A watch is really one of the most wonderful achievements of human ingenuity. Some of the facts connected with its performance are simply incredible, when considered in total. A blacksmith strikes several thousand blows on his anvil a day, and is right glad when Sunday comes around; but

the roller jewel of a watch makes every day, and day after day, 432,000 impacts against the fork (twice this number of impacts could be counted, as the act of "unlocking" the escapement requires an impact: 432,000 impulses, but 864,000 impacts), or 157,680,000 blows in a year without stop or rest, or 3,155,600,000 in the short space of twenty years. These stupefying figures are far beyond the grasp of our feeble intellects; but the marvel does not stop here. It has been estimated that the power that moves the watch is equivalent to only four times the force used in a flea's jump; consequently it might be called a four flea-power. One horse-power would suffice to run 270,000,000 watches. Now, the balance wheel of a watch is moved by this four flea-power one and forty-three one-hundredths inches with each vibration, or 3,558 1/4 miles continuously, in one year; it never even stops to spit on its hands to catch a fresh hold.

And it doesn't take a large can of oil to lubricate the machine on its 3500 mile "run." It just requires one-tenth of a drop to oil the entire watch for a year's service.

But it has mighty great need of that one-tenth of a drop. Consider, if by reason of a thickening of the oil, or wearing out of the

oil (or for that matter, by reason of running, or bicycle riding, or jumping, or any form of jar) the vibrations of the balance-wheel are accelerated or retarded three-one millionth of each "excursion," the watch gains or loses one second a day, or half a minute a month. The increase of friction on the bearings, through a change in the form of the tiny globules of oil, or through the introduction of dirt, will bring about this, or a greater variation.

These are the hard facts of scientific mechanics, illustrated by the unanswerable figures of arithmetic. What is the reasonable inference to be drawn therefrom? This, simply—that if you would preserve the time-keeping qualities of your watch you will not let it go uncared for until the delicate pivots are worn by dirt and they piteously beg to be cleaned and oiled newly and set a-going. You will take it to a competent watchmaker once every eighteen months for its rejuvenation.

Give me a chance to demonstrate my skill upon your ailing watch. The price?—not the lowest in these parts, but the least that the quality of my work will afford. Maybe, after a little experience, you will conclude that it is the cheapest in the end.

CARE OF A WATCH

Always carry your watch with the face next the person; this lessens the danger of breaking the crystal. A guard or chain should always be worn with a watch, that it may not slip and fall to the ground. Never expose the movement where it is damp. In winding, hold the watch steadily in one hand and wind with the other.

How to Regulate a Watch

Always have your watchmaker regulate your watch. If this is not convenient, you can do so yourself by observing the following directions: If it runs fast, move the regulator towards the letter S; if slow, towards the F. All watches, even of the same make, are not affected alike by the regulator, but the following is an approximation: The distance from one mark to the next on the index will alter the time about one minute per day. In the higher grades, having the micrometer regulator, turn the screw to the left to make them run slower, and to the right to make them run faster.

To get the best time from your watch, have a regular time

for winding, and keep it, as near as practicable, in the same position. It can be hung up at night, or, if worn in a vest pocket, the garment can be hung up. It is not a good plan to put your watch under your pillow.

Consult a Watchmaker

Should your watch stop, do not shake it violently, and never attempt to force the wheels forward. Serious injury is liable to result from either of these practices. Take it to a watchmaker without trying to start it. It will be an assistance to him in ascertaining the cause of stoppage to see it in that condition.

Have Your Watch Cleaned Once a Year

Should you notice the balance-wheel become sluggish in its motion, it is a certain indication that something is wrong. It should be seen to at once.

Finally, if you value your watch, have it cleaned once a year, or if employed in a business where there is much dust, oftener. You save nothing by allowing a watch to run longer without overhauling. It is no better economy to run a watch without cleaning as long as it will go than it is to drive a horse without feeding as long as he can move.

As we live in an age when a watch is an almost universal necessity, the foregoing information has a practically universal interest, and as a large proportion of watch wearers wear some jewelry also, the following pages have been used by many jewelers to good advantage:

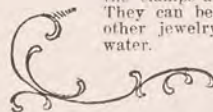
Hints On the Care of Jewelry

1. Jewelry should not be thrown in a case promiscuously, as it will become scratched or scarred. Diamonds in particular, as they will scratch or nick each other if thrown in together.

2. Wash frequently, using soap and warm water; rinse thoroughly in alcohol and dry in boxwood sawdust. Diamonds should be kept clean to be brilliant. The top becomes electric from the friction in wearing, while the back of the stone will become covered with a dust or lint attracted thereby, which destroys the brilliancy.

3. Diamond mountings should be examined frequently, to see that the clamps do not wear and let the stone fall out, especially in finger rings.

4. Pearls become discolored by the accumulation of grease, soap or similar substances collecting around the clamps and under the setting. They can be washed the same as other jewelry, but not with hot water.



A variant of the above, which we have recently seen used in a dainty booklet, is the following:

A FEW HINTS

In Regard to Your Jewelry

To clean Diamonds wash thoroughly with soap and water, to which a few drops of ammonia have been added; rinse in pure water; immerse for a moment in alcohol and dry in boxwood sawdust.

To clean Roman Colored Jewelry wash as above, but before rinsing, brush thoroughly with a little soda. This will restore the beautiful 22 K. color. Rinse very thoroughly and use alcohol and boxwood sawdust.

Silver Filigree Jewelry, if badly stained, should be taken to a jeweler, as it generally requires heat to restore. Treatment as for Roman Colored Jewelry will, however, prove of great benefit in most cases.

Take your Diamonds to your jeweler often and have them examined to see if the mountings are in good order. The little clutches are easily broken, and if raised slightly from the surface of the stone you may lose your gem. An examination costs nothing and may save you money.

As silverware will naturally be given a prominent place in any booklet issued by a jeweler, such paragraphs as the following have been used to good purpose:

Silver Cleanser

A simple, cheap and good silver cleanser: Take equal parts of clear water and spirits of ammonia and add a little best pulverized whiting; shake well. Apply on article with soft cloth or brush; rub till bright and wash article in warm water and dry with soft towel or cloth. (We keep on hand the best Silver Polish made.)



EVERY ROY WATCH CASE is made from ASSAYED GOLD, and



QUALITY IS GUARANTEED AS STAMPED.

Our new Fall line in attractive designs and unequaled finish are on sale by leading jobbers who care to supply their trade with the newest and best solid gold case made.

ROY WATCH CASE COMPANY

106 Kearny Street
San Francisco, Cal.

21-23 Maiden Lane, NEW YORK



Midsummer Specials!

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

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

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

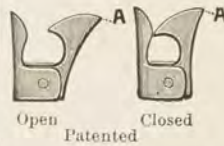


AMERICAN CUCKOO CLOCK COMPANY INCORPORATED PHILADELPHIA PENNA.

If you haven't our catalogue send us your business card

THE LATEST AND BEST

The "Automatic" Safety Catch



Neatest, strongest, best and most practical safety catch that has ever been presented for consideration of the trade. It is **automatic** in action and a positive lock for the pin. The pin-stem engages readily and positively cannot come out until you release it. The release is as simple and can be accomplished more readily than from an ordinary open catch. A touch of the finger on point A and the pin is automatically freed from the catch. Made in Gold, Sterling Silver and German Silver.

Samples sent on application from Manufacturers or Wholesale Dealers in Jobbing Material.

GEO. H. FULLER & SON CO., Pawtucket, R. I.

Chicago Office—103 State Street

Culman Balance Chuck

For Refinishing Balance Pivots, without removing the Hair-spring or Roller, and protecting them while the pivots are being polished.

Hundreds of watchmakers testify that this chuck is what I claim it to be

Practical, Safe, True and the Greatest Time-Saver ever Offered to a Practical Watchmaker.



Over 1000 sold the first year. Send for one and try it.

Order from your material jobber or direct from the patentee and maker,

C. CULMAN, 316 N. Sixth St., ST. LOUIS, MO.

Made for the principal lathes. Also will be made for any special lathe for which a separate order for ten is received.

Advertising for the Photographer

THERE is no good reason why the photographer should remain, as he does, in the world of outer darkness where advertising prevails not. For he has a splendid proposition. All it needs—saving the pun—is skilful development.

Portrait work forms the staple product of a photograph gallery. Yet perhaps only one person in ten who really wants a new portrait ever gets up the gallery stairs and under the skylight. The rest procrastinate. Photographers continue to print plain business cards in church programmes or to dwell on their bargain prices in the scant newspaper advertising they venture upon. Little is said about the art of protrait photography or the latest styles in which pictures are finished. What photographer ever went the length of sending out decently printed folders showing half-tone reproductions of his best work? Yet is there another line of business that lends itself so readily to illustration of this kind?

Photographers' Opportunities

The sentiment of the photograph is fine material for advertising. Death is continually taking people off, leaving relatives and friends without a likeness. Some families make a practice of visiting the studio yearly and having a group taken or individual portraits—a commendable practice that many other families would adopt if they knew about it. Then there are the babies. A baby changes so rapidly that its portrait ought to be taking every three months during its first year of life, and every six months up to school age. Weddings, birthdays, anniversaries, family reunions—all these are occasions that suggest photography to the photographer, but those who take part in them seldom think of the camera until too late. The advertising of a live photographer would be written in the form of little talks about these matters, suggesting uses of the camera and occasions when a visit to the studio would result in a valued memento. If the photographer were in a smallish town and made a specialty of photographing residences, dinner parties, weddings and similar gatherings, these would form another theme for good advertising talks. The artistic side of photography has never been presented to the plain people in its true aspects. If it were, by a photographer who knew his business, there would be less demand for the vulgar, over-retouched "picture" and more for the studied, natural photographic protrait.

Having One's Picture Taken

Information about his craft—that is the advertising need. What photographer ever went the length of printing a folder telling people how to dress for effective portraits? Yet is any subject

more live than this—has any a more direct bearing on satisfactory work? Not long ago the *Housekeeper* published an article on this subject which covers it *in toto*. Reproduced as it stands it would make a folder to mail to a list of the best people in town.

Having One's Picture Taken

Colors in Dress Are of Utmost Importance—What to Wear When You Visit the Photographer's Studio

Generally speaking, dark gowns should be avoided. Red, especially, is a color to avoid, as it gives an intense black in the finished portrait. Even for the elderly ladies it is better to have something light and soft folded about the neck and shoulders. Sheer fabrics and good lace always look well in photographs if nicely arranged. Where possible a low-necked dress should be chosen, if the sitter is not too slender, since the lines of the neck and throat are the prettiest part of many photographs. Where one does not care to wear a regulation evening dress, having one just slightly open at the throat is infinitely preferable to a high stock collar. A chiffon or mousseline de soie fichu is as artistic a thing as one can find unless one be fortunate enough to have some delicate piece of old lace which can be arranged in somewhat similar lines. Some faces look more attractive when framed, as it were, by a large picture hat (ordinary hats are generally a mistake in photographs), and this, in combination with a low-necked dress, is not against the canons of good taste, though it might easily be so if the wrong kind of hat were used. An opera cloak edged with something light and fluffy is pretty thrown loosely over the shoulders, especially if one prefers not to have too much of the neck and shoulders showing. Arranging the hair becomingly, so as to avoid any hard lines where it touches the face, is very important. The style of bringing a solid mass of hair low over the forehead is one that needs the most careful treatment in the world to prevent its ruining the picture. Indeed, it is well to avoid extreme styles (which are always ephemeral and look almost vulgar when they are no longer fashionable) in a photograph—not only in dressing the hair but in what one wears to be photographed in. This is, of course, especially important in a full-length portrait, for, although we all get to like what is fashionable, however outrageous we first thought it, an exaggerated protuberance in sleeve, bustle or any lines which are not those of the natural figure become distasteful later on, and we feel inclined to burn up the photograph when we see it in our friends' houses.

As to Advertising Prices

Prices should be a distinct theme in the photographer's advertising. But not competitive prices. The bargain idea has been overdone in photography, and the craft thereby put on a basis wholly wrong. People look for the lowest price now because they do not know what quality in a portrait means. If told in straightforward, informative advertising they would quickly see the point, willingly pay the price. In place of the old conventional dozen cabinets, all alike in their bourgeois finish, would spring up a demand for fine individual portraits of real artistic value. Taken by and large, the American people want the best and pay for it. But they do not always know what is best, and need education. Judicious advertising along quality lines would do for the photographer what it has done for many other business men—separate the bargain trade from that which is willing to pay the value. These plain advertising truths doubtless look trite to business men in other lines, where publicity has been developed logically. But the state

of the photographic craft is so backward as regards advertising that they should be fresh and suggestive—so much so, let us hope, that they will be acted upon.

Compiling an Advertising Booklet

(Continued from page 1317)

As it is of advantage to the jeweler to foster the fad of gift-giving, and as wedding anniversaries and birthdays are among the recognized gift-giving occasions, the following should naturally be found among the stock pages of a jeweler's booklet:

BIRTH STONES

- JANUARY—Jacinth or Garnet.** Constancy and Fidelity.
- FEBRUARY—Pearl.** Purity.
- MARCH—Bloodstone.** Courage, Wisdom and Firmness.
- APRIL—Diamond.** Emblem of Innocence, and frees from Enchantment.
- MAY—Emerald.** Discovers false friends and insures true love.
- JUNE—Amethyst.** Insures peace of mind.
- JULY—Ruby.** Insures friendship, and exempts from doubt and anxiety.
- AUGUST—Sardonyx.** Preserves from harm and danger.
- SEPTEMBER—Sapphire.** Preserves from and cures folly.
- OCTOBER—Opal.** Denotes Hope and Sharpens the Faith and Sight of the Wearer.
- NOVEMBER—Topaz.** Fidelity and Friendship.
- DECEMBER—Turquoise.** The most Brilliant Success and Happiness in every Circumstance in Life.

Wedding Anniversaries

- At the end of the
- First year . . . COTTON
- Second year . . . PAPER
- Third year . . . LEATHER
- Fifth year . . . WOODEN
- Seventh year . . . WOOLEN
- Tenth year . . . TIN
- Twelfth year . . . SILK, FINE LINEN
- Fifteenth year . . . CRYSTAL
- Twentieth year . . . CHINA
- Twenty-fifth year . . . SILVER
- Thirtieth year . . . PEARL
- Fortieth year . . . RUBY
- Fiftieth year . . . GOLDEN
- Seventy-fifth year . . . DIAMOND

The foregoing pages will be found serviceable for arresting attention and creating interest, but it must be remembered that the important part of the booklet is that devoted to the goods proper. In a holiday booklet the matter of gift-giving and gift-selection is naturally given prominence, and a good plan is to give a list of articles in your stock suitable "for men," "for women," "for boys," "for girls," etc. Always see to it, that the booklet is well printed on good paper and illustrated with well-executed cuts. Cheapness should be no more a characteristic of jewelry advertising than of jewelry itself, and the booklet should reflect the good taste of the jeweler and the character of his stock.

Timing



Watches

A universal market for Timing Watches has been created by the New Chronograph Watch made by the New York Standard Watch Co. This watch combines the lowest price and highest degree of accuracy with a simplicity of mechanism that will delight the watch-worker. To the sportsman its low cost and efficiency make it irresistible. This



NEW
CHRONOGRAPH
WATCH



furnishes a rare opportunity for watch sales to every jeweler. It equals in accuracy the most expensive imported chronograph watches, is much more durable and less liable to get out of order. Its parts are interchangeable, and easily duplicated at trifling cost.

Jewelers who haven't seen this great seller had better order samples at once from their jobbers. Can be had in Nickel, Silver and Gold Filled and Gold Cases, made by leading manufacturers.

VICTOR NIVOIS, ⁴⁷⁻⁴⁹ Maiden Lane, New York City



THE HULL DETACHABLE HANDLE is so simple in construction it costs no more than ordinary makes and is guaranteed to be stronger than any other handle, either regular or detachable. Almost every umbrella above one dollar each that we have made during the past five years has been made detachable, and every one was absolutely satisfactory. We created a universal demand for detachable handles, and other manufacturers, noting our success, have made detachable handles, but they are so complicated they are not only liable to get out of order, but cost from ten cents to twenty-five cents extra, and will not fit perfectly when interchanged from one umbrella to another.



In placing your order for HOLIDAY UMBRELLAS, buy the kind that has a REPUTATION and SPECIAL FEATURES.

The HULL line is distinctly a JEWELER'S line, because they are BETTER MADE and MORE SIGHTLY than any other line on the market. Over a thousand styles of FINE HANDLES to select from.

Write to-day for BOOKLET, CATALOGUE and EXCLUSIVE SALE for the jewelry trade in your city.

Do not make the mistake of buying a detachable handle at an extra cost, or one which has not stood the test of time. Thousands of jewelers have found that "HULL" is "the name to tie to."

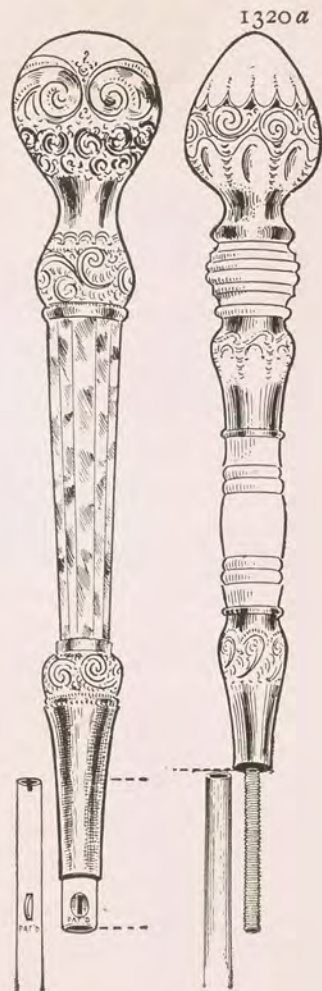
Samples sent prepaid.

Hull Brothers
Norwalk



Trade-Mark

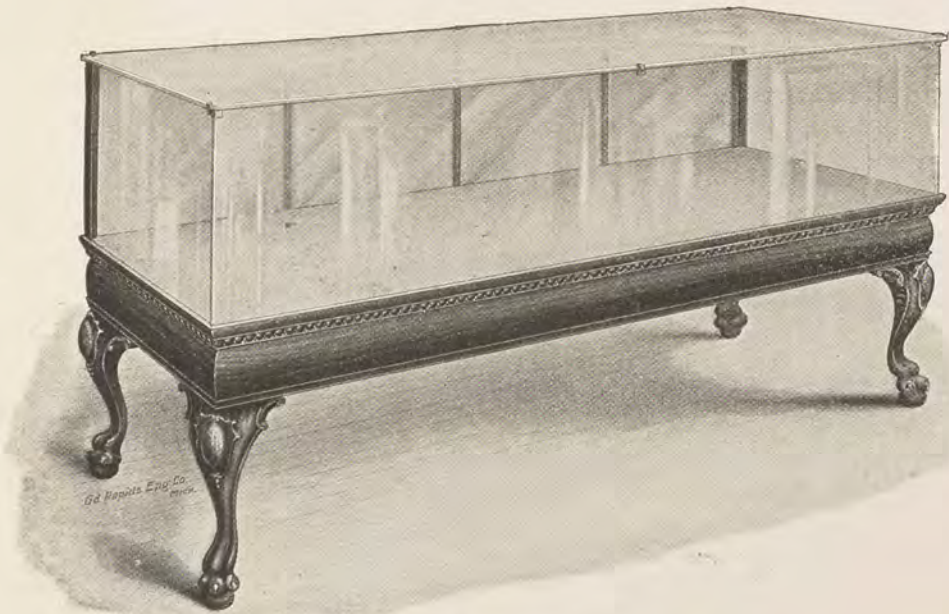
Umbrella Co.
Ohio



The "HULL" way. The old way.

Hull detachables guaranteed stronger than any other handle.

The "American Beauty," the Marvel Show Case of the Age



"American Beauty" Jewelers' Floor Case, No. 410

Read what is said of it by Mr. J. Geo. Kapp:

Toledo, Ohio, July 12, 1905.
GRAND RAPIDS SHOW CASE CO.
Grand Rapids, Mich.

Gentlemen:—I am pleased to inform you that the fourteen "American Beauty" Display Cases bought of you some time ago have been installed and are perfectly satisfactory. Herein I enclose my check in payment of same, less discount, which I will thank you to acknowledge at your convenience.

For several years I have realized that the day was not far distant when every merchant in the country would be forced to change his method of display. Yet "I made haste slowly," for I realized that if I invested in fixtures unadvisedly and later they should be unsatisfactory, that it would prove to me a very serious loss.

Before placing my order with you for your "American Beauty" Cases, I think I investigated the respective merits of almost every show case made by every prominent manufacturer in the United States, and I know that your cases were without an equal and in a class entirely by themselves.

When I consider their brilliancy, gracefulness, the beauty of the fastenings, not a hole in the glass, that they are as rigid as a stone wall, and that they are dust-proof, they are one of the "wonders of the century" in show case construction.

I feel that you have solved with your "American Beauty" Case a show case problem that will not only be appreciated by the high-class merchants, but will bring to them enormous returns, for they have no equal for displaying merchandise.

Wishing you very great success in your business, and thanking you for the masterful execution of my order, I am,
Very truly yours,

J. GEORGE KAPP.

GRAND RAPIDS SHOW CASE COMPANY

New York Office—718 Broadway
Same floors as Frankel Display Fixture Co.

Grand Rapids, Mich.

THE LARGEST SHOW CASE PLANT IN THE WORLD

What we want to impress on you this month is just this:

Our 1906 Catalogue showing—complete—our immense lines of fall and holiday merchandise will be ready to send out to actual jewelers only about October 1st.

This is the Catalogue yearly awaited by shrewd buyers all over the country, who treat it as evidence that top notch has been reached in wholesale offerings of holiday goods.

When you buy your fall goods you have got to know the looks, merits and net cost of each item to be sure you are buying right.

We ask, merely, that you see our line and prices as shown in our catalogue. Then, we submit, that if our values are better, it will pay you to give us your business.

Included in our new book are many very special things we have made it our business to provide for the retail jeweler so that he can get the public interest every day in the year.

Just to be sure about receiving our new Catalogue, send in your request for it to-day.

NORRIS, ALISTER & CO.
134-136 Wabash Avenue
CHICAGO

High-Grade
Modern
Jewelry
Store
Fixtures
and
Show
Cases



Manufacturing
To Order
Our Specialty

State your wants
Estimates
cheerfully
furnished

One of the Many Jewelry Stores Designed and Furnished by us

ALEXANDER H. REVELL & CO., Manufacturers
Rees, Dayton, Eastman Sts. and Hawthorne Ave., CHICAGO, ILL.



Wallace Miller, with the Miller Jewelry Company, Cincinnati, spent his summer vacation among the Eastern resorts, but is now out among his trade with his new fall lines.

Franz Eschenberg, Northwestern traveler for the Juergens & Andersen Company, Chicago, spent all the month of June in New York City and surrounding resorts, where he enjoyed a delightful vacation in company with Mrs. Eschenberg. Mr. Eschenberg left Chicago on his early fall trip the last week in July.

J. P. Ryan, with the Stein & Ellbogen Company, Chicago, spent a month at headquarters stocking up for his early fall trip. He left Chicago July 20th and is now among his trade with his new fall lines.

Phil. Winterberg, who covers the larger cities from Buffalo to Denver for Sproehle & Company, Chicago, started out on his early fall trip the middle of July.

Steve R. King, Western and Northwestern traveler for C. H. Knights & Company, spent his vacation this season up among the wilds of Northern Michigan. He reports some rare sport as a fisherman and says that he enjoyed every minute while away. Mr. King left Chicago headquarters July 20th for an extended trip over his territory.

Ed. Fry, Northwestern traveler for the Stein & Ellbogen Company, after spending a month at Chicago headquarters left, July 20th, for an extended trip over his territory.

Howard Rowbotham, with the Schrader-Wittstein Company, Chicago, left headquarters July 15th for an extended Western trip, which will include the Pacific Coast and the larger towns and cities between the Western metropolis and Frisco.

The Michigan opticians and jewelers will readily recognize in the accompanying portrait the familiar features of C. M. Scammel, the popular representative of the Johnston Optical Company, of Detroit, Mich., who will again call on them this season. Mr. Scammel is an ideal traveling man, in that he combines a genial disposition with seriousness as a salesman, believing in his line and confident that he has the goods that

suit his trade. His samples this year are enriched by so many novelties that his visits will no doubt be eagerly looked forward to by the Michigan trade.

H. M. Chaffee is a new man on the traveling force of Albert Bros., Cincinnati. He will give special attention to their clock and silverware lines.

H. M. Hubbard, Texas man for the L. Bauman jewelry Company, St. Louis, spent ten days at headquarters last month stocking up for his early fall trip. He left St. Louis the middle of last month for his home in Fort Worth and is now out among his trade doing well.

J. H. Crawford, Western man for J. W. Forsinger, Chicago, after spending a month at his home in the Western metropolis started out the middle of last month for an extended trip over his territory.

I. N. Fox, of Fox Brothers & Company, Cincinnati, is making an extended trip through the West this month, going so far as the Pacific Coast cities.

Charley Caliger, who travels in Illinois, Indiana, Michigan and the Northwestern territory for Sproehle & Company, Chicago, left headquarters the early part of July for an extended trip over his territory. Mr. Caliger is already making good with a nice business.

The traveling force for the Edwards & Sloane Company, Kansas City, will be assigned this season as follows: E. L. Donaldson, in Northern Kansas, Nebraska, and parts of Iowa and Colorado; E. H. Ray, in Texas; D. P. Ingram, Southern Kansas, Oklahoma and Indian Territory; Leslie Wallace, Missouri, Arkansas and a part of Iowa.

L. J. Fox, whose portrait we present herewith, has been representing the Gustave Fox Company, of Cincinnati, the past few years in the Southwest and the Pacific Coast territory, where he has worked up a good business for his house and where he is known as a bright and hustling salesman.

Early in the present year Mr. Fox was made superintendent of the firm's factory, which keeps him at home a greater part of his time. His friends on the road, however, need not despair of seeing him again, as he anticipates making an occasional trip over his old territory.

Carlton Dominick, Western man for H. F. Hahn & Company, Chicago, spent his summer vacation at Trout Lake, Wisconsin, in company with Mrs. Dominick and his side partner, Lew Bruns, Western traveler for the Juergens & Andersen Company, of Chicago. Both gentlemen have a large invoice of fish stories on hand, which they expect to hand out to their friends during their fall and winter trips on the road.

Henry Pfordresher, Chicago and Western representative for George L. Brown & Company, chainmakers, of Attleboro, enjoyed a fortnight's outing down in Indiana last month. He was accompanied by his family.

Burton Fox, Southern traveler for Fox Bros. & Company, Cincinnati, is making a trip over his territory the present month.

Joe Block, with Swartchild & Company, Chicago, left headquarters the middle of July for an extended trip over his territory.

Joseph Auer, the lively and hard-working traveler for the Bauman-Massa Company, St. Louis, left headquarters the middle of last month with his new fall lines. Mr. Auer covers southeast of the Mississippi for the above house, and is a popular man among the trade of that section.



L. J. Fox

Ed. B. Hoffman, with H. F. Hahn & Company, spent his summer vacation at his home in Chicago to his great delight and pleasure.

It is with unusual interest and gratification that THE KEYSTONE presents the likeness herewith of Otto A. Knaul, who is well and favorably known to the Missouri, Iowa and Kansas trade as a member of the traveling force of the Woodstock-Hoefler Company, of Kansas City. When we say "unusual," we mean the occasion is unusual. For a number of weeks past Mr. Knaul has been receiving the congratulations of his many friends upon his recent marriage to Miss Edna E. Cornelius, of Afton, Iowa. The wedding occurred June 21st and is spoken of by



Otto A. Knaul

a local paper as an ideal home affair. After a brief wedding trip, Mr. and Mrs. Knaul are at home to their friends at 2615 East Thirtieth Street, Kansas City, where they will make their future home. Though a little late, THE KEYSTONE extends its hearty good wishes to Mr. Knaul and his bride that their wedded life shall be a long and happy one. Mr. Knaul is a young salesman of good personality and unquestioned ability. He has been with his present connection for about five years and enjoys the confidence of his customers and employers to a large degree. He is quiet and unassuming in his manner; is courteous, kind and affable to all, and we do not hesitate to assure Mrs. Knaul that her husband is altogether worthy of the many nice things that have been said about him since their marriage.

C. J. Moore, the well-known salesman among the trade in Pennsylvania, Maryland and Virginia, has accepted a position with E. & J. Swigart, of Cincinnati, and will represent this firm in the above territory in the future.

Walter H. Geier, of the Miller Jewelry Company, Cincinnati, spent his summer vacation up among the Canadian wilds, camping and fishing with a party of Cincinnati friends. He reports a great trip and some rare sport.

George Fox, the veteran diamond salesman of the house of Fox Brothers & Company, Cincinnati, will make an extended trip over his Western territory during August, accompanied by his son, Oscar, who is eventually expected to take his father's place on the road.

O. F. Samuelson, Pacific Coast representative for the Towle Manufacturing Company, spent his vacation among Michigan resorts in company with his family during June. He left Chicago headquarters the middle of last month for his early fall trip over his territory.

L. R. Millar, Southern traveler for J. W. Forsinger, Chicago, spent ten days at headquarters last month stocking up for an extended trip over his territory. He left Chicago July 20th and does not expect to return until after the holidays. Mr. Millar resides with his family at Birmingham, Ala.

Ed. Baumgarten, who represents M. F. Barger & Company in the West and Northwest, left Chicago the middle of July for an extended trip over his territory.

Gus. Weinfeld, who travels in Illinois territory for the Stein & Ellbogen Company, spent his summer vacation at his home in Chicago. He is now out among his customers displaying his new fall lines with good success.

(Continued on page 1320e)

C. H. KNIGHTS & CO.

COLUMBUS MEMORIAL BUILDING - CHICAGO

DIAMONDS

IMPORTED DIRECT

The advertisement features a central illustration of a woman in a long, flowing, light-colored dress with puffed sleeves and a high collar. She is standing on a platform with horizontal lines. Above her is a decorative archway of palm fronds and a string of circular diamond motifs. The background is dark with a diamond border at the top and bottom. The word 'DIAMONDS' is written in large, bold, serif letters across the bottom, with small diamond icons integrated into the letters. Below it, the phrase 'IMPORTED DIRECT' is written in a smaller, sans-serif font.

Notes About Traveling Men

(Continued from page 1320e)

Louis W. Bruns, far Western traveler for the Juergens & Andersen Company, Chicago, enjoyed a month's fishing during June up among the wilds of Northern Wisconsin, where he made things merry for the finny tribe and enjoyed a fine outing.

E. Reynolds, Northwestern traveler for C. H. Knights & Co., Chicago, started out the last week in July with his new fall line. Mr. Reynolds feels quite optimistic over fall business and believes that trade in his territory will be better than it was last fall.

It will interest the traveling fraternity to learn that a law has been passed in the province of Quebec, making obligatory upon traveling representatives in that country of firms which do not operate factories there, to pay a license fee of \$300. Breaches of this law are punishable by a fine of from \$500 to \$1000. Hitherto it was incumbent upon the salesman to deposit a sum of money, which was repayable to him upon his return to headquarters. The obvious intent of the new regulation is to afford a certain advantage to home producers in their competition with outside manufacturers, and thus make the establishment of factories in Canada a precedent condition to the most profitable pursuit of Canadian trade. It will be interesting to observe the degree in which the new measure will stimulate manufacturing business across the border.

B. J. Prissman, is a new addition to the traveling force of Max Kohner, of Baltimore, and will cover the Southern territory.

Will T. Murphy, the popular traveling man for Jno. L. Moore & Sons, manufacturing opticians, Atlanta, Ga., was married recently to Miss Ethyl Lewis, at Temple, Ga. The many friends and patrons of the groom will be glad to learn of the prize he has captured in the charming young lady who has become his bride.

We show in the accompanying portrait the pleasant features of the genial Charles H. Tew, who is now calling on the trade in a missionary capacity as representative of the E. Howard Watch Co., of Waltham, Mass. Mr. Tew has been connected in various capacities with the watch business for over twenty-five years, with the intermission of a few years, when he represented as traveling expert and salesman a prominent time-lock company. For the past seven years he has had charge of the retail watch and watch repairing business of a large Chicago store and is, consequently, well qualified to expound the merits of the Howard watch. Mr. Tew is possessed of all the qualifications that go to make the successful trade missionary, an amiable and magnetic personality, an impressive manner, restless energy and a thorough knowledge of his subject.

Clement H. Davison is a new man on the traveling force of M. A. Mead & Company, the well-known Chicago watch house, who are just opening up a branch office in Pittsburg. Mr. Davison will travel from the Pittsburg office and cover Pennsylvania, Maryland, Virginia and

Western New York territory, making his home in Buffalo. Mr. Davison is well known among the trade of this section from the fact that he was formerly a retail jeweler in Washington, D. C., and laterly the traveling representative of the Codding & Heilborn Company in the above-named territory. He expects to be out in his territory with his new line by August 1st.

The campaign for fall orders by the great army of jewelry travelers begins in earnest this month, and all are now calling on their trade. It is needless to say that they have high hopes of making it a record season, as every condition seems favorable.

Clockmaking in the Black Forest

ED. KEYSTONE:—In your article on "The Clock Industry of the Black Forest," you say: "The first wooden clock was introduced in the Black Forest about the year 1680 by a glazier, who had purchased it in one of the cities on the banks of the Rhine. A cabinet-maker named Laurent Frey, of Spürzen, in the commune of Saint Margen, set about making a similar clock, but he was out-distanced by a man named Kreuz, of Rhodeck, in the commune of Waldou. The latter sold the first clock made in the Black Forest." I think you have made a slight error. The name of the place is not Rhodeck, but Redeck (Red Corner) in the commune of Waldou or, more correctly, St. Margen.

Truly yours,
Maidstone, England. E. WINTERHALTER.

The Enduring Value of Courtesy

No matter what else may be deemed essential to successful merchandising, the fact remains that the courteous and considerate treatment of customers is one of its most important factors. Judicious advertising will undoubtedly bring visitors to a store, but it requires something more than the advertiser's skill to convert them into satisfied customers.

When the public have been induced to visit a store the principal object of advertising has been achieved. It remains for the merchant and his assistants to extend to possible customers such a welcome and such courteous attention as will tend to make them actual customers and lifelong friends. When the right kind of treatment is not given the result can scarcely fail to be unsatisfactory to all concerned. Persons who think they have not been properly treated, and who otherwise might have become permanent patrons, may leave the store never to return. The merchant, as far as they are concerned, loses the benefit of past and future advertising, and may gain a kind of notoriety that he does not want, and which may prove very injurious.

This may be considered an extreme view of the case, and it may be thought that such results are very unlikely to occur, but they are not beyond the bounds of possibility. It may be argued with much show of reason that no merchant would be so unwise as to adopt a policy that would drive possible customers away, but it is none the less true that good customers have left stores they would otherwise have patronized simply because they thought they were not properly treated. Some of these persons may have had very exalted views of their own importance, or they may have been hyper-sensitive concerning the treatment they received, but this does not alter the fact that their custom was lost to the merchants with whom they might otherwise have traded.

—Brains.

Cut Glass Manufacturers Form an Association

The National Association of Cut Glass Manufacturers is the name of a new organization which had its inception at a meeting held some weeks ago in New York City by representatives of fifty-two cut-glass manufacturing concerns. These convened in the meeting room of the Crockery Board of Trade, but owing to the large number in attendance, an adjournment was made to the Astor House. Telegrams and other communications were received from concerns unable to be represented personally, expressing approval of the object of the meeting—the formation of a permanent organization in the cut-glass trade.



Jas. D. Bergen

The meeting concluded to restrict active membership in this body to firms, copartnerships and corporations engaged in the manufacture of cut glass. Individuals connected with the industry are eligible for associate membership.

Following are the officers elected: President, Jas. D. Bergen; vice-president, Thos. Shotton; treasurer, W. H. Lum; secretary, Richard H. Keller; executive committee: John S. Earl, A. L. Blackmer, Samuel Hawkes, J. Howard Fry, Wm. F. Dorflinger, J. E. Marsden, of Quaker City Cut Glass Co.; Andrew Snow, Pairpoint Corporation; J. D. Robinson, Libbey Glass Co.; H. A. Clark, Pittston Cut Glass Co.

The following firms were represented at the meeting.

