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Index to Subjects Treated and Questions Answered in WORKSHOP NOTES Department of The Keystone from January, 1903, to December, 1903, inclusive.

This Index is arranged alphabetically according to the subjects treated in each answer, and tells the page on which the question and answer may be found. A similar Index accompanied the December issue in previous years. Subscribers are requested to preserve these yearly Indexes, and refer to them before sending questions to THE KEYSTONE, as the same questions may have been answered in previous issues. The page folios in the several issues are as follows: January, 1 to 128; February, 129 to 264; March, 265 to 424; April, 425 to 584; May, 585 to 744; June, 745 to 904; July, 905 to 1064; August, 1065, to 1282; September, 1233 to 1408; October, 1409 to 1608; November, 1609 to 1856; December, 1857 to 2016.

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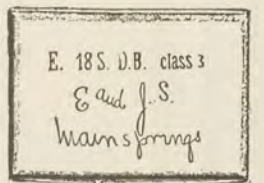
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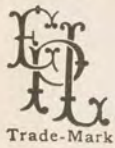
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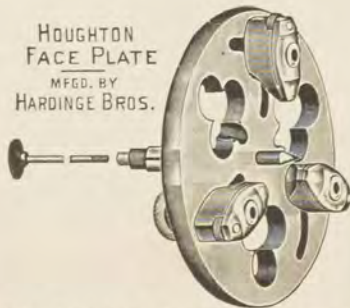
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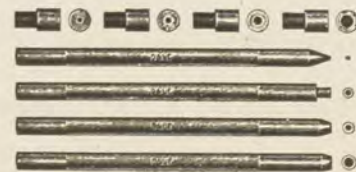


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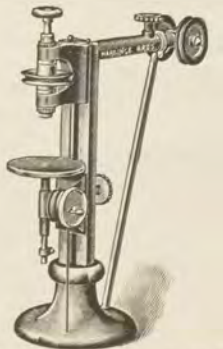


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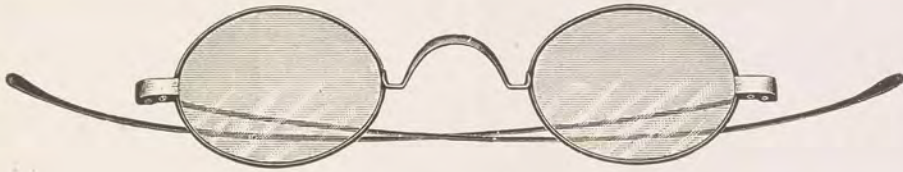


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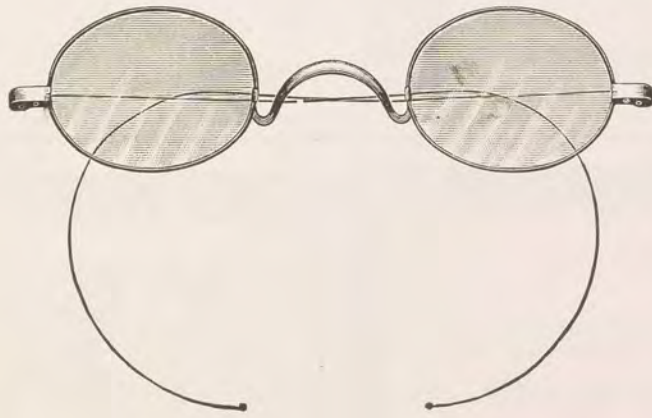
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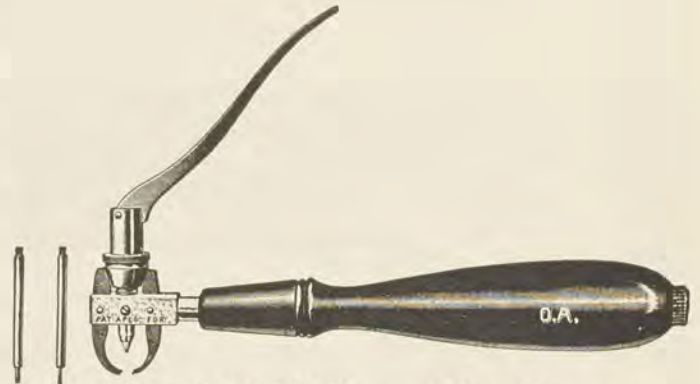
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These two ladies are not very favorably disposed toward us, as we refused to employ them; and they were forced to seek employment with some of our competitors. We carry a line of 1000 different styles of 10 K. solid gold, stone-set rings, and advance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

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

Write us to-day and be convinced.

The Queen City Ring Mfg. Co.

31 Builders' Exchange, Buffalo, N. Y.



The
Best Watch Oil
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NYE'S.

It is used by all the leading watchmakers and by all the leading watch factories.

NYE'S CHRONOMETER OILS ARE THE FINEST EVER PRODUCED.

These oils are for sale by all tool and material dealers.

Always specify Nye's and you will get the best.

LANDIS SCHOOL OF ENGRAVING

Winter Course Opens
Monday, January 4, 1904.

TO ENTER.—You should write at once for Terms and make advance engagement, as we do not accept more than twelve pupils at one time, but devote our entire time to their instruction and advancement.

The new building was erected by Mr Landis especially for his School, and all the appointments throughout are first-class. The office and schoolrooms are on the first floor, with a fine north light. Also a separate reading room, where pupils can spend their evenings while attending the School.

The methods of instruction are original and entirely new. Our new system in the art of cutting and designing enables a pupil not endowed with artistic skill to learn to make perfect letters, etc.

SEND FOR OUR PROSPECTUS, which will give you some idea what you could accomplish by taking a course with us. Correspondence solicited.

M. L. LANDIS,

119 KOCH AVENUE, DETROIT, MICH.

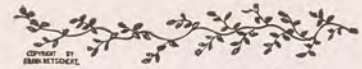


M. L. LANDIS,
PROPRIETOR AND INSTRUCTOR.

1879
XMAS DECORATIONS.



No. 2280a. Holly Garland, per doz., 90c.



No. 2284. Smilax,
Per gross yds., \$6.00; per doz. yds., 60c.



2078x. Holly Wreath, with Mistletoe and Bow, \$1.00 each.
2078a. Holly Wreath, without, .50 each.
2078. Holly Wreath, without, .25 each.



No. 2172. Rosebush,
Assorted Colors,
Each, \$1.00.



No. 2151. Fern Foliage,
7 inches diameter,
Per doz., \$9.00.

A full decorative line is shown in my big illustrated Catalogue, free for the asking.

Frank Netschert, 34 Barclay St., New York.

Remember

HEILAND, MEISKEY & CO.,
LANCASTER, PA.

We Are Headquarters

Jewels,
Staffs,
Mainsprings, } \$1.00 Doz.

Fine Watch Materials, Tools and Supplies, Findings and Jobbing Stones.

NOTICE:—Orders filled same day as received from any catalogue.

Watch and Jewelry Repairing and Engraving.



THE KEYSTONE

Vol. 24

Philadelphia, December, 1903

No. 12

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THE KEYSTONE

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

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

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. Notices of changes in advertisements should reach us not later than the 20th of the previous month.

All communications should be addressed to

THE KEYSTONE,

CHICAGO OFFICE: 19TH & BROWN STREETS,
103 STATE ST. PHILADELPHIA, PA.