- | | |
|--------------------------------|--------------------------------|
| Almy & Thomas. | E. J. Koch & Co. |
| Becker & Wilson. | Krantz, Smith & Co. |
| J. D. Bergen Co. | Liberty Cut Glass Works. |
| A. L. Blackmer Co. | Liberty Cut Glass Co. |
| Clinton Cut Glass Co. | Libbey Glass Co. |
| Conroy & Connor. | W. H. Lum & Son. |
| Crescent Cut Glass Co. | Michael Mayer. |
| C. Dorflinger & Sons. | John J. McCue & Son. |
| John S. Earl. | C. F. Monroe Co. |
| Eygabroa Ryon Co. | Ohio Cut Glass Co. |
| O. F. Egginton Co. | J. J. Niland Co. |
| Empire Cut Glass Co. | Pioneer Cut Glass Co. |
| H. C. Fry Glass Co. | Pairpoint Corporation. |
| German Cut Glass Co. | F. Parsche & Son. |
| Herrfelt & Campbell. | Pittston Cut Glass Co. |
| T. G. Hawkes & Co. | Quaker City Cut Glass Co. |
| Henderson & Harris. | Queen City Cut Glass Co. |
| Louis Hinsberger Cut Glass Co. | Rock Crystal Cut Glass Co. |
| Hope Glass Works. | Standard Lamp & Glass Co. |
| Hunt & Sullivan Co. | Thos. Shotton Cut Glass Works. |
| Hammonon Cut Glass Co. | L. Straus & Sons. |
| International Silver Co. | Taylor Bros. & Co. |
| International Glass Co. | Tuthill Cut Glass Co. |
| Irving Cut Glass Co. | Wayne Cut Glass Co. |
| Kings County Cut Glass Works. | D. Walsh & Co. |
| Keystone Cut Glass Co. | C. H. Taylor Cut Glass Co. |

Tiniest of Engines

A stationary engine so small that it will stand on a five-cent piece has been made by John H. Cunningham, a jeweler, of Eaton, Pa. The little engine operates at a remarkable rate of speed under a pound of steam. So small are some of the parts that a magnifying glass is necessary to make an examination of them. The screws that hold the parts together are made from needles; they are a fraction of a millimeter in diameter and the threads are so fine as to defy the naked eye. The fly-wheel measures about three-eighths of an inch in diameter; it was turned from steel by Cunningham. The engine has one-sixteenth of an inch stroke, the cylinder head measures one-eighth of an inch in diameter, while the capped cylinder head measures a fourth of an inch. The striking boxes are packed with lint scraped from silk thread.

Progress Leads to Success

What will these rings do for your stock? Your answer respectfully solicited

CHARLES M. LEVY, Manufacturer of **FINE GOLD RINGS AND DIAMOND LOCKETS**

90 William Street, NEW YORK

Signet-Photo. Locket Rings

(Patent pending)



Open



No. 1740



No. 1750

Pacific Coast representatives:
A. EISENBERG & CO.
126 Kearny St.
San Francisco, Cal.

Interchangeable Signet Emblem and Initial Rings

(Patented June 13, 1905)



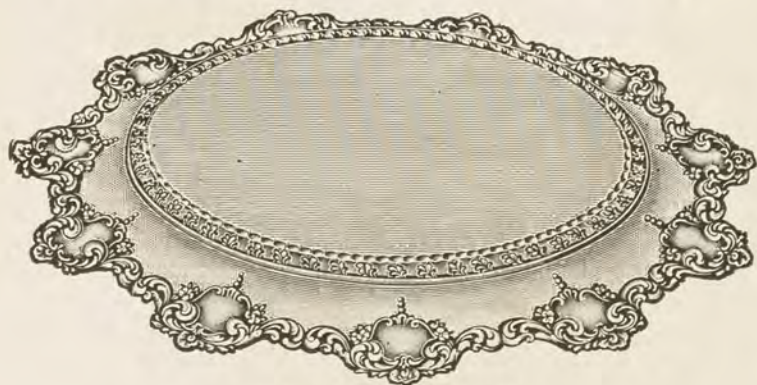
Interchangeable Encrusted Initial and Emblem Rings

(Patented Nov. 27, 1900)



Send for
1905 Catalogue.
Ready Sept. 1st.

MIRROR PLATEAU



No. B-10 inch. Net Price, \$4.50

Best French Plate Mirrors

Mounted on Quadruple-Plated Hard White Metal Frames

We are the **Originators** of this **Novelty**, and have the finest and most extensive line in the market. Prices and styles to meet all demands. Write for Catalogue No. 4.

The Biggins-Rodgers Co.

Main Office and Factory, Wallingford, Connecticut

Manufacturers of Medium-Priced Silver-Plated Hollowware

Southern Horological Institute

253 Main Street, DALLAS, TEXAS

The Only Technical School for Watchmakers, Jewelers and Engravers in the South

Write for Circular, we can save you money. We are not endeavoring to make this school the largest in the country, but we do intend to make it the **LEADER** for **QUALITY**. Watch this space later on for samples of our work—we will surprise you.

NOTE

We are prepared to do the highest class of Marine Chronometer repairing, or any odd Watch Material not to be found in market we can make at a very reasonable price. Send us a few hard ones and try our mettle.

BUY DIRECT FROM THE MANUFACTURER

and save the middle-man's profit



8060. \$9.50



2151. \$7.50

The pendants illustrated are 10 K. gold, and set with genuine pearls and diamond centers. The prices talk for themselves. (These are only a few of the many designs we make.)



2351. \$7.50



2159 \$7.50

S. FRACKMAN
Manufacturing Jeweler
51-53 Maiden Lane
New York

WE ARE PLEASED TO SEND SELECTION PACKAGES

D

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A

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S

ALL OF OUR IMPORTATIONS

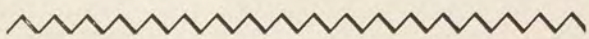
selected by our Mr. S. H. Bauman
while in Europe have arrived.

We have carefully sorted them
as to color, perfection and
cut, and offer to the trade
the grandest lot of gems
ever shown.

We invite compar-
ison.



Selection Packages
Sent on Memorandum
to Responsible Dealers



**BAUMAN-MASSA
JEWELRY CO.**

ST. LOUIS, MO.

Jobbers in Diamonds, Watches, Fine Jewelry
Tools, Materials and Optical Goods



The Perfect Shape Umbrella



No Springs.
No Screws.

Can be placed in a trunk

Should our representative not reach you, write for samples. Will send express paid.

"MAIDEN BALTIMORE"

As a jeweler you want exclusive designs. *This we give you.*

We make UMBRELLAS and CANES for the jewelry trade, of sterling quality, which you can sell with a guarantee (we stand back of this).

Our latest patent DETACHABLE HANDLE UMBRELLA has proven the greatest seller in the umbrella line.

We are now showing our Fall and Holiday line of exclusive designs in sterling and gold-trimmed pearls and hand-carved ivories.

Siegel, Rothschild & Co.

418-420 West Baltimore Street
Baltimore



Mr. Jeweler, did you ever have a Colonial glass tumbler sale?

If our glasses do not sell, return them and we will refund the money.



This is the only Glass Co. in the United States that will take back their glass if it does not sell.

This is our proposition: Order a trial barrel, put them in the window and mark them 45c. a half dozen, any size.

A trial barrel consists of

5 doz. Large Water Goblets, 3 3/4 in. high, @ 60c. doz.	\$3.00
4 " Small " " 5 1/2 " " " 55c. " "	2.20
2 " Large Wine " " 4 1/2 " " " 45c. " "	.90
2 " Small " " 4 " " " 44c. " "	.88
2 " Cordial " " 3 1/2 " " " 42c. " "	.84
4 " Sherbet Glasses, 3 1/4 " " " 67c. " "	2.68
4 " Water Tumblers, 4 " " " 67c. " "	2.68
23 dozen glasses	\$13.18

We guarantee a Colonial Glass Tumbler sale will be a big success. It will cost you nothing to try.


Franklin Glass Co.
Franklin, Pa.

17TH SUCCESSFUL YEAR

The Jewelers' School of Engraving

ESTABLISHED 1889 Suite 1104 Heyworth Building, CHICAGO

RICHARD O. KANDLER, PROPRIETOR AND CHIEF INSTRUCTOR




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

BEST EQUIPPED SCHOOL
OF ITS KIND

BEST AND ORIGINAL
SYSTEM

SEND FOR HANDSOME
NEW CATALOG


CORRESPONDENCE
SOLICITED



Specimen Book of Monograms
and Lettering 75 cents

Spoon Bowl Engraving
Names, \$2.00 up. Buildings, \$4.50 up

Artistic Monograms . . . 15 cents up



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

"THE BREAD WINNER"

Illustration 1/2 size

The finest and most appropriate design ever conceived in the line of a Bread Tray



No. 350
Patent applied for
French Gray finish
List price
\$2.50 each
less trade discount

San Francisco, Cal.: 738 Mission Street
Chicago, Ill.: Palmer House

Anchor Silver Plate Company Works: St. Paul, Minn.

Snap Shots at Men and Things

BY JOHN TWEEZER

Conversation is one of the fine arts. Its fluent harmonies may be spoiled by the intrusion of a single harsh note. One who is too literal can spoil the good talk of a circle of bright men. We must allow an occasional overstatement, a gushing exaggeration, a little flaw in the truth, and not be too censorious. Music is not all perfect chords—there are, here and there, diminished fifths, flat sevenths, flourishes, to give it faulty variety and make the helpful contrasts. So conversation, in its higher forms, is an artistic product that admits of some partial or embellished truths. It is difficult, at best, for two persons talking together to make the most of each other's thought, since there are at least *six* personalities taking part in that dialogue. Shall I explain?

When Jack and Jim meet, these six persons are present:

1. The real Jack; known only to his Maker.
2. Jack's ideal Jack; never the real Jack, and generally very unlike him.
3. Jim's ideal Jack; never the real Jack, nor Jack's Jack, and unlike either.
4. The real Jim.
5. Jim's ideal Jim.
6. Jack's ideal Jim.

Only one, each, of these three Jims and three Jacks is taxed, wears clothes, and is seen of men; but the other two Jims and two Jacks are just as important in the conversation. Until Jim, or Jack, knows himself as his Maker knows him, or sees himself as Jack, or Jim, sees him, there must be six persons engaged in every dialogue between the two. No wonder they occasionally dispute, when there are six of them talking and listening all at the same time!

"The invasion of England" proceeds. Now it is a little California girl, Miss Sutton, aged 18, who, after beating all the crack tennis players in her own country, sails over sea and wins the world's championship from our British cousins. How long will it be when we shall *have* to annex the "tight little isle," in foreclosure of our mortgage on all her prize cups, medals and other bric-a-brac dear to the heart of contestants? It is only a question of time when the eight-oared race will be ours, of course. As for cricket—well, let them change it over to base ball, and we'll show them!

What a ripping argument Democracy finds against the one-man power, in the instance of that poor, flabby, superstitious, spineless apology for a man, the Autocrat of Russia! Absolutism in civilized government is doomed. It may perchance survive the present Czar for a time, but its years are

numbered. Whatever the *form* of government, henceforth the people will have a say.

Few of us realize the tremendous significance of the shrinking of Russian prestige, in its effect on future history. A year ago Russia was the portent in every plan of international politics—the unknown factor, big with potentialities; a vague, gigantic power which was courted and feared by every European chancellery. To-day there is "none so poor to do her reverence"—even the Turk puts his twiddling fingers to his nose and calmly proceeds to fortify the Dardanelles. The Kaiser is moving his pawns across the board and waiting—waiting! The little Jap has delivered Europe from a fetich which dominated her for centuries. The mighty Slav is found to stand on feet of clay.

There's something perennially fascinating in the flying-machine idea; and the recent account of a successful attempt in the West, when the machine was directed into the very teeth of the wind, settled down softly as a bird at the intended spot on a high roof, then took another flight and finally brought up at the *exact* point of starting. "between the two bags of sand which were left to mark the precise spot where the machine had first been placed"—this account will certainly stimulate anew the flying-machine fever. There are too many bright minds now working out the thought to long permit refusal to the secret of success to "the uncharted paths of ether." You and I may not travel overhead, free from dust and clatter; but our children, or our children's children, surely will. The flying-machine is coming—please have your tickets ready! All aboard!

The admiral of the Japanese navy would be justified in holding that complacent good opinion of himself which Goethe found in the professor at Frankfort-on-the-Main. This savant, whenever he ventured to speak of himself—which was most of the time that he was awake—invariably removed his hat, in token of profound respect. If there is a living human being who could justify the attitude of taking off his hat to himself at repeated frequent intervals, he is in command of the Jap navy.

A word to those timid ones in the trade who have been "frazzled" by the disclosures evolved from the internal fight in one of the great life insurance concerns: Don't worry. Don't discontinue your insurance. Don't have the least anxiety as to the absolute certainty that your heirs will receive the full amount of your policy.

The science of life insurance, as now developed, is a wonderful triumph of accu-

rate mathematics. There is no such perfect protection for your investment, in the amount you pay in yearly premiums, in any form of systematic finance—not even in banking. The supervision of the State is so rigid, the requirements of the law are so inexorable and searching, that it is practically impossible for any existing life insurance corporation, big or little, to fail to pay its policy holders the full amount for which they are insured. Don't get rattled—your wife will get every cent of it, whatever happens.

Some men are so shortsighted that they can't see any farther than yesterday. Some men are so nearsighted that they can't see any one but themselves. Some men are so farsighted that they can't see to-day's work.

The man of business needs normal vision in his views of men, things and trade.

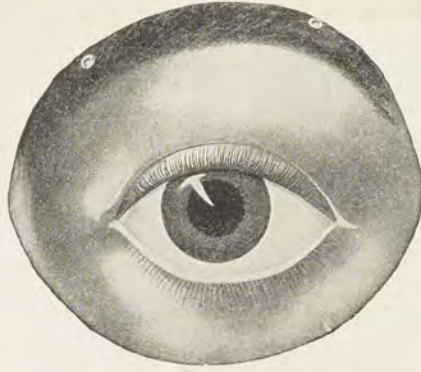
I know a homely man who possesses, set among a variety of various uglinesses of feature, a particularly fine pair of eyes. It always seemed to me to be a pity that Nature should thus have contradicted herself so violently—and I have been sorry for the man himself. If one must be plain, it is better to be plain all over, than amidst a tolerable residue of features to hang out one that shall be exceptionable. A face should be consistently ugly, if it must be ugly at all—should be so complete, so harmonized, as to make it impossible to admit invidious reservations in favor of this feature or that. It should not suggest that some Apelles had picked out here a lip, and there a nose, and there a chin, out of all collected uglinesses, from which to frame a model. It should be a symmetrical whole; no part should be improperly placed; none should swear at the others; all should co-ordinate. True ugliness, no less than is affirmed of true beauty, is the result of harmony. This man (for he is a good fellow) deserved something better of Fate than that she have put into his face a pair of fine eyes, and thus throw out of gear his artistic completeness. He must feel himself a walking monument of inconsistency.

If President Roosevelt isn't "spoiled," it will not be the fault of the world's trying. In the United States of America, to-day, there is practically only one political party—the Roosevelt party. The acclaim of his late political opponents, in and out of his own party, is virtually unanimous. Then from oversea, east and west, comes the same strain of universal laudation. It is not too much to say that just now he is the first citizen of the world; it is questionable if ever in history any one man so filled and satisfied the general approval or exerted so potent an influence among all peoples. Certainly he is the most notable figure in contemporary history.

J. T.

AT LAST

A Winking Eye That Winks

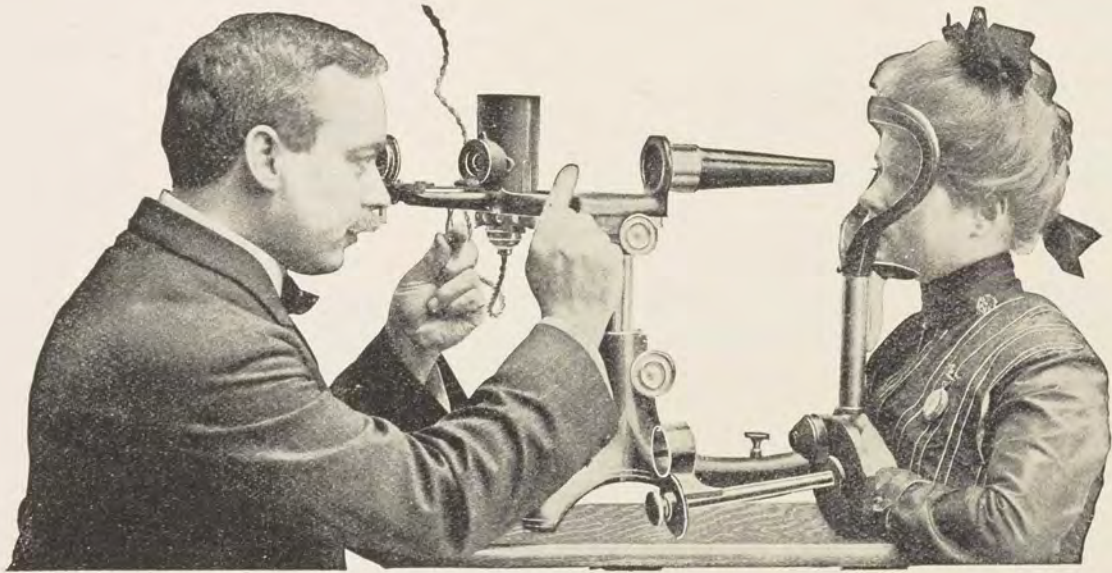


After five years of labor and experimenting, we are placing on the market, at a reasonable price, a WINKING EYE SIGN that is PRACTICAL, SUBSTANTIAL and PERFECT. An exact reproduction of a human eye in natural colors. The wink is operated by the famous

"FIREFLY" FLASHER and can be seen blocks away. Can be attached to any electric current. Iris painted on white porcelain cornea. Front is made of papier maché. Absolutely nothing to get out of order. No clockwork; no machinery. Winks all the time if you want it to. Size, 19 x 24 inches.

Price, \$20.00 net.

Be first to have one in your town



The Geneva Ophthalmoscope and Retinoscope Combined

We invite the most thorough investigation and critical inspection

OVER TWO THOUSAND IN USE TO-DAY

Price, complete with one lighting attachment, either oil, gas or electric, **\$80.00**

Write for Booklet to-day

Geneva Optical Co.

Chicago

St. Louis

Des Moines



Reviews of Current Ophthalmological Literature of the World

On the Apparent Power of Accommodation in Aphakia

In a recent article in *The American Journal of Ophthalmology*, Dr. J. W. Charles, of St. Louis, Mo., discusses the seeming power of accommodation of persons who have no crystalline lens in the eye. He first gives the views of the authorities as follows:

In Michel's *Jahresbericht*, 1872, I find that Donders demonstrated that the optical focusing of the aphakic eye for near objects remains the same, but the narrowing of the pupil comes to the aid of distinct vision by diminishing spherical aberration.

Also that Foerster (*Klin. Monatsbl.* f. Aug. X, p. 39-56), however, reaffirmed that "especially youths attain, after some years, a certain degree of accommodative ability. But a source of error has been recognized in the fact that the reading of medium or fine print within a certain range only shows a greater aptitude in perceiving indistinct images, but in no way proves a change in refraction. A maximum perception must be maintained at different distances to demonstrate a change in refraction, and that in the absence of spherical aberration. The coincidence that in youth accommodation is so effective and that in youth the apparent accommodation of aphakics is most pronounced proves nothing, because of the presence of the lens in the one case and its absence in the other. Clearer media, more movable pupils, greater skill in deciphering, Ref. gives as possible aids to more perfect perception."

Foerster gives the occasional micropsia after operation as an evidence of accommodation. Ref. "admits the probability that a contraction of the ciliary muscle does stretch and displace the choroid but holds that the micropsia does not prove any optical focusing."

Abadie (*Journ. d'Ophth.* 1, p. 427, Ref. Michel, 1872) believed that the contraction of the pupil explains a greater part of apparent accommodation, saying that for reading one needs no sharp images and that within limits spherical aberration need not be suppressed.

Coert (*Utrecht Bijbladen* [Ref. Michel]) adjusted the eye for a certain distance by means of a glass. He then proved that visual acuity decreased as the distance increased from this focusing distance. If at a given distance within the apparent range of accommodation, a glass is placed quickly before the eye corresponding to this distance the print appears sharp and black which before was scarcely recognized. This could not have been the case if perception had been by means of accommodation. Atropine diminished the apparent accommodation only so far as the pupillary surface became more unfavorable; once he even found an increase. Individual differences in the range of "distinction" rest upon differences in size and mobility of the pupil and other side influences which affect vision, e. g., spherical aberration, etc. (The greater the acuity just so much more rapidly does it decrease by insufficient focusing, because the small letters used do not bear any spherical aberration.) The gradual increase of apparent accommodation after operation is explained by the real increase in vision. He demonstrated, both in reading tests and by exhibiting spherical aberration circles on a screen, that even aphakics had a certain range of acuity, in spite of diffusion circles.

Schweiger, 1875, says: "Since under physiological conditions the phenomena observed in the lens at least play the most important role in accommodation, the conclusion appears unavoidable

that aphakia must result in a total loss of accommodation." Coccius lays weight upon the fact that in many men the eyes advance somewhat in near vision and recede in distant vision, and since he established the same in a case observed by him of accommodation in aphakia, he considers it probable that by retraction of the globe by means of the recti, the pressure from behind, the eye becomes far-sighted, by advancement of the eye by means of the oblique and discontinuance of pressure, with slight lengthening of the eye-axis, accommodated for near seeing."

Landolt maintained that any apparent accommodation which takes place is brought about by some change in the distance of the cataract-glass from the eye, stating, e. g., that the power of a + 13 D. Sph. is increased to + 16 D. Sph. by removing it 33 mm. forward.

In our case this possibility was entirely eliminated, the glass remaining constantly at one distance with the exception of, perhaps, a few mm. by turning the head and looking through the side of the glass.

Schloesser (*Muench. med. Wochenschr.*, Michel, *Jahresb.*, 1893), found accommodation in several aphakics. One read with distance-glasses the finest print, J. 1 at 50 cm. Young aphakics have the ability more marked than older. He believed that he excluded such sources as inclining the head, or page, and clinching the lids, concluding finally that the most probable cause was the lengthening of the globe by pressure from the external muscles, hence older patients have less range, because of the greater rigidity of their sclera.

Hofhammer (*Michel's Jahresb.* 1894), examined forty aphakics and found considerable accommodation, especially if the operation had been done sometime before testing. Age had no appreciable influence.

Fuchs (*Textbook*, pg. 699.) "The aphakic eye is moreover destitute of accommodation. The eye is incapable of altering its refraction. Hence it follows that by any single glass, the latter is corrected for a single distance only."

Von Arlt (*Graefe-Saemisch Bd. III*, 1, pg. 250.) "If aphakic eyes possess any accommodation, it can only result from a change in the form of the globe," and he adds, "after extraction the visual axis might be somewhat longer, the equatorial diameter shorter."

Schoeler (*Ref. Michel*, 1875, p. 83,) examined ten cases "measuring the range within which the finest Burchardt point-tests (still recognizable) could be seen with a cataract-glass without noticeable suffering in distinctness. This range was so small that all thought of an accommodative influence must be given up (5½ inches to 5 inches of 4¼ inches to 3¾ inches.)"

Mauthner declared against aphakic accommodation after using Burchardt's point-test and ophthalmoscopic examinations.

O. Walter (*Archives of Ophthalmology*, November, 1900,) reasoned as follows: "By contraction of the ciliary muscle and with it of the choroid (Hensen and Voelckers) the vitreous comes forward against the iris and in some cases protrudes through the pupil into the anterior chamber the size and shape of its bead varying with the size of the pupil. Considering the refractive index of the aqueous and vitreous as almost equal, he computes the necessary increase in the length of the globe at 2.7 mm., in order to read at 30 cm., if such increase in length were the only factor in accommodation. If, on the other hand, focusing is effected by a bead of vitreous, the surface of the latter must have the very small radius of 0.34 mm., and project through the pupil of only 0.68. Therefore, he says that it is likely that the index of vitreous in such cases is greater than that of the aqueous.

Lohnstein (*Knapp-Schweigger*, 1900,) answered that the spherical aberration of such a bead would be of too high a degree for distinct vision,

and refers him to Boehmer's statement that a one per cent. salt solution has only an 0.00146 higher index than distilled water. "Therefore, the difference in the amount of salt present in different persons could alter the refractive index no more than + 0.00015."

Finally the doctor adds:

It seems then that all of the theories which endeavor to explain aphakic accommodation by supposing some phenomenon in the eye, as, e. g., a change of shape in the globe, are opposed by as strong arguments as are brought forward in their favor. There remains only one factor not yet mentioned in this connection as far as I know, *viz.*, the tipping of the cataract-glass or the equivalent thereof, looking obliquely through it, causing a greater curvature in one meridian, and visual acuity is increased by the ability of the patient to overcome spherical aberration through diminution of the palpebral fissure. Dr. John Green, in the "Transactions of the American Ophthalmological Society, Vol. V, Part III," in an article entitled "An Elementary Discussion of Some Cases of Central Refraction Through Tipped Spectacle-Lenses," has given us a method of computing the difference in power produced by tipping, closing with a table of refracting values for the tipping-angle from 5° to 45°.

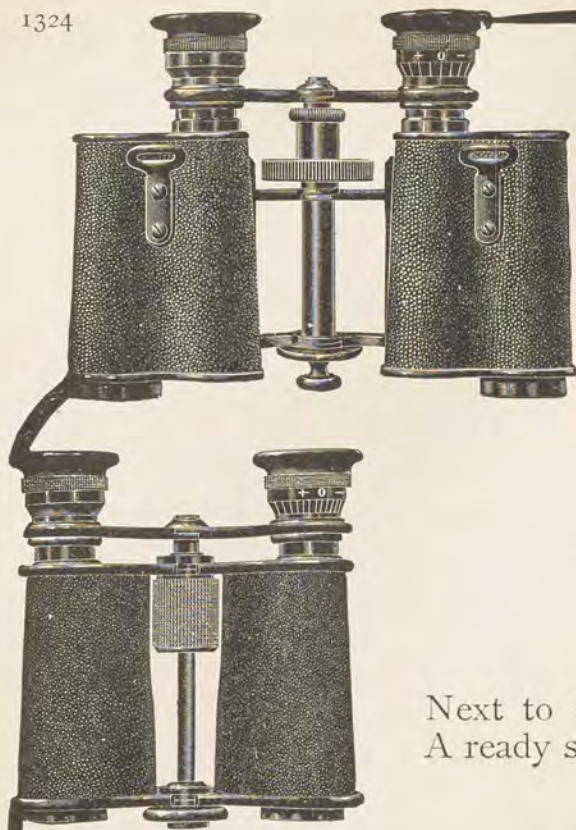
Regarding the last paragraph the reviewer must remark that this calculation about the different refractive power of a spherical lens if looked through obliquely was first given by Prof. L. Hermann in 1874, that is, almost twenty years before Dr. Green published his results. If we slightly modify the formulæ as given by the celebrated physiologist we find that the refractive power of the tilted lens changes not only in the changed meridian, but also in the one that remained stationary. For example a + 10 D. lens receives a refractive power of 10.94 D. in the one and a refractive power of 13.33 D. in the other meridian if it is tilted thirty degrees. It is evident, therefore, that many an apparent power of accommodation in aphakia may find its explanation in the fact that the patient looked obliquely through the strong lens.

A Clinical and Statistical Study of Convergent Squint

About the causation of convergent squint or esotropia there is as yet no unanimity of opinion among the ophthalmologists. It is very probable, indeed, that there are always different factors at work wherever internal squint develops. A very interesting contribution in this regard has lately been made by Dr. Wendell Reber, of Philadelphia, who made a careful clinical and statistical study of a number of cases with convergent squint, and comes to the following conclusions:

1. Esotropia is most likely to manifest itself before the end of the third year.
2. It cannot yet be said whether any of the various reasons assigned by parents for the appearance of strabismus have aught whatever to do with it. Whooping cough may be related to it.
3. Heredity certainly plays a part in bestowing upon some children a congenitally deficient visual apparatus.

(Continued on page 1325)



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Reviews of Current Ophthalmological Literature of the World

(Continued from page 1323)

4. The degree of deviation will average about 30° in a large number of cases. It is in no special way bound up with the degree of refractive error.
5. The amblyopia of esotropia is presumably an amblyopia ex anopsia, the present-day evidence being against Schweigger's theory of a congenital amblyopia.
6. The degree of amblyopia increases with the length of time elapsing between the appearance and the time of treatment; especially is this true after the seventh year.
7. Improvement may be expected in the amblyopic eye in fifty to sixty per cent. of cases by properly-adjusted glasses. This improvement varies from twenty per cent. to nine-fold betterment.
8. While a defectively developed fusion apparatus has much to do with the genesis of esotropia, the influence of hypermetropia and its allied states seems almost as important as in the days of Donders. The part played by astigmatism is no little one.
9. There seems to be no special relation between the degree of refractive error and the degree of deviation.
10. Hypermetropic conditions of from one to four dioptics seem most commonly associated with esotropia.
11. A very high degree of hypermetropia does not necessarily exclude strabismus, as three cases in the series here presented were of 11 D. and over.
12. If taken before the fifth year, there seems no reason why the strabismus should not be cured by non-operative methods in seventy per cent. of cases. This percentage will, in all probability, be increased to eighty per cent. in the next ten years.
13. The results of non-operative treatment in children, if adhered to with any persistence, are infinitely better than any "scissors" statistics thus far offered.

A New Statistical Investigation About Myopia

Lately in his inaugural dissertation Dr. Van Dijk, of Amsterdam, has reported a very careful statistical inquiry about myopia among uneducated persons. As he frequently refers to the opinions of Tscherning we give here first the views of the latter as he expressed them in his "Physiologic Optics" (pages 84 to 87):

There exist two forms of axial myopia, one which depends on near work, and one which does not.* *Myopia from near work* appears usually at an age ranging from six to fifteen years; it often stops at the age of twenty-five years. It attains medium degrees and does not seem to exceed the limit of 9 D. Complications, except staphyloma, are rare.

Dangerous myopia is sometimes congenital and stationary; as a rule it develops in early infancy, and continues to increase during the whole life. At the age of twenty years it generally exceeds 9 D. This form of myopia is to be considered as a malignant chorioiditis, and it is to it that dangerous complications of myopia belong; like most chorioidal affections it seems to be a little more prevalent among women.

In 1882 and 1883 I examined about 7000 young Danish conscripts, by determining their refraction

* Even eliminating these two forms of myopia, it is probable that there would still remain a certain number, due to a congenital disagreement between the optic system and the length of the axis of the eye, for it is not probable that all normal eyes are constructed so as to be exactly emmetropic. But myopia between 2 D. and 9 D. is so rare among uneducated persons that this third form must comprise only light degrees.

by means of the upright image. The influence of near work is seen in the following list:

	Myopes
I { Students	32 per cent.
Persons employed in offices and in trade	16 "
Artists, etc.	13 "
Tailors, shoemakers, e. c.	12 "
II { Workmen (hard labor)	5 per cent.
Agriculturists (peasants)	2 "

The distribution of the two forms of myopia in the two groups was the following:

In all	Myopes < 9 D.	Myopes > 9 D.
I 2336	407 (17 per cent.)	13 (0.56 per cent.)
II 5187	169 (3 ")	38 (0.73 ")

We see that the very great frequency of myopia in the educated classes comprises only the lowest degrees. The very high degrees are rather more frequent in the illiterate (Fig. 60). Among the peasants I have even met more cases of myopia

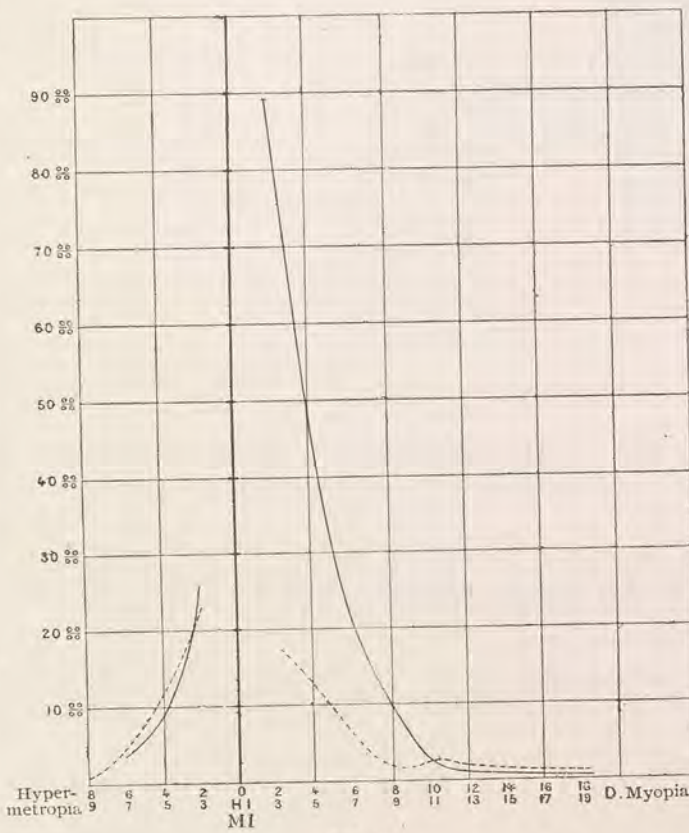


Fig. 60 Distribution of the Anomalies of Refraction among the Young Population of Copenhagen — Educated Uneducated

greater than 9 D. than of myopia between 2 D. and 9 D.

It is, therefore, a great exaggeration to regard myopia from near work as a public calamity, as is done especially in Germany. One exaggeration leads to another. It was thought formerly that myopic eyes were stronger than others because they did not become presbyopic. After the discovery of the ophthalmoscope very grave complications in cases of strong myopia were continually met with, and thus originated the idea expressed in the celebrated phrase of Donders, "I do not hesitate to declare that every myopic eye is a diseased eye," a phrase which *Cohn* adopted as his motto in the first of the great compilations of statistics of schoolchildren ever made. Later, many others were made, but without important results. They show conclusively that myopia is more frequent and more pronounced in the higher classes of the schools; but as the pupils of these classes are older, and as the myopia is a condition that develops with age, these statistics do not establish definitely the influence of near work.

A satisfactory explanation of the mechanism by which near work produces myopia has not yet been given. *Donders* named three factors: First, the inclined position of the head which produces hyperemia of the globe with a tendency to distention; second, the fatigue of the eyes, which would

be the result of prolonged reading, and which would also produce hyperemia; third, the compression which the external muscles would exercise on the eye, during convergence for a near point. *Arll*, who, by his autopsies, proved for the first time in 1854 that myopia is due to a lengthening of the globe, laid special stress on the action of the superior oblique while reading. The eye being directed downwards, this muscle may, indeed, compress one of the veins and thus produce the development of hyperemia. *Stilling* tried to further develop this theory by finding the predisposition to myopia in a special form of the orbit (very low—*Hypoconchia*) which would give to the muscle a direction more likely to compress the eye.

In spite of the slight degree of accommodation which myopes need*, the theory of the accommodative origin of myopia has, however, many believers, and I think they are right; but as the mechanism of accommodation was scarcely known until recent times, it is not wonderful that the solution of the problem of myopia from near work was sought in vain.

Dr. Van Dijk formed his conclusions from the material of the Amsterdam University Polyclinic, which is frequented almost exclusively by people who have received very little instruction. Among these uneducated people the high degrees of myopia were found very frequently. Before him Dr. A. N. Dinger, of the same city, had found the higher degrees of myopia in ten per cent. of the myopic pupils of public schools (age six to twelve years) and in six per cent. of the myopes of the higher schools (age twelve to eighteen years). Now Dr. Van Dijk found thirty-six and thirty-two per cent. respectively among his uneducated people of corresponding ages. He concludes, therefore, with Tscherning that the high degrees of myopia are not caused by the school. Dividing his patients into groups according to the age he found, ascending from the lower to the higher degrees of myopia, in each group less representatives. And this decrease occurred so regularly that nowhere a certain limit between higher and lower myopia could be established. His statistics, therefore, are not favorable to the view that the low and the high myopia must be regarded as

two distinct species of myopia. Not even the complications of myopia allow of this distinct differentiation: First, because these complications are no causes and, secondly, because there are found to about the same degree in the lower forms of myopia. The myopes of the lower degrees which form two-thirds of the material are no school myopes, because they have had practically no schooling and Tscherning would count them among his accidentally light myopes. But the author does not feel justified in making any sharp differentiation. To him the whole myopia appears as one defect which develops differently under different conditions by

* It is possible that myopes often accommodate more than we think. In low degrees they frequently work within their far point, because by bringing the work near they can see more detail. As to high degrees, other circumstances may bring about a quite remarkable accommodation. This is why *Javal* said that a myopic eye may be focused at once for the extremities and the middle of a line of a book. If the myopia is 10 D., the length of the line is 10 cm., and if the ends of the line are seen distinctly without accommodation, the patient is obliged to accommodate about two dioptics when reading the middle, unless he keeps the book or his head in continuous motion, or contents himself with seeing diffusely a part of the line.

(Continued on page 1327)



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Concerning Segments

AT the risk of repeating ourselves, we are going to try to clear up a little uncertainty which seems to exist here and there with reference to the matter of segments. The segment, in a pair of bifocals, is of course ground of such a strength as to supply the additional convex power needed for reading; that much is plain enough. If a man needs + 1 for distance and + 3 for reading, the segment on his bifocals would focus, separately, + 2; because the + 1 of the distance lens and the + 2 of the segment, added together, give the result + 3, the power needed for reading. Now, then:

Suppose a man has been wearing bifocals, and his prescription is changed, so that the strength of his glasses is increased 1 D., both in reading and distance. Is it possible to save expense, (inasmuch as the amount added is the same in the new glasses as it was in the old), by using the old segment on the new distance lenses?

Sometimes it is and sometimes it isn't. That is what we will try to explain.

It is usually the custom to put the segments in cemented bifocals towards the eyes, more especially when they are on spherical lenses. In cylinders this rule does not always hold good. On periscopic convex lenses the curve on the inside is - 1.25. The various foci are obtained by altering the outside surface of the lens, but the inside remains the same. Let us take a pair of bifocals then, like this:

$$\begin{array}{r} + 1 \\ + 3 \end{array}$$

We will suppose that after wearing these for some time the patient's prescription is changed to:

$$\begin{array}{r} + 1.50 \\ + 3.50 \end{array}$$

The focus of the segment is still exactly as before, + 2 D. added; can we use the old segment on the new lenses? In this case, yes, because the + 1 distance lens of the old pair and the + 1.50 distance lens of the new pair have each of them a - 1.25 curve on the inside; hence the segment will fit equally well in either case, and will still give the result of + 2 D. added.