FOREIGN SUBSCRIPTION AGENTS:

GREAT BRITAIN—ANGLO-AMERICAN OPT. CO., 94 HATTON GARDEN, LONDON, E. C.
BOTWRIGHT & GREY, 13 SPENCER ST., CLERKENWELL, LONDON, E. C.
RAPHAEL, WHEWY & REDFERN, 51 CLEKENWELL ROAD, LONDON, E. C.
HIRST BROS. & CO., LTD., 8 CURZON ST., OLDHAM, LANCASHIRE.
SCOTLAND—JOHN BAIRD, 88 MITCHELL STREET, GLASGOW.

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Index to Vol. XXIV of THE KEYSTONE

ON the first page of this issue will be found a complete and classified index to the contents of Volume XXIV of this journal comprising the twelve issues of the present year. This annual index affords a ready means of reference to a vast amount of such practical information as jewelers and opticians are in need of every business day. The various problems of technical and general interest, which have been discussed in our columns throughout the year will be found under their respective alphabetical headings; the Workshop Notes are indexed separately and with regard to the particular subject under question, thus placing much scientific knowledge within easy reach of the reader. The contents of the Optical Department, with its wealth of instruction, are also separately set forth for the convenience of our optical readers. As the value of this information is of an enduring kind, the volumes of THE KEYSTONE with their indexes are the most comprehensive work of reference available to the jeweler and optician, and should be carefully preserved.

In connection with the use of the index there is one thing that we would especially request our readers to keep in mind, viz.: that before mailing us questions, they refer to the indexes of "Workshop Notes" or "Optical Questions and Answers" as the case may be, as it is quite likely that similar questions may have been answered in previous issues. This will save time to our readers and greatly convenience us, as we cannot afford space to repeat replies to questions that have been fully answered in our columns in the immediate past. It will be noticed that the Index to the Optical Department is on a leaf by itself. This will convenience those who desire to file the optical department apart from the rest of the journal.

Trade Conditions and Prospects

AN idea seems to have taken root and to be growing in intensity that the prolonged period of prosperity is drawing to a close, and that we are on the threshold of a period of depression of uncertain duration.

As the spread of such an idea must needs have an unfavorable influence, it is due the press of the country to proclaim that such an idea is not justifiable by any process of intelligent reasoning. Let us analyze the situation in accordance with facts. It is undeniable that business conditions in the last six months have not quite reached the standard of last year. It must be admitted that there is more or less depression in certain industries and that there has been, at times, an easily explained lack of confidence in financial circles. It is true, too, that merchants are talking of dull trade, and manufacturers of the natural depression that follows a period of abnormal activity and overproduction. It is not true, however, that these things are necessarily the forerunners of a period of downright hard times. It does not follow that because some manufacturing plants have been closed, and because trade is not as active as it was in the record-breaking year of 1902 that all mills are to close and thousands of workmen go idle; that trade is to be paralyzed, and that the conditions of the hard times of 1894 and 1896 are to prevail.

AS a matter of fact, there is not now in existence even one of the factors that preceded and created the panics that have occurred at different periods in our history. We have more people—more producers and consumers, more workers and purchasers—than ever before. We have more wealth, more farms, more production, more exports than ever before. A dollar is a dollar to all without even the possibility of depreciation. But first of all and above all, it must be remembered that the farmer is really the key, not only to the agricultural, but to the industrial, the railroad and the financial situation as well. So long as his prosperity continues unabated, there is no reason to presume that the country can go into a long period of depression. The American farmer is a factor who seldom receives the economic consideration he deserves. Whilst present financial depression has been the result of too much inflation, both in the security and in the labor markets, yet the American farmer has been on no such inflated or artificial basis. Even this fall season he has been blessed with

another season of good crops, for which good prices are available. Not all the wild-cat financiering, nor all the mischief of the walking delegate can avail against the strong wall built up and guarded by the prosperous agricultural interests.

EVEN in the industrial situation there seems to be quite an unnecessary amount of alarm. The Attleboro *Sun* recently published some pessimistic views as to the situation and prospects in the jewelry-making section, which views elicited a veritable avalanche of disapproval from the leading manufacturers. In his communication to the above-mentioned journal, J. Lyman Sweet, of R. F. Simmons Co., said:

The past year has been a very prosperous one the country over. While it may be true that in the past month business has not been as good as in some other months, I do not for a minute believe that signifies a period of depression. It is against all reason to believe that the country which has enjoyed such prosperity for a number of years is to suffer several years of depression. We expect to be doing as much business four years from now as we are doing to-day, if not more, and anyone who tries to predict financial depression within that time is taking a pretty hard task upon himself.

An equally vigorous statement was that of Charles A. Marsh, of C. A. Marsh & Co., who said in part: "Business, I confess, may not be as good as it was last year, but it is much better than it was four years ago, and the general outlook is for still better business later on instead of for a depression."

A number of Attleboro manufacturers united in sending a protest to the local paper against the publication of unfounded pessimistic views. These included William Tappan, of the D. F. Briggs Co.; J. A. Bigney, of Regnell, Bigney & Co.; H. E. Sweet, of R. F. Simmons Co.; This protest contained the following satisfying paragraph:

We have no doubt that if all our manufacturers were interviewed, that they would agree with us, that the season of 1903 has been an exceptionally good one for the majority of manufacturers. Certainly many of them have had the best fall business in their experience, and we believe that this fact is true as applied to the majority of the trade throughout the country. There can be no greater harm done to the jewelry trade and other business interests than for the manufacturers and dealers to allow misleading reports to get into the daily press.

A long statement by P. J. Cummings contained this very sensible statement:

When we look back to last year's business we must remember that it was the greatest in the history of the jewelry business—that it was, we might say, a boom among the jewelry manufacturers.

A wiser course in considering the matter would be to leave last year's business out of the question entirely and refer back to previous years, and you would then find that this year is a very good average.

C. J. McClatchey, treasurer of the Horton-Angell Co., said:

With us, October and November compare favorably with the same months for the past few

years, and we are already receiving letters from the jobbers asking how soon they can see the spring line, indicating that they will continue another season unless the manufacturers discourage them with their tales of woe.

In the course of a very logical statement C. H. Allen & Co. said:

It is not strange that collections are a little slow considering the general condition of the money market, but I wonder when were collections good with jewelers at this season of the year. We never look for general settlement until the close of the year, and we hardly think conditions are much worse this year than usual. One swallow does not make a summer, and a couple of weeks of sparse orders do not frighten the manufacturers of jewelry, and we are not anticipating four years of depression, or four months.

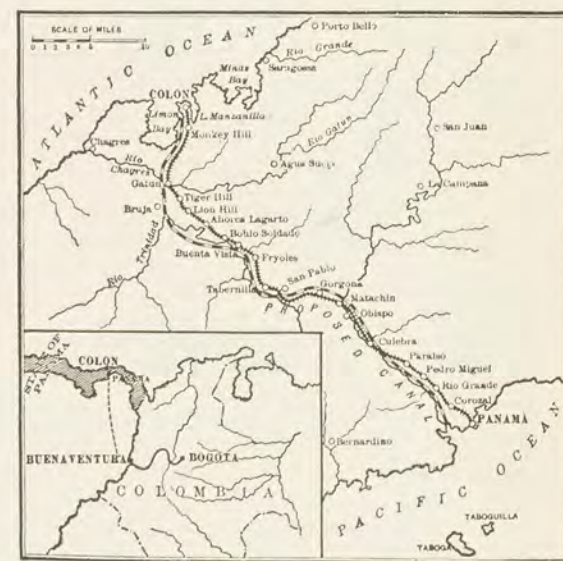
Fact is, the country continues in a condition of healthy prosperity, and there are no earthly reasons for lugubrious anticipations. There is a healthy ring to the views of the Attleboro manufacturers.

The Republic of Panama

THE Republic of Panama which came into existence a few weeks ago probably holds the record for the suddenness and bloodlessness of its birth. This little republic is that portion of Central America through which the Isthmian canal is to be built, and the canal is no doubt responsible both for its secession and its lightning transformation into an independent country. Panama, the location of which is shown in our little map, was heretofore a province of Colombia, but it has a long list of precedents for its severance of relations with the parent state. In 1841, 1857 and 1868 it enjoyed an independent existence, and for twenty-five years prior to 1886, when the present Colombian constitution was adopted, the isthmus was practically an autonomous state. Out of Colombia's total population of three million the isthmus has a little more than two hundred thousand. Its area is about thirty-two thousand square miles, and it is almost completely isolated from Colombia proper by the natural conformation of the country.

The secession of Panama could not have been unexpected, at least by Colombia. Indeed, Panama under Colombian rule has been as turbulent as was Cuba under the rule of Spain. So far as sympathy or unity of purpose or loyalty is concerned, the people of Panama are as far removed from Bogota, the Colombian seat of government, as the people of Cuba were from Spain. The interests of Panama never have been identical with those of Colombia, and the former was always favorable to any insurrection or revolutionary movement against the latter. The United States, therefore, can scarcely be charged with fomenting the discord that resulted in the revolution, though the action of our government has been variously criticized.

THE grand sequel of the Panama revolution, as far as the United States is concerned, is the probable final settlement of the Isthmian canal question. Already a treaty has been negotiated with the new republic in virtue of which the United States guarantees the independence of the republic, the latter granting to this country the perpetual use and control of a zone of territory ten miles wide across the isthmus, with the right to acquire by purchase or the exercise of eminent domain any other lands that may be deemed necessary for the construction of the canal, the provision of its supply of water, and the sanitation of the cities of Panama and Colon and the adjacent territory. The United States is to have the same power and authority



within the zone set apart as if the territory were ceded to it. In return for these and other concessions the Republic of Panama is to receive \$10,000,000, together with an annual payment of \$250,000, beginning nine years from the date of the treaty. The ports at either end of the canal and others leading thereto are to be free to vessels passing through the canal, and the latter is to be neutral and open to all nations on even terms. The United States also acquires four little islands in the Bay of Panama, which are valuable for fortifications as a protection for the waterway.

The larger illustration shows the route of the canal and the prospective United States territory. The smaller illustration shows the location of Panama in relation to Bogota, the Colombian seat of government. To reach Panama from Bogota troops would have to travel overland to Buena Ventura, as shown by the black line, and thence go to Panama by steamer. The land march would take a full month, which makes apparent the difficulties which confront Colombia in any prospective disciplining of the new republic.

THE KEYSTONE and Jewelers' Organizations

IN a letter before us H. L. Morrison, of Pittsburg, Kans., says: "I would suggest that you make THE KEYSTONE a medium through which to thoroughly organize the jewelers of the United States." As the organ of the jewelry trade THE KEYSTONE is always at the service of its constituency. As is well-known to our readers we have been earnest and persistent advocates of organization among the jewelers, urging the advantages of getting together, telling them how to proceed in the formation of associations, furnishing ready-made constitutions and by-laws, giving freely of our space to such association news as was furnished to us and extending all possible aid and encouragement. If results have been disappointing it is certainly not the fault of this journal. It seems paradoxical, indeed, that our advocacy of organization among the opticians has been so grandly successful and that comparative failure has attended our equally earnest advocacy of organization among the jewelers. The opticians, by means of their well-managed societies, have practically created a new profession, and in so doing have immeasurably helped themselves and humanity. Many of these are jewelers as well as opticians, and yet among the jewelers generally we find the most stolid apathy in regard to this matter of organization. We have heard many a jeweler recount a long litany of grievances, and never once suggest the one effective means for their rectification, viz., united action.

A NUMBER of jewelers' organizations are in active existence, however, and doing much good for the members in a quiet way. Local associations of merchants seem to be especially effective. We have before us the following letter from Jeweler M. A. Gaskill, of Rochester, Minn.:

THE KEYSTONE may possibly be interested in the doings of the Rochester Merchants' Association, which was organized a year ago as a result of the trading-stamp evil. With one or two exceptions every retail dealer in every line in this city is now a member, and we have no prize scheme of any kind running here now. We have succeeded in securing a material reduction in insurance rates, also an equitable freight rate on coal to this point. At present, in connection with other associations of this kind, we are doing what we can to prevent the proposed parcels post bill from becoming a law.

One important feature of our organization was our collection department, through which nearly every member has been able to collect accounts that were practically worthless, the amount of which exceed the cost of dues many times. This department, however, has been turned over to the newly-organized county association for the sake of making it more far reaching.

The possibilities of such an association as this are many, and the wonder is that such organizations are so few and far between.

There have been many complaints from time to time as to the cost of fire insurance, and several of our readers suggested the possibility of a jewelers' fire insurance association. In commenting on this a few months ago we told how the German jewelers contemplated the formation of such an association. The latest information is the following:

At the last convention of our Goldsmiths' Association in Cologne a special Goldsmiths' and Jewelers' Fire Insurance League was founded. In the meantime a fund of over £5000 (\$25,000) has been raised by the members and 400 insurances for a capital of about eight million marks have been applied for. The insurance will be put into operation as soon as another £5000 (\$25,000) has been subscribed, the government requiring that big sum as a guarantee for those insured, but there is no doubt that this will soon be obtained by the common efforts of the German jewelers, and the establishment of this insurance will but be the first step towards the foundation of others equally necessary.

Such are the possibilities of organization. We have in this country such excellent institutions as the Jewelers' League, Jewelers' Security Alliance, etc., but it seems almost impossible to impress on the retail branch of the trade the importance, even necessity, of organization. When the holiday rush is over we hope for a revival of interest in the matter. THE KEYSTONE pages are always at the service of those who would take the lead in promoting organization, and we will take pleasure in giving what assistance we can in aid of the good cause. There seems to be a lamentable scarcity of aggressive leaders.

The Diamond Importations

THE importations of diamonds and other precious stones have assumed such vast proportions during the past few years that the subject is a fruitful one for discussion by the daily press. The following intelligent dissection of the significance of these importations appeared as an editorial in a recent issue of the New York *Sun*:

"The trade in diamonds is probably to be taken rather as an evidence of an existing national prosperity than as an assurance of its continuance. Yet the purchase of jewels indicates a conviction on the part of the purchaser that the coming days will enable him at least to live up to the standard of his acquisition. Upon that basis, it may be assumed that a good many Americans are distinctly optimistic regarding trade conditions in the United States.

"Up to the end of 1890, that year marked high water in the importations of diamonds. The imports for the year show a valuation of \$16,000,000. The crisis of 1893 was clearly reflected in the diamond trade. The imports for 1894 only a little exceeded \$5,000,000, and five years had elapsed

before there came any decided recovery. In 1899 the imports rose to \$14,000,000. In 1901 they reached \$20,000,000, a record mark. The next two years jumped them to \$30,000,000, the imports for the fiscal year which closed on June 30th of this year.

"Perhaps because of this increased demand, and perhaps by reason of other influences, the price of diamonds has been materially advanced within the last two years. The increase in the cost of small stones is about twenty per cent., while large stones show an increase of about twenty-five per cent.