On the other hand, let us consider a prescription like this;

$$\begin{array}{r} + 1 \text{ } \odot \text{ } + .50 \text{ cyl. ax. } 90^\circ \\ + 3 \text{ } \odot \text{ } + .50 \text{ cyl. ax. } 90^\circ \end{array}$$

The segment, by itself, focusing + 2 D.

In this instance, the segments would probably be on the front, as they are always cemented to the spherical side, and it is customary to put the strongest convex away from the eye; this would bring the spherical, and consequently the segment, outside. But this is merely by the way; the point is that

the segment goes on the spherical surface, and its curves must correspond with that surface. In this case the spherical curve is + 1, hence the curve of the segment which fits that is - 1. The curves of the segment, then, will be - 1 on one side and + 3 on the other, or, + 2 added.

We will now suppose that the formula is changed, as in the preceding case. It reads:

$$\begin{array}{r} + 1.50 \text{ } \odot \text{ } + .50 \text{ cyl. ax. } 90^\circ \\ + 3.50 \text{ } \odot \text{ } + .50 \text{ cyl. ax. } 90^\circ \end{array}$$

Here we have + 2 added, and that is what we found our segment to focus; can we use it? Decidedly, no; for the curve on the spherical surface of the distance lens is + 1.50, while the concave curve on the segment, which is supposed to fit the distance lens, is only - 1. Hence there will be .50 D. of curvature unaccounted for, and the segment will not "stick."

But suppose, for the sake of the argument, that we were able to make the lenses stick together; for a skillful workman can sometimes make two curvatures hold together, by using a good deal of cement, even though they don't fit well.

We will take the same lens we used in the previous paper;

$$+ 1.50 \text{ } \odot \text{ } + .50 \text{ cyl. ax. } 90^\circ$$

for distance, which is to have a segment added to make the reading power

$$+ 3.50 \text{ } \odot \text{ } + .50 \text{ cyl. ax. } 90^\circ$$

Or, in other words, add + 2 segment for reading. The segment we are considering, - 1 on one side, + 3 on the other, has a focus of + 2. If we could succeed in making it stick on the distance lens, couldn't we use it in this case? Not by any means! The segment focuses + 2 as long as it is not cemented; once it is attached to the distance lens, it becomes, so to speak, a part of that lens, and its curvatures are to be considered in that light. Let us refer to a diagram:



The lowest curve in the diagram represents the + .50 cyl. of the distance lens which we need not consider at present, as it does not enter into our calculations at all.

The space between the - 1 curve and the + 1.50 curve is filled up by the cement, so that the lens becomes practically one piece. What is the result? We have a lens whose outside spherical curve is + 3 D., and the formula of lens is

$$- 3 \text{ } \odot \text{ } + .50 \text{ cyl. ax. } 90^\circ$$

in spite of the fact that we have added a + 2 segment over a + 1.50 distance lens.

-D. V. Brown's *Our Own Idea*

Reviews of Current Ophthalmological Literature of the World

(Continued from page 1325)

different factors, as hereditary disposition, conditions of life and intensity of schooling. Among the people who have had very little instruction the author found many slightly myopic, which points to a hereditary disposition. From these a very great number of high myopes developed which is explained by the unfavorable surroundings. Among the children which have enjoyed a very good education more light myopes were found, because by the continual exertion each pupil became myopic who had the slightest tendency to it, but from these only a few high myopes developed because they enjoyed better conditions of life. The visual acuity in the material of Van Dijk decreased with the age and the degree of the myopia, it was less than that of the non-myopes, and also less than that of the better situated myopes. Compound myopic astigmatic astigmatism was found in eighteen per cent. of the myopes, that with the rule twice as frequently as that against the rule. With age the number of the first decreased, and more oblique axes were found; still later the oblique axes again decreased, and that against the rule increased. Most cases of low myopia also were astigmatic, and in most cases with astigmatism in each eye the directions of the main meridians were symmetrical. The author therefore believes that the reduced visual acuity and astigmatism are two possible causes of myopia. That spots on the cornea act in that direction is pretty well established; for first one finds these maculae more frequently with myopia than with any other refraction and, furthermore, one observes most maculae in youth among the lower degrees; in old age, however, among the high degrees of myopia—which shows that the progression is hastened by the obscurations.

Investigation on the Comparative Visual Acuity of Savage and Civilized People

It is the prevalent opinion among us that the uncivilized people as a general rule possess a better visual acuity than civilized men. However, some years ago we called attention to the fact that this view is not borne out by actual investigation. This is shown again by Dr. W. H. Rivers in the *British Medical Journal*, who has examined a large number of people of all nationalities and tribes and has come to the conclusion that apart from errors of refraction, man everywhere has practically the same acuity of vision. It is true that there are many instances in which savages appear to possess a greater acuity of vision, when for example, they recognize a man or an animal in a distant dark spot long before their educated companion can do so. But this is not to be explained by a better visual acuity but by the greater experience of the savage man in this particular instance. If tested with the usual test cards, it would be found that the visual acuity of the savage man was no higher than that of his civilized companion.



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(Continued. Part VIII)

Suffice to say that any linear after-image, which possesses, during the primary position of the eye, a given obliquity, when projected on a gray wall facing the observer, preserves the same obliquity inviolate whenever the eye glances in the direction indicated by the length of the false image, or in a direction perpendicular to its length.*

Though all observers are agreed as to the truth of Listing's law, all are not agreed as to the conclusions to be drawn from it.

Agreement of Helmholtz and Donders.—A good deal of discussion has been made recently about the discrepancy which has been stated in America to exist between the laws of false torsion formulated by Helmholtz and those laid down by Donders.

There can be no question that their statements, as they read, look diametrically opposed to each other.

And yet a careful study of Helmholtz will show that he has chosen a different definition and index of torsion, so that his statements do not really contradict those of Donders, but perfectly agree, as indeed we could only have expected.

Let us look at them in the following parallel columns :

HELMHOLTZ.	DONDERS
"When the plane of fixation is directed upwards, lateral displacements to the right make the eye turn to the left ;	"On the diagonal fixation upwards and to the right, the vertical meridians of both eyes suffer a parallel inclination to the right."
and displacements to the left make the eye turn to the right."	"On diagonal fixation upwards and to the left, the vertical meridians of both eyes suffer a parallel inclination to the left."
"When the plane of fixation is lowered, lateral displacements to the right are accompanied by torsion to the right,	"On diagonal fixation downwards and to the right, the vertical meridians of both eyes suffer a parallel inclination to the left."
and vice versa."	"On diagonal fixation downwards and to the left, the vertical meridians of both eyes suffer a parallel inclination to the right."

Helmholtz's Plane of Reference.—The "plane of reference" adopted by Helmholtz is the "visual plane," by which he means the plane common to the two visual axes and to the line which joins the centers of motion of the two eyes. When the visual axes are elevated or depressed, the visual plane is elevated or depressed with them.

In the primary position of the eyes, the visual plane passes through the horizontal meridian of the retina, which Helmholtz calls the "retinal horizon." In all the cardinal motions of the eyes, which, it will be remembered, are motions from the primary position directly upwards, downwards, to right and to left, the retinal horizon lies rigorously in the visual plane ; but in oblique motions it becomes more and more inclined to the visual plane, in the sense stated by Helmholtz in the first of the above parallel columns.

Donders' Plane of Reference.—I do not know what plane of reference Donders selected, but (since the one which I have selected gives the same results) probably the same as that which I have adopted in what follows, namely, a movable, ever-vertical plane, passing through the line of fixation and moving with it.

No Torsion with Reference to the Median Plane.—Were we to estimate torsion by reference to the median plane of the head,

*It is true that when the eye glances in oblique directions other than these, the after-image does appear to have its degree of obliquity altered, but this is fully explained in every case by the fact that it is projected on a flat surface which does not (in that part of it) face the observer, and the apparent discrepancies, when properly analyzed, only confirm the law.

or any plane parallel to it, we would have to conclude there is no torsion at all, for, thus tested, the vertical meridian of the cornea would be torted in one direction and the horizontal meridian to an equal amount in the opposite direction.

Indeed, it stands to reason that motion about any axis in Listing's plane cannot have a component about a line perpendicular to that plane.

The nature of false torsion depends entirely upon the point of view from which we observe it.

Index of Torsion.—Since the eye is an optical instrument, I think the index of torsion should be an optical one, and, to my mind, the best plan is to imagine the point of fixation, or, in other words, the object looked at, to be an intelligent being, able to tell us what amount of torsion exists from his point of view. The torsion would thus be measured by the angle between the originally vertical meridian of the retina (*i. e.*, the meridian which was vertical in the primary position of the eye) and the vertical plane passing through the line of fixation.

When calculated in this way, the rules of false torsion agree exactly with those of Donders, and therefore with all the text-books which have followed him.

Let us give the name of Dextrotorsion to that which takes place when the upper end of the vertical diameter of the eyeball is tilted to the patient's right, and Lævotorsion to similar tilting to the left. When we look upwards and to the right or downwards and to the left, there is dextrotorsion. Conversely, when we look upwards and to the left or downwards and to the right, there is lævotorsion. In fact, the paths of the after-images trace out a figure shaped like a sheaf of wheat.

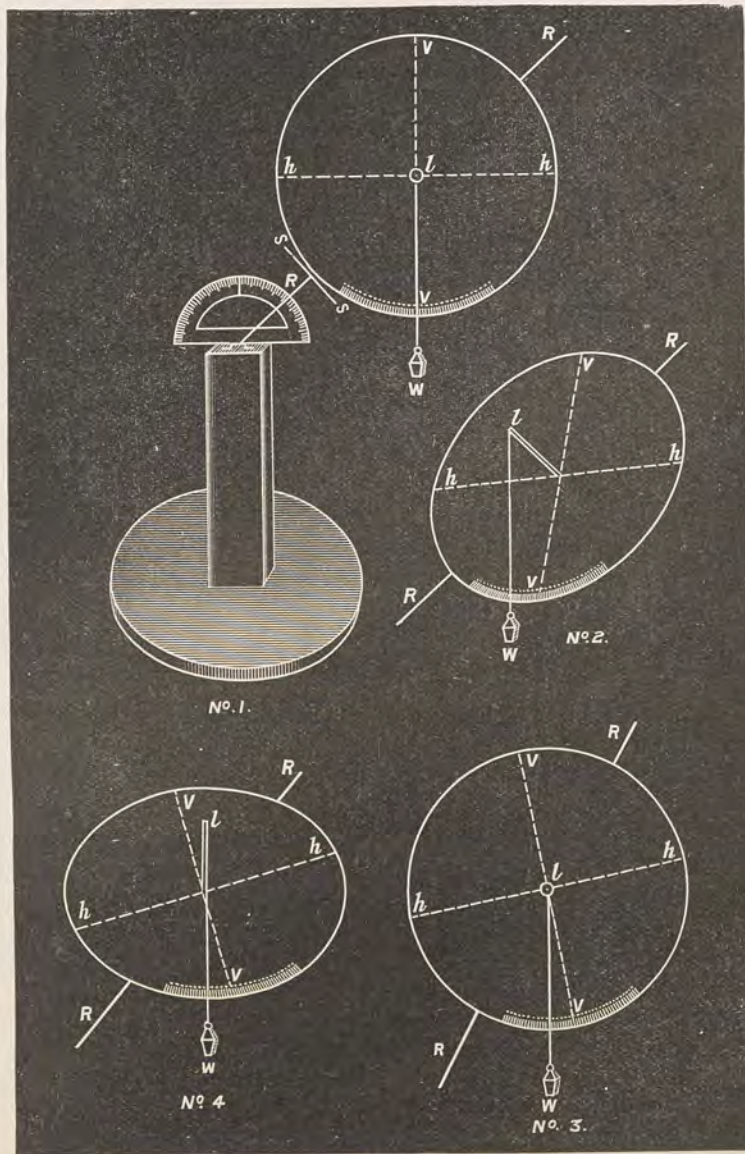


Fig. 14

The author's torsion calculator. No. 1.—The eye in its primary position. No. 2.—The eye looking up and to the right, showing equal and opposite inclinations of the horizontal and vertical meridians with reference to the fore-and-aft axis of the head. No. 3.—The eye looking as in No. 2, but showing equal similar inclinations of both meridians to the patient's right with reference to the fore-and-aft axis of the eye. No. 4.—Mode of reading same.

[TO BE CONTINUED]

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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.]

Headache in Connection with Myopia and Exophoria

Miss J. C., aged thirty-three years, complains of headache as soon as she begins to use her eyes for close work.

In addition to the symptoms of which patient complains, it is advisable for you to get a history of the case, more or less complete as its seriousness may demand; this will often enable you to get a better understanding of the case than would be possible without.

In meeting a patient for the first time, the proper question for you to start with is: "In what way do your eyes trouble you?" The most common answer to this question is "headache."

Then you must make more specific inquiries so as to get more definite knowledge of this one symptom of which so many persons complain.

In what part of the head is it located? Is it in the forehead, in the temples, in the vertex, in the occiput, or does the whole head seem to ache?

At what time of the day does the headache come on—in the morning, in the afternoon or in the evening? Does the patient get up with it, or does it come on later in the day? Is the headache constant, or is it periodic? Does it come on during or after use of the eyes? Does it cease when the eyes are rested, or is it absent altogether when the eyes are not used? Is it better or worse on Sundays as compared with other days? Does the headache come on when shopping, when riding in cars, when attending a public place of amusement, or when in a crowd?

No argument is needed to convince you of the frequent dependence of headache upon eyestrain. The cure of headache, oftentimes stubborn and of long standing, by the correction of errors of refraction and of muscular anomalies, is a matter of almost every-day experience with the optometrist in active practice.

These two sources of eyestrain are so often associated that it is really difficult to determine their relative importance, some authorities attaching greatest weight to the strain of the ciliary muscle caused by refractive errors, while others look upon anomalies of the extra-ocular muscles as the greater disturbing factor.

But at the same time we must not allow ourselves to think that every patient who complains of headache is suffering from eyestrain. We must not regard every case of headache as invariably due to a faulty condition of the eyes, nor must we delude ourselves with the thought that glasses can cure all headaches.

With these two thoughts in mind that headaches may be due to eyestrain, and that they may be caused by other conditions of

the body entirely separate from the eyes, a careful and thorough examination of the eyes should be made in all cases of continuous or frequent headache, where the cause of the same is not evident, and where the usual medical treatment has failed to afford relief.

In many of these cases the patient is not conscious of any visual defect or asthenopic symptoms, and is apt to assert that his eyes are all right and that there is no use to make an examination of them. In spite of this it has been my frequent experience that an examination has disclosed some refractive or muscular anomaly that has evidently been the cause of the headache, as has been proven by the fact that the correction of the former has been followed by a disappearance of the latter. Experiences like this emphasize the importance of an ocular investigation in every case of headache, even if there are no eye symptoms present.

Therefore it is the province of the optometrist to find out just what part the eyes take in the causation of headache, and not as a matter of routine expect to cure with glasses every case of headache, a considerable number of which may have no direct relation to the eye.

A browache, due to malaria, may be mistaken for ocular headache. Hemicrania, or migraine, or sick-headache, may be an expression of general nervous exhaustion and may bear no relation to the eyes at all. We are keeping well within the bounds of truth when we say that at least one-half of all headaches are due to eyestrain. Gould claims that seventy-five per cent. of all headaches are caused by a faulty condition of the eyes.

The position and character of ocular headaches vary greatly. It may be simply a slight aching or dull pain over the eyes, or at the back of the orbit. It may be an occipital pain, which is suggestive of congestion of the base of the brain. Sometimes the headache is stationary in the forehead, or vertex, or occiput, or it may originate in the brows and pass to the vertex, shooting to the occiput and perhaps even down the spine.

Some authorities assert that in ciliary strain, the pain is generally orbital and frontal; and when the strain is on the extra-ocular muscles, the pain is occipital and spinal; and that temporal headache is due to astigmatism, but I do not attach much importance to these classifications.

The location of the pain in 200 cases of ocular headache has been divided as follows: Eyebrows, 41 per cent.; vertex, 20 per cent.; occipital, 12 per cent.; occipito-frontal, 8 per cent.; temporal, 8 per cent. In one case the headache was general.

It should be remembered that the position may vary with the individual. Some persons when they have a headache, no matter from what cause, always describe it as frontal, others as vertical, and so on. So, that too much dependence must not be placed on the statements of the individual. The commonest form of asthenopic headache is a dull pain over one or both brows, as shown by the analysis of the 200 cases to which I have just referred.

In getting a patient's history, you must not fail to inquire if he or she has ever worn glasses, and if so, how long and with what

effect? Make a record also of the character and strength of the lenses, and whether they were prescribed with or without the use of "drops." It is well for us to know whether the eyes have been relieved by the use of the glasses, or whether the same symptoms continue as were present before glasses were worn.

This patient tells us that she has been wearing glasses twelve years, that they were ordered after the use of a mydriatic, and that while they have been of some benefit to her, the headaches have continued and she suffers after use of the eyes for close vision.

We ask one of the young gentlemen to neutralize these lenses, and he tells us they are — 5.50 D. for right eye, and — 2 D. for left eye. We ask him if they were simple spheres, and he replies very emphatically that they are. We return them to him and insist on a more careful examination and neutralization. In looking through the left lens at the straight edge of the test card, he finds there is some displacement when viewed through the optical center of the lens. This proves the presence of a prism, which we find to be 1° placed in frame base in.

In neutralizing lenses with the trial case, a weak prism is very easily overlooked; when a stronger prism is combined, the shape of the edges discloses its presence. When we use the lens measure, we find that one surface is plane and the other curved, and this at once raises the suspicion that the lens is something more than a simple sphere, and we are then led to look for a prismatic element.

We now proceed to measure the error of refraction by trial lenses, in accordance with the methods which I have so often described to you, with the following result:

O. D. — 5.50 S. \odot — .50 cyl. ax. 90° =
 $\frac{2}{30} \text{ ? ? ?}$
 O. S. — 2 S. = $\frac{2}{30} \text{ ? ?}$

It is impossible with any lens, or any combination of lenses, to raise the vision to $\frac{2}{30}$ full. The lenses mentioned above afford the sharpest acuteness, and you will notice they differ but little in focal strength from the lenses she is at present wearing.

Now, you will remember, that the rule in myopia is to give the very weakest lenses with which serviceable vision is obtained, and therefore, we will reduce these lenses .50 D., which will make the prescription read as follows:

O. D. — 5 S. \odot — .50 cyl. axis 90°.
 O. S. — 1.50 S.

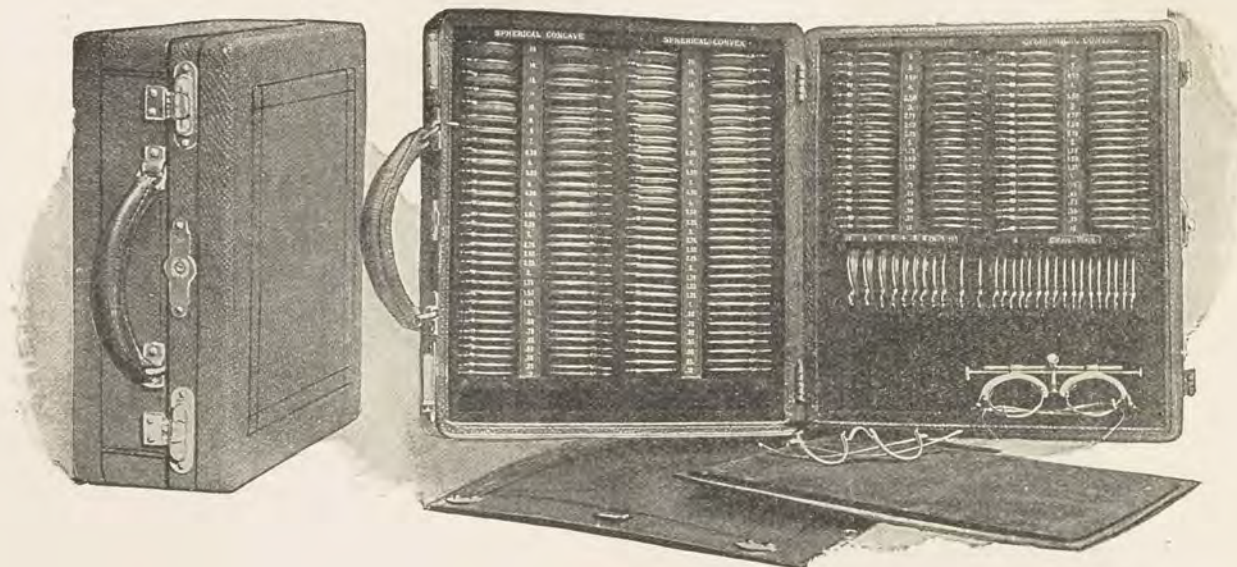
With these lenses she is able to decipher one or two letters on the No. 20 line, so that they really afford her very fair vision, and, at the same time, they are likely to be somewhat more comfortable than those she has been wearing. Now these glasses correct the error of refraction and answer for distant vision; shall we instruct her to wear them constantly for all purposes, or will she require some modification for reading? Before deciding this question, let us look into the condition of the muscle balance.

With these lenses in the trial frame, we place a Maddox rod over the right eye. We have a reason for placing it over the right eye, and that is because it is the more defective; the left eye possessing the better vision, is likely to be the fixing eye.

The rod is placed in a horizontal position, which causes the streak of light to appear

(Continued on page 1333)

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Clinics in Optometry

(Continued from page 1331)

vertical. We ask the patient if she sees this red streak running up and down, which side of the light it is, and how far from the light? She replies that she sees the streak and that it appears to be a foot or more to the left of the light. This is a condition of artificial crossed diplopia, which we know must be due to an outward deviation of the eyes, which we call exophoria. We place a prism of 3° over the right eye base in, which she tells us brings the streak closer to the light but still on the left side; a prism of 4° brings it still closer; while a prism of 5° base in brings the streak directly over the light.

We turn the rod so as to run vertically, and we say to the patient, in a questioning way, that she sees the streak now running crosswise, and ask her whether it is above or below the light. She replies that it is about two inches below the light, which we know indicates a hyperphoria of this eye. A prism of 1° base down corrects the deviation and brings the streak up on a level with the light.

We repeat these tests at reading distance, using the same Maddox rod and a small point of light, where we find the exophoria has increased to 10° , while the hyperphoria remains the same at 1° . This is only what we expect to find; exophoria is usually greater at reading distance, because as the convergence is called more and more into play its weakness becomes more and more manifest.

This lady is 33 years of age, and her accommodation, which is not very vigorous on account of her myopia, is becoming weakened on account of the physiological changes in the ciliary muscle and crystalline lens, which age brings on; therefore, both her accommodation and convergence need assistance in close vision, which we afford by placing a convex lens of 1 D. over her distance lenses, and combining a prism with the base in.

We will, therefore, order for close use:

O. D. — 4 D. S. \odot — .50 D. cyl. axis 90° ;
prism 3° base in.
O. S. — 1.50.

We place the prism over the right eye, because it will thus cause less disturbance of vision than if placed over the left eye, which is the better eye and presumably the fixing eye. In this case such a procedure is better than dividing the prism between the two eyes, and I would advise you always to order the prism over the more defective eye, or if the prism is divided, to place the stronger over the poorest eye.

In analyzing this case, it is reasonable to assume that the headache is due partly to the strain on accommodation and partly to strain of the convergence. In other words, that the asthenopia, of which the headache is the chief symptom, is both accommodative and muscular. This assumption being correct, we will naturally expect the patient to experience relief from the reading glasses, which are so combined as to afford assistance to both functions.

We must impress upon our patient the necessity of changing her glasses whenever she

reads or does any close work. This is somewhat troublesome, and as she is able to see fairly well with her distance glasses, she will be tempted many times to read with them, instead of taking the trouble to change. But unless she is willing to use each pair of glasses for its own particular purpose, and change her glasses as often as necessary, she cannot expect to be relieved of her headache.

You will notice that I have corrected only a small part of the exophoria, while the hyperphoria I have ignored for the present. It is well to be slow in the prescription of prismatic lenses; sometimes, even when they are unmistakably indicated, they fail to afford relief. In this case there is such a marked amount of exophoria that we feel justified in correcting a portion of it, and especially as she has worn prisms before. We increase the prism and place it over the right eye instead of the left, as before, in this change expecting to afford greater satisfaction, for reasons already mentioned. If, after wearing the glasses for a sufficient length of time, the patient still complains, I would consider the advisability of increasing the prism or placing another one before the other eye.

For the same reasons I may find it necessary later to consider the advisability of correcting the hyperphoria. When vertical prisms are accepted, they often afford the greatest kind of relief; but more often they are disturbing to vision even though indicated by an existing hyperphoria; therefore, the vertical prism will be held in reserve until we see if we cannot afford relief by the glasses we have just prescribed.

A Shield for the Eye in Skiascopy

I have found that the continual use of the retinoscope tires my left or unused eye to such an extent that some days I have been unable to continue at the work.

In trying to overcome the difficulty, I constructed a sheet-iron shade with a half-inch brass tube attached at right angles extending about two inches. I fixed a carrier upon this tube upon which to hang my retinoscope. The result was a great relief to my eyes, but the tube seemed to be too much in the way. Then I made another one, with a lip extending out about an inch and a half, and I found that it worked perfectly. This shield, or lip, permits the user to get close to the source of light, which, of course, enables him to get more light and allows him to move away to any distance without the light shining into his left or unused eye. It also allows the refractor to keep both eyes open while using the retinoscope.

I have now had a shade made from asbestos upon this plan. An eye shield should be attached to all shadow-test shades, whether they contain an iris diaphragm or not.

I know this shade will take a great strain off the retina, and anyone using it will wonder how they ever got along without it.

It will much shorten the time consumed in shadow testing and thereby will be quite a gain as well as a comfort to the patient.

—J. H. Rhoads, M.D., in the *Ophthalmic Record*

Microbes in the Normal Conjunctival Sac

That there are usually a great number of microbes in the conjunctival sac of even healthy eyes, has lately been proven again by the researches of Rymowitsch, of Russia. He examined 100 healthy persons with normal conjunctivas, and used as a culture medium glycerized coagulated ox serum. Four drops of a sterile physiologic salt solution were dropped into the conjunctival sac, sucked up again and dropped on the plates. From the cultures he determined the frequency with which disease-producing microbes are present upon the healthy conjunctiva. From his investigations it is easy to understand that sometimes sporadic cases of infectious conjunctivitis may occur simply from auto-infection. It is probable that this auto-infection occurs from a change in the mucous membrane, due to a cold or mechanical injury, and that other diseases, for example pneumonia, may occur in the same manner. The microbes may have been there for a long time, but they only produce their special disease after the tissue on which they were present become less resistant from other local or systemic causes.

Sues the Optician for Damages

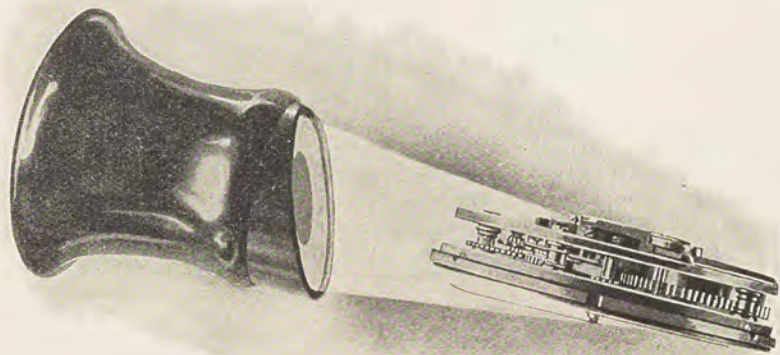
A suit was begun last month in the United States Circuit Court, New York, for damages alleged to have been suffered by a one-eyed man from wearing spectacles manufactured for him by a New York optician. Will. F. Arnold, of Tennessee, the complainant, is a retired United States naval surgeon. While on duty in the Philippines, according to the papers, he became afflicted with a tropical disease, which totally destroyed the sight of one eye and impaired the usefulness of the other. In New York, on June 1st, he broke one of the bifocal lenses prescribed to aid his sight and went into the shop of Sally Wiesbader, an optician, at 294 Columbus Avenue, to have his glasses repaired. Wiesbader, he says, did not adjust the lenses according to the oculist's prescription. Through this carelessness, Arnold charges, his remaining eye has been severely strained and its sight permanently impaired. He asks for \$3000 damages from the optician.

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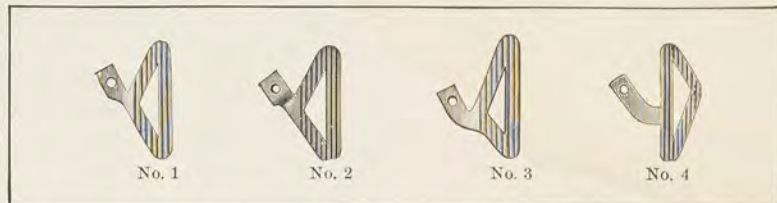
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A Few Suggestions for Investigating the Extrinsic Muscles, and Several New Methods for their Development

Read before the annual meeting of the American Association of Opticians, by JOHN C. EBERHARDT, Dayton, Ohio.

It is my purpose to present for your consideration some of the principal factors that enter into the physiology of the ocular motor muscles, and suggest several methods for their investigation. We will first consider:



John C. Eberhardt

1. The philosophy of involuntary binocular macular fixation.

2. Why the deviating eye sees the false image displaced in the opposite direction.

3. Maddox objective method for determining the character of muscular imbalance and locating definitely and accurately the deviating eye.

4. The desire for central macular vision, the guiding sensation of binocular fixation.

5. Where the motor muscles are normal this desire for causing retinal images to fall upon the macula lutea makes it impossible for the eye to deviate from the visual line without causing diplopia, therefore, when the eyes are fixed upon a given point, and a prism is placed before one eye base out, it deflects rays of light causing them to fall upon the outer retinal field producing diplopia, unless the rectus internus of this eye has the requisite power, when it will involuntarily rotate the eye inward until the macula is brought in line with these deflected rays.

6. Therefore in investigating the efficiency of the motor muscles it must be born in mind that only the eye over which the prism is placed participates in the enforced excursion, the other eye continuing rigidly to fix the object.

7. This therefore, is the basic principle which underlies all investigations of the motor muscles and should be carefully digested by exhaustive experiments, which are facilitated by fixing rigidly at a distance of about thirty inches, the retinoscope in such a manner that the reflex is formed upon the cornea, which will appear to the observer as a brilliant point of light in the pupillary area, and which, if parallelism exists will occupy relative positions within this area, whereas, should either eye turn in, out, up or down, a corresponding displacement will be noticeable in the deviating eye, whereas, it will occupy the proper position within this area in the fixing eye. If now a prism is placed before one eye, base out, this eye will be observed to turn inward, whereas, the other eye will retain its primary position, as evidenced by the position of this reflex.

8. Of the various extrinsic muscles the interni are most susceptible to development, and in this nature again reveals her providence, for the function of convergence, depending as it does upon these factors, is most in need of assistance, where either age or disease results in muscular deficiencies. Therefore, where asthenopic systems present themselves (regardless as to the age of patient)

after refractive corrections have been supplied, the efficiency of the interni should be individually investigated.

Minimum Convergence

The amount of such convergence depending upon the mathematical calculation of the triangle formed by the pupillary distance as the base line and the fourteen-inch point as the apex. For all practical purposes the following rule is sufficiently accurate. One degree of prism power will deflect a ray of light one-eighth of an inch in a distance of fourteen inches.

Therefore if the pupillary distance be two and one-fourth inches, equalling eighteen eighths inches, it would require eighteen degrees of prism power or nine degrees for each eye to deflect parallel rays of light so that they will intersect at a point fourteen inches distant; this would therefore be properly termed the *minimum convergence*.

Maximum Convergence

10. If a patient supplied with proper reading lenses be caused to fix a row of No. 3 Snellen test letters, placed singly one under the other he will be forced to exert his minimum convergence, if now prisms base out be placed equally before both eyes, diplopia will result, unless he can neutralize it by additional convergence, and the combined value of the strongest prism the eyes can thus fuse, added to the minimum convergence, will represent the *maximum convergence*.

11. This method is valuable for exercising deficient interni and when coupled with the same procedure of each eye employed alternately while fixing a light at twenty feet will effectively augment subnormal convergence.

12. The externi as well as the vertical muscles can be stimulated along similar lines, although as a rule respond very slowly if at all to exercise. Vertical imbalances if at all marked, are generally of a paralytic origin and call for systemic treatment, prisms properly supplied having value where diplopia is troublesome and where eyes can be taught to accept these.

Test for Hyperphoria

13. If patient supplied with reading lenses be caused to fix a single row of No. 3 Snellen test letters, with the double prism before right eye, he will see three lines of letters, which if orthophoria exists, will be equidistant and parallel, and deviation from the parallel indicating an imbalance of the oblique muscle, termed cyclophoria; if, however, central line is displaced either upward or downward, it indicates an imbalance of the vertical muscles, termed hyperphoria.

Hyperphoric Correction

14. Experiment seems to indicate that the vertical muscles if found deficient to any great extent, but are indifferently susceptible to exercise and usually effected by disturbances of a paralytic character. Exercise should be experimented with, but as a rule such cases require prismatic assistance, and where such is the case, much judgment must be exercised. It is here that the double prism and single row of letters referred to are valuable, for the question is, how much prism power is necessary to neutralize the vertical imbalance; the test suggested demonstrates the fact that static conditions as revealed by a rod test at twenty feet, differ from dynamic conditions obtained by observing the muscle poise at fourteen inches, while accommodation is made active by the eyes reading the single line of No. 3

Snellen type, whereas fixation is suspended owing to the fact that the right eye through the double prism fixes the double artificial or deflected images, whereas, the left eye fixes the real image absolutely independent of its mate, and that prism, which will neutralize any vertical displacement and cause these lines at fourteen inches to appear equidistant is the one which should be applied.

Cyclophoria

15. Dr. Savage in his "New Truths in Ophthalmology," published in 1895, and his more recent work on "Ophthalmic Myology," suggests the rhythmic use of cylinders for exercising the oblique muscles.

The student will, however, find that the cylinders necessary to neutralize the cyclophoric tilting of images, so much diffuses vision, that the efficiency of this method is largely defeated. The following method employed but a short time by the speaker presents interesting material for investigation and may form the basis of an effective method. If a single word like "July" in plain black letters one quarter of an inch in height be placed upon a plain card, and a circular card disk one and one-half inches in diameter be fastened to this card with a pin through the center so that it can be rotated, the center of this disk being one and one-quarter inches below the word *July*, and an exact fac-simile of this word be placed upon the center of this rotating disk, and the observer placed before his right eye a ten-degree prism, base up, he will find the upper word *July* displaced downward and over the same word appearing on rotary disk; if this disk be now slightly rotated, the word on this disk will slant or tilt, showing a scissors-like double image, formed by the real tilted image on rotary disk and the upper image which has been deflected downward by the prism, if the eyes are kept fixed on this crossed double image, they will gradually fuse into one image, meaning that the oblique muscles have so rotated the eyeballs as to compensate for the obliquity of the image.

As stated this is as yet in an experimental stage, and is presented to students of these phenomena so that many minds may grapple with the problem presented, in the hope that the results may contribute to the cause of optometry.

The Human Eye as a Trade-Mark

A curious case of prosecution for infringement of a trade-mark is reported in the British journals. Wm. Mellor, eye specialist, of Manchester, was prosecuted by Thos. Ison, of Leeds, for infringing a trade-mark taking the form of a human eye. The defense was that the "eye" had not been placed on the wrappings of any goods supplied by defendant, and also that anyone was entitled to use the "human eye" as an advertisement. So far this seems perfectly right, but it was pointed out that Mr. Ison had obtained exactly similar convictions in other parts of the country. This, of course, plunged the Bench into a quandary. They deliberated and discussed the matter for two hours, and then expressed themselves as unfamiliar with such actions. In the end they inflicted a small fine on the defendant and granted the plaintiff expenses. "Our sympathies," says the *London Optician*, "are certainly with Mr. Mellor, whose only remedy is an appeal to Quarter Sessions. Of course, the primary fault would seem to rest with the board of trade for allowing a refractionist to register the human eye as a trade-mark. To grant a trade-mark for such a thing seems, under the circumstances, to be little less than absurd."

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No. B—MURINE—Special or Opticians' size	1.25	7.20	.60
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No. E—MURINE EYE SALVE—(Unguentum Hydro-Murine)	1.00	7.20	.60
No. O—OXIDO-FLARINE—(Salve)	1.00	7.20	.60
No. F—GRANULINE	1.50	10.80	.90
No. G—HYDRONE	1.10	8.40	.70
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Making a Camera Pay

AMATEUR photography requires a more or less constant expenditure of money. The camera, plate-holders, developing-trays, measuring-glasses and printing-frames, when once paid for, are permanent possessions which seldom require any future outlay; but plates and films disappear with astonishing rapidity, and there is a constant outgo for printing-paper, chemicals, mounts and other incidentals. The problem of how to make the amusement profitable is of interest to many amateur photographers.

First of all, the young photographer must study his field. His opportunities may be greater in a large city than in the country, but they will be harder to discover and open to more competitors. The newspapers, weekly as well as daily, the national as well as local, are good customers for photographs which illustrate the news of the day; but this work requires great promptness, both of perception and execution.