MORE than ninety per cent. of the present world output of diamonds is controlled by the De Beers Company, of South Africa, which is commonly supposed to measure its reserve stock of rough gems by the peck and to feed the market which it so largely controls by a careful adjustment of supply which will maintain a maximum but not a prohibitive price. There is no way by which the yield of the De Beers properties can be definitely ascertained, and it is possible that current rumor will be inaccurate and uncharitable. But De Beers seem to be able to produce at any time whatever the market may call for in size, quality and quantity of stones, and the interruption of their work by the Boer war does not appear to have affected materially their ability to meet the vastly increased demand of our market and of other markets. It is upon such points as these that there rests the general opinion that if the market wants stones the De Beers Company has an abundance on hand in its vaults, and that more diamonds than are immediately required are coming constantly from the mines.

"How much longer the Kimberley properties will continue to yield is not known. A suspicion is abroad that they have seen their best days. If this be the fact, a question arises regarding the source of future supply. The new Premier mine, near Pretoria, continues to present highly encouraging reports. A stone of 280 carats weight is a recent announcement. So long as people continue to pick up specimen stones, as they do, in different parts of South Africa, there remains the possibility that some part of that area will succeed the present workings as the future reservoir for the gem market. But it is not yet reported that the De Beers stockholders are losing any sleep because of anxiety about the Kimberley mines. Yet if the American people grow ever more and more hungry for the white sparklers it will become an economic necessity for somebody to locate new and liberally yielding diggings. The expenditure of \$30,000,000 a year buys a heap of diamonds."

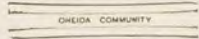
ONEIDA COMMUNITY ADVERTISEMENT

Now Appearing in the Leading December Magazines.

"Oneida Community Quality."

FOR GIFTS.

The silver-plated ware that looks like sterling silver is marked



Look for this mark and protect yourself.

It is like sterling silver in that the patterns are clear and sharp, with fine-line detail and high ornaments.

It is finished like sterling ware either in the bright or in the rich French Gray effect, which brings out to best advantage

the workmanship of these deep cut designs.

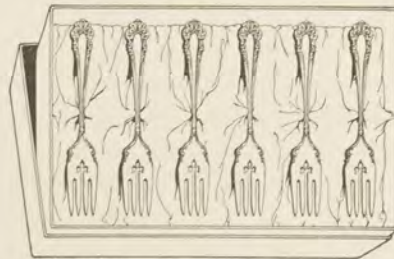
Like sterling ware, the sets are packed in dainty white boxes with white silk linings which show the clean, beautiful outline of each piece in the most effective manner.

The price is lower than that of any ware of equal plate. For the first time the great drop in the price of silver is recognized by a manufacturer. We observed that at the present low price of silver we could afford to put it on to plated ware lavishly—that we could put

on enough to make it wear for practically a life time, and still keep the price down to near the former price of "five-year" goods. This is what we mean by "Triple-plus." All our silverware has a "Triple-plus" plate and is guaranteed for 25 years.

In other words, "Oneida Community Quality" "Triple-plus" plate possesses the art and finish of the best sterling, is guaranteed for 25 years and is sold for almost the price of ordinary plate.

"Oneida Community Quality"



Set of 6 Tea Spoons	\$2.00	Set of 6 Individual Salad Forks, gilt	\$5.85
" 6 Table Spoons or Forks	4.00	" 1 each Child's Knife, Fork and Spoon	2.00
" 6 Dessert Spoons or Forks	3.50	" 1 Baby Spoon50
" 6 Medium Knives and 6 Medium Forks	12.00	" Same, gilt65
" 6 Orange Spoons, gilt	3.75	" 1 Gravy Ladle, gilt	2.00
" 6 Soup Spoons	4.00	" 1 Berry Spoon, gilt	2.50
" 12 A. D. Coffee Spoons, gilt	5.50	" 1 each Butter Knife and Sugar Spoon, gilt	1.65
" 6 Bouillon Spoons	3.50	" 1 each Salad Fork and Spoon, gilt	6.00
" 6 Individual Butter Knives	3.75	25-piece Family Assortment Set	36.00
" 6 Individual Salad Forks	4.50	72 " Wedding Chest	80.00

Somewhere in your town, in a store you pass every day, is some one who is hoping for a chance to show you this "ONEIDA COMMUNITY QUALITY" Silver-plated ware. You will find that store very easily. If not, write to us.

To show the range of prices we have illustrated and listed above a few items. These prices include express charges from the factory and cost of special packing. Ask your dealer for his prices.

We publish a little book giving the history of the ONEIDA COMMUNITY, which we will be glad to mail free. Send for booklet X.

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

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

JEWELERS' ADVERTISING IN THEORY AND PRACTICE

XII.

In concluding this serial the writer realizes that he has been able to touch only on the salient features of the Art of Advertising—has sketched only the outlines, and not filled in the lights and shadows of the picture, owing to the limitations imposed. The subject is too vast to do justice to it in twelve short sittings. One author has expended five hundred pages in a treatise on Advertising—and has left much unsaid. Another has undertaken to compress the subject within four hundred closely-printed pages—and his book is notable for its repetitions and omissions. In view of these conspicuous shortcomings in attempts at exhaustive treatment of the question, it would be folly to hope to present complete details in twelve KEYSTONE pages, and the writer must therefore trust that this attempt to teach *by suggestion*, rather than by detailed and specific example, was best for the general interests of readers, under the circumstance of prescribed space.

Our final counsel is a warning against

Expecting Too Much of Advertising

and ignoring the collateral agencies which are concerned in making advertising truly effective.

If the necessary other things are done, in support of good advertising, the results of such advertising are bound to be most satisfactory; but if the effort in advertising is "the whole thing," the result will be surely disappointing.

A certain well-known "trade-mark" shoe has been extensively advertised for years, and probably the annual expenditure for its advertising now approximates \$250,000, as its makers claim. Certainly no one single trade-mark article has been better exploited: the advertising is nearly perfect in concept, form and text; the publicity-end of the business is most ably managed. Apparently, however, the owners of the business count *entirely* on the advertising for business-bringing results; and in consequence they have garnered only a half-harvest of profits. The *selling*-end of the business has been too much ignored; the advertising manager has not been supported by the sales manager. Go into any one of the numerous stores of this shoe business throughout the country and you will find an insufficient number of salesmen, and all "snippy"; the customer waits a long time for his "turn," and then likely

encounters an ill-mannered salesman. All the good impression which the advertisement made is wrecked when the customer goes to buy the actual article; and the business as a whole is deprived of its legitimate development, through the mistake of depending entirely upon effective advertising.

We mention this example so as to have a peg on which to hang some counsel as to the relation between the advertisement and the store itself.

The Store Must Support the Advertisement.

We do not mean that the store must have in stock the things advertised: that goes without saying—for bad faith, in "fooling" the public, works its own punishment. What we mean is that the good opinion created for the store by good advertising must be merged into a good opinion which the store itself will create, when the reader of the advertisement becomes the buyer of the goods advertised; that the methods practiced in the store must reflect the same ideals as the advertising of the store; that the man behind the counter must support the man behind the pen, if the whole benefit of good advertising would be realized.

We will go further: As between two stores, one of which is "backed" by a large advertising appropriation capably handled, yet whose store methods are hap-hazard, service negligent, clerks ill-mannered and the whole spirit of the place sordid and mean, and the other a store in which the highest business principle is embodied and the public is served courteously, promptly, generously and in a spirit of reciprocal interest, yet with not one line of printed advertising to proclaim its advantages and its only publicity the word-of-mouth praise of those who have had satisfaction in dealing there, the latter will certainly distance the well-advertised but badly-conducted store, in the long run.

Advertising can do much—*does* do much; does wonders, often; but it cannot do the impossible thing. It cannot create a *permanent* value in public patronage for a store or a business which does not *deserve* the public good will. The more such a store is advertised, the more its flagranties are flaunted; for the public soon comes to measure the discrepancy between the advertiser's promise and the store's performance. The public scorns a steady liar.

Final Notes.

In writing an advertisement never look at the clock.

Say it plainly before you attempt to say it gracefully. If you can present the facts clearly and forcefully, *and* in pleasing phrase, so much the better; but be first *sure* of clearness and force.

Fifteen inches daily is better than half a page once a week; but the rule will not hold good with much reduction in the relative spaces—as, say, *one* inch daily as against *ten* inches once a week.

Nothing makes more for securing the public confidence than a frank admission when you have made a mistake—as in having sold a line of goods in which you were yourself deceived as to wearing quality. A public apology to your customers, with an explanation, and a request that buyers bring back the defective goods to be exchanged for a worthy substitute, will prove most effective advertising. A prominent New England clothing house made its first great "hit" by offering a choice to buyers of certain disappointing suits of clothes to have refunded to them the purchase money and all expenses in coming and going, or to exchange for a suit of proved worth and pay expenses of transit both ways. It is said that while the direct loss incurred was over seven hundred dollars, the ultimate result of the advertisement was to add many new names to the list of customers, retain ninety-seven per cent. of those who exchanged the goods as enthusiastic "steadies," and secure the very valuable reputation of "the safe store to deal with."

If you can write the *right sort* of advertisement you can afford to spend fifty per cent. of your profits the first year of your business, twenty-five per cent. of the profits the second year and thereafter, annually, five per cent. of the total amount of business done. If you have any resources outside of your jewelry business, double this expenditure for the first and second year.

Don't exaggerate. Keep within the absolute truth, *always*, in any printed statement to the public. Be candid; a suspicion of duplicity works the advertiser's destruction, eventually. If honesty is ever the best policy, it is emphatically so when a man talks to the public through an advertisement. The printed thing is imperishable and a printed untruth is a perpetual witness against the fool who utters it.

If your clerk shows greater skill in writing advertisements than yourself, put the work into his hands. Don't deprive yourself of a subordinate's superior special talent because of a mistaken idea that your own dignities will suffer in conceding that you do *not* "know it all."

Do not too persistently ignore the sealed circular simply because it is in disfavor generally. Possibly it is the only way to reach a certain class in your community. *Get to know your people*, and fit your advertising to them. Don't hold fast to any pre-conceived theories, but be adaptable; try one way and another, and let *your own* experience be your guide, finally, as to the best path through your own particular neck-of-the-woods.

Finally, never cease studying the whole advertising proposition and be certain that you have never learned it to the finish; for it never finishes! It is constantly developing new phases, as the public advances in knowledge and observation; new trends of thought are being manifested constantly, new whims of taste are being born every day, new standards of perfection are everlastingly being set up. You can never "know it all," in advertising. But you can know more and more, by painstaking study and practice; and you can know that *sufficient more* than your competitors to insure you the leadership in your line of trade in your community.

[THE END]



WE HAVE BEEN TELLING
YOU ALL THROUGH THE
YEAR OF THE MERIT OF
THE MEAD WATCH
HOUSE, THE KIND OF
TREATMENT THE RETAIL
JEWELERS GET WHO
DEAL THERE, AND ITS
UNEQUALED FACILITIES
FOR GIVING YOUR MAIL
ORDERS FAST SERVICE.

NOW FOR THE DEMON-
STRATION. SEND US
YOUR RUSH ORDERS FOR
WATCHES—BY MAIL OR
WIRE—AND IF THE
GOODS ARE OBTAINABLE
WE WILL DO THE REST.

M. A. MEAD &
COMPANY,

WATCH JOBBERS, COLUM-
BUS MEMORIAL BUILDING,
CHICAGO.



Ante-Holiday Reflections

THE arrival of this issue of THE KEYSTONE will find every live jeweler primed and ready for Christmas trade. He has already purchased liberally and discriminatingly, the new stock is scintillating in the show cases and on the shelves, he has made the store as seasonably inviting as his ingenuity permitted, and he is now behind the counter with only one want on earth—customers. He has reached the critical point in the season's campaign, and yet there is the sad possibility he may have neglected one all-important duty, that of *informing the public* of his plans, his purchases, his preparedness to serve them. The task that now confronts you, Mr. Jeweler, is to dispose of your stock quickly and profitably, and to this end you must attract, allure, decoy or induce in some manner or other the public to come to your store. Have you sent a prettily-worded, tasteful, sealed letter to the best people in your town, informing them of your purchases and inviting them to visit your store and inspect the new goods and styles, impressing on them particularly that the visit is not to be a purchasing one, but rather for inspection and comparison? Have you mailed them a circular or booklet, giving lists of suggestions for suitable gifts for father, mother, sister, brother, relative, friend and sweetheart, telling them of the variety of all these articles which may be seen at your store? Are you publishing daily in the local press tasteful and eye-catching announcements of your goods, your prices and the wisdom of buying from a reliable jeweler who knows the goods and accepts responsibility for every article sold? Are you using your window to best purpose by making handsome, seasonable displays which *must* catch the eye of all pedestrians and favorably impress them? Has your store the brightness, cleanness, newness, air of extra activity and magnetism that befit the season? Have you, in short, used all the means which modern competition makes necessary to impress the gift-purchaser and convince him that yours is the store where he is most likely to find the goods, prices and treatment he desires?

If the holiday season is to be a success for you, you must get close to the people and capture their confidence, for in the jewelry business confidence means cash and custom. If there is a possible jewelry purchaser in your town to-day who has not had his memory refreshed as to your good name, your experience in the business, your expert knowledge, the completeness of your stock, your honest treatment of all patrons, etc., then you have overlooked your most important duty of the season, and the penalty

will be diminished trade and a disheartening surplus of left-over goods. See to it *now* that you profitably dispose of your holiday stock before Christmas morn, for there is an uncertainty in the times.

Let There be Light

ASCUPULOUS saving of light when the store is kept open in the evening is false economy. In the jewelry business especially this is a saving at the spigot and wasting at the bung. Jewelry needs light to make it glow and glitter. The more light the more sparkle, and the greater the sparkle the greater the impression. The sight of a dimly-lighted store naturally suggests to the beholder that "there's nothing doing," and as a rule neither is there. Have every corner clean, every article worthy and illuminate the whole in a way that will show the public you are not afraid to turn the light upon your store.

The Standard of Workmanship

LET the work of your workmen be always the best, irrespective of the profits. When you are asking your engraver to do cheap work because an article is engraved free, don't forget that you are encouraging him to be an indifferent workman, and demoralizing him so that he may not take a keen interest in beautiful work. You know not how many may judge of the workmanship in your store by a single piece of free engraving.

To the Joke-Loving Merchant

BE careful as to when and with whom to joke. The humorous faculty is as varied in different folks as is mental capacity or any other quality over whose origination we had no control. Well-meant attempts to be funny are often woefully out of place. To some ladies they are particularly repugnant owing to the familiarity which joking always so subtly establishes between individuals no matter how great the disparity in their social status. Joking with a bad-paying customer is also dangerously insidious. It emboldens the recipient of credit to ask for more, or it dispels his scruples, if he has any, regarding belated settlements. This is plain to every one who knows human nature, and the man who doesn't know human nature has little business behind a counter. Humor has its place, but 'twere long to tell how to determine the proper time and place for it. A good, inoffensive joke breaks upon the mind like a ray of sunshine, but the dealer must be careful that his jokes do not jar the dignity of a supercilious patron or passively encourage that enthralling evil, the bad pay.