Many Good Subjects

Scenes in the path of a tornado, the debris of a railroad wreck, the ruins of a great fire, glimpses of important gatherings, such as the Grand Army encampment, the annual convention of the Young People's Society of Christian Endeavor or the convocation of the House of Bishops—these are all matters of news, which if presented picturesquely find purchasers among the papers at good prices. Unusual snapshot pictures of prominent persons, too, or of groups of persons, will often sell for a good price. But the young photographer should not forget that courtesy is more important than cash, and that the "camera fiend" may easily become a nuisance.

In most cities photographs of places or objects of historic interest, if placed on view in conspicuous shop windows, find a steady sale. Such objects are fine public buildings, monuments, birthplaces of noted persons, and occasionally a famous tree. Scenes of unusual beauty in public parks are also in good demand, both among residents and among visitors.

The public libraries and the collections of historical societies are good hunting-grounds for the young city amateur photographer. If he watches the newspapers closely, he will often find notices of coming anniversaries or celebrations, for which objects in the libraries and historical societies will furnish good illustrations, salable in other cities as well as in his own. A forgotten or little-known portrait of some noted character will frequently bring an especially good price, and may be "syndicated," that is,

sold by agreement to one paper in each of several cities.

Historic Views Always in Demand

There is always a demand for views, both interior and exterior, of historic churches, such as the old Missions of California, St. Michael's in Charleston, and Christ Church ("Paul Revere's") or the Old South in Boston. The sexton, since he is so often called upon to show visitors about, is the best person to act as agent for these photographs.

To the dweller in the country town or suburban village, opportunities for making money with a camera are more common and easier to discover, although perhaps less important. First comes the reproduction of attractive local scenes which have pleasant associations for residents and visitors.

The "old home week" celebrations offer peculiarly good opportunities for the sale of pictures of this sort. One young photographer cleared a very pretty little sum by printing his pictures on postal cards, which he sold for three and five cents apiece.

The reproduction of family portraits—old paintings or drawings, old photographs or daguerreotypes—is another opening for the wide-awake youth. It requires good lenses and skill, but it is within the reach of the ambitious. Attractive photographs of private houses will often appeal to the dwellers. Photographs of houses that are for sale or to rent are often desired by real estate agents.

Popularity of Group Pictures

The making of pictures of school groups or buildings is often a source of profit. The football and baseball and basket-ball teams, and the officers of classes are always possible subjects.

Photographs of pets and of live stock have become a sort of specialty with one young photographer whose home is in the country, and another, who lives in a city, makes a business of calling on parents whose homes have been blessed with a new baby, and who want photographs of it at once.

These are but a few of the countless ways in which a boy or girl with a camera can pick up a dollar here and a quarter there. Other ways, which depend upon particular local conditions or peculiar ingenuity, will present themselves to the alert. But it may be said with certainty that no one will make a camera pay who waits for chances to come to him. Wherever he lives and whatever field he cultivates, he will have to look for his opportunities himself.

The use of the camera has a fascination that permanently holds the interest of the person who uses it, making it a life-long friend and perennial enjoyment.

—William Digby, in *Youth's Companion*.

The Printing Light in Photography

Any artificial light is preferable to daylight, because it is easily controllable and uniform in intensity. If a certain grade of paper, exposed for twenty seconds behind a given negative at twelve inches from a gas-jet, gives a perfect print, you can duplicate it at any time by making subsequent prints under exactly the same conditions. Lamp-light, gaslight, or electric light are all satisfactory, but vary in intensity. The Welsbach light will necessitate making the exposure about one-third of that required by the ordinary four-foot gas burner; the sixteen-candle power electric light is a little slower than the Welsbach. Probably an ordinary gas burner furnishes the best light to use, as the shorter exposures required by the other lights do not admit of so great latitude in manipulation. You will need to place a box, or a support of some kind, in front of your light on which to stand the printing frame during exposure. This should be at such a level that the source of light is directly opposite the center of the printing frame. Parallel lines should be ruled across this improvised exposure board at intervals of three inches apart, and marked 6, 9, 12, etc., according to their distance from the source of light.

Test for Exposure in Photography

Each negative must be tested to find the time of exposure. So many things influence the length of exposure that no fixed time can be given. Most of your good negatives, however, will print best at twelve inches from the light, and on special velox the average printing time will be about one minute, if an ordinary gas flame is used. Regular velox will require four times this exposure. When ready to make the first exposure, cut a sheet of paper into small strips about half an inch wide, and placing one of these over an important part of the negative, make an exposure, using your best judgment as to time and distance from the light. Time should be taken by the second hand of a watch. Develop this strip, and if it is not satisfactory try another, varying the time or distance as indicated by the first result. When a satisfactory result is obtained, you can proceed to make any number of prints from the same negative, and if time and distance are identical, all the prints will be equally good. After having made prints from a few negatives and compared them with the negatives, you will soon be able to estimate the time to an accurate degree. It is a good plan to have a small book in which to record the exposures and distances required by different negatives, or to place these data on the negative envelopes.

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We do not claim they will fit all noses, neither will any other job; but we have them in the hands of over 1000 successful refractionists with most satisfactory results, and this fact speaks for itself.

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- Can be used with any stud and spring.
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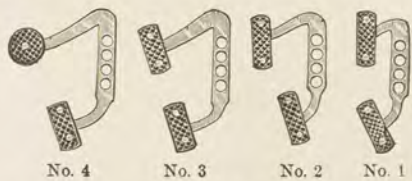
Cawood Guards, 10 K. Gold,	per dozen, \$ 9.00
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TOLEDO, OHIO

Catalogue on application

Special Shape Lenses

Paper read at the Annual Convention of the American Association of Opticians, by EBEN HARDY, of Boston, Mass.

All will admit that however great the pains we take in our correction of the different errors of refraction, if we overlook the details of having the glasses properly fit our patients after they are made, we lose to a great extent the results we are trying to accomplish and yet wonder why the glasses are not satisfactory. We opticians who do more or less manufacturing, sometimes come across some of the most ridiculous measurements that one can imagine, and sometimes from men who



Eben Hardy

think they know the refracting and manufacturing from A to Z. With the progress that is being made to-day and has been made in the last ten or fifteen years, men ought to be educated to the necessity of the advantages of these special lenses, as well as in other lines of our profession. Fifteen years ago you could hardly find a pair of lenses larger than one-eye—mostly two-eye size being used. The use of such lenses to-day would seem ridiculous if put on a patient with a P. D. of $2\frac{5}{8}$ or even $2\frac{1}{2}$, with a narrow nose, as we sometimes find on a large face. Yet they would look no more ridiculous than to put a regular shape oo eye on a patient with a P. D. of $2\frac{1}{8}$ or $2\frac{1}{4}$, with a broad nose, as we sometimes see. In order to overcome these errors, it was found necessary to introduce some new method of making lenses to fit the different needs which presented themselves.

The first of these special shape lenses to be introduced was the drop eye, otherwise known as the Lloyd, Park or Globe shape.

There are several who claim to be the first to grind this shape lens. I remember grinding this drop eye seventeen or eighteen years ago, when I first worked for A. J. Lloyd & Company. Let that be as it may, it is a very popular lens in the East, this drop eye being the only special shape lens ground for a long time. These drop eye lenses are made in different sizes as the case may need. We find this shaped lens invaluable in cases where the patient has a prominent, overhanging brow and deep set eyes, as it admits of bringing the lenses nearer the eyes. They are also useful in some cases where the patient is inclined to look under his or her lens.

A few years ago another shape was introduced, that of the full eye. This lens can be ground any size according as the case may require: 37 x 30, 37 x 31, 38 x 32, 38 x 33, 39 x 32, 39 x 33, 40 x 33, 40 x 34, 40 x 35, 41 x 34, 41 x 35, 41 x 36, 43 x 35. These are some of the special full shape lenses, which have a decided advantage over the regular shape, on a broad nose with a narrow P. D. and using an A stud. You can put a lens on a patient that he or she will not be looking under or over all the time; also in case of a narrow P. D. when spectacles are to be worn, by bending the bridge 47 style, you can get a much larger lens and will make a decidedly better looking pair of glasses than by using the regular shape lens.

Round lenses give the wearer rather an owlish appearance and are not to be recommended,

except when it is necessary to protect the eyes from foreign substances flying in the air or when driving or riding or on a bicycle. Large lenses give to the wearer a greater field of vision, and for this reason most of the Eastern optometrists are furnishing all lenses as large as possible, but, of course, never forgetting the points which are essential in their adjustment. The special shape lens affords a much wider range of vision without having to move the head, especially when the toric lens is worn. Bookkeepers, students, sportsmen, in fact all those who have occasion to turn the eyes quickly, will derive a considerable advantage by the use of some of these special shape lenses, especially if the person is nervous and if they are looking at the edge of the lens all the time, they will not take any comfort. The demand is growing every day for these special shape and large lenses.

Wafers for Bifocal Lenses

In connection with this subject, a few words might be said about special shape wafers for bifocal lenses. People are learning to appreciate the many advantages of the bifocal glass, and the optician and optometrist should be awake to the many points pertaining to the proper shape, size and position of the wafers. The purpose for which a bifocal is to be worn should determine largely the shape and size of the wafer. A person employed as a bookkeeper would not as a rule get satisfaction with glasses having a small wafer. They would naturally need a large wafer rather longer than usual, so as to enable them to look to either side and still see through the wafer.

On the other hand, a person who is moving about a great deal and using the reading part only occasionally, would be more comfortable with a wafer of small dimensions. Those requiring a large field in the distance glass, would appreciate the round wafer, enabling them to look to the side and down more readily. In fact, the round wafer may be used in a general way with great satisfaction. They are neat in appearance and if made very thin, will resemble closely the popular invisible bifocal. Another form of wafer used in extreme cases is of oval form, the lower edge of which is raised two or three millimeters above the lower edge of the base lens, thus enabling the wearer to glance under the wafer.

We often hear a customer say: "I know I couldn't wear such a glass" when speaking of a bifocal, but a little explanation and demonstration in regard to the special size and shape of the wafer suited to their particular case, will convince them that it is a practical form of glass to wear. A trial follows, with the result that he reports great satisfaction and those that have tried unsuccessfully to wear poorly fitted bifocals, are sent to you through him to be properly fitted.

This special shape lens also keeps the business in the hands of the legitimate optometrist and prevents the wearer of glasses when they break a lens, going to a man who uses only stock lenses and sells them as an article of merchandise for a small advance above the price and puts them in while you wait.

Points on Frameless Lenses

Now, just a word or two about frameless lenses and drilling above center. Frameless lenses are by far the most popular in this country and I speak of them in this way, for when Wm. Dunscombe, president of the British Optical Society visited us last year, he said they were but little used in his country. I think one reason why they have grown in favor among those of us at least who are anxious to have every pair

of glasses we send out perfect in every particular, is the fact that this can better be accomplished by their use in many cases than by using those having frames. For, in spite of the great variety of guards upon the market, we know it is almost impossible in some cases to make the lenses set low enough if we mount them in a frame. While this can easily be accomplished in the frameless eyeglasses by drilling the lens 1, 2 or 3 millimeters above the center as the case may require.

Perhaps there is nothing which one regrets more than to be told by his optometrist that he should wear glasses constantly. We also know that there are some who would rather suffer from an uncorrected ametropia than wear an unbecoming pair of glasses. The tailor has learned that a tall man will look taller if dressed in a striped suit of clothes, and that the short man will be made to look shorter if he wears clothing having the stripes run around the body. But, if we reverse the order of things, we add to the appearance of both, and the progressive optometrist of to-day finds he, too, must give more or less attention to the cosmetic properties of his product, if he expects his patient to wear his glasses and receive the benefits to be derived from their use and he in turn to receive the credit for his skill in fitting them.

He must therefore study the features of his patient and grind the lenses, the size and shape which will be most becoming to them.

How to Use a Magnifying Glass

Few people seem to know how to use an ordinary magnifying glass in order to obtain the best results, says the *British Optical Journal*. The usual method seems to be to lay the object viewed upon a table or desk, and to place the lens between it and the eye, bending the head down considerably until the details can be focused. This is entirely wrong. The head should be merely tilted, and the lens brought up close to the eye by the hand corresponding to the eye used. The object to be examined should then be raised by the other hand until it is in focus, the position with regard to the lighting being so chosen that the light comes over the shoulder of the same side as that on which the lens is used.

"He Got it in the Neck"

The scribes of the daily press cannot, of course, be expected to be familiar with ophthalmology, and newspaper accounts of eye operations, etc., are frequently amusing as a consequence. The following from the *Chandlerville (Ill.) Times* is an instance in point:

"F. W. R— had been troubled with a cataract on his left eye * * * * When the doctor seen that there were no hope of recovering the use of this eye * * * * Dr. — performed one of the most skilful operations known to science, that of uniting the optic nerve of the left eye to the nerve of the right eye. The operation was performed in the back of the neck."

To Remove Frost from Windows

One of the simplest and quickest methods of removing ice from windows is to place common coarse salt on a dry cloth and rub the frost. You will be surprised to see how rapidly the frost is removed, and the glass will not coat again for a day or two, even in very cold weather. —Ex.

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If you desire to purchase Stevens Quality goods, look for the trade-mark "S-Q" and if it does not appear on the goods received, send them back with a gentle reminder that a square deal in business is as much to be desired as in the government of our nation.

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Development of the Faculty of Binocular Fusion

Read before the American Medical Association, by
EDWARD JACKSON, M.D.

THE fusion faculty, which controls the ocular movements in the interest of binocular vision, is one of the most delicate and exact, yet one of the most constant and rigid co-ordinations that the human being acquires. That it is not commonly possessed at birth seems to be well established by the agreement of all careful observers. That it is normally developed in early childhood, and only during early childhood, is equally certain. Persistent intelligent efforts have failed to give any indication of its acquirement in adult life. I believe it is well established generally before the age of two years, and practically always before six. The earlier age is that of normal development; the later is the limit of delayed or obstructed development, beyond which its appearance or development is impossible.

Although development of the fusion faculty occurs after birth, it is, I believe, determined essentially by congenital tendency. It is a race characteristic, and is not a result of the reaction of the individual to environment. It develops, as do the sex characteristics and organs, in obedience to inherited impulse; not like the power of reading or writing through conscious effort or training. There is not very much evidence on this point, yet what there is is fairly conclusive.

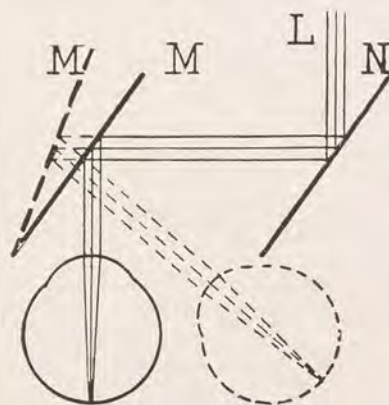
Take, for instance, the case reported by J. L. Minor to the American Ophthalmological Society in 1898, of a man operated on for congenital cataract at the age of forty. After one cataract had been removed the patient was still able to judge distance better with both eyes shut than he could by the sight of one eye. The other cataract was removed, and ten days later, when he was first allowed to use the two eyes together, tests with prisms and stereoscopic figures showed complete binocular vision. Two days after that when his eyes were again unbandaged he could judge distance accurately with both eyes open, but he usually missed when either was closed. His power of overcoming prisms was still comparatively feeble.

The very rapid acquirement of the power of binocular fusion from a few brief lessons with the amblyoscope reported by Worth and others, and which I also have witnessed, seems inexplicable except on the supposition that the fusion faculty has spontaneously become well-developed, although the patient, on account of some obstacle, has never learned to control or use it. Thus in the first of Worth's illustrative cases "fusion training" was given on five different days within a period of two weeks. On the fourth occasion it is noted: "The child has considerable amplitude of fusion." After the fifth seance, the eyes remain straight with glasses. Where the fusion sense has been established and the squint continues, Worth speaks of the repetition of fusion training once a month as being quite sufficient to keep up the fusion faculty until operation is permitted.

Evidently our most advanced treatment of squint to-day simply removes obstacles such as inequality of vision in the two eyes, or errors of refraction and the abnormal innervation they entail, or demonstrates to the child the existence of the fusion faculty that has already developed. But there are rare cases in which, without any apparent obstacle, no trace of binocular fusion seems to

develop. In these cases without any serious error in refraction, with perfect vision in each eye, and no deviation of the visual axes, there still exists independence of function in the two eyes. They have no power of stereoscopic vision and no binocular diplopia can be provoked. There are also cases of alternating squint which are precisely similar to the above, except that the movements of the two eyes are co-ordinated to excessive convergence or divergence.

In a still larger class of cases a feeble faculty of binocular fusion or some rudiment of such a faculty is discernible; but it is not capable of overcoming even slight obstacles. The bulk of uncured convergent, like the neuropathic divergent squints of Worth, belong to this class. In the management of those cases must lie our chief opportunity for added future success in the treatment of squint. We now have instruments, the amblyoscope, the fusion tubes, and the stereoscope, with which we can in ten-minute exercises demonstrate to the child the existence of the fusion faculty when it has already developed, but which he has heretofore left unused. These instruments, however, are not



adapted to help in the continuous exercise of a fusion faculty which, beside being unused, is really undeveloped.

In seeking an instrument that would aid us in the actual development of the fusion faculty, I have worked out one by which the patient can employ his binocular vision, such as he may possess, not only on a few specially-prepared objects or slides, but on all objects that he looks at and continuously, even while there remains actual squint of any degree. The matter can be best presented by an explanation of the instrument.

In viewing the reflection of objects in a mirror there appears a lateral reversal of relative positions. If this reflection is reflected from another mirror the second reversal gives the objects their normal relative position. If the two mirrors are parallel, each object seen is seen after double reflection in its true direction. By inclining the surfaces of the mirrors to a certain angle each object seen through them appears displaced to double that angle. When, as in squint, the visual axis of the fixing eye is directed toward one point, that of the deviating eye is directed toward another. But by causing one or both eyes to look at such double reflections as are furnished by plane mirrors inclined to the proper angle, it is easy to present the same object to the visual axis of both the squinting and the fixing eye. The accompanying diagram illustrates the effect of changing the direction of one of the mirrors.

The solid lines represent the mirrors *M* and *N* as parallel and the eye as receiving the ray *L* parallel to its original direction. The broken lines represent *M* inclined as for a convergent squint, the altered direction of the ray after its second reflection, and the way it would be received by the

converging eye. By varying the angle of the mirror *M*, the reflected ray can be given any direction required for even the highest degree of squint.

The instrument can be used for the same purposes as the amblyoscope or an adjustable stereoscope, with slides prepared for the stereoscope. But it can also be used in looking at any object near or distant, to produce any modification of direction required in the interest of binocular fusion. If there be present a rudiment of this faculty, even with a high degree of squint, the mirror can be set at such an angle as to constantly stimulate the exercise of fusion. By varying the inclination of the mirror *M*, the patient can be induced to increase or diminish his convergence, and thus exercise his power of maintaining fusion.

For an instrument not to be worn by the patient the greatest simplicity is attained by arranging it to be used before one eye only, the other being left free as in ordinary vision. The instrument swings either way on the upright that supports it, so that it can be used equally well for the right or the left eye. The arc can be graduated to show just how much convergence and divergence the position of the mirror represents. The reflection from two mirrors somewhat lessens the visibility of objects viewed by means of them; hence, the mirrors should ordinarily be placed before the non-deviating eye. To bring down the vision to an equality with that of the deviating eye, a series of smoked glasses of different shades are also furnished. These can be slipped in front of the opening, in the clip for this purpose.

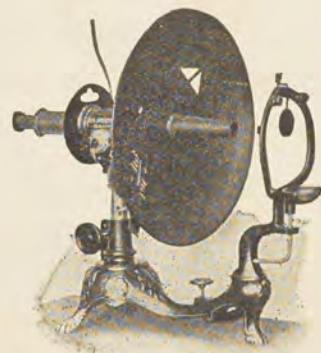
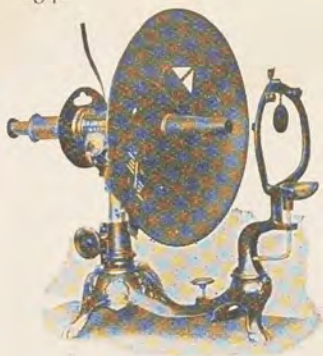
With the width between the eyes, the degree of squint, and the difference in visual acuteness exactly known, we can, in any given case, construct a binocular instrument very much smaller than this, which can be attached to a head band and worn continuously. With such an apparatus all the child's seeing for hours, or throughout the day, should be done under conditions that bring the two images of a given point on corresponding points of the two retinas.

I believe that with such an application of this principle of double reflection, we will be able to bring about the development of fusion faculty in some cases in which such development would not otherwise occur. With the fusion faculty once fairly developed, the complete cure of concomitant squint becomes possible.

"The Shadow Test"

The latest addition to the wealth of literature on eye refraction, is a cloth-bound volume of 110 pages, entitled "The Shadow Test," by Geo. A. Rogers, of Chicago. The book covers the principles and methods of applied skiascopy, and the text is elucidated with sixteen full-page illustrations containing from one to ten figures and diagrams to the page, all of them white lined on a dark background with colored pages to show the movements of the reflex and shadows during the different stages of the test. In the twelve chapters of the book, facts and factors in skiascopy are made clear, taking the student by easy steps from the simplest to the more complex features of the test. The price of the book (not including postage or express) is one dollar, and it can be procured from F. A. Hardy & Co., Chicago.

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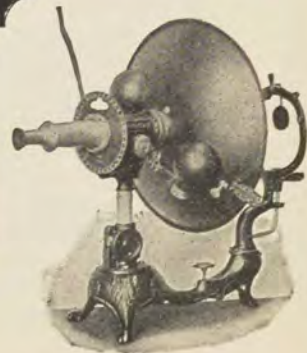
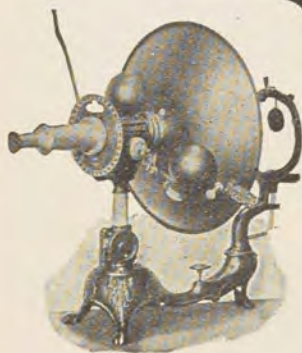
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Optical Questions and Answers

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.

"A. T. R."—School teacher, eighteen years old, never wore glasses, eyes pain, headache when reading. Been studying very hard at nights. Lids are red and irritated. V., — R. E. = $\frac{3}{8}$; V., — L. E. = $\frac{3}{8}$. Retinoscope, R. E. + .50 \ominus — .50 ax. 150°; retinoscope, L. E. + .75 \ominus — .50 ax. 150°. Test lenses, R. E. + .25 \ominus — .25 ax. 140°, V. = $\frac{3}{8}$; test lenses, L. E. + .50 \ominus — .25 ax. 165°, V. = $\frac{3}{8}$; O. U. = $\frac{3}{8}$. Maddox rod with glasses, 10° B. I. to fuse streak. P. P., with glasses, R. E. 9 cm.; L. E. 9 cm. I gave him, R. E. — .50 \ominus — .25 ax. 140°; L. E. — .25 \ominus — .25 ax. 165°; to be worn constantly. My idea was to correct the astigmatism and the exophoria. Am I right, or should I give prism B. I.? The glasses have been worn four weeks without any benefit. Would be glad of your advice.

The retinoscope and test case examinations both show simple hypermetropic astigmatism in right eye and mixed astigmatism in left. Inasmuch as both methods of examination agreed (except that retinoscope develops more of the hypermetropic element), we are at a loss to understand why our correspondent should have prescribed concave spherocylinders. Surely there seems to be no justification for such departure from the lenses indicated by the tests he has made apparently with so much care.

Astigmatism is the most common cause of headache, but it is usually hypermetropic astigmatism, not myopic. We would suggest the prescription of the lenses indicated by the test case examination, without any reference to the exophoria at present. If these fail to afford relief after a month's constant wear, then an effort should be made to correct the exophoria, not by prisms base in for constant wear, but rather by strengthening the convergence by exercise by weak prisms bases out, worn for a short time each day, and by visits to the optometrist's office, when the strongest prisms (bases out) are used that eyes can overcome.

"C. H. S."—Son of drunkard, eleven years old, had measles while quite young, had difficulty to keep up with his studies, and bad headaches at all times. D. V. $\frac{2}{30}$ +. Vision proximus .75 Snellen's type. D. V., R. E. — 1.50 D. sph. \ominus — .75 D. cyl. ax. 180° V. $\frac{2}{30}$; L. E. — 2.25 D. sph. \ominus — .50 D. cyl. ax. 180° V. $\frac{2}{30}$. Ordered use of 2 per cent. solution of atropine sulph., 1 drop in each eye three times daily. Boy on second day got violent, saw snakes, and I cut the strength down to 1 per cent. solution. After using atropine four days, boy came back, and I found no change in vision whatever, no amount of depression would reduce his apparent myopia, and make it hyperopic and I gave him above for distance, while for reading he required + .3 D. sph. less the cyl. above given, with which he could see the finest print. In trying him for his scope of the retina, found them limited only by the rims of the glasses. As the foregoing shows, there is absolutely no accommodation to the boy's eyes, no signs of disease either, and after four or five weeks of trial he acts like new-born, he is so frisky.

When a child complains of headache, and we find distant vision impaired and a concave lens accepted, we should suspect simulated myopia made so by spasm of accommodation. However, in this case, if the use of atropine failed to reduce

the apparent myopia (and in passing we feel it incumbent upon us to say that a 2 per cent. solution of atropine is too strong for safety), the presumption would be that the error is real myopia. But when we read farther along in the history of the case that + 3 D. sphere is required for reading, we are inclined to think that our first supposition is correct and that there must be a hypermetropic element present. These two features of the case are contradictory, and one is puzzled to determine which to believe. Surely if spasm of accommodation was present, it would be relaxed by the atropine. But just as surely, if the case were myopic, a convex lens would not be required for reading. We do not think the formula mentioned should be prescribed without further examination, and, in fact, it would probably be better to have the advice of a medical refractionist.

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.

"G. G. S."—Lady came for pair of glasses. Examination with retinoscope shows that she will accept: R. E. — 3 cyl. ax. 20°; L. E. — 10 \ominus — 2 cyl. ax. 28°. She has $\frac{2}{8}$ R. E. without glasses, and with lenses — 3 cyl. ax. 20°, her vision is $\frac{1}{8}$; L. E. without lens $\frac{2}{8}$, with — 10 \ominus — 2 cyl. ax. 25°, she gets $\frac{3}{8}$ vision. Can see fine with each eye separate, but with both eyes it bothers her very much. Is there anyway that I could decenter lenses or fix so she could wear that combination? She seems to see double if she turns her head. I gave her: R. E. — 3 cyl. ax. 20°; L. E. — 7 \ominus — 2 cyl. ax. 25° to wear. With left eye she sees $\frac{3}{8}$ and seems quite easy, but bothered a little. L. E. with retinoscope shows: — 16 \ominus — 2 cyl. ax. 25°. She is about thirty years old. Would you advise trying the — 10 \ominus — 2 cyl. ax. 25°, in a few weeks?

We are told that vision of R. E. is $\frac{3}{8}$, which means that patient is seated five feet from the card and is able to read the No. 20 line. But this is not the proper way to make the test. The patient should be seated twenty feet from the card and should remain there. The only exception to this rule is in high degrees of defect where none of the letters are legible at 20 feet, as in the case of the left eye.

Our correspondent must be an expert skiascopist if he is able to measure the amount of error and determine the location of axis of cylinder by the retinoscope alone. We have no record of any other method of examination. It is not well to depend on any single method of examination, and especially on an objective method; this should be supplemented by a subjective test, as by the test lenses.

In prescribing glasses in a case like this, a good deal depends on the glasses which patient has been wearing, for we assume that in the presence of so great an error of refraction, this lady has not been without glasses. An examination of her old glasses will show how much of a difference between the two lenses the eyes will tolerate, for on the determination of this point depends the comfort of the eyes.

If the patient is able to bear the — 7 sphere on left eye, well and good. The effort should be to give as near a full correction as is compatible with comfort, and this is a point that can be determined only by trial and experiment.

When a person looks through a spherical lens at any point except the optical center, a prismatic effect is produced. In lenses as strong as these, the prismatic effect is considerable; therefore, when strong lenses are prescribed, careful attention must be given to the fitting of the lenses before the eye to see that they are correctly centered.

The muscular balance should be carefully determined, and if any heterophoria is found to be present, a prism may be combined with the left lens, provided such addition is comfortable. This is a point that can be determined by means of lenses and prisms from the trial case, and allowing patient to wear them a short time in the consulting-room.

"H. J. D."—Patient wearing + 3 for reading with; he states excellent distant vision. Suddenly and while reading notices a blur comes over his sight. Taking off his glasses he finds to his astonishment that he can read without them. Noticing a few days later that he cannot see any distance away, to speak of, he comes to me for refraction. V., O. U. $\frac{3}{30}$; with — 5 D. he reads $\frac{3}{8}$. Reads Jaeger No. 1 out to six inches without glasses. Concave lenses don't help for reading, but prisms to assist convergence relieve strained feeling.

Unfortunately our correspondent has failed to give us the age of this patient; this is a very serious omission in any case in which advice is asked.

The examination made by "H. J. D.," with concave lenses, at distance, classes the case as one of myopia without any question; this seems to be corroborated by the location of the far point at six inches. In the face of this apparently proved myopia, and of such high degree, it seems incredible that any optician would prescribe + 3 D. lenses, or that such patient would be able or willing to wear them.

If the patient was quite young we might suspect latent hypermetropia made apparently myopic by spasm of accommodation; but it is scarcely possible that the spasm would indicate so high a degree of myopia.

If the patient was able to read comfortably with + 3 D., he could not be myopic to the extent of 5 D. or 6 D.

If patient is really as highly myopic as indicated by the test, he could not need convex lenses for reading, even though he was well up in the presbyopic age.

If patient formerly had excellent distant vision as stated, it would not be possible for him to become myopic to the extent of 5 D. In view of these contradictory features, we are not able to give any definite advice without fuller information.

"G. W. C."—Girl, aged eight, fitted about three years ago by a prominent oculist in nearby city. By neutralizing glasses I find they are for R. E. + .25; L. E. + .87. Vision without glasses, R. E. $\frac{2}{8}$, part of $\frac{2}{8}$; L. E. $\frac{1}{10}$. She used right eye exclusively, and left eye turns in. Tried fogging method with the following results: R. E. + 2.50 sph. \ominus — .50 cyl. ax. 90°. V. = $\frac{2}{8}$, part of $\frac{2}{8}$. L. E. + 3.50 sph. V. = $\frac{2}{8}$, part of $\frac{2}{8}$, but with both eyes in use, left eye still turns in. By alternately covering and uncovering R. E. succeeded in producing diplopia, but the strongest prisms in my trial case would not fuse images. This was with 20° in front of L. E. and 15° in front of R. E. As she had become tired, I advised her to come for another examination in about a week. Her parents state that very often when she first rises in the morning her eyes appear straight, and until recently there would be occasionally a day when they would remain straight all day. I should have stated that the prisms were tried with the above spherical lenses before the eyes. Do you think the proper glasses will afford relief in this case, or would an operation be necessary. Also do you think it advisable for me to try to fit her with glasses, or should I refer her to an oculist?

This is undoubtedly a case of hypermetropia, the improper correction of which has allowed a convergent strabismus to develop. We are at a loss to understand why the oculist who was first consulted should have prescribed such weak convex lenses, so weak as to be almost valueless. The proper method of treatment is to give as full a correction of the hypermetropia as possible, in other words as strong convex lenses as the eyes will bear. These glasses should be worn as soon as child begins to use its eyes, and it seems as if the golden opportunity had almost passed in this case. However, it is better late than never, and as the eyes occasionally appear straight, there is hope that a persistent wearing of the glasses will still suffice to cure the tendency to excessive convergence. This is not a case for operation, nor do we think it necessary for her to be referred to an oculist, as our correspondent seems to understand the nature of the case and the proper method of treatment. The glasses indicated by fogging method would probably be right.



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Optical Organizations

NATIONAL

American Association of Opticians (1898)

HARRY P. HOLMES, President, Des Moines, Iowa.
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Meets annually.

Worshipful Company of Spectacle Makers (England) (1629)

HON. ALBAN G. H. GIBBS, M. P., Master.
COL. T. DAVIES SEWELL, F. R. A. S., Clerk, Guildhall, London, E. C., England.

British Optical Association (1895)

M. W. DUNSCOMBE, F. R. O. A., President.
J. H. SUTCLIFFE, F. R. S. L., F. B. O. A., Secretary, 17 Shaftesbury Avenue, London, W., England.

Canadian Association of Opticians (1896)

F. E. LUKE, President.
H. J. GEIGER, Secretary and Treasurer, Toronto.

Scottish Optical Association (1903)

JAMES CHALMERS, President, Springburn, Glasgow.
D. L. MURRAY, Secretary, 621 Duke Street, Glasgow.

The Australasian Optical Association (1904)

H. A. BARRACLOUGH, B. O. A., President.
A. A. C. COCKS, B. O. A., Secretary, Sydney, N. S. W.

Phi-Omicron Fraternity (1904)

JOHN C. EBERHARDT, President.
C. S. HART, Secretary, Lynd, Mass.

The Optical Specialists' Association of America (1904)

J. C. CLARK, President, Sioux City, Iowa.
G. E. BOYCE, Secretary, Waterloo, Iowa.

American Association of Wholesale Opticians (1893)

J. T. BRAYTON, President, Chicago, Ill.
A. REED MCINTIRE, Secy., 723 Sanson St., Philadelphia, Pa.
Next meeting, in New York, in 1905.

INTERSTATE

New England Association of Opticians (1894)

ALBERT A. CARTER, President, Boston, Mass.
G. A. BARRON, Secretary, 3 Winter St., Boston, Mass.
Meets third Tuesday of each month, except July and August.

Northwestern Optical Association (1901)

J. W. GRAINGER, President, Rochester, Minn.
E. C. ROBERTS, Secretary, Red Wing, Minn.

STATE

Pennsylvania Optical Society (1895)

H. E. HERMAN, President, Williamsport, Pa.
C. A. LONGSTRETH, Secretary, 228 Market St., Phila., Pa.

New York State Optical Society (1896)

W. W. BISSELL, President, Rochester, N. Y.
ROGER F. WILLIAMS, Secretary, 455 Main St., Buffalo, N. Y.

Indiana Optical Society (1896)

J. H. ELLIS, President, South Bend, Ind.
MISS MARGARET J. ERISMAN, Secretary, Lafayette, Ind.

Michigan Society of Optometrists (1896)

P. SCHOLLER, President, Hancock, Mich.
E. ELMER, Secretary and Treasurer, 105 Western Avenue, Muskegon, Mich.

Iowa Optical Society (1897)

E. P. RENAUD, President, Keokuk, Iowa.
B. M. BILLS, Secretary, Vinton, Iowa.

Illinois Optical Society (1898)

GEORGE A. ROGERS, President, Chicago, Ill.
O. J. HALBE, Secretary, 501 Trude Building, Chicago, Ill.

California State Association of Optometrists (1899)

F. W. LAUFER, President, Oakland, Cal.
ALBERT J. SCHUHAY, Secy., 308 Hayes St., San Francisco, Cal.

Oregon Association of Opticians (1899)

J. O. WATTS, President, Eugene, Oregon.
C. L. HAYNES, Secretary, Portland, Oregon.

Washington Association of Opticians (1899)

H. CLAY EVERSOLE, President, Seattle, Wash.
LEANDER BUTT, Secretary, 715 First Ave., Seattle, Wash.

Granite State Optical Association (1900)

L. E. WHITE, President, Concord, N. H.
W. E. BURPEE, Secretary, Manchester, N. H.
Meets third Wednesday of January, March, May, September and November.

Wisconsin Association of Optometrists (1900)

HENRY WALDECK, President, Milwaukee, Wis.
I. M. ADDELMAN, Secretary, Tomah, Wis.

North Carolina Optical Society (1900)

F. W. MAHLER, President, Raleigh, N. C.
SAMUEL RAPPOET, Secretary, Durham, N. C.

Minnesota Optical Association (1900)

J. M. CHALMERS, President, Lake City, Minn.
C. A. SNELL, Secy., 608 Nicollet Ave., Minneapolis, Minn.

Maine Association of Opticians (1901)

H. E. MURDOCK, President, Portland, Maine.
ROBERT B. SWIFT, Secretary, Portland, Maine.

Tennessee Optical Society (1901)

H. J. COOK, President, Knoxville, Tenn.
GEO. R. CALHOUN, Secretary, Union and Summer Sts., Nashville, Tenn.

Colorado Optical Association (1901)

R. B. FINCH, President, Denver, Colo.
R. H. BIEGEL, Secretary, 636 Sixteenth St., Denver, Colo.
MISS E. H. CHAPMAN, Cor. Secy., 1655 Welton St., Denver, Colo.

Kansas Association of Opticians (1901)

F. W. HUNT, President, Burlingame, Kans.
H. T. CORSON, Secy. and Treas., Kansas City, Kans.

Missouri Association of Opticians (1901)

C. M. WHEELER, President, Columbia, Mo.
ELMAR H. SCHMIDT, Secy. and Treas., Washington, Mo.
Next meeting, May 8, 1906, in Kansas City.

Virginia State Optical Association (1902)

W. WAYT ROYALL, President, Martinsville, Va.
JOHN W. BUCHANAN, Secretary, Richmond, Va.

Ohio Optical Society (1902)

F. W. WALLIS, President, Columbus, Ohio.
EDWIN L. JONES, Secretary, Sandusky, Ohio.

Kentucky Optical Society (1902)

L. J. BACKUS, President, Louisville, Ky.
A. S. REEVES, Secretary, Winchester, Ky.
Next meeting in Georgetown, October 17, 1905.