Reading Notices in Local Newspapers

ONE of our contemporaries is publishing a series of letters written by two shoe merchants to each other. These merchants, who are brothers by the way, are located in different States and sections, one being in Iowa and the other in Massachusetts. The Western shoeman has a David Harum kind of shrewdness that is well evidenced in the following:

Do you know what I am going to do? I am going to work our reporters to the limit. I have two friends on the leading papers here who get their shoes at my store. They have them "charged" and I never sent them any bill, but it is the cheapest advertising I can possibly get, for I fill them up to the brim with "shoe news," and they publish it in their paper and quote me as the leading shoe dealer, and my opinions as the edicts of style. They will both be at my store to-morrow, and if I don't get a dandy write-up in those two papers something will drop, but I will get it, sure! Those two fellows are good for half a column each, and the other boys won't be far backward in giving me such a send-off as ought to be worth a good deal of money to me at the opening of the season.

There are different ways of attaining most objects, and a reputable modification of the shoeman's plan might not be unavailing in the case of some jewelers, especially in the smaller towns. An occasional favor to the local reporters, editors or their families may very often be a good investment, so important is publicity now-a-days. A good deal will depend, however, on circumstances and location as the following response from the Massachusetts shoeman proves:

That idea of yours in working the reporters was a good one. I cannot do that here for this reason: I observe you grant them credit, but I never do; I am trying to run things on a cash basis, and when they apply to me for credit I tell them that I am beyond that; I would rather give a man a pair of shoes outright, and let him work up something for me to the value of the goods rather than have the goods charged and keep dunning for the money. Our newspapers here have been fairly liberal with me, but it is entirely different in the East than in the West. Out your way, you can get almost anything you want put in the papers without paying for it, but here we have to pay for everything.

The Western newspapers are not as liberal as the Massachusetts man thinks, nor are those in the East so rigorously exacting. We fear, indeed, that the Eastern man lacks something of the suavity, persuasiveness and diplomacy of his Western brother. We have known of much publicity being obtained even in the East through the not entirely disinterested friendship of the local newspaperman. "Working" an employee, however, even in a harmless way, is not the most desirable method of attaining an object, and we think if the merchant is liberal to the newspaper in the matter of advertising the newspaperman will be equally liberal in the matter of notices in the reading columns, provided the jeweler furnishes readable material. This matter of material suitable for reading columns is an important branch of advertising and we shall treat of it in our next issue.

Advice to the Man Who is Promoted

IN that mine of business philosophy, "Letters from a Self-Made Merchant to his Son," the "old man" gives the following excellent advice to his son, and incidentally to all those who have just been promoted or are in line of promotion over others:

Promotion Creates Jealousies Naturally, when a young fellow steps up into a big position it breeds jealousy among those whom he's left behind and uneasiness among those whom he's pulled himself up among. Between them he's bound to be subjected to a lot of petty annoyances. But he's in the fix of a dog with fleas who's chasing a rabbit—if he stops to snap at the tickling on his tail he's going to lose his game dinner.

Even as temporary head of the lard department you're something of a pup, and where there's dog there's fleas. You've simply got to get used to them, and have sense enough to know that they're not eating you when they're only nibbling a little at your hide. And you don't want to let any one see that a flea bite can worry you, either. A pup that's squirming and wriggling and nosing around the seat of the trouble whenever one of his little friends becomes active, gets kicked out into the cold, sad night in the end. But a wise dog lies before the fire with a droop in his ear and a dreamy look in his eyes until it gets to the point where he can't stand 'em any longer. Then he sneaks off under the dining-room table and rolls them out into the carpet.

There's two breeds of little things in business—those that you can't afford to miss and those that you can't afford to notice. The first are the details of your own work and those of the men under you. The second are the little tricks and traps that the envious set around you. A trick is always so low that a high-stepper can walk right over it.

Prove Yourself Equal to the Job When a fellow comes from the outside to an important position with a house he generally gets a breathing space while the old men spar round taking his measure. They give him the benefit of the doubt, and if he shows up strong and shifty on his feet they're apt to let him alone. But there isn't any doubt in your case; everybody's got you sized up, or thinks he has, and you'll get it worst right at the start, because those who've been over you will find it hard to accept you as an equal, and those who've been your equals will be slow to regard you as a superior. When you've been Bill to a man, it comes awkward to call you mister. He may do it to your face, but you're always Bill again when you've turned the corner.

Of course, everybody's going to say you're an accident.

Prove it. Show that you're a regular head-on collision when anything gets in your way. They're going to say that you've got a pull. Prove it—by taking up all the slack that they give you. Back away from controversy, but stand up stubborn as a mule to the fellow who's hunting trouble. Be ready to bite if any one in front tries to crowd, and

to kick if any one behind edges up too close. I believe in ruling by love, all right, but it's been my experience that there are a lot of people in the world whom you've got to make understand that you're ready to heave a brick if they don't come when you call them. They mistake kindness for weakness and courtesy for cowardice. Of course, it's the exception when a fellow of this breed can really hurt his boss, but the exception is the thing that you always want to have your eye skinned for in business. When it's good growing weather and the average of the crop is ninety-five, you want to remember that old Satan may be down in Arizona cooking up a sizzler for the corn-belt; or that off Cuba-ways, where things get excited easy, something special in the line of tornadoes may be ghost-dancing and making ready to come North to bust you into bits, if it catches you too far away from the cyclone cellar. When a boy's face shines with soap, look behind his ears.

Duties of a Good Boss

Up to this point you've been seeing business from the seat of the man who takes orders; now you are going to find out what sort of a snap the fellow who gives them has. You're not even exchanging one set of worries for another, because a good boss has to carry all his own and to share those of his men. He must see without spying; he must hear without sneaking; he must know without asking. It takes a pretty good guesser to be a boss.

The first banana skin which a lot of fellows step on when they're put over other men is a desire to be popular. Of course, it's a nice thing to be popular, but that's really a business in itself.

When a man spends time trying not to make enemies he hasn't any left to attend to business. You can't step out in any direction without treading on somebody's corns, but unless you keep moving, the fellow who's in a hurry to get somewhere is going to fetch up on your bunion. Some men are going to hate you because you're smooth, and others because you have a brutal way of telling the truth. You're going to repel some because they think your cold, and others will cross the street when they see you coming because they think you slop over. One fellow won't like you because you've got curly hair, and another will size you up as a stiff because you're bald. Whatever line of conduct you adopt you're bound to make enemies, but so long as there's a choice I want you to make yours by being straightforward and just. You'll have the satisfaction of knowing that every enemy you make by doing the square thing is a rascal at heart. Don't fear too much the enemy you make by saying No, nor trust too much the friend you make by saying Yes.

Popularity is a mighty uncertain critter and a mighty unsafe one to hitch your wagon to. It'll eat all the oats you bring it, and then kick you as you're going out of the stall. It's been my experience that there are more cases of hate at first sight than of love at first sight, and that neither of them is of any special consequence. You tend strictly to your job of treating your men square, without slopping over, and when you get into trouble there'll be a little bunch to line up around you with their horns down to keep the wolves from cutting you out of the herd.

Employing One's Relatives

It's been my experience that when an office begins to look like a family tree you'll find worms tucked away snug and cheerful in most of the apples. A fellow with an office full of relatives is like a sow with a litter of pigs—apt to get a little thin and peaked as the others fat up. A receiver is next of kin to a business man's relatives, and after they are all nicely settled in the office they are not long in finding a job for him there, too. I want you to get this firmly fixed in your mind, because while you haven't many relatives to hire, if you ever get to be the head of the house you'll no doubt marry a few with your wife.

Retiring from Business

Some men are like oak leaves—they don't know when they're dead, but still hang right on; and there are others who let go before anything has really touched them. Of course, I may be in the first class, but you can be dead sure that I don't propose to get into the second, even though I know a lot of people say I'm an old hog to keep right along working after I've made more money than I know how to spend, and more than I could spend if I knew how. It's a mighty curious thing how many people think that if a man isn't spending his money their way he isn't spending it right, and that if he isn't enjoying himself according to their tastes he can't be having a good time. They believe that money ought to loaf; I believe that it ought to work. They believe that money ought to go to the races and drink champagne; I believe that it ought to go to the office and keep sober.

I don't mind owning up to you, though, that I don't hang on because I'm indispensable to the business, but because business is indispensable to me. I don't take much stock in this indispensable man idea, anyway. I've never had one working for me, and, if I had, I'd fire him, because a fellow who's as smart as that ought to be in business for himself; and if he doesn't get a chance to start a new one, he's just naturally going to eat up yours. Any man can feel reasonably well satisfied if he's sure that there's going to be a hole to look at when he's pulled up by the roots.

I started business in a shanty, and I've expanded it into half a mile of factories; I began with ten men working for me, and I'll quit with ten thousand; I found the American hog in a mud puddle, without a beauty spot on him except the curl in his tail, and I'm leaving him nicely packed in fancy cans and cases, with gold medals hung all over him. But after I've gone some other fellow will come along and add a post-graduate course in pork packing, and make what I've done look like a country school just after the teacher's been licked. And I want you to be that fellow. For the present, I shall report to the office as usual, because I don't know any other place where I can get ten hours' fun a day, year in and year out.

After forty years of close acquaintance with it I've found that work is kind to its friends and harsh to its enemies. It pays the fellow who dislikes it his exact wages, and they're generally pretty small; but it gives the man who shines up to it all the money he wants and throws in a heap of fun and satisfaction for good measure.



Cocktail Set "SAVOY."

THE DEMAND FOR

Bergen Popular-Priced Cut Glass

has this year brought our stock down to a point lower than ever before. But while we cannot accept additional orders for cheap bowls, etc., dealers will find us prepared to ship promptly a great variety of beautiful articles, at popular prices, in

**Punch Sets and Bowls,
Lamps and Candelabra,
Bowls and Fancy Dishes,
Jugs and Decanters,
Ice Cream Trays, Plates and Saucers,
Vases, Fancy Pieces,
Cocktail, Wine and Water Sets,
Etc., Etc., Etc., Etc., Etc., Etc.**

THE J. D. BERGEN CO.,

Chicago Office—Silversmiths' Building.

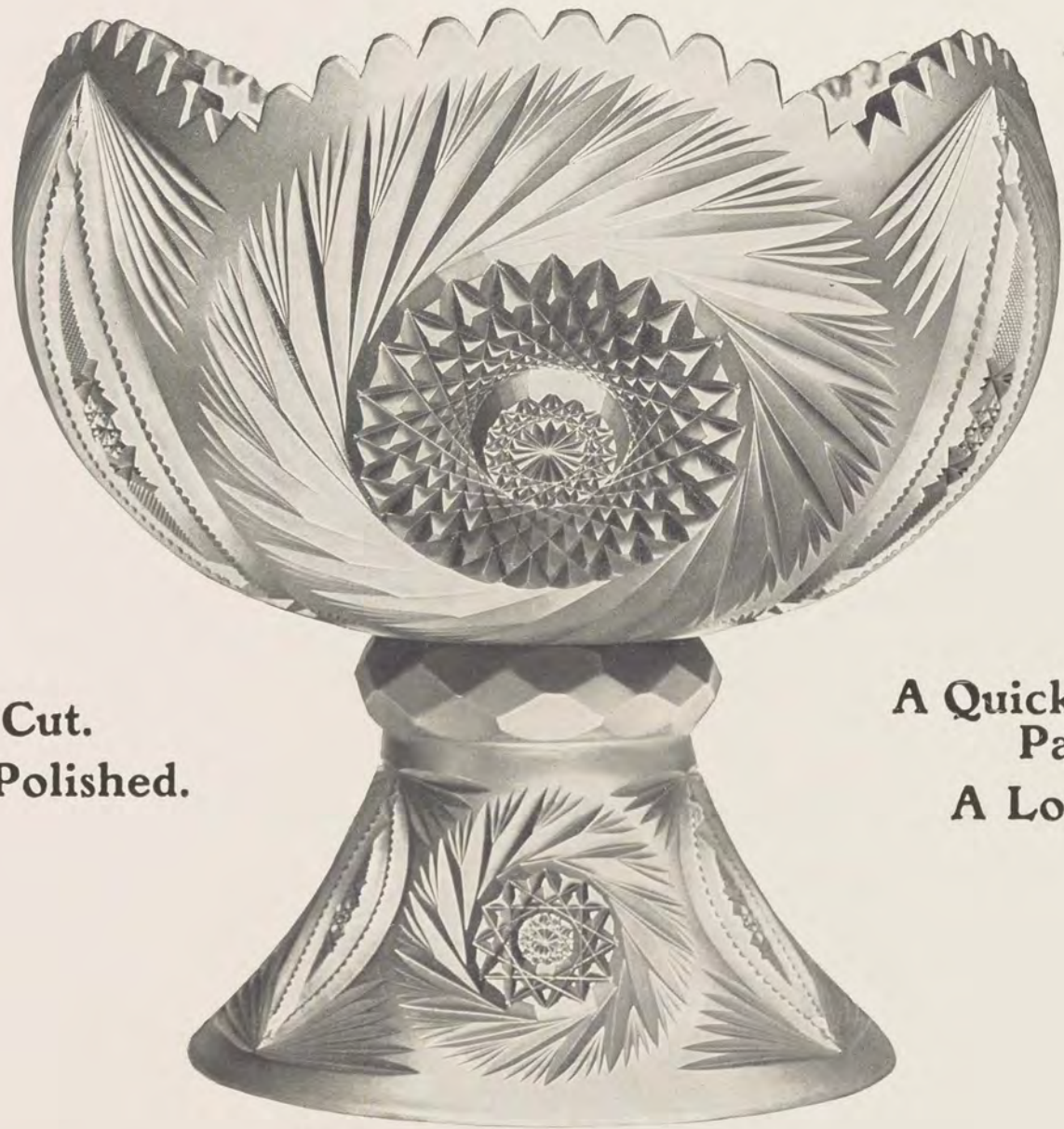
Main Office and Salesrooms, 38 Murray Street, NEW YORK.

Catalogues for the asking. Electrotypes free (to customers) for local advertising.

Ditkin and Brooks,

CHICAGO,

Makers of **Rich Cut Glass.**



**Deeply Cut.
Finely Polished.**

**A Quick-Selling
Pattern.
A Low Price.**

CAROLYN 597 Footed Punch Bowl. Price, \$25.00.
12 $\frac{1}{2}$ " high. 12 $\frac{3}{4}$ " wide.

We have

A COMPLETE STOCK.

We can fill rush orders promptly and satisfactorily.