North Dakota Optical Association (1903)

CHAS. G. CONYNE, President, Mandan, N. Dak.
W. R. BLAKELY, Secretary, Grafton, N. Dak.

New Jersey Optical Society (1903)

FREDERICK H. HEWLETT, President, Paterson, N. J.
J. J. HARTMAN, Secretary, 16 Howard St., Newark, N. J.

South Dakota Optical Association (1903)

WILLIAM H. FRITZ, President, Sioux Falls, S. Dak.
D. G. GALLET, Secretary, Aberdeen, S. Dak.

Texas Optical Association (1903)

DR. R. BESKOW, President, Greenville, Texas.
J. M. CRAWFORD, Secretary, Denison, Texas.

Rhode Island Society of Optometry (1903)

WALTER BLAKE, President, Providence, R. I.
G. FREDERIC BEANE, Secretary, 139 Mathewson Street, Providence, R. I.
Meets first Monday of each month.

South Carolina Optical Society (1903)

W. E. AVERY, President, Columbia, S. C.
M. R. ABBE, Secretary, Columbia, S. C.

Quebec Optical Association (1904)

R. DE MÉSLE, President.
P. G. MOUNT, Secretary, cor. St. Denis and Dorchester Sts., Montreal, Quebec.

Georgia State Optical Association (1904)

C. E. FOLSOM, President, 28 Whitehall St., Atlanta, Ga.
C. H. KITTRELL, Secretary, Dublin, Ga.

Opticians' League of the State of New York (1904)

(Dispensing Opticians)

E. B. MEYROWITZ, President, New York City.
A. SHAW, Secretary, 1145 Broadway, New York City.

Louisiana Optical Society (1905)

LOUIS CLAUDEL, President, New Orleans, La.
S. P. SCHUESSLER, Secretary, Baton Rouge, La.

Nova Scotia Optical Society (1905)

A. C. WHITTEKER, President, Halifax, N. S.
G. A. BURBRIDGE, Secretary, Halifax, N. S.

New Mexico Association of Optometrists (1905)

OTTO G. BEBBER, President, Albuquerque, N. Mex.
GEO. F. EVERETT, Secretary, Albuquerque, N. Mex.

LOCAL

Central New York Optical Society (1895)

H. C. WATTS, President, Syracuse, N. Y.
JAMES HOLDEN, Secretary, Syracuse, N. Y.
Meets third Thursday of each month.

New York City Optical Society (1897)

E. LEROY RYER, President.
R. M. LOCKWOOD, Rec. Sec., 119 W. Fifteenth St., New York.
Meets second Wednesday of each month.

Rochester Optical Society (1897)

HARRY M. BESTOR, President, Rochester, N. Y.
C. I. SUMERISKI, Secretary, Rochester, N. Y.

Utica Optical Club (1901)

RICHARD PERLEN, President.
C. T. EVANS, Secretary, Utica, N. Y.

Chicago Optical Society (1902)

W. F. NEWCOMB, President, State and Adams Sts., Chicago, Ill.
O. J. HALBE, Secretary, 501 Trude Building, Chicago, Ill.

Niagara District Optical Society (1902)

JONAS HOUSE, President, Welland, Ont.
F. G. DUNLOP, Secretary and Treasurer, St. Catharines, Ont.

Optical Society of Western New York (1903)

ROGER F. WILLIAMS, President.
ERNEST V. SYRCHER, Secretary, Buffalo, N. Y.

Seattle Optical Society (1903)

CHARLES G. HOLCOMB, President.
LEANDER BUTT, Secretary and Treasurer, 715 First Ave., Seattle, Wash.

Los Angeles Association of Opticians (1903)

FRED. DETMERS, President.
F. LEE FULLER, Secretary, Los Angeles, Cal.

The Pueblo Optical Association (1903)

OREN H. HENRY, President, Pueblo, Colo.
JAMES A. HOWARD, Secretary, Pueblo, Colo.

Lowell Optical Society (1903)

F. C. CUFF, President.
J. A. McAVOY, Secretary, Lowell, Mass.
Meets second Thursday of March, September, November.

Southern Tier Optical Society of New York (1905)

F. E. ROBBINS, President, Elmira, N. Y.
F. A. JORDAN, Secretary, Elmira, N. Y.

Optical Trades Association (1905)

(New York City)

F. D. SCHMIDT, President, New York City.
JOS. FRIEDLANDER, Secretary, 8 Maiden Lane, New York City.

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FRED. R. PRESTON, Secretary, 42 Mott Ave., Detroit.

The Thirst for Professionalism

THE determination of the refractionists to attain a professional status in spite of all obstacles, finds an impressive illustration in the important steps contemplated by the officers of the Illinois Optical Society. In view of the failure to pass a law regulating the practice of optometry in the State, it is proposed to so amend the constitution of the society as to enable it to practically professionalize its own members. At the next meeting of the organization a lengthy amendment to the constitution will be offered, embodying to a large extent, the provisions of the optometry bill, which failed of passage. The following extracts from the two first sections of the amendment contain the vital feature of the new departure:

It is hereby provided that from and after the date of this meeting, no person shall be admitted to membership in this society who fails to pass a thorough examination in technical and practical optometry; such examinations to be at least as rigid as those of the State boards of examiners in States in which such boards and examinations are established by law.

It is further provided that all present members of this society shall, prior to the next annual meeting, submit to the same test, and that those only who pass such examination shall continue upon the roll of members.

The amendment makes provision for the appointment of a board of regents, the holding of examinations and the granting of diplomas, after the manner of the optometry law. It is held by the advocates of the amendment that its adoption would greatly improve the status of the Illinois opticians before the public, the medical profession and the State legislature, should they decide to

(Continued on page 1349)

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KRYPTOK
 "Invisible" Bifocals
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Don't hesitate to take up "Kryptoks" because of their relatively high cost. Fifteen minutes of missionary work in showing the right kind of a customer why they are costlier than other bifocals and what the compensating advantages are, in efficiency, comfort and youthful appearance, will make that customer a good Kryptok SALESMAN.

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TORIC LENS RIDING BOW CASE

A WELL-MADE CASE

The Hinges will not break, as they are reinforced with muslin.

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Make Good Use of the Dull Summer Months

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Rapid Changes in Refraction in a Case of Diabetes

In a previous issue of THE KEYSTONE we spoke about the sudden and marked changes of refraction that may occur in a case of diabetes. In connection with that article it is interesting to read the report of a case of Dr. J. T. Carpenter, taken from the *Ophthalmic Record*:

This patient, aged fifty-one, had consulted him six years before on account of presbyopia. In February, 1901, there was inability to see clearly at a distance or to read the largest sized type with her reading glasses, which, until a few weeks before, had been entirely comfortable, the refraction having changed from a slight myopic astigmatism to hypermetropia: R. E., + 1.50 D. = $\frac{3}{8}$ V.; L. E., + 2.50 D. = $\frac{5}{8}$ V. With + 2.25 added, reads J. 1 at 30 cm. About four weeks previously the urine contained large amounts of sugar, which greatly lessened under suitable treatment and rigid diet. With this improvement, vision rapidly failed. Examination showed media clear, fundus healthy, and the remarkable change in the refraction above noted. These lenses were given temporarily. In three weeks vision blurred with glasses, the hypermetropia changing to a myopia of .50 D. Upon the return to liberal diet, vision again failed. The final result was the return to the low myopic astigmatism. Dr. Carpenter referred to the rarity of this condition in glycosuria, and mentioned as the only references Risley's paper, read before the American Ophthalmological Society, in 1897, and Grimsdale's paper, read before the Ophthalmological Society of the United Kingdom, in 1899. He attributed the rapid changes of refraction to alterations in the refractive index of the lens, although no thoroughly satisfactory explanation of these cases has yet been advanced.

As stated at considerable length in a previous article on this subject, the decrease of refraction from low myopia to about two diopters of hypermetropia may have been caused by sugar in the vitreous humor or sugar in the cortex of the crystalline lens. To approach the probability of the first assumption, we must remember that in any compound optic system the two focal distances are to each other as the refractive indices of the first and last medium. If we assume that the eye in Dr. Carpenter's case had been built like the schematic eye of Helmholtz and had been

emmetropic before the change, we would calculate that the new refractive index of the vitreous would have to be about 1.401 instead of 1.336 in order to produce a hypermetropia of about 3 diopters. There is, however, no data at hand to determine how much sugar would have to be added to the vitreous in order to increase its refractive index from 1.336 to 1.401, and it is therefore impossible at the present to judge about the probability of the assumption. It would seem, however, that the usual amount of sugar in the vitreous (about 0.5 per cent.) would not be enough for this large increase of the index. We have to look probably for other factors besides, namely, an increased refraction of the crystalline cortex and a temporary change in the curvatures of the crystalline lens.

A Practical System of Near Test Types

By DAVID W. WELLS, M.D., Boston, in the *Ophthalmic Record*

In presenting these types to the profession, the writer feels inclined to apologize for using the word "standard," since the relation to the generally-recognized visual angle of five minutes has been entirely ignored.

For purposes of research it may be interesting to use such scientific near type as Thorington suggests, but in order to make the near test type of any value, as a means of estimating visual acuity, so many factors have to be considered that it has seemed to me impracticable.

The writer pleads guilty to having used near types principally for determining the punctum proximum and in estimating the correction for presbyopia. When the patient reading Jaeger "1" or Snellen "2" or Thorington's "0.50 D. — 8 cm.," asks how this compares with the newspaper, one is not able to answer definitely, as the relative value is not apparent, and the only satisfactory answer had been trial of the newspaper itself.

This present card is designed to overcome this necessity. With the assistance of G. W. Simonds, of the publishing house of C. H. Simonds & Co., Boston, a selection has been made of types ordinarily used in papers, books and magazines, and the sizes specified. Although these names of the sizes are becoming obsolete with printers, it was thought best to continue their use, because the new system, "5 point," etc., has reference to the *body* and not the *face* of the type, and these two dimensions have not a uniform relation. The numbering is purely arbitrary and is intended to be used to call the patient's attention to a certain paragraph.

As a matter of record, and in reporting cases, the words, "diamond," "brevier," etc., will always have a definite value.

STANDARD TEST TYPES

Arranged by DR. WELLS

Diamond 1 Small Bible
The only accurate way to measure sight is by means of letters or carefully graded characters, viewed at a distance of twenty feet. Quite a variety of such cards have been devised by eminent oculists. Near test types are used to determine the patient's ability to see to read at the proper distance. Type as small as this is not in general use for books or papers, except where it is necessary to condense a great amount of reading matter into small space, like a pocket Bible. It is hoped that this card will be a great improvement on the somewhat arbitrary standards in use.

Nonpareil-Linotype 2 Newspaper
The names used by printers to designate the different sizes are adopted, and familiar examples given of the customary use of each. Spacing between types increases legibility, therefore, the "leading" has been made to conform with standard typography. Newspapers are usually printed in Nonpareil or Brevier.

Brevier-Linotype 3 Newspaper
This paragraph and the one before it are not set up from single types, but each line is one piece of metal called linotype. It is not as clear and easy to read as separate types of the same size, but it is here used to make this test equivalent to reading newspapers, in which use of linotype is common.

Long Primer 4 Text Books
Books should be printed on dull finished paper. It is very unfortunate that the publishers of text-books for high schools and colleges so frequently ignore this fact, in order to obtain a good impression of the illustrations, for which a glossy surface is needed.

Small Pica 5 Books
For prolonged use of the eyes the type should be several sizes larger than the smallest which can be read. The ordinary book is printed in small pica or pica, but in order to read this comfortably one should be able to read diamond size or at least nonpareil.

Pica 6 Books
In order to get a proper illumination one should sit with his back to the light. Objects are seen by the light which goes from the object to the eye, not from the eye to the object. This precaution is quite commonly neglected.

Great Primer 7 Children's Books
Children should be allowed to use only such books as are printed in large, clear type, and excessive reading forbidden.

—Globe Optical Co., Boston, Mass., Publishers



A Comparison

of the regular flat lens and the TORIC is all that is necessary to convince any intelligent customer of the great advantages of Toric lenses. And once they see the advantages, the slight extra cost will not hinder the majority of people from ordering them on their glasses. In most cases the price is of secondary consideration when it is a matter of the welfare and comfort of the eyes.

We Reduced the R Price

on Toric lenses August 1st, and so now, better than ever before,

It Will Pay You to Push Torics

More money on the first sale, better satisfied customers, more profit on breakages. You also get an advertisement out of every pair you sell, as wearers show them to their friends and talk them up the same as they do their Panama hats and other more or less "exclusive" possessions. These friends naturally ask "Where did you get them?" or "Who makes these Toric lenses?"

This is your chance to make your business name a household word wherever glasses are worn.

The above arguments apply to

Kryptok Invisible Bifocals

as well as to Torics. Do not be afraid to talk up Kryptok Lenses just because they are high-priced. Many people, whom you would not suspect at first of being willing to pay \$10 or \$12 for a pair of lenses, will order Kryptoks if you show them a sample and talk up their advantages. If you have no samples, write for our terms on them and also for sample of two-color illustrated booklet we can supply you (with your name on) to help you advertise Toric and Kryptok lenses.

GLOBE OPTICAL CO.



Makers of
Toric and Kryptok Lenses*

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Attendant Courses. Realizing the opportunities and possibilities in the practice of Optometry, we are prepared to meet the wants of each; whether the young man who desires thorough preparation and enrolls for our Six-Months' or Three-Months' Course, or the Optometrist who can not remain longer than two weeks or a month.

Our Dispensary, where the student comes in contact with the patients and makes the examinations himself, is a most valuable feature of our Attendant Courses.

Correspondence Course. We carry the same perfection of teaching and individuality of instruction into our Correspondence System, where the Matriculate who follows the path outlined for him, cannot fail to develop into a competent Optometrist.

If interested, enclose 5c. for our Prospectus containing "The Key to Success in Optometry"

Used and highly recommended by the chief of the United States Navy, Admiral George Dewey.

Endorsed by General Arthur MacArthur, Commanding General United States Army.

Mayerle's Antiseptic Eyeglass Wipers

Prevent straining, blurring or tiring of the eyes
Guaranteed to give clear vision

Wholesale price, 45c. per dozen \$4.00 per gross Retail price, 15c. each

Send cash or money order direct to

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When ordering one gross or more, your name, address and occupation, etc., will be printed on each wiper free of charge. When ordering in smaller quantities, wipers are sent without your name or address (no printing).

Most eminent clergymen, judges and educators of America use George Mayerle's Eyeglass cleaners.

Admiral W. H. Whiting, Commandant United States Naval Training Station, San Francisco, uses and highly recommends them

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Made in any form of Concave Lenses, Spherical, Sphero-Cylinder and Cylinder, or any of the above forms in Toric Lenses.



Manufactured by **M. E. STERN**, 36 and 38 John St., NEW YORK

We also carry a complete line of { AMERICAN OPTICAL CO. STEVENS & CO. and BAUSCH & LOMB OPTICAL CO. } Frames and Lenses

If you want satisfactory results, send us your R work.
Our motto is: Speed, Accuracy and Perfect Work.

Send for Price-List

The Thirst for Professionalism

(Continued from page 1345)

again attempt to secure legislation. It could at least be said for them that they were endeavoring to eliminate unqualified men, with all possible earnestness in the absence of the much-needed legal authority. In regard to the contemplated action, the president of the society says: "If the society, after having been reorganized as above, should become active in the prosecution of spectacle fakirs on the grounds of fraud and misrepresentation, quite as much could be accomplished as if the board of regents were really a State board and legally authorized to act in such matters."

We fear the president is over-sanguine in this matter, but his enthusiasm merits encouragement. The working of the amendment, if adopted, will be watched with interest by the sister societies in other States.

Minnesota Optical Association

A short session of the Minnesota Optical Association was held in Minneapolis, July 24th. In view of the meeting of the American Association at the same time and place, only a short business meeting was held. An amendment by Mr. Harper, that the annual meeting be changed from September to February, was laid on the table. Applications for membership were acted upon and the association adjourned. The next meeting will be held during the Minnesota State Fair.

Following is a list of new members, making a total of 118 in the association, showing a very encouraging growth: W. H. Pletsh, Lake City; John Rosendahl, Mabel; A. J. Klunick, Little Falls; C. C. Staacke, Duluth; R. R. Frazier, C. E. Johnson, L. Convey, Minneapolis; L. O. Hulberg, Northfield; C. O. Duerna, Madison; F. J. Stebbins, Thief River Falls; F. J. Hallin, Cambridge. Sixty members attended the meeting.

Canadian Association of Opticians

This association held its annual convention and banquet at Montreal, on June 30th and July 1st. The features of the business meetings included the hearing of a report from the executive committee and a lecture by President Samuel Grant on "The Eye, Comparative Anatomy." In this connection much regret was expressed at the inability of Lionel G. Amsden to deliver an address owing to illness. The election of officers resulted thus: President, F. E. Luke; first vice-president, W. H. Ganetsee, Lachute, Quebec; second vice-president, W. H. Kearney, Renfrew, Ontario; third vice-president, S. Kermier, Sherbrooke, Quebec; fourth vice-president, M. Bockers; secretary-treasurer, H. J. Geiger, Toronto. Executive committee: E. Culverhouse, W. E. Montgomery and T. H. Brown, Toronto, and Prof. S. Grant, Montreal. Membership committee: E. A. Lewis, F. E. Luke, W. E. Montgomery and Alexander Elliott, Toronto.

The banquet, which closed the proceedings, was a very enjoyable affair. The toast of "Our Past Officers," was responded to by Prof. Samuel Grant, ex-president. T. Coffin, Sr., J. E. Normandin and W. R. Brown spoke to "Our Wholesalers."

"The Ladies" was responded to by W. H. Ganetsee, of Lachute, and E. Culverhouse, Toronto, spoke to "The Canadian Optical Association." Dr. Leys, of Detroit, Mich., expressed his pleasure at being among the members of the profession in Canada. Other toasts, with their respective speakers were: "Our Travelers," F. L. Butler and R. Carmeie. "Our Professors," Dr. Harvey, Toronto.

Interesting vocal selections were rendered throughout the evening by T. Collins, Jr., and G. J. Mahoney.

New England Association of Opticians

The committee of the above association in charge of the lectures for the fall, desires members to compete for the prize to be given at the annual convention next May.

Applicants may write on any optical subject they choose, but the committee suggests the following:

- "Myopia."
- "Myopia Complicated with Muscle Errors."
- "Astigmatism."
- "Hypermetropia."
- "Hypermetropia Complicated with Muscle Errors."
- "Accommodation and Convergence."
- "Diseases the Optician Should Recognize, and Why."
- "Muscles."

It is the intention of the committee that the better papers shall be used as a course of lectures during the winter, and that the best ones shall be read at the annual convention.

The first papers will be assigned for September 19th. This will give ample time for preparation.

Optical Advertising

In the discussion on a paper on advertising read by J. W. Barber at the annual meeting of the New England Association of Opticians, the following interesting questions were asked and answered:

Question. What do you think, Mr. Barber, of circulars, as compared with regular newspapers, in small towns?

Answer. In small towns, if a circular is long enough, and well enough printed to carry the argumentative idea, I think the percentage of replies will be worth the expenditure, but there is this feature, which I spoke of—the fact, the subtle fact, and it is a subtle fact in the case of the newspaper, that if the man buys for the sake of the news and glances over into the advertising columns, he is more readily convinced of the merits of the article advertised than he is by a circular shoved under his door. I believe a circular in a business place is money nearly thrown away. In my office, the special stenographer, whose business it is to open the mail, sorts it as follows: Advertising, ranks first; publishers, second; third, circulars, which are simply glanced at, and so on, and perhaps not one in ten ever gets to me. I have made a statement and have never had it gainsaid by the man who looks it over carefully, that the average man spends more time in the advertising pages of a magazine during the month than on reading matter. Any article that he likes, he reads it through once, and never looks at it again. He may, perhaps, turn to the table of contents two or three times, but the advertising section to-day is understood and recognized to be a resume of latest things. The average man goes through the advertising pages as a sort of directory of the best goods in any line he is about to invest in, and spends

more time on them than he does on the reading pages.

(Dr. Klein.) I just wish to make a few remarks in regard to the circulars in the smaller towns. I had a student—Mr. Edmunds, whom you probably all know, who went and got 50,000 circulars printed and had them distributed in various neighborhoods, and also advertised in various papers. That man made in a short time over \$10,000, and he was not in the business more than ten years. Now, that man advertised freely through circulars. He sent circulars to the various houses, and if no reply was received from them, followed them up, asked if they were received. He followed them up to introduce himself, and you all know the Globe Optical Company can back up my statement, that sending circulars where a young optician comes into a small place pays. A nice advertisement, in shape of a good circular, always pays, provided you can back it up with your knowledge. If you do not understand your business, it will not matter how you advertise. If you do understand your business, I believe every time in sending out circulars. I am sure any of my students can back me up in this statement.

Washing and Drying Photographic Prints

When the prints have been thoroughly fixed, they should be placed in a large dish of water in the sink, and water from the tap should be allowed to run on them slowly for an hour. The water should not be allowed to fall directly on the prints, as it is liable to cause blisters. A good way to avoid this is to place a tumbler in the dish used for washing and allow the water to flow into this first and then over the sides into the dish. If running water is not available, the wash water should be changed at least ten times. Thorough washing is important, for the prints will fade in time if the hypo is not wholly removed.

As soon as the prints are washed, rinse each one off in slowly running water to remove all scum or dust, and lay them on a sheet of glass. Cover them with a white blotter and remove all superfluous moisture by the use of a squeegee roller. Then place them between clean white blotters to dry. A print when dry will curl a little, but can be made to lie flat by turning it face downward on some smooth surface and then drawing a blunt-edged ruler over the back of it with a slight pressure, and lifting the print as the ruler passes over it. It may be necessary to turn it around several times so as to pass the ruler over it in opposite directions in order to act on all four edges alike. Do not bend any portion of it too sharply, as you may crack the gelatine surface. After this, place the prints face down in a pile under a book or some convenient weight until you wish to mount them. If the prints are immersed for a few minutes in a solution of one ounce of glycerine in fifteen ounces of water, it will do much to prevent their tendency to curl badly.

Fox Lasso Eye-glasses



This is Mr. Ivan Fox, the man who is known in the trade as the
“Father of the Off-set Eye-glass”

His fundamental knowledge of eye-glasses, gained by years of untiring study and practical experience, coupled with his natural inventive genius, have earned for him this proud title and have given to the world

Fox Lasso Eye-glass Mountings

which give the most perfect-fitting and comfortable eye-glasses made.

Mr. Fox's important inventions, which place Fox Lasso Eye-glasses ahead of all others, are:

THE LASSO GUARD which is most easily adjusted to all shapes and sizes of noses. The loop-hole in the center of the guard allows the flesh of the nose to adapt itself easily, making the glasses “set” firmly and securely, and with extreme comfort to the nose.

THE TUBULAP SPRING being hollowed on the inside gives great elasticity without fear of breaking, and makes a neater appearance.

THE SCREW LOCK ENDS absolutely prevent the screws working loose from the stud, and this means no wobbling of the lenses.

THE STUDS AND STRAPS are thicker where strength is most needed—around the screws—and thinner along the edges. They are not as conspicuous as ordinary mountings.

Over a million pairs of Fox Lasso Guards are now in use—and without advertising.

Next month we will begin through the leading magazines the largest advertising campaign ever instituted for eye-glasses.

If you don't sell Fox Lasso Eye-glass Mountings, you had better investigate them right away. You *cannot* afford to be without them.

Write us to-day for samples and full particulars.

Fox Optical Manufacturing Co., Dept. O
 Philadelphia

Eyestrain

AT the recent annual meeting of the Iowa State Optical Society, held at Des Moines, E. H. Hazen, M.D., delivered an interesting address on "Eyestrain." He prefaced his lecture by tracing the modern development of refractive science, and emphasized the necessity of persistent research. Coming to his subject proper he said:

What I wish to particularly direct your attention to is the part played by the extrinsic muscles in producing

What Produces Eyestrain

eyestrain. Von Graefe, I believe, under the designation of insufficiency first called attention to the difficulties of the extrinsic muscles in eyestrain. Its detection since his time has been very much facilitated, and we have a nomenclature and a means of detection of the position of the balls to each other and the strength of the muscles in performing this work.

The classification of the derangements of the extrinsic muscles and direction for the treatment of the difficulties are arranged in the books according to the imbalance, and books of six hundred pages have been written on this part of the subject of eyestrain. The object in view in the treatment, as laid down, is to get a balance of the muscles and some go so far that when, by the ordinary tests a balance is shown and certain symptoms are prevalent, there must be latent "heterophoria," and to find it a prism is directed to be worn when that which was supposed appears and their remedy is then applied.

The success we have had in adjusting the eyeball by tenotomy in strabismus, has very naturally suggested the same procedure in the imbalance of heterophoria, since means have been found to accurately find this condition. This with the adjective "graduated" prefixed has been extensively practiced by a few. This adjective raised the price of tenotomy fifty per cent. The epidemic prevailed with the enterprising surgeon but a brief period, and now it is difficult to find one who will say that he does the operation.

Muscular Asthenopia

I believe that this classification by the phoria is in error, in that it does not aid in the accounting for symptoms or direct to any certainty the course of treatment. Any one who will examine any body of individuals, will find the heterophoria not at all commensurate with the eye trouble. These affections of the extrinsic muscles should be based upon the dynamics of the muscles, and they can all be classified under the head of muscular asthenopia, using the imbalance merely as a concomitant condition which describes the excursion that the ball takes in each case. A great percentage of eyestrain is due to affection of the extrinsic muscles.

The term muscular asthenopia is often ignored entirely and it seems not a sufficient nomenclature, but until we are able to subdivide this term muscular asthenopia, it is sufficient to designate the condition we are to remove. The term is symptomatic rather than pathological. There are some who think that insufficiency should be retained. We are yet unable to separate the symptoms

definitely to any great extent—those belonging to accommodative and those that are muscular. A few of them can be attributed to one or the other distinctively.

Symptoms of Asthenopia

Asthenopia symptoms in eyestrain are: First, those occurring in the eyeball, redness, sometimes with hot tearing, and with others a dry hot feeling; intolerance of light especially on use of eyes and in the morning the lids are hyperemic and vessels of the lid are loaded down; there is an indisposition to fix the eyes; lancinating pains shoot through them; inflammations more or less deep attack the membranes.

According to the power of resistance of the physical organism will be the time that will expire before head symptoms and bodily reflexes will manifest themselves. By and by the symptoms will be grouped by the nervous specialist and this diagnostician will pronounce it nervous prostration, psychosis, migraine, brain fag, hysteria, threatened insanity, epilepsy, etc., and prescribe some waters, vacations, change of climate, etc., or any way that will get them off from using their eyes.

It is not astonishing at all that for such symptoms as insomnia, nervousness, muscles twitching, loss of memory, sudden blackness coming before the vision, dizziness, temporary blindness, sick headache, pains in heart, stomach, bowels, costiveness, etc., the man not familiar with eye treatment should prescribe as he does, but all of these symptoms are often relieved by treatment of the eyes alone.

Phenomena in Eyestrain

In eyestrain we have complicated phenomena. There may be a cause set up by errors of refraction, but there are found all the symptoms of eyestrain with no error of refraction, or in persons that have been made emmetropic by glasses, and who are also orthophoric of all the muscles, yet they suffer with severe symptoms. Now this point I want to make emphatic. There are great numbers who have been examined over and over again, some of whom have been wearing glasses but a fraction of a diopter, and are yet changed by the next refractionist. These muscles are at fault and need only gymnastic treatment. Then the patient would be entirely relieved of asthenopic symptoms, and would voluntarily dispense with their glasses.

I am well convinced also that there is actual muscular asthenopia (affection or disease) in the muscles in most of the cases of eyestrain. Because a person gets much relief on wearing glasses and cannot use his eyes without glasses, is no sign he has had the right thing done for him; he has also muscular asthenopia in his eyestrain, and it may be that that is all. The majority of people who wear glasses and have poor strength of the extrinsic, do not get the comfort they might have if the muscles were brought up to the standard strength.

Indications of Muscular Weakness

When a person reads a while and takes off his glasses and holds or presses upon his eyes, it is always an indication of muscular weakness. A solution of that part of eyestrain involved in the muscular system of this organ is in the study of the dynamics of this system

and to this ground we find, now and then, a man shifting his procedure.

The requirements of the brain to engineer this system of nerves to the nicety of precision demanded, seems to be a vigilant one. The number of nerves therein, the concert of the two brains and the pair of organs that must be maintained as one, and the probable number of photographs that must be passed to the perceptive faculties in a minute, all indicate an expenditure of force that is sometimes exhausting. When the mechanism is not exactly in harmony, this expenditure is greater. Is it any wonder that this system gets out of order? That these nerves don't do their work; that even if when the brain generates the force, that for some reason it is not thrown on the muscle as demanded?

This seems to me to be the condition mostly in eyestrain and by a system of gymnastics, the obstruction or the deficiency is removed; the symptoms dispersed and eye cleared up.

Professional Prejudice

That the part that this system of nerves takes in the great labor of easy vision should be overlooked so long and that there are still men in the profession who try so hard to yet ignore them, is another example of prejudice. It can be explained only, it seems to me, because they have no instrument which is effective in carrying out the requirements, that with the awkward methods they have, they get tired of carrying out the suggestion of the new thought or the patient gets tired of the slowness of progress.

The few who have endeavored to discipline the muscles have had at best, a very awkward, bungling and insufficient way to carry out what is required to bring about improvement.

The principle requisites in disciplining these muscles are: First, smooth manipulation, steady and in straight lines, as these muscles are very susceptible to inaccuracies of movement, and will not answer correctly when proper care is not exercised.

Second, the prisms should be carried before the eyes in succession of small intervals, and with corresponding jumps, which stimulate the muscles to their best powers.

Third, the tests should be made with prisms, cylinders or rods with exact axes.

Fourth, the instrument should be constructed on the level and the plumb, and the apertures through which the person looks, should not be so large that the head may be allowed to get out of the primary position.

I have constructed an instrument upon these principles and named it **Kratometer**.

It combines the necessary tests for the discovery of the phoria, the strength of all the muscles except the oblique, together with the means of treatment for all the muscles by gymnastics. The simplicity of its mechanism is not the least of its merits.

The writer has used this instrument since 1896 in a system of gymnastics, which has been very satisfactory in its results. The average number of treatments is about twenty, removing many distracting symptoms and the most remarkable thing about it, is its permanence; not one in twenty have relapsed in from two to eight years.

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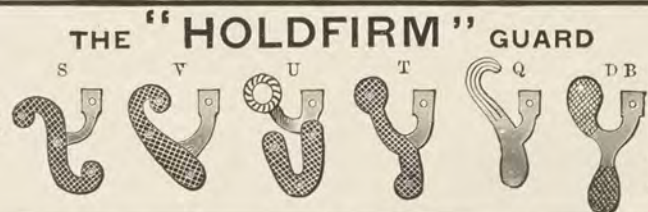
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Annual Convention of the American Association of Opticians



The seventh annual convention of the American Association of Opticians convened at the West Hotel on July 24th, under the most favorable circumstances. The officers and delegates of the association were on hand early, and the greatest enthusiasm prevailed. The afternoon was occupied in registration, filing of credentials, welcoming the delegates and seeing that all were properly provided for and made to feel at home. The general reception committee, of which Frank A. Upham, of St. Paul, is chairman, was on hand to see that none went astray, and they took good care that no one was unknown for any length of time. On the first evening 200 members were registered, with many more to come.

In the evening a reception was held in the assembly hall of the West Hotel. Flowers and greens in profusion were in evidence, and the function was enhanced by the presence of many beautifully-gowned ladies, wives and friends of members.

After an informal good time, the programme

of the evening was gone through with. The address by J. A. Johnson, governor of Minnesota, was unfortunately stricken from the programme, due to the unavoidable absence of the governor.

Address of Welcome

Henry Deutsch, vice-president of the Commercial Club, of Minneapolis, extended a hearty welcome to the delegates, and hoped they would all make full use of the Commercial Club apartments. His address was punctuated by sincere expressions of pleasure that the visitors had chosen his city as a place of meeting, not that the city and its merchants expected financial returns, but because he believed that aside from the generalities of meetings, such as visiting, social intercourse, etc., there is always the underlying principle of getting together, of exchanging and expressing new ideas, of exploiting new discoveries and methods, all of which resulted in an uplifting of the profession and benefited humankind more than the dollars spent by visitors merely as a necessary accompaniment of such meetings. "We are not after your dollars," he said. "We want you to feel that in offering you our facilities we are aiding in your great work."

President Holmes then introduced Ralph Wheelock, secretary to David P. Jones, mayor of Minneapolis, who welcomed the association on behalf of the latter. In well-chosen words he extended the freedom of the city to the association. He was glad the delegates had chosen the metropolis of the Northwest for their meeting place, and hoped they would take advantage of seeing all its many attractions and be sure to take in the sights, among which he wished to call attention to their growing suburb, St. Paul.

In reply to the addresses of welcome, Mr. Holmes paid a glowing tribute to the great State of Minnesota—its resources and its enterprise. One reference was particularly applauded. Said Mr. Holmes: "Medical laws, dental laws and pharmacy laws, have, we believe, been blessings to the people of this land. Optometry laws will be a greater blessing, and to hold this convention within the State that enjoys the distinction of having secured the passage of the first optometry law ever spread upon any statute book, is, indeed, fitting and appropriate."

He exhorted the visiting opticians to so enjoy the occasion: the entertainment, the scenery and associations that "when the farewells have been

said and our hearts are filled with regret, it would be a pleasure to know that the regrets were not all ours and that the happy recollections that will always be associated with this occasion are as dear to the entertainer as to the entertained."



John C. Eberhardt, ex-president of the association, addressed the meeting and expressed his pleasure at the reception accorded the delegates. "We hope to give tangible evidence of our sincere appreciation of all that has been offered us."

A. B. Choate spoke on "Our Lady Visitors." His address was a sparkling and witty piece of oratory and was highly appreciated by all present. He explained that up to a year ago he was still outside the ranks of the benedicts and always responded cheerfully to any requests to speak about the ladies, but he had since changed his mind and come to the conclusion that he knew nothing at all about them.

Mrs. W. E. Huston responded in a graceful and neat speech, reiterating that "woman was at the bottom of all good things, anyway."

During the intermission the association was entertained with excellent vocal and instrumental music.

Second Day Sessions

The association got down to its routine work in an enthusiastic spirit on the second day, and with the hall filled with members. The following

(Continued on page 1355)



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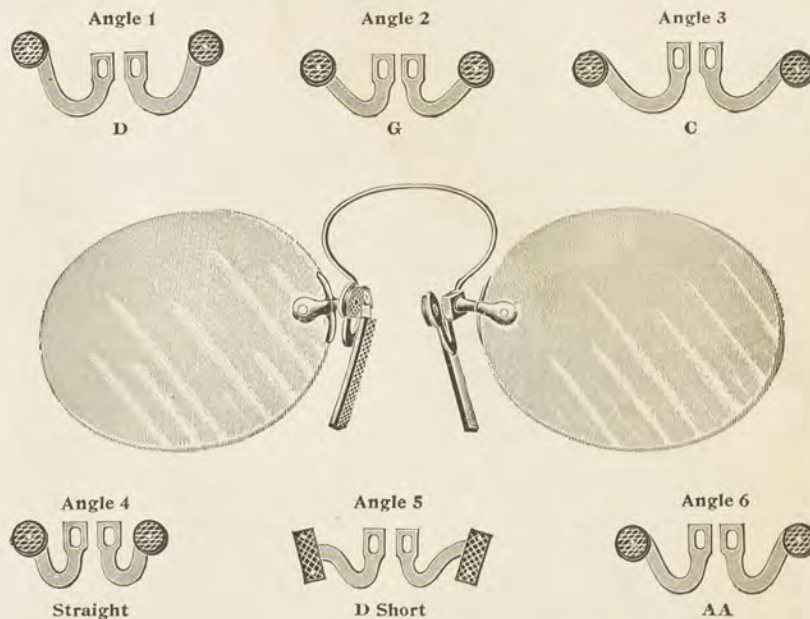
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Convention of the American Association of Opticians

(Continued from page 1353)

cablegram, from Mr. Dunscombe, president of the British Optical Association, was read:

"President British Optical Association, greetings and best wishes to his brethren in convention assembled."

Mr. Eberhardt offered a resolution which was unanimously adopted, that an engrossed copy of honorary membership in the American Association of Opticians be presented to Mr. Dunscombe, with an assurance of deep gratitude for his thoughtfulness, and offering congratulations upon his promotion to the presidency of the British Optical Society. The president appointed Messrs. Eberhardt and Graham a committee to draw up the proper resolutions.

A telegram was received from P. Scholler, who was unable to be present to read a paper on the subject, "The Third Cranial Nerve."

Mr. Eberhardt called attention to the fact that it was poor policy to wait until the last for nominations for officers to be made, and offered a resolution that the chair appoint a committee of three, which was to receive and transmit to the association nominations made to it in writing and indorsed by five signatures. The motion was adopted, and J. C. Eberhardt, E. T. Renaud and H. W. Hitchcock were appointed to serve as such committee.

Under "new business," several minor amendments to the rather elaborate constitution were discussed and laid over for one year. Mr. Eberhardt presented an amendment to Art. IV, Sec. 1, of the by-laws, that the words, "Only those in attendance will be eligible to office," be stricken out. This was adopted.

Considerable discussion was provoked by a motion made by Mr. Eberhardt, that Art. I, Sec. 4, of the by-laws be so amended as to permit State

associations to affiliate with the American Association without incurring the implied contract for a fifty-cent per capita tax, leaving membership open to individuals of such association by the payment of one dollar. It was brought out that many State and other associations did not affiliate with the American Association because of such tax and that this amendment would remove that objection without impairing said provision of tax if the associations could afford to affiliate under such conditions. The moral support of all associations was desired and could be obtained in this manner. The motion was finally adopted.

The President's Address

The regular order of the day was then proceeded with, and President Holmes presented his address, as follows:

Friends and Fellow Members of the American Association of Opticians:—Another year in the history of this organization is drawing to a close—a year that has not been behind its fellows in education, in legislation and in the favorable consideration accorded by the public. Two more States have secured the passage of optometry laws, making five in all, and there have been several failures—not inglorious failures, but good substantial stepping-stones that are certain to lead to ultimate success.

After Francis Wilson, in the "Middle Man," had prepared and burned kiln after kiln until he had exhausted his fortune, his home and his credit, attempting to discover the lost art of making a certain kind of pottery, his daughter said: "Father, you are no nearer success than you were forty years ago." "Yes, I am," was the cheerful reply, "I am forty years nearer." His efforts were finally crowned with success as ours will be, and it will not require forty years to accomplish the passage of optometry laws in every State. Some States having these laws have improved upon them by amendments, and the annual reports of State boards show cash enough on hand to demonstrate the fact that such boards will be a source of income to a State rather than a bill of expense.

Within one short year the words "optometry" and "optometrist" have not only been adopted by the profession, but they are being accepted and

used by the press and public. The affiliation plan is gradually working itself into a permanent and satisfactory proposition. Ten States are now in affiliation with this society, and others are on the eve of uniting with us.

The question is often asked, "What benefit will we derive from membership in the American Association?" At the present time, we can say that you are brought into touch with an association of the most able and representative men of the whole country. You have educational advantages if you will avail yourselves of them in the library of the physiological section and by taking part in the prize-problem contest. Some of the States who have been struggling for legal recognition, have received from this organization substantial aid in the form of cash donations, and this can always be done if we have the support of all the State societies. Ways and means must be devised whereby we may be able to hold out still greater inducements.

B. B. Clark, of Rochester, in his annual address as president of the New York Society, said, "Of all the progress that has been made within the last ten years, much of the credit is due to men who are members of optical societies." A national association, composed of delegates from all the States can accomplish vastly more than can be achieved by the divided efforts of scattering subordinate societies.

It has been stated that this convention would be conducted as nearly as possible in accord with the present constitution and by-laws. It is still the intention of the officers so to do, but when it came to the arrangement of the programme it was discovered that there was no time allowed for the amusement features that all so much enjoy.

To comply strictly with the letter of the law, we would be in session all day including the evenings. Any officer who would so far forget himself as to arrange for evening sessions in the face of an entertainment committee such as we have in Minnesota, would be able to build Nicaraguan canals for a pastime, to regulate the trusts after closing his office evenings, and to battle successfully with the Japanese army and navy single-handed and alone.

The House of Delegates will be organized as early as practical, and all routine business possible will be dispatched as prescribed by the by-laws. It should be borne in mind, that the organization of the House of Delegates is in no way intended

(Continued on page 1357)



Group Picture of Members and their Friends in Attendance at A. A. O. Convention

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Convention of the American Association of Opticians

(Continued from page 1355)

to shut out members whose State societies are not in affiliation. It is a boiling-down process for the purpose of getting everything into an intelligible condition for the final action of the association in general session. It is calculated to be a time-saver.

The needs of the physiological section have been fully set forth in President Grant's article in the programme. This section is doing a grand work, and all who do not profit by it are standing in their own light. A committee should be appointed early in the session to consider the advisability of adopting a new constitution and by-laws, or amending the old. While there are a few who would love to listen to and discuss papers from 8 A.M. until 10 P.M., we must all admit that without some time for recreation and amusement we could not long exist. The by-laws should provide for this matter.

A committee on legislation should be appointed to prepare a series of instructions as to how to proceed to secure legal recognition. To formulate a uniform bill for presentation to legislatures. Copies of letters to the optometrist, instructing him as to the best methods of securing pledges from the legislators of his county or district, and drafts of letters suitable to be sent by the optometrist to his legislator should be printed and kept on hand at all times. The ins and outs of lobbying, committee work, selection of a senator and representative to father the bill, time and manner of introduction, etc., should be thoroughly explained. With such information, a State society would be much better equipped to enter a legislative campaign than they usually are. It generally takes one failure to learn these things.

A complete roll of members should be kept by the secretary of every State society as well as this association. All dues should be paid to the secretary, and these membership lists kept up to date and printed at regular intervals, so to have an available roster at hand at all times. It was a serious problem and not a wholly satisfactory one, to secure a mailing list for sending out the programmes this year.

An affiliation committee should be appointed, whose duty it will be to bring before every society at its annual meeting the necessity of affiliation with this body. A resolution or petition from an organization composed of the societies from all the States, would have great weight with a legislative committee and the individual members of any State legislature. Every member of every society should constitute himself a committee of one to secure members. With plenty of members we can accomplish everything, without members nothing.

The next item on the programme was an address, "Strabismus," by Dr. Geo. W. McFatrach,

of the Northern Illinois College of Ophthalmology and Otolaryngology, of Chicago. The address was highly appreciated, and was followed by an instructive discussion.

S. B. Millard, of St. Paul, followed with an address on the subject "Robbing Peter to Pay Paul," which dealt with the effects of eyestrain on the system.

The next address was by F. P. Barr, of Lancaster, Ohio, and dealt with the subject of "Prisms."

The promised paper by E. LeRoy Ryer, of New York, was not presented owing to the inability of Mr. Ryer to attend the meeting.

As there were many membership applications to be acted upon, the chair appointed a substitute Board of Delegates to act upon them, consisting of: W. E. Huston, C. D. Fisk and F. P. Barr.

A motion for adjournment was adopted.

Physiological Section

Immediately following, was held a meeting of the Physiological Section. Prof. S. B. Grant, of Montreal, chairman, opened the proceedings with an address, in which he called attention to the following members who had been elected to membership, having presented theses of merit: W. P. Brush, Fredonia, Pa.; G. R. Bausch, Rochester, N. Y.; G. W. Kostenbader, Groton, N. Y.; D. A. Syman, Springfield, Ohio; J. J. Nixon, Marietta, Ohio; F. Schurman, San Luis Obispo, Cal.; M. D. Feast, Washington, D. C.

The following manufacturers presented the section with the prizes offered in the problem contest: the Globe Optical Co., Boston, Mass.; De Zeng Optical Manufacturing Co., Philadelphia, Pa.; American Optical Co., Southbridge, Mass.; E. LeRoy Ryer Optical Co., New York City; L. L. Mincer, Rochester, N. Y.; W. H. Reisner Manufacturing Co., Hagerstown, Md.; Jos. Friedlander & Bro., New York City.

The treasurer's, secretary's and librarian's reports were read and approved, showing the flourishing condition of this part of the association.

The section then adjourned.

House of Delegates

At 1.30 the House of Delegates met and elected C. D. Fish, secretary. The president's address was referred back to the association. No further business being on hand, the meeting adjourned.

At 2.30 the convention boarded a number of chartered cars and were conveyed by way of charming Lake Como to the magnificent State capital at St. Paul, where the official photograph was taken. After an inspection of the building, cars were boarded for Wildwood and White Bear Lake, where the rest of the day was spent in boating, fishing and having a good time generally.

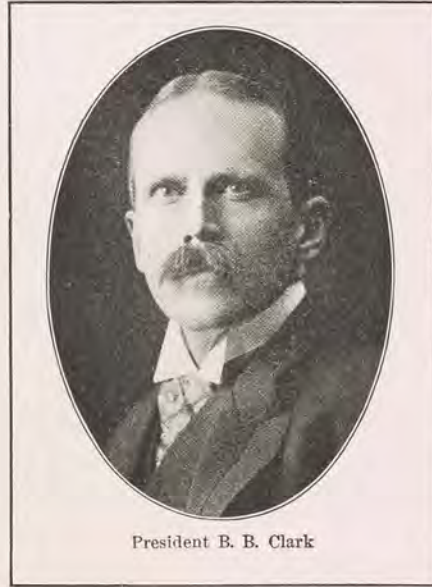
Third Day's Sessions

President Holmes called the meeting to order at 9.30 A.M. The treasurer's report was read and adopted. It showed a most satisfactory state of finances, leaving a handsome balance in the treasury. A motion by Mr. Eberhardt was adopted, that the sum of \$25 be appropriated to reimburse Mr. Stebbins, the treasurer, for miscellaneous expenditures, necessitated by his doing duties which hereafter will devolve upon the secretary.

A short discussion on amendments of several of the by-laws, resulted in the adoption of the recommended changes.

The committee on membership reported favorably on the following applications: E. W. Greirish,

Minneapolis, Minn.; B. H. Doty, Waukau, Iowa; O. B. Tripp, Aberdeen, S. Dak.; M. H. Schlender, St. Peter, Minn.; L. A. Shogren, Oshkosh, Wis.; G. R. Simons, Langford, S. Dak.; D. G. Gallett, Aberdeen, S. Dak.; L. Hanson, Devils Lake,



President B. B. Clark

N. Dak.; S. A. Rhodes, Chicago, Ill.; J. A. Walmann, Minneapolis, Minn.; F. Lyman, Bridgeport, Conn.; J. E. McKeom, Medford, Conn.; F. J. Greeve, Detroit, Ohio.

A letter was read from C. M. Jenkins, of Richmond, Ind., excusing his absence and delegating Mr. Eberhardt to present his paper. The president announced the following additional lectures: W. H. Tobbin, "Science of Modern Business Building;" C. H. Taylor, Yankton, S. Dak., "Development of Children's Eyes." Prof. S. B. Grant, of Montreal, was accorded the privilege of the floor and spoke in favor of the physiological section. He outlined its benefits and called attention to the prestige attached to affiliating one's self with progressive and higher education. He was ably seconded by E. Eimer, secretary of the section, who outlined the manner of becoming a member, and at the end of his remarks many of the delegates applied for admission. The section now numbers some 100 members.

B. B. Clark, of Rochester, gave an informal talk on "Legislation," relating his experiences with the New York legislature in attempting to obtain the passage of a bill of optometry. It was hoped that a new attempt would be crowned with success.

J. W. Grainger, of Rochester, Minn., read a paper on "Something the Optometrist Ought to Know." The association then adjourned for the noon recess.

The afternoon session was opened with several songs by Mr. Uhlman.

C. Nerbovig, of Mankato, Minn., read a paper on "Hyperopia and the Phorias," illustrated by blackboard diagrams.

The president then introduced W. E. Huston, of Kansas City, Mo., who gave a stirring and profitable address on "Eye, Mind and Purse, the Advertising Triune."

Prof. G. A. Rogers, of Chicago, Ill., gave a humorous and witty talk on "Lunaphoria!" He remarked that his attention had been drawn to a new disease prevalent among optometrists. "For the want of a better name I will call it 'Lunaphoria.' One of the symptoms is a tendency to cut loose from the anchor 'refraction' and float

(Continued on page 1359)



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Convention of the American Association of Opticians

(Continued from page 1357.)

about on the sea of optometrist, ophthalmoscopist, neuro-optometrist, etc. The modern tendency seeming to be to believe that all ills from 'ingrown toe-nails to lunacy' can be cured by wearing glasses. There had been a time when glasses were worn to overcome refractive errors, but now they were prescribed to make fat men lean and vice versa, reform liars, make men come home early at night, make scolds into beautiful and loving mothers, make young men less bashful and warranted to settle in fifteen minutes the question of how 'two hearts may beat as one.'"

In a more serious vein he called attention to the dangers attendant upon divorcing oneself from the true principle. The public were already aware that the terms optometrist, etc., were becoming tainted and were quick to recognize inherent weakness.

"My ambition," he said, "is to make refraction the great thing. Call yourself what you wish, but never forget to be proud of the fact that you are a refractionist."

Owing to lack of time, the paper of C. M. Jenkins, of Richmond, Ind., on "Some Diseases Essential for the Up-to-Date Optometrist to Recognize," was omitted.

Mr. Eberhardt then gave an illustrative talk on "A New Method for Individually Exercising the Recti and Oblique Muscles."

The meeting then adjourned and took cars for Minnehaha Falls, where Dr. Chalmers Prentice gave an oration appropriate to the historic surroundings.

Fourth Day's Sessions

An adjourned meeting of the Physiological Section was called to order by the president, S. B. Grant, on Thursday, July 29th, at 8.30. The minutes of the previous meeting were read and approved. The secretary's report was read and several changes in the by-laws were advocated. The report was accepted.

It was moved and seconded that \$50 be allowed the secretary for necessary and traveling expenses. It was also voted to combine the secretary's and treasurer's office in one person.

The president outlined some of the work to be done in connection with the problem contests. The prizes in the contest were awarded to David Kletzky, Pueblo, Colo.; F. M. Taylor, Pasadena, Cal.; Miss Edith Gallup, Denver, Colo.; Neil Smith, Superior, Wis.; R. D. Smith, Caledonia, N. Y.

A motion was made that section 2 of the by-laws be so amended as to make those eligible to membership in the Physiological Section who have passed the examination before the various boards of optometry, exempting them from the regular thesis. After some discussion, the amendment was adopted. The election of officers was then proceeded with. Under the suspension of the rules, Prof. S. B. Grant was re-elected to the presidency, W. J. Donovan, of Boston, vice-president; C. M. Jenkins, Richmond, Ind., librarian, and E. Eimer, Muskegon, Mich., secretary and treasurer.



Upper Row: F. P. Barr, Prof. S. B. Grant, C. A. Snell, E. L. Jones
Lower Row: B. B. Clark, H. P. Holmes, J. C. Eberhardt, J. K. Stebbins

The regular meeting of the association was called to order by the president at 9.30. E. C. Roberts, of Red Wing, Minn., read a very interesting paper on "Presbyopia."

At the conclusion of the address, Mr. Eberhardt took the chair and addressed the convention. He spoke of the efficient service rendered by the president and the amount of hard work attached to the position, and in view of the unusual ability displayed in the guiding of its affairs, it was desired to present some token of appreciation to Mr. Holmes. A collection was taken up and a committee of three appointed to purchase some suitable article and present it to Mr. Holmes in appreciation of his services.

A short discussion on a "minimum price-list" was led by E. F. Renaud, of Keokuk, Iowa. He called attention to the dissatisfaction attendant upon the irregularity of charges made in the optometric profession, and believed if the American Association took up the matter it would lead to a wholesale adoption. A committee of three was appointed to present a scale of prices at the next annual meeting of the association: E. F. Renaud, Keokuk, Iowa; F. P. Barr, Lancaster, Ohio; P. Scholler, Hancock, Mich. The interest of the morning was centered in the address and clinic of Dr. Chalmers Prentice, of Chicago. Dr. Prentice was vigorously applauded as he was presented by a few well-chosen words of the president. His subject was "Higher Optometry," and he presented some interesting cases to prove his well-known theories.

The afternoon session was opened with a song by Mr. Upham. E. Hardy, of Boston, Mass., presented a paper on "Special Lenses."

The nomination committee then submitted the following report: For president, B. B. Clark, Rochester, N. Y.; for first vice-president, Briggs Palmer, Boston, Mass.; for second vice-president, W. C. Sommer, Chicago, Ill.; for secretary, W. E. Huston, Kansas City, Mo.; for treasurer, J. K. Stebbins, Ashtabula, Ohio; for executive committee: G. R. Bausch, Rochester, N. Y.; S. B. Millard,

Minneapolis, Minn.; A. Martin, Philadelphia, Pa.; H. J. Cook, Knoxville, Tenn.; for regent, E. W. Eisenschmidt, Louisville, Ky. The above were elected by acclamation.

Invitations to hold the next convention were received from Rochester, N. Y.; Atlantic City, N. J.; Cedar Point, Sandusky, Ohio; Niagara Falls, N. Y. Rochester, N. Y., was decided upon as the next place of meeting.

J. C. Eberhardt, in a short speech presented the retiring president Mr. Holmes, with a beautiful solid silver loving cup on behalf of the association and as a token of their sincere appreciation of his efforts to make this meeting a success.

Mr. Holmes responded in a graceful speech.

A pleasant trip by special train to Lake Minnetonka followed by an elaborate luncheon, brought the convention to a fitting close.

At the conclusion of the banquet, on motion of Mr. Eberhardt, a rising vote of thanks was given with a vim to the Minnesota optometrists for their grand entertainment, also to C. A. Wilkinson, Providence, R. I., for the souvenir badges, and closed by the assembly singing Auld Lang Syne, led by the male quartette.

Notes by the Wayside

Chairman Upham, of the arrangements committee, was one of the busiest men in the convention, and he was ably assisted by Secretary Snell.

The attendance at the convention was very satisfactory. As is usual in such cases the bulk of the attendance was from the State in which the convention was held and from neighboring States. Minnesota furnished 132, a truly glorious showing. The Minnesota Optical Society itself furnished 85 members of the assemblage, evidencing a large and enthusiastic organization. Illinois furnished 24, Wisconsin, 11; South Dakota, 11, and Iowa 8. In all twenty states were represented.

The 1905 convention will go down to history as being the grandest success socially of any yet held. The unusually large number of ladies lent eclat to the gathering, and to use ex-President Eberhardt's remark: "There will soon be a law passed that each member attending unaccompanied by a lady will have to pay a fine."

The exhibits were well placed—not too conspicuous to be obnoxious, but just where all could see them. Exhibitors report nice orders placed.

The Murine Eye Remedy Co., of Chicago, had a prettily-arranged exhibit of their specialties, the main features of which were monster fac-simile packages of Murine and Banene, eight feet high. "The Murine Girl," who so gracefully distinguished herself at previous conventions, was in evidence, welcoming all with her sweet smile and graciously presenting the pretty Murine pictures and samples.



Exhibit of Sischo & Beard

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Our Dandy round jewelry box is the handiest box you can have in your store, are made in 2, 2½ and 3", covered in fancy V velvet at \$1.75 per dozen, good quality silk velvet at \$2.25 ; order some of them, and do not judge by the prices—wait until you see them.

Ask us for prices on Paper Jewelry Boxes and Silverware Cases.

Insist of your jobber to give you the Empire Jewelry Box, as there are none better nor cheaper in the world.



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Photography for Beginners

Photographing Flowers

There are two ways in which flowers may be photographed, cut and growing. Both ways are useful—the former in showing the details of the bloom itself, and the latter in depicting the manner of growth of the plant. To those who wish an occupation full of pleasure, that will take them to the very heart of nature, I can offer no better advice than to take their camera and search out the wild flowers in their haunts and then photograph them.

A long-focus camera is, of course, necessary, and a lens of reasonable depth of field. The fast or medium isochromatic plates should always be used, and when it is possible to employ the color screen it is always best to do so. To do this, however, except with such sturdy plants as will not be moved by every passing breeze, largely increases the chances of failure; for it is remarkable what a slight breath of air will cause most growing plants to sway. So I rarely attempt to use the screen except on the very calmest days.

Leave the Poses to Nature

The plants which are chosen to be photographed should never be disturbed in any way, but allowed to remain in exactly the original position of their growth. Nature is generally more artistic in the groupings of her flowers than man can ever hope to be, and, therefore, we should never try to improve upon her arrangement of them. It may sometimes be found necessary to remove some few of the leaves or even the flowers themselves, that are somewhat in front of the main group, in order that they may not be so near the camera as to be out of focus. This should always be done with extreme care that no evidences of their having been removed may show in the photograph, and it should never be done except when absolutely necessary.

Always have the camera as nearly on a level with the subject as possible—that is, do not point it downward any more than can be helped. In order to escape doing this, I have frequently placed my camera flat upon the ground, holding it firm by sticks driven into the ground upon either side of it. Of course, this makes the process of focusing rather awkward, especially if the flowers are growing in a damp spot, but it gives a correct view of them. When the camera must be tilted, use the swing back to obviate the distortion.

Always focus upon that particular flower of the group that is nearest to the camera, and then stop down the lens until all are in sharp focus. This sometimes necessitates a long exposure, but that cannot be helped,

and we must take the chances of a breeze moving our subjects in the meantime.

The Size of the Image

The size of the image on the plates must depend entirely upon the wishes of the operator. I am in favor of making it a fair size, but enough of the surroundings should show to give one an idea, when looking at the picture, in what kind of a locality the flowers were growing. Always photograph the entire plant.

Flowers should never be photographed in the direct sunlight, as this causes too great a contrast of light and shadow. If they are not already in the shade, then they must be shaded by the operator holding up a focusing cloth, or his coat, between them and the sun.

In photographing cut specimens the greatest difficulty with which one has to contend is the fact that they so easily wilt. To obviate this they should be picked and arranged (and I have found bottles the best receptacles in which to group them) some hours before photographing them.

In their arrangement one has the chance to display whatever of artistic ability he may possess, and depending upon whether he has much or little rests the fate of the picture, whether it be good or bad.

Important Detail

The work should be done in a building that is least liable to be jarred, for even the walking of a person across the floor will cause the flowers to vibrate sufficiently to spoil all sharpness of detail. The work should be done by a window having a steady light, and that light equalized on both sides of the flower by the use of white reflecting screens. The background may be either black, white or a neutral tint, as the operator pleases. I keep all three, and use whichever I think will show off the particular flower I am about to photograph to best advantage and give the best effect.

Do not place the flowers too close to the window and well to one side, so that the light may fall upon them as full as possible. Place the background well back from the subject, so that its texture may not show in the photograph.

The slow isochromatic plate in conjunction with the color screen should be used in this work, as it gives absolutely the best tone values, and the necessary length of exposure can here be given without undue fear of the subject moving.

It is always well to use a good-sized plate in this work, and should advise nothing smaller than a $6\frac{1}{2} \times 8\frac{1}{2}$ camera.

Always stop down the lens sufficiently to bring everything into sharp focus. I almost invariably use the smallest stop, for that is sure to give the best results in delicacy and

sharpness of detail. Always do the focusing with the color screen in place.

One should learn to know his light, so as to time exposures correctly, for only an accurately timed plate will give to a print that delicacy which is the chief charm of a flower photograph. —L. W. Brownell, in *Outing*

Optical Notes

✿ The Baltimore Optical Co., 28 West Lexington Street, Baltimore, Md., have generally increased their facilities, augmented the equipment of their grinding plant, and enhanced the convenience and comfort of their office and salesroom.

✿ At the third annual meeting of the Kryptok Association, held in New York City on June 26th and 27th, the following officers were elected: President, E. B. Meyrowitz, New York; vice-president, Almer Coe, Chicago; secretary and treasurer, D. B. Aloe, St. Louis.

✿ Leo Wormser, of the Julius King Optical Company, is spending two months in Montreal, Quebec, visiting the many quaint points of interest about that historic old town. He is accompanied by Mrs. Wormser, and making his headquarters at the Windsor Hotel Montreal.

✿ George A. Barron, of 3 Winter Street, Boston, Mass., secretary to the New England Association of Opticians, has just issued a new axis chart, which is said to be very valuable for laying out lenses and adjusting frames. It may be obtained for the cost of mailing.

✿ Hutson-Hannay Co. is the name of a new wholesale and prescription optical business that is being opened at Seattle, Wash. This establishment will be conducted as a branch of J. C. Hutson & Co., of Omaha, Nebr., and will carry a complete jobbing stock for the trade of the territory tributary to Seattle.

✿ Thos. Stanley, who has been associated as a lens grinder with the James Prentice & Son Company, New York City, has just left on a two-months' trip to England and the Continent. Mr. Stanley was accompanied by his wife and daughter. This is the first long vacation he has taken in his twenty years' service with the Prentice company.

✿ Opticians who have recently visited the American Optical Company's works at Southbridge, Mass., have admired the set of resolutions engrossed and framed by the New England Association of Opticians, and sent to the company as a testimonial to their hospitality and courteous attention on the occasion of the annual convention of the New England Association on May 17th.

✿ Among the recent matriculates at the Philadelphia Optical College are: Adolph Reiner, of S. Reiner & Co., jewelers, South Bethlehem, Pa.; John W. Taylor, optometrist, Ayden, N. C.; J. H. Feaster, jeweler and optician, Piedmont, W. Va.; Neville H. Clark, son of George H. Clark, jeweler, Daytona, Florida; Benj. Holbrook, Coatesville, Pa.; Edwin Le Fevre, M.D., Moore's, Pa.; Edwin C. Taylor, Parkersburg, W. Va.; Francis E. Smith, of C. F. Smith & Sons, jewelers, Vineland, N. J.; I. P. Longtin, Cleveland, Ohio; Elliott B. Smith, Pittsfield, Mass.; Hersch Horen, Baltimore, Md.; W. W. Parker, Richmond, Va., and Rev. Herman Benmosche, Portsmouth, Va.

Write for free catalogue of The National College of Optics, Cedar Rapids, Iowa. —Adv.

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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 Alarm Clock

We show in the illustration here-with a new alarm clock having a Westminster chime attachment of four tunes. This clock rings continuously for about fifteen minutes, and is also equipped with a stopping attachment. The makers are A. Bach & Co., New York City. The movements are solidly made of brass with steel pinions, and the cases are nickel or gold plated. The dials are white or celluloid, with gilt center pieces. As an entertaining and serviceable novelty the new chiming alarm has much interest for the trade.

New Optical Sign

The development of advertising of late years has given a special importance to the value of the store sign, and a demand for novelty and attractiveness in these devices has been the result. In

the accompanying illustration is shown an interesting symbol for the optical store, known as "A Winking Eye that Winks," and made by the Geneva Optical Co., Chicago. This sign is the result of five years of labor and experimentation. It is a substantial device, simple in construction and effective in operation. It represents the human eye in natural colors, and winks by means of the "Firefly" flasher, so that it is visible from quite a distance. The iris is painted on a white porcelain cornea, and the whole can be attached to any electric current. Its size is 19 x 24 inches, it winks all the time if required, and as there is no clockwork or such mechanism, there is nothing to get out of order.



New Fan With Mirror

Among the attractive novelties of the time is the new and interesting fan shown in the accompanying illustration. This fan is the product of

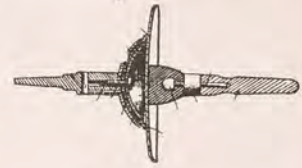


Ignaz Strauss & Co., 621 Broadway, New York, who make a specialty of manufacturing such goods. A new and very unique feature of the fan under notice is that it has a mirror mounted on its side, and therefore fulfills a double function calculated to make it popular. It is made of ostrich feathers, and can be obtained mounted either on pearl or tortoise shell. As there is no improvement which would appeal more irresistibly to "milady" than the fan feature, the innovation well merits the immediate attention of the trade.

Lathe Chuck for Grinding Watch Crystals

The mechanism of an ingenious lathe chuck for grinding watch crystals is somewhat imperfectly shown in our illustration. It was invented and

patented by A. R. Weaver, a jeweler, of Harvard, Nebr., who claims for it unusual efficiency for the purpose intended. Its chief features are: A friction head comprising concavo-convex washers and a similarly-shaped friction disk of greater diameter clamped between the washers; the combination of a friction disk with washers on opposite sides of it and a compression screw to clamp the washers on the disk, one of the washers being of less diameter than the disk and the latter having an annular bearing surface projecting beyond the plane of the washer; a friction head comprising a friction disk having an annular engaging surface projecting beyond the plane of the disk, and means to secure and rotate it.



Invention as a Department of Business

The inventor is popularly regarded as a man who works alone for years by himself, following out an impelling idea, which leads him sometimes to success and fame, often to failure and starvation. That there are still many such "free-lance" inventors, some of them energetic and ingenious enough to create numerous marketable inventions and thus maintain financial independence, is acknowledged by French Strother, in an article on "The Modern Profession of Inventing," in the *World's Work*; but he goes on to assert that these are exceptions, and that the typical modern inventor is the unknown man who toils with hundreds of his fellows in what are known as the "inventions departments" of great factories. Says Mr. Strother:

The great majority of practical inventions are made by a group of men of whom the public never hears. These men are members of one of the most complicated and highly organized of the modern professions. Every great manufacturing concern maintains, under one name or another, an "inventions department," employing men who are paid various salaries simply to develop inventions. They are supplied with every mechanical appliance to facilitate their work; the bills are paid by the company, and every invention they make is assigned to the company "in consideration of salary and one dollar." The General Electric Company, at Schenectady, N. Y., for example, employs about 800 men who devote much of their time to developing new ideas. It spends \$2,500,000 a year in this development work. The Westinghouse Companies do the same thing; so does every progressive manufacturing concern of any consequence in the United States. And it is these unknown men, grappling with the every-day, practical problems of great manufactories, who make most of the inventions of immediate commercial value.

The inventions departments, the modern development of inventing, are maintained by the great manufacturing concerns. The National Cash Register Company, the Hoe Printing Press Company, the United Shoe Machinery Company, the Bell Telephone Company and many others have each a corps of men who have displayed the inventive faculty, at work on salary, developing the inventions needed by the companies. In any one of these departments new devices are being created that will not be made public for years to come because they are not yet perfected. The inventions by the time the public knows them are always months, and usually years, old. The General Electric Company offers a typical example of the use of the inventions department. In an establishment employing 20,000 men, a round \$2,500,000 is spent each year in developing patentable inventions. There are about fifty engineers at the head of various departments, and each of them is expected, as a part of his routine duty, to develop such improvements as are suggested by the needs of his department to keep it in a position to meet competition. Last year 1412 ideas were carried to the management by 300 men as patentable inventions. Of these 797 were found to be either impracticable or not new. The remaining 615 were developed by the company to such a degree of perfection that applications for patents were filed with the Patent Office at Washington. In round numbers, an average of 500 patents a year are taken out by the company, every one of them for a device of immediate commercial value. To handle the legal end of the company's patent business, drawing up applications for patents, carrying them through the Patent Office and conducting suits for infringement, a corps of twelve lawyers and twenty-eight assistants is maintained at Schenectady, besides two lawyers at Washington and one in Europe. These figures give some idea of the dignified proportions of the profession of inventing; for this company is only one of scores which carry on similar work on a greater or lesser scale. Follow one of the 615 inventions patented last year through all the stages of its development and consider what an inventions department means when that work is multiplied by 615.

But this is not all. Not only are practicable inventions developed in this way, but laboratories of research in pure science are often carried on at a cost of thousands of dollars, in the hope that discoveries will be made in new fields that can afterward be utilized.

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The Sommer Clock Mfg. Co., of Philadelphia, Pa., has changed its location from 1027 to 1106 Columbia Avenue, that city.

C. L. Bryant, Bethel, Conn., accompanied by his wife and daughter, Dorothy, has recently been spending a few weeks at Searsport, Me., on a vacation.

The Middletown Silver Co., Middletown, Conn., has purchased the plant formerly used by the Middletown Plate Co. The expansion in productive facilities was necessitated by the company's growing business.

The copartnership hitherto existing between W. P. Hanna and W. J. Eroe, in the firm of Hanna & Eroe, 58 Washington Street, New Castle, Pa., has been dissolved by mutual consent, W. J. Eroe having retired. The business will be continued by W. P. Hanna.

Francis D. Bancroft, the jeweler, of Waukesha, Wis., has purchased the James Bivins residence on Wisconsin Avenue, in that city. He now enjoys the advantage of residing within two and a half blocks of his store and three and a half of the center of the city.

J. Weinstein, wholesale and retail jeweler and optician, 1501 E. Main Street, Richmond, Va., has found it necessary to devote his personal attention to business at headquarters, and accordingly the territory heretofore covered by him is now traversed in his interest by M. Perrell.

C. P. Hall, the Saginaw, Mich., watchmaker and jeweler, has been receiving the sympathy of his numerous friends upon the demise, some time ago, of his daughter, Ellen J. Hall, under whose name the business has hitherto been conducted. In the meantime he is running the business under his own name.

Clay Henry, who some months ago discontinued business as a retail jeweler at Portsmouth, Ohio, has re-established in that line at Ironton, Ohio, his home town, where he had formerly been in business for twenty years. Jeweler Henry naturally has hosts of friends in Ironton, and this, coupled with the continuous growth of that center, augurs well for his future in the trade.

The Shoe City Loan and Jewelry Co., Brockton, Mass., have become established in their new jewelry store at 38 Main Street, where they will be glad to receive their many friends and customers. The new store is a large, commodious and well-furnished one. Hereafter their loan business will be carried on separately from the other, a special room having been equipped for it, with an entrance on Ward Street.

The Ontario *Gazette* announces the incorporation, under the Ontario companies' act, of A. Rosenthal & Sons, Limited, of Ottawa. This company has been formed to acquire and take over the jewelry manufacturing and diamond-selling business now carried on by A. Rosenthal. The share capital is placed at \$100,000, divided into 1000 shares of \$100 each. The charter has been granted to A. Rosenthal, Sr., Samuel Rosenthal, Martin Rosenthal, Harry Rosenthal and Adolph Rosenthal.

Emanuel Schuh, detective sergeant, department of police, Buffalo, N. Y., recently found on the person of a prisoner a valuable watch which is believed to have been stolen, and the owner of which he desires to identify. It has a heavy hunting-case, 18-karat gold, a calendar dial and a Geneva non-magnetic movement. Any one claiming this timepiece, however, will have to furnish the number on the case and on the movement.

Wm. B. Watts, chief inspector of police, Boston, Mass., desires information of Anatole L. Carles, a journeyman jeweler, who until May 21, 1905, worked for Geo. A. Barron, 3 Winter Street, Boston, and then suddenly disappeared with his 5½-year-old daughter, Dorothy. His wife and family fear he has met with foul play, and it is on their behalf that information is desired. Jeweler Carles is 35 years old, 5 feet 8 inches high, weighs 125 pounds, and has reddish hair and moustache.

Prominent among the recent trade visitors to the United States from foreign countries is Tokutaro Osawa, managing director of the well-known wholesale watch and jewelry house of Osawa & Co., Kyoto, Japan. Mr. Osawa made an inspection of the watch movement and case factories during his tour of the country, and was much interested in the ingenious machinery and processes of manufacture. From the United States he will go to London, thence to France and Germany, and return home via the Suez Canal. In addition to its large establishment in Kyoto, the firm of Osawa & Co. has branches in Osaka and Kobe, and also in Sydney, N. S. W.

The Power of Persistence

By way of proving how persistence may accomplish the seemingly impossible, a lecturer recently told the following story: A very interesting experiment was made a short time ago in one of our great rolling mills. A bar of steel weighing half a ton was suspended vertically by a slender chain. Near by a cork from a bottle was suspended by a silk thread. The cork was started to swinging so that it struck gently against the steel bar. Of course, it made not the slightest impression. But the motion of the cork was continued, and at regular intervals it struck the great bar of steel in exactly the same place. Five minutes passed and still no effect was noted on the bar. After ten minutes, however, the bar gave evidence of feeling uncomfortable. A sort of nervous chill crept over it. At the end of twenty minutes the chill gave way to distinct vibration, and fifteen minutes later the great bar was swinging like the pendulum of a clock. A single week or month of advertising is merely a blow or two of the cork against the bar of steel. Its effect is absolutely nothing. It is money and effort wasted, but the continuous, persistent hammering, week after week, month after month, is just as sure to start the pendulum of business swinging your way as day is to follow night.

Cultivating the Memory

Remembering the names and identity of every person one comes into contact with is a pretty neat accomplishment, and it is one of inestimable value. There is hardly a man living who has not been unspeakably embarrassed at some time in his career by being unable to "place" another whom he has accidentally encountered upon the street or in some public place and by whom he has been

greeted with apparent great friendliness and cordiality. In trade it won't do at all to forget who's who, and the more incidents remembered in connection with the former meeting the better.

A man long experienced in affairs and in youth afflicted of the unhappy failing of being unable to remember names relates how he overcame the difficulty. He entered business for himself and quickly discovered that it was a sore inconvenience to be unable to call the names of his customers. Indeed, he often embarrassed them and himself by getting them confounded. "Jones," an intimate friend, said one day after witnessing a trivial mix-up, "pretty soon you'll have to go out and read the sign to see who's running this store." That aroused Jones to the point of reprisal on himself, and this is what he did, as he narrates it: "When introduced to a stranger I said little, but insisted on having the name announced to me clearly. I mentally repeated it three times, and tried to associate it with something, as 'William Greenleaf' brought the idea of green leaves, June, leafy boughs, and so on; 'William' became associated with Emperor William of Germany. It was all the work of a brief moment, then I proceeded with my end of the conversation, studying the person's countenance and the physical characteristics from the Bertillon standpoint and getting a mental impression of them. As speedily as possible after the meeting I wrote the name, address and a few facts about the new acquaintance in a pocket memorandum book. This I read over once a day for three or four days. Soon I found that I remembered these men instantly on second meeting and they never became hazy after that. Eventually the first mental impression, dwelt on strongly a moment, was sufficient to keep a name and identity associated forever, but I have clung to the habit of writing the names, addresses and occupation of all business acquaintances in a book."

Self-heating Soldering Iron

The operation of soldering is a much more exacting one than the inexperienced person imagines as he witnesses the facility with which it is conducted under favorable circumstances. It requires a knowledge and expertness which is secured only from long practice to have the iron at the proper degree of heat and the surfaces to be joined in the necessary condition of absolute cleanliness before the solder will flow. Unless all of these requirements have been complied with, the amateur will be surprised to find that the leaden stick will not be influenced in the least by the application to the heat of the soldering tool.

The expert workman who is sure of his ground is somewhat hampered in his work by the fact that there is much time lost while he is waiting for the iron to heat. A novelty in the line of tinsmiths' tools has been recently introduced to the trade, which is a self-contained soldering iron, dispensing with the use of the charcoal fire usually made use of for the purpose of heating the iron. This tool is self-heating. The handle contains a supply of gasoline and is fed to the copper point by means of a pressure generated automatically from the heat. It is merely necessary to give the copper point an initial heating by means of an alcohol lamp. The latter operation requires about five or six minutes, and after that the device is self-acting as long as the fuel supply holds out. The consumption of the fuel can be accurately regulated, and thus it is possible to adjust the heat of the copper to any desired point for different kinds of work.

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Such is a Melbourne jeweler's view of the

Keystone Record Book of Watch Repairs

All other jewelers speak of it in similar terms. If you saw it you would be similarly impressed. Besides wide columns for name and address of the customer and for the repairs made and remarks, there are the following:

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Annual Meeting of the American Association of Retail Jewelers

The American Retail Jewelers' Association held its annual convention at the Hotel Normandie, Detroit, Mich., on July 25th. Over 200 jewelers, representing nine different States, were in attendance. The meeting was called to order by the president, Max Jennings, of St. Clair, Mich., who opened with an address of welcome, which was listened to very attentively by the large gathering. He said:

Members of the American Retail Jewelers' Association:—In calling this, our second annual meeting, to order, and addressing to you a few words of welcome, I do so with a degree of satisfaction and pleasure that it would be impossible for me to put into words. In behalf of the executive committee I greet you and extend to you the right hand of fellowship and welcome. I take it that we are all here in a common cause—that is, the betterment of the conditions now prevailing in the jewelry trade. We are glad to see so many here, and trust that each and everyone of you will be benefited by attending this meeting, and return home with a feeling that your time has been well spent. I have often been asked the question: What is the object of your association? I am aware that many jewelers, even some who are members of the association, are not able to answer this question intelligently. I will, therefore, quote a part of the preamble to our constitution, which concisely states the purpose of organizing.

As the trade has long recognized the necessity of co-operative work for protection against trade abuses, it is the purpose of the American Retail Jewelers' Association to furnish such protection as far as possible and be the means through which all may work together to bring about conditions more favorable to the retail jewelers. That there is need of such an organization as ours, grows more and more apparent as time goes on. Our association is yet in its infancy, but the enthusiasm shown by the retailers everywhere is evidence that the American jeweler is beginning to sit up and take notice.

The growth of our association is just beginning to spread out in all directions, and to-day we have interested and enthusiastic members in nine different States, we being the only jewelers' organization in America that makes any pretensions to being a national one.

It has been the policy of the executive committee, and I trust that it will continue to be, to conduct the affairs of the association in a reasonable, conservative manner, such as will secure the good will and co-operation of all branches of the trade. In our judgment the good will of the trade in all its various branches will do more to promote the good work and success of the organization than antagonistic and radical measures. We are beginning to see the wisdom of this policy in many ways, and are now reaping some of its results.

The manufacturers are beginning to see that it is to their interest to work with us rather than ignore or oppose us. The association as yet has had no remarkable growth, nor has it accomplished anything great in the way of results, but I consider it as being established on a firm and lasting foundation, and that it will soon become of great influence in the jewelry world.

That we have not had an abnormal growth should not be considered at all discouraging. The great and lasting things of life are of slow growth. You can raise a vine that will bear pumpkins a foot through in three months, but at the first blast of winter it gives up the ghost and is a thing of the past. But the mighty monarch of the forest that spreads its branches toward the sky, delighting us with its beauty and its welcome shades, withstanding storms and wintry blasts of centuries, was many generations in its growth. So with our association, its growth has been at all times steady and healthy, and we may well congratulate ourselves for the progress we are making. Thanking you for your attention, once more I extend to you a sincere welcome to our meeting.

The following committee on resolutions was then appointed by the president: W. W. Sheldon, Adrian, Mich.; G. J. Daum, Augusta, Ky.; John J.

Jantz, Jr., Detroit. The president also appointed the following members as a committee on nominations: W. W. Bridges, Marine City; Mich.; V. C. Morse, Ithaca, Mich., and Chas. Montfort, Utica, Mich.

After accepting the reports of the secretary and treasurer, a discussion arose as to whether a national stamping act was desirable. The following committee was appointed to consider and report the matter later: W. F. King, chairman, Adrian, Mich.; O. B. Hull, Belding, Mich.; O. H. Lutz, Ann Arbor, Mich.; G. J. Daum, Augusta, Ky.

The committee reported later in favor of such a law.

A paper on "Simple, Time-Saving System of Stock Numbering," was read by Edward R. Roehm, of Detroit. A paper by F. W. Jameson, of Ashton, Iowa, entitled "Organization of Retail Jewelers," was well received, as was also a paper by W. J. Lawlor, of Ripon, Wis., on the subject, "The Association; Its Value."



Max Jennings

The newly-elected officers for the ensuing year are: Max Jennings, St. Clair, Mich., president; A. B. Hull, Belding, Mich., vice-president; E. R. Roehm, Detroit, secretary; John J. Jantz, Jr., treasurer.

The local jobbers, opticians and manufacturers took the association members in hand and entertained them with an enjoyable boat ride along the beautiful Detroit River, and the ride was followed by a game supper at Wolff's Point, on the Canadian shore. The "Jewelers' Outing" was an immense success, to say the least. A notable feature of the outing was the strong representation of jewelers from Adrian, Mich. These enterprising fellows "closed shop" and all came down with their wives and families. As one jeweler aptly remarked: "You couldn't get a watch key in Adrian to-day for fifty cents, or a watch glass for a dollar and half."

Such loyalty to the association deserves commendation. The stay at Wolff's was of some length, which gave every one an opportunity to stretch themselves and regale the inner-man before the return trip. The association passed a resolution extending a vote of thanks to the jobbers, opticians and manufacturing jewelers for the hospitality and good will which they enjoyed.

The entertainment committee consisted of the following: Theo. Gorenflo, of Noack & Gorenflo, chairman; Henry Lutz, of H. W. Steere, and Mr. Mathauer, of Mathauer & Koester.

The following jobbers, manufacturing jewelers and wholesale and manufacturing opticians contributed toward making this entertainment a success: Noack & Gorenflo, the E. H. Pudrith Co., H. W. Steere, Burr, Patterson & Co., Weyhing Bros. & Co., J. F. Plimly, F. A. Drexel, Berkey Cash Jewelry Co., Mathauer & Koester, Kunz & Rogers, W. F. Schultz, Gmeiner & Schroeder, Johnston Optical Co., Charlesworth Optical Co., Kennedy Optical Co., Bromley Plating Works.

Just before going aboard the steamer a very good picture of the entire aggregation was taken at the dock.

It was decided that the next convention, which would also be held in Detroit, would be of longer duration than this one.

Detroit Notes

Detroit has just passed through the hottest July in a great many years, which intensified the usual midsummer lull in business. The thermometer favored the nineties the greater part of the month, and all who could leave the city did so. Those who remained at home did little shopping, and business dropped off very materially. All the wholesale houses are receiving their new fall goods and are busily preparing their travelers with new lines to take out next month. The new goods this year are very handsome and the jobbers look for a very good fall trade.

S. T. Wood, East Tawas, Mich., has moved his stock of jewelry to Foley, Minn. W. B. Murray, of the former place, has moved to Mr. Wood's old quarters, which have been entirely renovated.

W. T. Walker, traveling representative for Noack & Gorenflo, spent the month of July on his farm, near Grand Rapids, Mich.

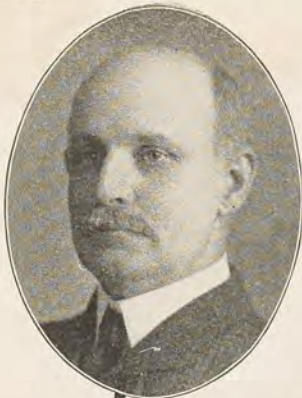
S. M. Cooley moved recently from Mayville, Mich., to Corunna, Mich. Mr. Cooley had been engaged in the jewelry business at the former place for about eighteen years.

Paul Stamson, Muskegon, was in Detroit recently to take part in the motor cycle races.

Among the buyers from different towns in the State recently in Detroit, were: Robt. Walker, Dexter; W. H. Skeman, Wyandotte; E. H. Cressy, Saline; E. S. Barnes, Rochester; O. H. Lutz, Ann Arbor; W. W. Hicks, Tecumseh; F. N. Paule, Pontiac; Max Jennings, St. Clair; W. W. Bridges, Marine City.

A Memory Ring

If people persist in forgetting the things they want to do it is not the fault of the horde of inventors, who have furnished innumerable devices for making such lapses of memory inexcusable. You can have this memory prodder attached to your watch chain, to your ring, to your spectacles or to your watch itself. The time-honored custom of tying a string around the finger is quite obsolete. One form of such device is a ring formed of wire much after the style of the now almost forgotten flexible wire garters and sleeveholders. The ring, which is comparatively inconspicuous, will, by reason of design, fit anyone's finger. It carries a setting designed to afford space for making notation of the specific details to be executed. Another such reminder takes the form of an attachment to cover the case of your watch, it being presumed that some time during the day you will consult your timepiece, and so be confronted with the memorandum which is written on a round disk fitted to the watch case and carried by the stem.



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We avoid the common mistakes of auctioneers; *we do not sell shoddy*; we draw to our sales the best class of buyers. *We do not misrepresent. We do not exaggerate.* A jeweler never loses trade because of our auctions; *we better his reputation.*

We can hold a profitable auction for you in *any month of the year, this month as well as any other.* Wouldn't you like to have us convert all your stock into cash? Tell us about your business. We will hold your letter strictly confidential and write you at once, giving you some valuable advice.



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A. L. Desbouillons, Savannah, Ga.
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J. P. Bader, Clarksdale, Miss.
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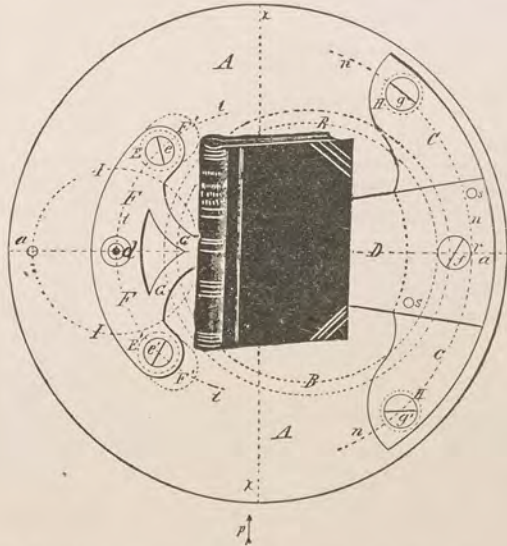
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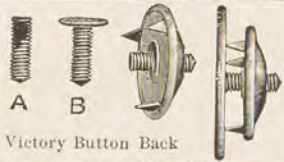
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1839



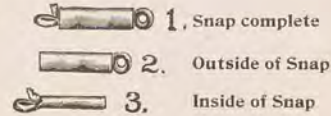
**CROUCH & FITZGERALD
Jewelry Sample Trunks and Cases**

Extra Deep Trunks and Cases Always in Stock

161 Broadway 688 Broadway
Below Cortlandt Street Below Fourth Street

723 Sixth Avenue
Between 41st and 42d Streets

NEW YORK



1. Snap complete

2. Outside of Snap

3. Inside of Snap

The E. P. H. Patent

Non-pull-out Neck Chain
Snap is a patented snap that
insures the wearer against
loss of

CHAIN or CHARM

for it positively will not pull
out.

Made in 10 and 14 Karat Gold

and in Gold Filled

Can be had of the following
Wholesale Selling Agents:

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BOSTON

PRICES

14 Karat	{ Small, \$7.00 per doz., net
	{ Large, 7.50 " " "
10 Karat	{ Small, 6.00 " " "
	{ Large, 6.50 " " "
Gold Filled	{ Small, 2.00 " " "
	{ Large, 2.25 " " "

September 4th 1905

IS THE OPENING OF OUR FALL TERM. If you want to learn **Watchmaking, Engraving and Optics**

Want to learn it right
Want to learn it thoroughly
Want to learn it in a short time

YOU WANT TO ATTEND OUR COLLEGE ON THAT DATE.
See ad. on page 1302, this issue. Send for our Prospectus, it gives full information.


THE PHILADELPHIA COLLEGE OF HOROLOGY
F. W. Schuler, Principal
Broad and Somerset Sts., Philadelphia, Pa.

"GRIP" A new game just out. Lively, instructive and interesting for persons wearing rings. Price, 25c. Wanted, some jeweler in every town to sell this. It will boom your ring trade. Sample pack, 16c. Two, 30c.; eight, \$1.00. Sent prepaid (only on receipt of price). Ask your jobber for Wells' Perfect Ring Adapters, or I will send at once an assorted 1 doz. 10 K. gold, \$3.75; 1 doz. gold filled, \$2.00; 1 doz. metal, 85c. Address Chester Wells, Jeweler, Meshoppen, Pa.



ELK TEETH
and CLAWS OF EAGLE, MT. LION, LYNX, Etc.
WHOLESALE
Sent on selection to reliable manufacturing jewelers

L. W. STILLWELL
Deadwood, South Dakota



Learn Telegraphy & R. R. Accounting
\$50 to \$100 per month salary assured our graduates under bond. You don't pay us until you have a position. Largest system of telegraph schools in America. Endorsed by all railway officials. Operators always in demand. Ladies also admitted. Write for Catalogue.

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Souvenir Spoons
of any locality. Buildings engraved in bowls. The best and cheapest Souvenir Spoon Engraver in America

CHAS. A. STAHL, JR. PROVIDENCE, R. I.



When I Started a Jewelry Store

I wanted a way of guaranteeing watches that would satisfy the customer and safeguard myself. I devised such a guarantee and had a few blanks printed. Some people who saw them wanted some, so I had them copyrighted and have since sold a good many. They are "Guarantee for Sales" and "Guarantee for Repairs," put up in books. Either kind costs:

No. 2 Size, 2 to page,	\$1.00
3 " 3 " "	1.50
5 " 5 " "	2.25

The No. 2 size can be expressed or mailed for 10 cts., the No. 3 for 15 cts., and No. 5 for 25 cts. You can buy them from your jobber or from me.

HARRY EMRIE
Cincinnati

G. F. Wadsworth
Watch Case Manufacturer and Repairer

Everything in the line of **Watch Case Repairing, Gold and Silver Plating, Satin Finish, Engraving and Engine-Turning**

Changing Old English and Swiss Cases to take American S. W. Movements my specialty.
OLD CASES MADE NEW
Silversmiths' Building, 131-137 Wabash Ave. CHICAGO



LINDNER & CO.
Jewelers' Supplies
S. W. cor. Fourth and Walnut
CINCINNATI, OHIO
Fountain and Special Mainsprings
Write for Price-List

The Crohn Patent Safety Guard

For Scarf Pins, Studs and Lace Pins. The most practical and only adjustable one invented. Price, \$1.50 per doz. For sale by all wholesale jewelers and material houses. Sample by mail, 25c; in 10 K. gold, \$1.00; 14 K. \$1.25. **M. CROHN, Mkr. & Invtr. 48 & 50 Maiden Lane, N. Y.**



BE A WATCHMAKER.
EARN WHILE YOU LEARN
The Artisan 24-page Illustrated Book, "How to be a Watchmaker" free. **STONE'S School of Watchmaking, Globe Building, St. Paul, Minn.**

\$9500.00
Gross Profit a Year

With a Stock of About **\$12,000.00**

Business for the last few years footed up about \$23,500 a year. You can run the store, keep a watchmaker and pay your own salary for about \$300.00 a month. A good business man can clear from \$5000.00 to \$6000.00 a year.

I Have Done It and You Can Do It

The business is here. The best town on the coast, of about 3000 inhabitants; large country to get trade from. Good, up-to-date **Clean Stock and Excellent Reputation**

Change of climate, reason for selling. We mean business, and will prove every statement here made to be correct. If you are looking for a good, money-making business, write at once to

Jos. Mayer & Bros.
SEATTLE, WASH.

When writing to advertisers, kindly mention *The Keystone*

Small Advertisements

No advertisement inserted for less than 25 cents.
Under heading "Situations Wanted," ONE CENT per word for first twenty-five words. Additional words and advertisements, THREE CENTS per word.
Under all headings except "Situations Wanted," THREE CENTS per word.
Name, address, initials and abbreviations count as words, and are charged for as part of the advertisement. No display other than two-line initial letter.
To insure insertion money must accompany all orders for advertisements, and copy must reach us not later than the 25th of each month for insertion in the following month's issue.
If answers are to be forwarded, TEN CENTS in postage stamps must be enclosed.
The real name and address of every advertiser must accompany the copy of the advertisement.
Advertisers who are not subscribers must send 15 cents (special issues 25 cents) if they desire a copy of the paper in which their advertisement appears.
Address,
THE KEYSTONE
19th & Brown Streets, Philadelphia, Pa.

SITUATIONS WANTED

Under this heading, ONE CENT per word, for first twenty-five words. Additional words and advertisements, THREE CENTS per word. No advertisement inserted for less than 25 cents.

POSITION by fine watchmaker and jeweler, 8 years' exp.; 3 years an examiner in Waltham Watch Co. Address, W. T. Munro, 765 Woodward Avenue, New Haven, Conn.

POSITION as watchmaker, jeweler and salesman; good fellow; tools furnished. Had exp.; not afraid to work. Kansas or Nebraska pref. "D 108," care Keystone.

YOUNG man, 21, wants position as assistant watchmaker, good on clock and job work. Terms reasonable; good refs. Ad., "T 117," care Keystone.

POSITION on the road as traveling salesman by a watchmaker and engraver of 15 years' exp., accustomed to handling city trade. "W 114," care Keystone.

GOOD watchmaker, jeweler and optician would like position at once. J. C. McKelvey, Demos, Ohio.

PERMANENT position by young, married man capable taking charge of department or store. Exp. as watchmaker, jeweler, optician and salesman. Have all tools. Would take good position as second watchmaker. "C 112," care Keystone.

POSITION about Sept. 1. Watchmaker, graduate optician, plain engraver; experienced in R. R. work. \$25 per week. "H 106," care Keystone.

PRACTICAL young man as salesman. Thoroughly experienced in every line of the jewelry, silver and diamond business. First-class store only. "C 109," care Keystone.

GOOD watchmaker and engraver, familiar with railroad watches; go any place. Ref. present employer. C. B. Smith, 68 Beverley Street, Toronto, Ont.

FIRST-CLASS watchmaker, jeweler and plain engraver, age 28, wants permanent position with reliable firm; 10 years' exp. Own bench and tools, up on railroad work. Ref.; photo., samples of engraving on request. Salary, \$20. Address, O. L. Morris, Newton, Iowa.

AGE 32, and a life's exp. in high-grade foreign and American watch work—optician, engraver. All tools and trial case. Can take charge of retail business. Chas. Shanar, Knox, Pa.

FIRST-CLASS watchmaker, engraver, clock and jewelry repairer, not afraid of work or long hours. Permanent position of more importance than salary. "H 148," care Keystone.

POSITION by young man, watchmaker, engraver, jeweler, graduate optician, good salesman. Best ref.; Ohio pref. Address, "T. J. Y.," 16 Belmont Ave., Mt. Vernon, Ohio.

BY young man as first-class letter and monogram engraver and salesman. "M 142," care Keystone.

WATCHMAKER wants permanent position. No \$15 man; 20 years' exp. in finest watch and clock repairing. Bench, lathe and tools. Geo. Hilbert, Mountain Top, Pa.

BY watchmaker, engraver, optician, stone-setter; 17 years' exp. American, married; no liquor or profanity. \$25 weekly; close at 6. "P 145," care Keystone.

POSITION as watchmaker, jeweler and engraver about Sept. 1st. Good salesman; 4 years' drug exp. Good ref. Own all tools. "T 147," care Keystone.

FINE optician and engraver, with good knowledge of watch work. Trial case and tools. State salary in first letter. "Optician," Pitkin Block, Corinth, N. Y.

WOULD like to correspond with any one wanting all-around man—watchmaker, jeweler, salesman; hustler. Capable of taking charge of business, either on salary or part profits. Good refs. Box 352, Winston Salem, N. C.

SITUATIONS WANTED

YOUNG man, of good habits, desires position as watchmaker, engraver and general repairer. Refs. W. J. Downie, 617 Seventh Ave., South, Minneapolis, Minn.

OPTICIAN, position wanted by a good refractonist and all-around man; many years' exp. Western town pref. "Powell," 1905 Tracy Ave., Kansas City, Mo.

YOUNG man, age 21, 5 years' exp. in watch work, clock and jewelry repairing, good salesman, neat appearance; best refs. Salary, \$12 to start. Have most tools. Wisconsin or near State pref. "L 152," care Keystone.

GRADUATE optician, exp. with large optical houses, would take charge of optical department or would invest money in business if suitable proposition offered. "L 154," care Keystone.

ALL-AROUND man, good watchmaker, fine jeweler, clock repairer, plain engraver and manufacturing, stone-setting, salesman. Best of refs., including present employer. "S 157," care Keystone.

YOUNG man, watchmaker, can do plain engraving, wants position. Has complete set of tools, with lathe. Can give good ref. "A 159," care Keystone.

BY first-class, all-around man, a position in Iowa, Sept. 10th. Fine set of tools; best of ref. Will A. Robinson, Baker City, Oregon.

AS optometrist exclusively, by Oct. 1st. Must be first-class place. Best of refs. Address, E. G. Wiseman, Sharpsburg, Pa.

EXPERT watchmaker wants position in Eastern U. States. Complete set tools. Married; refs. State salary and hours. Would accept moderate salary in a good location. Address, Box 133, Pultney, N. Y.

GRADUATE optician, age 25, 5 years' practical exp., also understands jewelry business, desires position. Own trial case, tools, etc. Address, Box 128, East Liberty, Pa.

A FIRST-CLASS sand molder of fine rings and jewelry. Box 309, Aurora, Ill.

POSITION wanted by a watchmaker of long exp., careful and very thorough workman, competent to take charge of repair department and make estimates on cost of work. Graduate optician, good salesman. "P 138," care Keystone.

YOUNG man, single, no bad habits, would like position under good man to finish trade. Own lathe, tools and trial case. Pacific coast pref. "B 133," care Keystone.

BY young man, 22, place to finish trade; fair engraver, good character; can give ref. Iowa pref.; but will go anywhere. Own tools. Chas. Peterson, 223 West Fifteenth Street, Minneapolis, Minn.

FIRST-CLASS watchmaker, engraver, graduate optician wants permanent position in Southern California by September or October; 16 years' exp. Age 31. All ref. furnished. Address, "Jeweler," 28 Mechanic Street, Cleveland, Ohio.

YOUNG man, of 30, desires position as watchmaker. Attended school 9 months; also previous exp. at bench. Good refs. E. A. Priest, 5815 Easton Avenue, St. Louis, Mo.

WATCHMAKER, jeweler, plain engraver, graduate optician. Own tools, trial case. 20 years' exp.; refs. Illinois preferred. State salary paid. Box 401, La Porte City, Iowa.

YOUNG man of fine appearance, with good habits. Can do watch, clock, hard solder and engrave; first-class salesman. Best refs. Position must be permanent. "F 131," care Keystone.

AS a first-class engraver, assistant watchmaker, plain soldering; can wait on customers. I am a graduate Minneapolis School. 21 years old, temperate habits. Also have some store exp. Can give good ref. Howard Davis, Parsons, W. Va.

WATCHMAKER and engraver wants position, age 20. Has 6 months' exp. after graduating from the school. "A 126," care Keystone.

PERMANENT position by Sept. 15th. A1 watchmaker, engraver and optician, 10 years' practical exp. Fine set of tools and trial case, competent to take charge of repair and optical department. Young man, married; gilt-edge ref. Colorado, Wyoming or New Mexico pref. Address, L. M. Raliff, Francesville, Ind.

YOUNG man wants to finish trade. Good habits; have all small tools. Willing to start at fair wages. Best of refs. Box 43, Sagertown, Pa.

BY first-class watchmaker, jeweler, optician. Age 30; strictly temperate. Seeks reliable house only. Michigan pref. Salary, \$18. H. B. Crane, Ithaca, Mich.

EXPERT optician and plain engraver wants position. Do clock repairing and can assist in watch work. Chicago pref. German, 25. Address, Heeden, 601 Taylor Street, Chicago.

BY engraver; first-class letter and monogram, cut for enamel; also some dies for glass pins and stationery work. Ready Sept. 15th. "H 130," care Keystone.

FIRST-CLASS watchmaker, 25 years' exp., desires steady position by Sept. 15th with first-class firm. Capable managing jewelry business or take charge repair department, wait on trade, or would buy a small jewelry and repair business. Can furnish best refs. R. K. Higgins, 153 N. Willow St., Waterbury, Conn.

SITUATIONS WANTED

BY AT watchmaker, jewelry repairer and graduate optician. Finest refs.; have tools, etc. H. V. Keller, Henry, Ill.

WATCHMAKER, optician, jeweler. Single, age 25; permanent position. No tobacco or liquor. "K 149," care Keystone.

WATCHMAKER, optician; drug exp. 40 years of age; speak German. All tools, trial case; good salesman. Address, Box 332, Rock Rapids, Iowa.

FINE appearing single man, 27 years' old, with 7 years' exp. in retail jewelry stores, wants to take position on the road. Will work very reasonable until route and trade is established. "W 164," care Keystone.

WATCHMAKER and jeweler, 10 years' exp. Do all class work; experienced in drug store. Single. South or Oklahoma pref. State wages in first letter. Lock box 552, North Judson, Ind.

YOUNG man, engraver, second watchmaker, jewelry and clock work, salesman, wants position at once. Age 21; best of refs. Central States. C. W. Mouch, 607 South Perry Street, Wapakoneta, Ohio.

RELIABLE man, age 33, learned trade in Europe, 17 years' exp. high-grade watches and waiting on trade, wishes position as manager of repair department, or will buy interest in store. With only first-class firm. Best refs. "Wilson 168," room 1201 Heyworth Building, Chicago.

OPTICIAN, watchmaker, jeweler, 18 years' exp.; capable taking charge—good, all-around man. Prefer place with druggist; at once. H. C. Dixon, 307 Sherman Ave., Dixon, Ill.

WATCHMAKER and jeweler, single, 28 years old, 15 years at bench. Speaks Norwegian. Ref. J. A. Skangstad, Wiota, Wis.

OPTICAL salesman and refractionist open for position Sept. 1st. Been through retail business from A to Z; 9 years' exp. Highest refs. Particulars by letter. "N 107," care Keystone.

THOROUGH, competent man, of good appearance and habits, would like position as head watchmaker or a good place at the bench. Well up on very fine work. Address, W. Merton Stoffle, care J. H. Leyson Co., Salt Lake City, Utah.

BY thorough, practical watchmaker, jeweler and engraver; 25 years' exp. with large houses. Full set of tools, and know how to use them. Refs. "N 136," care Keystone.

MAN in Minnesota, 7 years' exp., wants permanent position soon. Thoroughly acquainted with all departments of business—good watchmaker, engraver, jeweler and salesman. About to complete optical course. Age 27; good appearance, best refs. State salary. "B 140," care Keystone.

POSITION by mfg. jeweler, stone-setter and enameler in retail store. Position permanent. State salary in first reply. "J 71," care Keystone.

YOUNG man, owning lathe, full set of tools, desires position as watchmaker. For full particulars, ad. "R. W.," box 563, Phillips, Wis.

EXPERIENCED watch and clockmaker and salesman wants position. South pref. Address, "James Johnson No. 78," room 1201 Heyworth Building, Chicago.

WATCHMAKER and jeweler, graduate optician and engraver; 3 years' exp. on R. R. work, good set of tools. Position wanted by Sept. 1st. Young man, best refs. "S 169," care Keystone.

MANAGER mail order department, catalogue compiler, etc.; experienced in jewelry and various other lines. Ad. "K 170," care Keystone.

ENGRAVER wants position Sept. 1st for holidays. Age 23. Will stay permanent if satisfactory. Good letter and monogram engraver. Landis School of Engraving, Detroit, Michigan.

MAN watchmaker, of business qualifications, thorough on R. R., foreign and complicated work, open for a proposition Sept. 1st to 15th. Proposition for less than \$30 not entertained. "H 171," care Keystone.

BY lady engraver, willing to assist in selling and looking after interest of firm. Address, "L. E.," care 1104 Heyworth Building, Chicago.

BY young man as engraver; willing to learn other branches if desired and keep stock in order. Address, "R. O. K.," 1104 Heyworth Building, Chicago.

BY engraver and watchmaker; moderate exp. Address, "G.," care 1104 Heyworth Building, Chicago.

COMPETENT exclusive refracting optician, able to build and hold a practice. Only reliable firm need reply. "L 172," care Keystone.

WATCHMAKER, engraver, mfg. and graduate optician wants position at once at reasonable wages. Own all tools. Can give good refs. as to character. F. F. Nelson, box 413, Humboldt, Iowa.

WATCHMAKER open for engagement. 15 years' exp. in repairing all kinds of high-grade watches, clocks, jewelry, etc.; also plain engraver and optician. \$20 per week. Address, George Fairgrieve, St. Marys, Ont.

HELP WANTED

UNDER THIS HEADING THREE CENTS PER WORD

FIRST-CLASS watchmaker, who can also wait on trade and do some engraving. Good salary to good man; permanent place. "H 160," care Keystone.

CALIFORNIA. Wanted, first-class combination manufacturing jeweler and engraver. Permanent position to right man. In first letter state age, exp., eyesight and ability. Must have highest refs. Joseph Jessop, San Diego.

YOUNG man of ability with at least 2 years' exp. under manufacturing jeweler. Permanent position in fine retail shop. Fred. McIntyre, South McAlester, I. T.

WATCHMAKER and engraver; must be good salesman. Permanent position. Good, hustling city of 12,000 pop. Must have good refs. Address, Chas. Maurer, Champaign, Ill.

CUT glass salesman, on commission, to cover the State of Michigan. Factory has established trade in the State. Jewelry salesman would find this a profitable line to carry. "D 111," care Keystone.

FIRST-CLASS engraver, watchmaker and jewelry repairer of exp. Single man; salary, \$20 a week. Send photo, sample of engraving and refs. F. C. Helt, Trinidad, Colo.

AN all-around workman. State wages and refs., and what kind of work most proficient in. A. C. Graul, 1004 N. Canal St., Sharpsburg, Pa.

WATCHMAKER by August 20th. Send photo and refs. Grady Bros., Stillwater, Okla.

BY Sept. 1st, young man to do watch, clock and jewelry repairing. Must come well recommended. \$18 per week to a hustler and good workman. Gorman & Green, Salisbury, N. C.

WATCHMAKER, must be first-class; one who can do some engraving pref. Salary, \$20 to \$25 per week. Harris & Esterly, Duluth, Minn.

MANUFACTURING jeweler and engraver to run shop for retail store. We make jewelry to order and want a good man. Steady position. "H 161," care Keystone.

FIRST-CLASS optician and good watchmaker in town near Eastern Ohio state line. \$20 to start and chance to increase. Send refs. and general information in first letter. All letters answered. "S 165," care Keystone.

WATCHMAKER, plain engraver; permanent. State salary and full particulars. "F 162," care Keystone.

JEWELER and stone-setter. State age and refs. Ad., E. G. Hoover, Harrisburg, Pa.

WATCHMAKER, with tools. Steady job for sober, competent man. Box 65, Louisa, Ky.

18 PER week for watchmaker able to do railroad work; some hard soldering and engraving. In climate where sunstrokes and heat prostrations are unknown. Box 194, Eagle Pass, Texas.

ENGRAVER, assistant watchmaker. Opportunity to advance. Iowa. State exp., salary. "B 166," care Keystone.

FIRST-CLASS watchmaker and engraver. Steady position to right man. Send photo and samples of engraving and state salary in first letter. Chas. T. Fuller, Olean, N. Y.

TRAVELING salesman for the South to handle watches and jewelry. Permanent position and good salary to right man. Must have good refs. Address, L. Alberts, 375 Washington Street, Boston, Mass.

WATCHMAKER, good workman. Good wages to right man. P. Laue, 2416 Kensington Ave., Chicago, Ill.

FIRST-CLASS watchmaker, steady and a soffer. Must have had at least 20 to 25 years' exp. at the bench. Need not be an optician or engraver. Norwegian pref., and good ref. required. Had one man 10 years; another 18 years. W. C. Leber, 306 Nicollet Ave., Minneapolis, Minn.

WATCHMAKER, jeweler, engraver, good salesman to take full charge when necessary. State full particulars; right man permanent situation, good wages. "R 144," care Keystone.

COMBINED optician, engraver and jeweler. Send ref. and sample engraving. F. A. Averbek, Madison, Wis.

JEWELER competent to make special order work. A steady position for a reliable man. State salary expected in first letter. Memphis Jewelry Mfg. Co., Memphis, Tenn.

JEWELER accustomed to jobs, repair work; must be done quick and nice. Steady position. State salary expected in first letter. Memphis Jewelry Mfg. Co., Memphis, Tenn.

FIRST-CLASS salesman. Must be thoroughly posted on watches, jewelry and diamonds. Territory: Colorado, Wyoming and Utah. First-class position with good pay for the right man. W. W. Hamilton & Co., Denver, Colo.

WATCHMAKER, jeweler, engraver and salesman, with ref. Good, permanent position for right man. C. A. Williams, 326 Wabash Avenue, Terre Haute, Ind.

YOUNG man, fair watchmaker and engraver. Swede pref. E. Overstreet, Paxton, Ill.

REFRACTIONIST and mechanical optician; one who understands edging and rimless work to take charge of the finest optical stores in the South, located at Charleston, S. C. Must be neat and good address, and best ref. as to ability and honesty and over 25 years of age. A Master Mason pref. Salary to start, \$60 a month and 10 per cent. of the net profits. Will increase salary if business justifies. Hines Optical Co., Savannah, Ga.

HELP WANTED

FIRST-CLASS watchmaker, not less than 10 years' exp. State age, wages and send refs. with first letter. First-class store, up-to-date city of 18,000. Only good man need apply. Chas. E. Davis, Great Falls, Mont.

FIRST-CLASS, all-around man at once. Permanent situation. State ref. and salary in first letter. Warren & Warren, Paducah, Ky.

FIRST-CLASS watchmaker, jeweler and engraver, able to wait on trade. Only high-class, experienced men need apply. Photo, and sample of engraving with first letter. We refer you to our present watchmaker, J. F. Sprague, J. L. Duke Jewelry Co., Fayetteville, Ark.

AT once, a lady watchmaker; one who can assist me in waiting on trade and keeping up stock. State price and full particulars in first letter. N. Bohannon, Chase City, Va.

FIRST-CLASS clockmaker and watchmaker to take charge of clock repair department. Fine work, in large store; city in New York State. "S 128," care Keystone.

WATCHMAKER and jeweler, one who can engrave. Want good, all-around man. State age, exp., salary wanted. Address, Lock box 148, Carroll, Iowa.

IN Philadelphia. Young man, with 2 or 3 years' exp., to finish trade as watchmaker. One with some exp. at engraving pref. Must have good refs. "E 158," care Keystone.

GOOD watchmaker; one that can repair jewelry pref. Nice town, 5000 pop. Address, Lock box 33, Clarksdale, Miss.

AT once, a first-class watchmaker, thorough, who has had exp. in watch inspection service—can repair and adjust a watch to close rating in positions, etc. Permanent position. Address, "J 141," care Keystone.

GOOD watchmaker, engraver, jeweler and all-around man; optician pref. Will pay good wages, and if an optician will give half profits on R. work. Permanent job. Best of refs. as to ability and character required. Send copy of refs., specimen of engraving and full particulars in first letter. S. C. Dickinson, Cherokee, Iowa.

FIRST-CLASS watchmaker and engraver for Oct. 1st. Would pay \$12 to \$15; steady position. Send good ref. J. W. Bader, Blytheville, Ark.

FIRST-CLASS jeweler and engraver. Must be high-grade workman with unquestionable ref. Permanent position and good salary to right man. Ad., Goodman Bros., Columbus, Ohio.

WATCHMAKER and plain engraver; \$15 a week. Only hustler wanted. E. Matusky, 1127 Light Street, Baltimore, Md.

GOOD watchmaker, jeweler and optician; good, all-around man. Address, stating salary expected and refs., Frank H. Fry, Burlington, New Jersey.

FIRST-CLASS optician, engraver and jeweler; good town Central Ohio. Steady job to good, speedy man. Address, John Gardner, 1211 West North Street, Canton, Ohio.

FIRST-CLASS jewelry repairer and stone-setter, and who can do first-class clock work. Good wages and permanent position. Give refs. and all information in first letter. Ad., "T 119," care Keystone.

AN experienced, careful and thorough watchmaker. Must be neat and good dresser, as will have to receive and deliver all watch work. Will pay \$30 a week. Only men with exp. and ability need apply. J. H. Leyson Co., Salt Lake City, Utah.

FIRST-CLASS jeweler, stone-setter, engraver and do some watch work. Permanent position to right man; good wages. "R 118," care Keystone.

GOOD watchmaker, jeweler wanted by Sept. 1st. Young man pref. Good place; must send ref. Box 182, Francesville, Ind.

JEWELER, good on watches, clocks and repair work of all kinds. Must have lathe and tools, at least 10 years' exp. at bench; sober and reliable. Will give \$15 to \$18 per week. Steady position to the right man. W. R. Washburn, Fort Myers, Fla.

SEPT. 1st, good watchmaker, jeweler and engraver; permanent position for a good man. Send sample of engraving; will pay \$15 per week. Palace Jewelry Store, Fort Smith, Ark.

WATCHMAKER, jeweler and engraver; experienced. Full particulars first letter. Cohen & Heilbron, Lincoln, Nebr.

FIRST-CLASS watchmaker and engraver wanted in a Virginia town very near Washington; pop. 25,000. One who can turn out first-class railroad work only need apply. Good, steady position. State salary and ref. "D 120," care Keystone.

GOOD watchmaker, engraver and salesman. Permanent position and good salary to a reliable party. Address, with refs. and sample of engraving, J. Lowinsohn, Birmingham, Ala.

AT once, a good jeweler and optician who can speak German. State age and salary, married or single. Address, Room 47, care Orleans Hotel, Estherville, Iowa.

YOUNG man to assist in watch repairing at once. Graduate optician pref. State wages and exp. Must be sober. J. H. Martin, Roanoke, Va.

ONE experienced mfg. jeweler and engraver; one practical, first-class watchmaker; one optician and salesman and one first-class watch and diamond salesman. Ad., with full particulars, Albert Preffer & Bro., Little Rock, Ark.

HELP WANTED

MANUFACTURING jeweler and diamond-setter about Sept. 1st, Philadelphia. State refs. and salary expected. "G 168," care Keystone.

GOOD watchmaker and jewelry repairer, who understands optical business and engraving. Will pay \$18. Must take care of stock and be salesman. Cheap living, pleasant town; nice store. Henney & Cooper, McComb, Ohio.

BY manufacturer of unique sterling novelties, first-class traveling salesman on commission. On West, one for East, one for New York. Answer confidentially. "F 132," care Keystone.

GOOD watchmaker, \$20; permanent. Give refs. exp. and full particulars in letter. W. R. Hale, Greenville, S. C.

IDE line—Wanted, A No. 1 agent to sell cut glass on commission. New designs, new ideas, and process. Money maker as a side line for the right man. References required, also territory wanted. Samples furnished. Liberal treatment to proper man. Pioneer Cut Glass Co., Ltd., Carbondale, Pa.

WANTED

UNDER THIS HEADING THREE CENTS PER WORD

EVERY kind of gold and silverware, jewelry, watches, platinum. Market value paid. Sent by express or registered mail. Price not satisfactory I will return all articles. J. L. Clark, refiner and sweeper of gold and silver (established 1870), 727 Sanson St., Philadelphia.

WANT a location in some good, lively town or city, to open a jewelry store. Any place west of the Mississippi River. If any one knows of an opening, would be pleased to hear from them. Address, B. W. Lockner, 633 Main Street, Richmond, Va.

AT once, show case with table and wall case with cupboard. Address, E. T. McCall, Laurinburg, N. C.

SECOND-HAND engraving machine. E. B. Steele, Phelps, N. Y.

HIGHEST cash price paid for out-of-repair American movements. Let me know what you have. F. C. Rockwell, 724 Central Avenue, Hot Springs, Ark.

BEFORE making purchasing trip we want quotations on Odd Fellows' emblem goods. "F 151," care Keystone.

PARTNER to take half interest in established tool and material business with catalogue. Splendid opportunity. "H 121," care Keystone.

WEBSTER-WHITECOMB slide-rest and face-plate, retinoscope, ophthalmometer. Must be in good order and cheap for cash. E. S. Halstad, Glenburn, N. Dak.

PARTNER with a few thousand dollars in a wholesale jewelry concern. Clear profit during the first four months of the present year nearly \$4000. Reason, present owner wishes to retire. "E 103," care Keystone.

A STREET clock in good condition. State price. O. S. Jones, Llano, Tex.

JEWELER wanted with some money to handle small stock. Address, Box 34, Mena, Ark.

TO buy cheap diamond scale and watchmakers' bench. Address particulars, "Jeweler," 1104 Heyworth Building, Chicago.

OPHTHALMOMETER; must be cheap for cash. E. G. Weidman, Dansville, N. Y.

FOR SALE

UNDER THIS HEADING THREE CENTS PER WORD

STORES, STOCKS AND BUSINESSES

JEWELRY store, \$2500 cash. Inquire John G. Wilkins, 122 West Ohio St., Allegheny, Pa.

ONLY jewelry business in lively Minnesota town for sale. Pop. 750. An excellent opportunity. Write C. Rygh, druggist, Hancock, Minn.

STORE, stock and fixtures for \$3000 if sold at once. Profit over \$1500 per year. Only jewelry store in town. Reason, other business. Address, Box 52, Littleton, N. C.

GOOD proposition—jewelry, optical business and fixtures; established stand; best located in city; pop. 15,000; only 2 others. About \$4000 cash. Answer quick. Phil. Levy, Henderson, Ky.

OPPORTUNITY worth investigating. \$3500 cash or good security will buy jewelry store in Minnesota, with large watch inspection. Good money-maker and a snap extraordinary. "H 62," care Keystone.

ESTABLISHED jewelry and optical business, best location, manufacturing city 5000, Southern Michigan. Stock and fixtures about \$5000 up to date. Watch inspection. Poor health, reason for selling. "T 105," care Keystone.

A GOLDEN opportunity. A handsome jewelry store in a beautiful Michigan city of 6000 pop. A substantial, well-built city containing important manufacturing industries, large railroad car and machine shops and State institutions. Watch inspection business at the division point of a large railroad system, important and profitable as any in the State. The county seat and natural trading center for many miles of the most populous and richest farming country of the Middle West. Business established for nearly 40 years, doing \$20,000 annually and a big money-maker. Price about \$5,000. "B 978," care Keystone.

(Continued on page 1374)

FOR SALE

STORES, STOCKS AND BUSINESSES

(Continued from page 1373)

JEWELRY and optical business in exceptionally prosperous Ohio town of 2000; invoice about \$1200. Reason for selling other business. Fine opportunity. "H 913," care Keystone.

JEWELRY and optical business; invoice about \$1500. Want to retire. Box 146, Vermillion, Ohio.

FIRST-CLASS jewelry store. Stock and fixtures invoice \$4500. Nice, up-to-date Iowa town of 5000. Nice, clean, new stock. Good run of repair work; cleaning, \$1.50; staffs \$2.50. Easy competition. Year's business, \$6500. Reason for selling, other interests. Write for particulars. "G 91," care Keystone.

AN investment guaranteed to net 20%. The owner of a strictly high-class jewelry business, established in 1895, rapidly growing city of \$10,000, desires to sell. Business this year will amount to \$40,000. Being the owner of valuable patents, intends entering the manufacturing business. If so desired will remain as manager for next year while factory is being completed and machinery installed. Store newly furnished in solid mahogany 1 year ago. Every modern convenience. About \$30,000 required. "M 116," care Keystone.

SPLENDID opportunity for watchmaker and optician to step into established jewelry business. Right in center of late oil and gas boom of Clark County, Illinois. Fine location. Reason for selling, other business demands my attention. Stock \$1200 to \$1400. Write for particulars to-day. Ad. Box 93, Martinsville, Ill.

CHEAP—my stock of jewelry, optical goods, fixtures, tools and material. Write for full descriptions. H. C. Burch, Jasper, Mo.

\$1000 AND over jeweler's outfit of fixtures, including fine safe, for \$500 cash. Also good location if desired. Address, "R 127," care Keystone.

FINE repair business—tools and fixtures, \$200. Small stock at invoice. Box 134, Newberg, Oregon.

ONLY jewelry store in town of 1300. Stock and fixtures will be sold at big snap; will invoice \$1500. Repair work \$100 per month. Good reasons for selling quick. Akenhead, Lake Village, Ark.

RARE chance to buy jewelry store. Best location in Illinois town of 14,000. Will reduce stock. Must sell quick. "H 122," care Keystone.

WRITE to O. J. Bickmore, Kingfield, Maine, if you want a small but well-paying jewelry business.

ONE of the best locations in central Michigan, at 80 cents on the dollar. Owner must sell at once on account of health. Will invoice about \$2100—good fixtures, clean stock. Pop. 6000. "L 135," care Keystone.

JEWELRY store—stock, fixtures, everything, at 80 cents on the dollar. Watch Inspector D. L. & W. R. R. A wonderful opportunity for the right party. Frank Dowling, Northumberland, Pa.

JEWELRY store doing an excellent business in one of the best towns in Iowa for its size, 900 inhabitants. No competition. No fixtures or safe to buy, just stock. Invoice about \$750. Old-established stand and money-maker. Best of reasons for selling. Box 712, Nevada, Iowa.

JEWELRY store in manufacturing town in Indiana. Pop. 15,000. Pay roll \$150,000 per month. Stock and fixtures invoice \$1700. V. G. Kittle, Red Oak, Iowa.

ABOUT \$700 stock. 600 inhabitants. Only a jeweler within 15 miles. Ad. Gerald F. Smith, Genl. Del., Cedar Rapids, Iowa, for particulars.

LEADING jewelry store in Nebraska town, 5000. Invoice \$3600, can reduce. No dead stock. Annual sales over \$5000. Address, Evans, 1513 Harney Street, Omaha, Nebr.

THE best-paying repair business in town of 12,000, also watch and jewelry stock, with show cases and fixtures. Good reasons for selling. Snap for some one. "Watchmaker," 212 West Main Street, Ardmore, Ind. Ter.

IN Ohio town, 1500 pop., good farming country. Only jewelry store. Next to post office. "C 129," care Keystone.

JEWELRY stock and fixtures. Good location, for right man. Owner wants to go out of business. Address, L. A. Hartwig, Alexander, Iowa.

IN a flourishing Maine town, pop. 4000, a jewelry stand with well-assorted stock, mostly new, and all fixtures, including safe. The stock, etc., inventories at cost \$2100. Will sell for \$1500. Rent of store, \$100 per year; amount of bench work, \$1000 a year. Address, "M 139," care Keystone.

STOCK and fixtures; all work one man can do. \$1200 takes it. Eastern Iowa town 800. "H 167," care Keystone.

DO you want a jewelry and optical business paying \$2500 per year profit? If so, write "B 156," care Keystone, if you have \$600 cash.

GOOD-PAYING jewelry business in South Carolina city of 10,000. Fine climate and everything in proportion. Annual sales, \$4000; monthly repair, \$270. A bargain and fine future. "T 176," care Keystone.

FOR SALE

STORES, STOCKS AND BUSINESSES

CHICAGO jewelry store owner wishes to retire. Established over 24 years near prominent corner. Stock \$5000, can be reduced to suit. Repairs over \$200 per month. Lease to suit. "V 124," care Keystone.

PAYING jewelry and optical business, city 6000, growing fast. Railroad division point. Best location for store. Three-year lease, rent small. Business established 10 years. Clean stock. \$4500 buys it; part cash, balance on long time. Investigate. Poor health reason I want to sell. "L 163," care Keystone.

ESTABLISHED jewelry business, paying \$125 L to \$175 per month above expenses; pop. 1200; 1 competitor. Big snap. Write quick if you have \$1000. L. Votroubek, Columbus Junction, Iowa.

ABOUT \$1800 buys only jewelry store in Illinois manufacturing and college city, of 3000. Business over \$4000 annually; repairing \$75. Don't write unless you have cash. "C 153," care Keystone.

HOW would this suit you for \$7000? Business over \$15,000 year, work \$150 month. Business December last, \$2556.65. Nothing but cash considered. Don't be afraid to investigate. "D 143," care Keystone.

JEWELRY optical, piano and sewing machine business. Stock and fixtures invoice about \$2000. In town of about 1000, no competition. A very large farmer trade. More business than a man can take care of, and get good price for everything. I am retiring, on account of interested in manufacturing business. Anthon is located in the Little Sioux Valley, which is a beautiful and healthful place. Do not answer this unless you mean business. Lindsay, Anthon, Iowa.

JEWELRY and optical store, established business in county seat. Nearest opposition 23 miles. Excellent repair stand. Box 403, Mt. Olivet, Ky.

CLEAN jewelry stock and fixtures at discount for cash. If sold soon. W. O. McMahan, Cambridge, Ohio.

\$1500 STOCK and fixtures in lively western town, 5000 inhabitants. Cash only, no discount. Rent \$15. Address, "S 150," care Keystone.

GREAT snap. Only stock in Illinois town of 1200. Bench work \$60 to \$85. Stock and fixtures about \$1500. Low rent. Cash. Going west. "H 125," care Keystone.

JEWELRY and optical store, county seat. Nearest jeweler 30 miles. Big optical business. Finest location in town. Sell at discount. Best reason for selling. Investigate. \$1000 cash can get place. "B 146," care Keystone.

JEWELRY stock in growing New Mexico town, pop. 1200. No opposition. Write for particulars. Lock Box 161, Artesia, N. Mex.

GOOD opportunity to purchase 15-year established jewelry business in city of 10,000. Best location, low rent, very healthy town. Stock and fixtures about \$1500; can be reduced to one-half. Repair work \$900 per year. Ad. "C. O. W.," Box 43, Carlisle, Pa.

AT invoice, about \$500 less 6% jewelry store, in Pennsylvania manufacturing town of 5000 pop. Other business. "C 104," care Keystone.

SPLENDID chance to buy well-established jewelry and optical business. Stock and fixtures will invoice \$6300. All goods are new and up-to-date. Will sell for \$5000 cash if taken before Sept. 1st. City has 7200 pop.; county seat; State of Iowa. Only 2 other jewelers, both smaller stock. Do not answer unless you have the spot cash. "E 134," care Keystone.

\$2000 SPOT cash buys an up-to-date, admirable jewelry and optical business. Invoice of stock \$2200; fixtures \$700. Annual sales \$4500 to \$5000. Established 12 years, only 2 stores, Southern Wisconsin town, pop. 2500. Surrounded by a number of smaller towns to draw trade from; several factories, I employing 150 people. Bills for goods bought are open for inspection. Can lease store (the best location in the city) to suit. Reason for selling, holding real estate near Seattle needs my attention. No chronic ad. answerers need apply. No trade proposition considered. Reliable refs. to accompany first letter. Ad., "B 123," care Keystone.

FIRST-CLASS jewelry store in lively town of 15,000—Western Pennsylvania. Located on corner in business part of the city. Tile floor, electric lights, electric fan, finest store fixtures in city; good repair business—over \$2000 cash yearly. First-class basement and office. Rear door leading into the finest hotel in the city. In fact, it is the best proposition on the market and can be bought cheap. It will pay you to investigate, as it certainly is a bargain. "P 173," care Keystone.

OPTICAL offices, stock and fixtures for sale; established 12 years, constantly growing—\$6000 business. Net receipts this year more than gross receipts same period last year. Good reason for selling. Address, Chas. E. Monroe, Southbridge, Mass.

ONLY jewelry and repair store in mfg. town of 11,000 within 70 miles of New York. Well established business, new fixtures. Present stock and fixtures \$5000; can reduce stock to suit. Must reside South. Apply Halley & Co., 51 Maiden Lane, New York.

FOR SALE

UNDER THIS HEADING THREE CENTS PER WORD

MISCELLANEOUS MERCHANDISE AND EQUIPMENT

SET of bench tools and material, including crystals. Death reason for selling. Address, Seary, Van Rheeuan, New Sharon, Iowa.

THOROUGHLY practical invention—a lathe-chuck for grinding watch crystals—cheap if taken soon. Protected by patent. Simple and effective. A. R. Weaver, Harvard, Nebr.

CROUCH & Fitzgerald jeweler's trunk, containing 2 seal leather telescopes and trays to fit. Every part in good condition. "S 115," care Keystone.

ONE Hardy trial case, has never been used. Also a complete mail-order course in optics of twenty lessons, a bargain for those desiring to learn the business and start out cheap. Lock Box 43, Plymouth, Ind.

WELCH regulator, dead-beat escapement, walnut case, 6 ft. long, good order, \$15. Universal lathe, face-plate, slide-rest, full nickel-plated, good order, \$20. Adjustable counter-shaft, full nickel-plated, \$2. N. W. Myer, Crawfordville, Ind.

WE offer our entire lot of store and office fixtures, tables and safes at 50 cents on the dollar. Reason for selling is, we are moving to new location and refitting our store. Address, Albert Pfeifer & Bro., Little Rock, Ark.

FOUNDING-UP tool, cutters, guides, etc. See page 100, Swigart's catalogue. Frank H. Reynolds, Branford, Conn.

ENGRAVING block and type, cheap, good as new. W. H. Hines, West Salem, Ohio.

HARDY ophthalmometer, two-piece, in good condition, \$40. One jeweler's show case, beveled plate glass top, 8 ft., fine oak finish, good as new, \$65. Address, Eric W. Nickell, Butler, Mo.

NEW Century Eaton & Glover engraving machine, nearly new, price \$60. Address, Woodstock-Hooper Jewelry Co., Kansas City, Mo.

CURLEY'S railroad compass, telescope, tripod, steel tape, \$50. W. L. Altenberg, St. Charles, Mich.

WALL case, good as new, \$20. W. L. Altenberg, St. Charles, Mich.

ONE Eaton-Engle engraving machine, good order, all attachments, cheap. Baker & Glass, Brinkley, Ark.

CHEAP, 1 \$18 watchmaker's bench, 2 Rivett staking tools, 1 foot-wheel, 1 counter-shaft, 1 \$25 washburn banjo. G. M. Saunders, Independence, Iowa.

PUNCTURE-PROOF tires, coaster brake bicycle, cheap. "K 155," care Keystone.

3 SELF-WINDING clocks, made by the Automatic Clock Co., all new and in good condition. Address, J. W. Strain, Carrollton, Ill.

COLUMBIA motor cycle, good condition, \$65. Rambler automobile, \$200. Want cash at once. F. Catlin, Winsted, Conn.

GOOD set jeweler-watchmaker's tools, materials, including work bench, W. W. lathe, fine Swiss regulator, small tools, materials. Bargain for cash. C. B. Hartoon, Tecumseh, Okla. Ter.

FRANCIS engraving machine, 8 sets of type, figures, 3 emblems, good condition, cheap. W. P. Griffith, Beaver Falls, Pa.

TRIAL set and engraving block, good condition, cheap. J. W. Johnson, Whitney, Texas.

\$25 buys Francis engraver, type and attachments, in Al order. O. M. Campbell, Abingdon, Ill.

BARGAIN, a full set of watchmaker's tools, including lathe and universal head, all in first-class condition. Enclose stamp for list. H. M. Rebert, York, Pa.

ENGRAVING machine, Eaton & Glover, with 15 sets types and attachments; almost new. O. B. Kartevold, 237 Columbia St., Brooklyn, N.Y.

FOR SALE OR EXCHANGE

UNDER THIS HEADING THREE CENTS PER WORD

FOR sale or exchange for merchandise, 1280 acres Kansas, 1280 acres Texas, city property Denver, Colo. Address, "Owner, L 724," care Keystone.

FRANCIS engraving machine and ophthalmoscope for Moseley No. 2 slide-rest, or what have you? W. R. Crawford, McKenzie, Tenn.

LOT of KEYSTONES and spectacles for anything I can use. Best offer takes them. D. H. Leshar, Robins, Iowa.

WANTED, to trade 290 acres of land and some money for an up-to-date stock of jewelry. Address, Lock box 6, Balsam Lake, Wis.

1/2 HORSE-POWER steam engine and boiler complete. W. B. McLane, Memphis, Mo.

EATON & GLOVER engraving machine, good as new, for good optical trial case. Hill & Co., Rockdale, Texas.

PAYING jewelry and optical business for land. Typewriter, gasoline soldering outfit with furnace, optician's traveling stock case; or cash for optical instruments. "306," Mapleton, Iowa.

STREET clock or a beautiful musical clock. A stands 4 feet, for a No. 1 violin. August Bossen, Grand Mound, Iowa.

UP-TO-DATE jewelry stock, fixtures and material. Good-paying business in modern city of 5000. Will exchange for good fruit farm. Invoice for \$4500. Ad., "P 95," care Keystone.

FOR SALE OR EXCHANGE

A FINE Jurgensen watch, 16 size, heavy 18 K. A hunting case. Cost \$450. Would exchange for automobile and pay some money, or will sell at a bargain. "W 174," care Keystone.

NO. 4 1/2 Barnes lathe, fine watch model, 6 inch balance; No. 6 Barnes lathe, Boynton & Plummer shaper, 6 inch stroke, Swiss watch and clock wheel-cutting machines, agate bearing scales, mahogany case, Oliver ring stretcher, Oliver polishing lathe, Hardy optical table and stool. A. E. Colburn, Bellingham, Wash.

SPECIAL NOTICES

UNDER THIS HEADING THREE CENTS PER WORD

A GOOD opening for an Al jeweler carrying a nice stock, for town of Davis, W. Va. Have finest location, pop. 3500, good surroundings, only 1 jeweler in the town. For further information, write, Joseph Verzi, Davis, W. Va.

HEWES' graviers—hard, tough, reliable, straight, 35 cents. J. F. Hewes, Titusville, Pa.

THE best staffs made, for fit, finish and temper, \$1.25 to \$3.00 per dozen. Best jewels, \$1.50. 10% discount cash with order. Tarbox & Gordon, manufacturers, Omaha, Nebr.

GET the people in your store. Read Franklin Glass Co.'s ad., page 1320 h.

MONEY loaned to jewelers. Write for information. The Collateral Loan and Banking Co., 143 Euclid Avenue, Cleveland, Ohio

WRITE for free catalogue of The National College of Optics, Cedar Rapids, Iowa.

MR. JEWELER, have a Colonial tumbler sale—it will cost you nothing. Read Franklin Glass Co.'s ad. on page 1320 h.

A LIFE scholarship in our college, including diploma and highest degree, for only \$7.50. See our advertisement, page 1358, and write for new prospectus. South Bend College of Optics.

BUSINESS NOTICES

UNDER THIS HEADING THREE CENTS PER WORD

SHOULD you desire a watchmaker, jeweler or engraver write to Leonard Krower, New Orleans—we have always applications, likewise requests, for positions.

CASH paid for diamonds, watches, jewelry. Entire stocks bought. Weinraub, 129 South Seventh Street, Philadelphia.

HAVE a tumbler sale. Read Franklin Glass Co.'s ad. on page 1320 h.

ELGIN Horological School, the oldest and most practical school for watchmakers. Send for catalogue to Elgin Horological School, Elgin, Ill.

WHERE to receive the highest cash price for every kind of gold and silver. Refiner of sweeps, filings, brushings, polishings, everything containing gold and silver. Fine gold, silver, copper for sale. J. L. Clark (established 1870), 727 Sanson Street, Philadelphia, Pa. Send by mail or express; prompt attention given.

YOU are looking for a good reliable firm to do your watch work. Here is the place. W. K. Sandberg, watchmaker to the trade, 802 Columbus Memorial Building, Chicago.

MODELS, machines or any articles. Work confidential; mfg. on contract. B. L. Gates, 90 Illinois Street, Chicago.

ALL kinds second-hand watches, gold rings, etc. Nearly as good as new; cost much less. Selection upon request. B. Gebhard, 129 South Seventh Street, Philadelphia.

SWENITRAUB, 129 S. Seventh, Philadelphia, diamond setting for the trade. First-class work. Prompt attention. Importer and dealer in rare gems and semi-precious stones.

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.

FOR set of implements with which to block out watch balance staffs in 5 minutes exactly correct length and height of balance seat as compared to genuine. G. A. Bailey, West Brookfield, Mass.

JEWELERS! Your business demands fine stationery—especially letter heads and envelopes. If interested in special stationery for jewelers, send a 2-cent stamp for latest samples. G. W. Taylor Co., printers, 207 E. Third Street, Pittsburg, Kans.

IF you wish a position that pays \$25 per week, it can be obtained through the Kansas City Polytechnic Institute for Horology, Engraving and Jewelry Manufacturing; incorporated and chartered in accordance with the statutes of the State of Missouri. This is a watchmaking and engraving school, with the most modern methods and systems of teaching as well as modern equipments. This school is first-class in every respect and up to date in all its branches. For further information and tuition, address, Dr. S. W. Lane, secretary, suite 202 Missouri Building, 1023 Grand Avenue, Kansas City, Mo.

WANTED, every one desirous of improving themselves in watch work, jewelry work and engraving, to address Bradley Polytechnic Institute, Peoria, Ill., for one of their latest catalogs. A postal card will get it. See ad. on page 1294

BUSINESS NOTICES

HAVE a Colonial glass sale. See Franklin Glass Co.'s ad., page 1320 1/2.

THE Omaha Watch Repairing, Engraving and Optical Institute has no superior. It's absolutely thorough, and is an institution of the highest order and offers the best of everything. The expenses are not so great as in the Eastern schools. A school's success depends upon its moral character as well as upon its technical instruction. It does not depend on what it gets out of the student's pocket, but what it puts into his head. There is no better school at any price. Honesty, hard work and thoroughness is the policy of this school. Write for prospectus. Dr. Tarbox & Gordon.

SITUATIONS WANTED

GRADUATE optician, engraver, jeweler, stone-setter and AI watchmaker. Capable of taking charge as manager. All tools; permanent position. "D 178," care Keystone.

HELP WANTED

WATCHMAKER and jeweler, must be good salesman, in a small town of 2500, in Maine. Steady job. "P 897," care Keystone.

FIRST-CLASS material man; one that has had 3 or 4 years' exp. Good place and fair salary. Address, "C 175," care Keystone.

AT once, a first-class watchmaker, capable of repairing high-grade watches, French clocks, etc. Bench work only. Wages, \$18 to \$20 per week. "P 177," care Keystone.

WANTED

C. HARDWICK, Hopkinsville, Ky., wants New Century engraving machine.

LYON & Healy double-action harp. A. E. Colburn, Bellingham, Wash.

DROP press, 150 pounds or heavier. Also small screw press. A. E. Colburn, Bellingham, Wash.

PEARLS BOUGHT FOR CASH

If a customer should bring you any Diamond Jewelry or any Pearls to sell, and you do not care to buy them yourself, send them to CHAS. S. CROSSMAN & CO. 3 Maiden Lane New York where you can have an immediate Cash Offer Established 1880

WILHELM 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.

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Friedlander, R., L. & M.	1254
Frink, I. P.	1213
Fry Glass Company, H. C.	1239
Fuller & Son Co., Geo. H.	1318

Gebhardt Bros.	1370
Geneva Optical Co., Chicago	1322
Geneva Optical Co., Geneva, N. Y.	1332
Ginnel & Company, Henry	1242
Globe Optical Company	1348
Goldsmith Bros.	1205
Goldstein Engraving Co., The	1223
Gotthold, Louis	1375
Graud Rapids Show Case Co.	1320 a
Green & Co., W.	1209, 1371

Haman, Albert L.	1272
Hammel, Riglander & Co.	1207
Harding Bros.	1216 e
Hardy, Eben	1278
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Haskell, Fred. A.	1362
Heintz Bros.	1262
Hering & Co.	1310
Hoare & Co., J.	1240 a
Hoffman Novelty Co., The	1362
Hold-On Clutch Co.	1246
Homan Mfg. Company, The	1240 e
Howard Clock Co., E.	1370
Howard Watch Company, E.	1304 b
Hub Optical Case Co.	1346
Hull Brothers Umbrella Co.	1320 e
Hurlburt & Sons, H. O.	1288
International Silver Co.	1224
Jacobson Co., F. H.	1371
Jessen & Rosberg	1215
Jette, A.	1375
Jewelers' School of Engraving	1320 h
Jorgensen & Company, F. C.	1371
Jurgens & Andersen Company	1296
Katz & Co., Philip	1370
Kaufman & Co., Louis	1264
Keller Jewelry Mfg. Co., The	1202
Kendrick & Davis	1213
Kennedy Optical Co.	1356
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Kirchner & Reulich	1272
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Kleeman & Co., Wm.	1216 g
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Klein & Bro., F. C.	1371
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Knoblock-Heideman Mfg. Co., The	1215
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Korones Bros.	1216 e
Krementsz & Co.	1274
Krower, Leonard	1308, 1364
Kryptok Invisible Bifocals	1346
Kuehl & Co., Geo.	1314
Landis School of Engraving	1274
Ledos Mfg. Co., The	1214
Lelong & Brother, L.	1214
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Levy & Co., L. W.	1362
Lindner & Co.	1372
Lowell, John S.	1278
Manning, Bowman & Co.	1240
Manor & McConnell	1368

Marsh & Co., C. A.	1268
Martin, S.	1369
Matchless Cigar Lighter Manufacturing Co.	1216 h
Matsumoto, Ikko	1216 b
Mayer, B.	1356
Mayer & Bros., Jos.	1372
Mayer & Co., Geo.	1334
Mayerle, George	1348
Mead & Company, M. A.	1266
Memphis Jewelry Mfg. Co.	1371
Metal Specialties Mfg. Co.	1214
Meyer Jewelry Company	1364
Meyrowitz Manufacturing Co.	1326
Mitchell & Tillotson	1368
Monroe Co., The C. F.	1257
Moore & Sons, Jno. L.	1352
Moross, J. V.	1369
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Murine Eye Remedy Co.	1336
National Cash Register Co.	1216 f
National College of Optics, The	1361
Netschert, Carl	1218
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New Haven Clock Co.	1298
New York Standard Chronograph Watch	1320
Nicholson File Co.	1216 b
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Noel & Company, Rudolph	1375
Non-Retailing Company, The	1203
Norris, Alister & Co.	1320 b
Northern Illinois College of Ophthalmology and Otology	1356
Ohio Flint Glass Company	1274
Oliver Manufacturing Co., The W. W.	1300
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Oskamp, Nolting & Co.	1216 h
Ostby & Barton Co.	1263
Page-Davis Company	1375
Pairpoint Corporation, The	1240 a
Paul Mfg. Co.	1362
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Reed & Barton	1240 d
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Reichhelm & Co., E. P.	1215
Reinhard & Patterson	1370
Revell & Co., Alexander H.	1320 b
Rhode Island Ring Co.	1370
Richard & Co., C. B.	1370
Rivett Lathe, The	1222
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Rockford Silver Plate Co.	1257
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Roy Watch Case Company	1318
Sandberg, Wilhelm K.	1375
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Scherer, August F.	1278
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Seneca Falls Mfg. Co., The	1216 f
Sercomb Company	1304 f
Sessions Clock Co., The	1304 f
Sickles & Sons, M.	1217
Siegel, Rothschild & Co.	1320 h
Simmons Company, R. F.	1304 e
Simons, Bro. & Co.	1362
Smith, Harry	1278
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Smith & Co., Inc., Geo. W.	1232
Snyder, S. I.	1370
Sommer Clock Mfg. Co.	1362
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Spencer Optical Company	1352
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Stein & Ellbogen Company	1250
Stern Bros. & Co.	1281
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Trout & Co., Chas. L.	1247
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Wagner Manufacturing Co.	1298
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Wightman & Hough Co.	1274
Winslow, L. E.	1375
Winter Lumber Company, M.	1216 a
Witsenhausen, L.	1212
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Woodstock-Hoefler Watch and Jewelry Company	1302
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Base of Motor, 6 1/4 x 5 1/4 in.
Height of Motor, 9 inches.
From end to end of Mandrills, 19 inches.

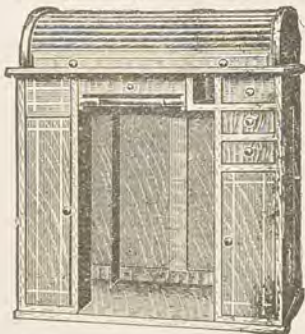


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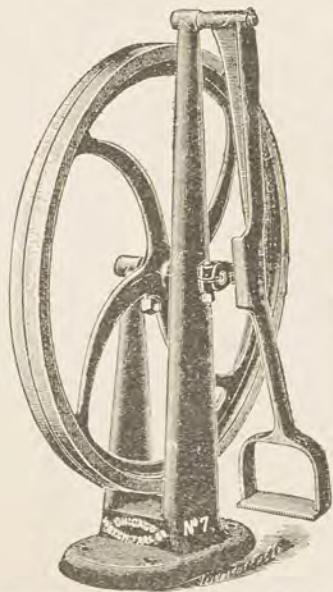


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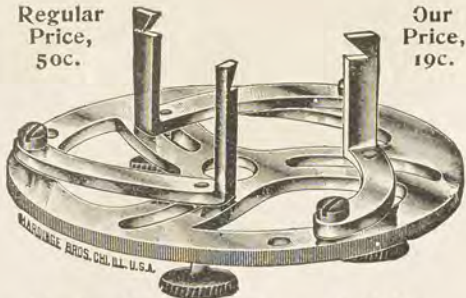


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Finished in Oak only.



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This Movement Holder is very valuable, and can hold a movement as tightly as any watchmaker wishes for setting jewels, etc.



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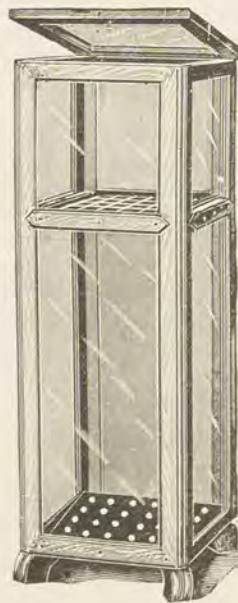
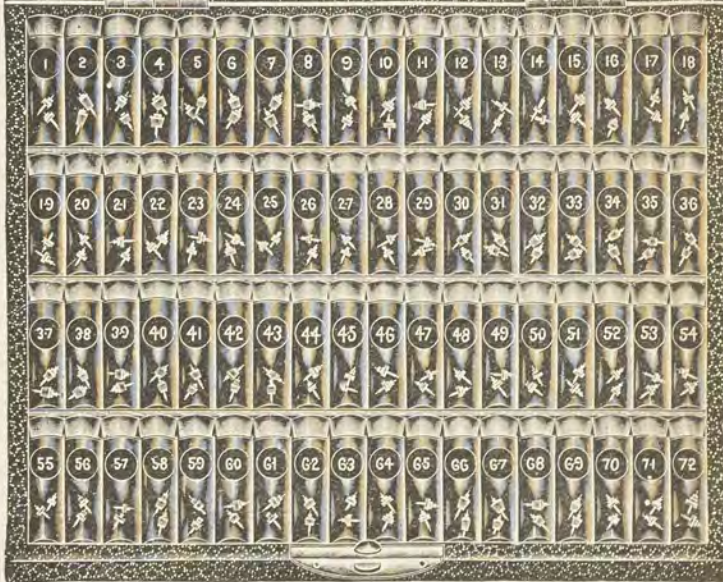
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1	Waltham	18	278	16	19	Wal. 5 & 8	12345	10	37	Elg.	13	553	0	12	55	Elg.	11	869	10	
2	"	13	270	15	20	" 5 & 8	12345	11	35	"	18	558	0	13	56	"	0	1731	9	
3	"	18	281	15	21	"	6	13249	10	37	"	13	553	0	14	57	"	0	1731	10
4	"	18	1364	13	22	"	6	13249	11	40	"	13	558	0	12	55	"	18	54	11
5	"	18	1364	14	23	"	6	13249	10	41	"	13	558	0	13	55	"	18	54	12
6	"	18	1365	12	24	"	6	13249	11	42	"	13	558	0	14	56	"	18	54	13
7	"	18	1365	13	25	"	0	10355	9	43	"	13	553	0	15	61	"	16	159	14
8	"	18	1365	14	26	"	0	10355	10	44	"	13	553	0	16	62	"	16	159	15
9	"	16	1210	11	27	"	0	10359	9	45	"	15	551	12	63	"	12	578	16	
10	"	16	1210	12	28	"	0	10359	10	46	"	15	551	13	64	"	6	246	10	
11	"	16	2844	10	29	"	Jew. 1-8	9	47	"	16	554	11	65	"	000	"	"	11	
12	"	16	2844	11	30	"	Jew. 1-8	12	48	"	16	554	12	66	"	11	15	5	12	
13	"	16	M 99	11	31	"	15	557	0	49	"	16	554	13	67	"	18	5	13	
14	"	16	M 99	12	32	"	18	557	0	50	"	6	558	10	68	"	13	205	13	
15	"	14	7355	11	33	"	18	557	0	51	"	6	863	0	69	"	18	205	14	
16	"	14	7355	12	34	"	18	557	0	52	"	6	1252	10	70	"	16	405	11	
17	"	12	"	10	35	"	18	557	0	53	"	6	1252	11	71	"	16	705	11	
18	"	12	"	11	36	"	18	557	0	54	"	0	559	9	72	"	6	905	10	

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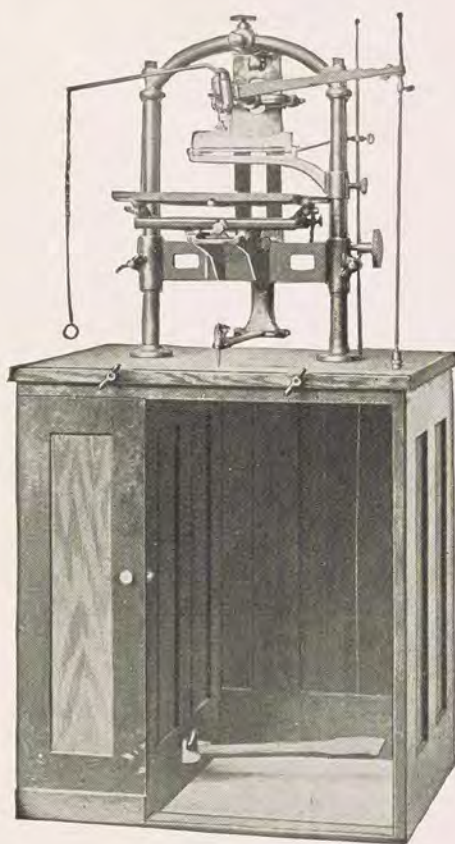
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