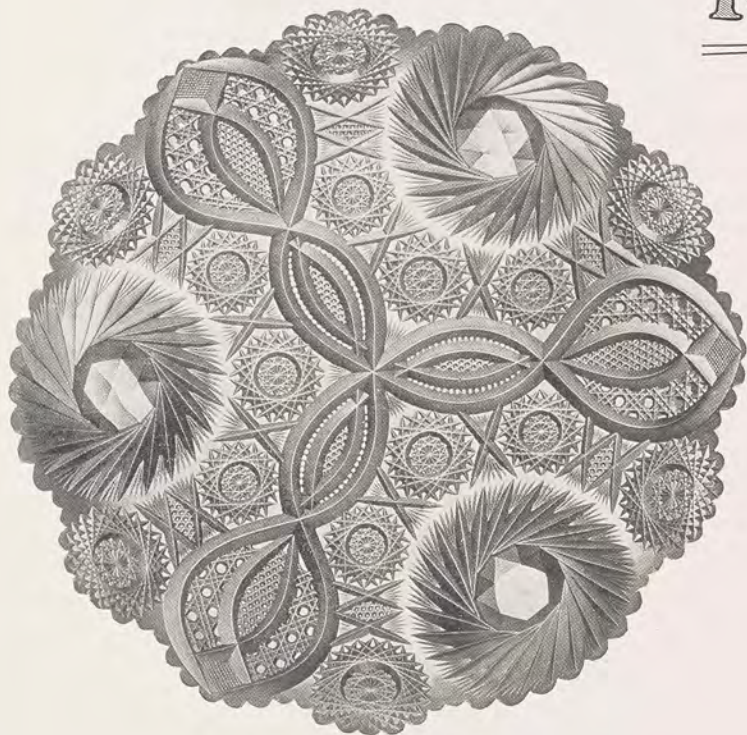
You need our Catalogue for your Christmas business.

T. B. Clark & Co., Inc.

1891

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

RICH CUT GLASS



Round Tray, Angelus.

The merit of the Angelus design cannot be surpassed; you don't appreciate its full richness until it is impressed upon you by seeing it on the glass itself; then you are forced to admit that in artistic value and good workmanship the "Clark" line excels.

T. B. CLARK & CO., Inc.,
Honesdale, Pa.

To Reason Reasonably is Good Reasoning.

A good reason for you to carry

THE RICH CUT GLASS

is that you will be recognized as the Leader in your locality, which means that the discriminating buyer will be your customer when your competitor will be saying, "Business is not what it used to be."

Alfordism

No. 24: *Alford's Glass will add tone to your stock.*

Faithfully yours,

T. B. Clark

Our Catalogue has over two hundred truthful half-tone illustrations.

Factory, Honesdale, Pa.

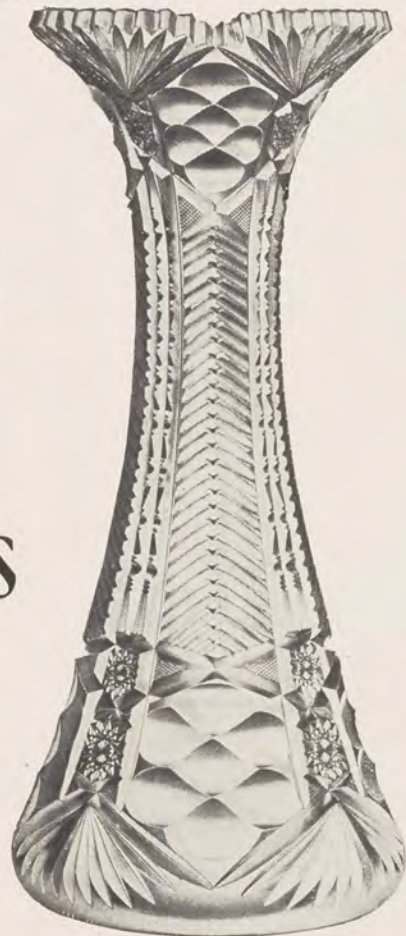
192 Broadway, New York.



THE PAIRPOINT CORPORATION

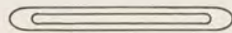
New Bedford, Mass.

Rich
Cut
Glass



No. 1033. 14 IN. VASE, "LILAC."

Photograph
Books
of our
Complete
Line
Loaned to
the
Trade
for
Inspection.



BRANCHES:

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



No. 378. SWING KETTLE.

Superior
Silver
Plate

JOS. NOTERMAN & CO.
IMPORTERS OF DIAMONDS,
AND
MAKERS OF FINE JEWELRY
CINCINNATI, O.

The A. L. Blackmer Co.

(Established 1892)

New Bedford, Mass.



No. 28r. Vase.
PRINCESS.

1893



No. 249. 6-in. Footed Bon Bon.
PORTIA.

Rich Cut Glass

Looking Forward to 1904.

See our new line before placing order elsewhere.

For Present Demands, we carry stock; you need goods. Write us and shipment will reach you in time for *Christmas sales*. *Try it.*

OHIO CUT GLASS COMPANY

Manufacturers of

Rich American Cut Glass

Quality Guaranteed.

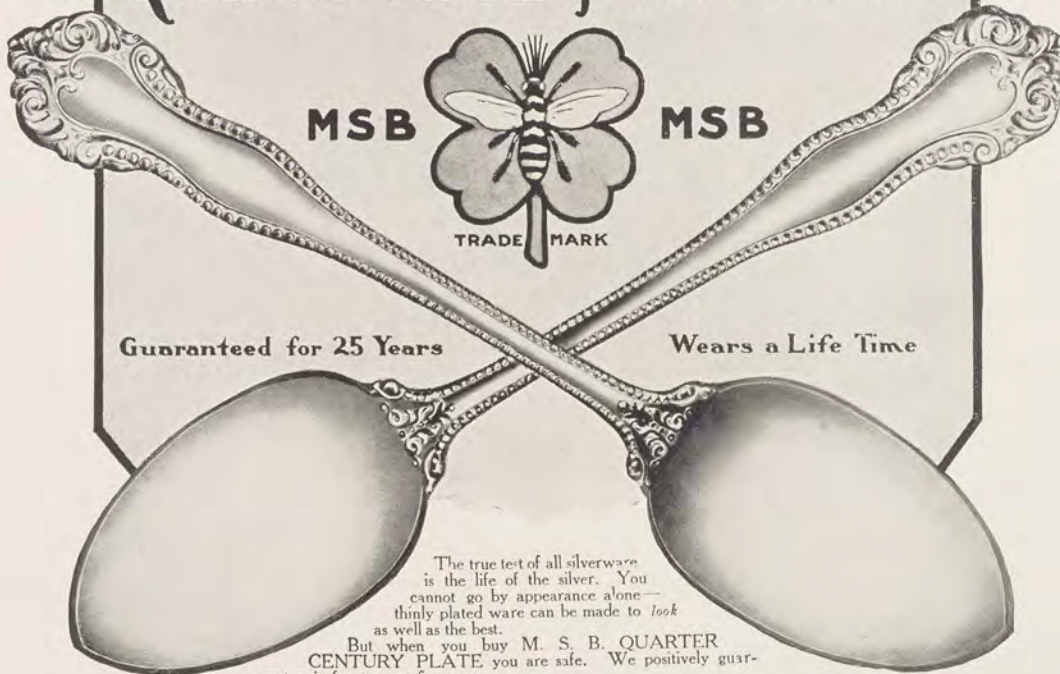


Factory, BOWLING GREEN, OHIO.

New York Salesroom, 33 Murray St.

Chicago Salesroom, Silversmiths' Building.

Quarter Century Silverware



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

Write to-day for our free booklet on "The Use and Care of Silverware."

M. S. BENEDICT MANUFACTURING CO.

109-111 Wabash Ave., Chicago, Ill.

ESTABLISHED 1883.

Factories: East Syracuse, N. Y.



THE "EXCERPTA."

JEWELERS, NOTICE!

THIS is the nearest perfect and most economical coffee pot on the market to-day.

Perfect, because it makes a most delicious beverage instantaneously, and always the same clear, pure coffee every day in the year.

Economical, because it requires less coffee to obtain same results, obtainable from any other pot; also because its clearness and pureness are not obtained by use of eggs, or other ingredients.

In fact, this is the only one of its kind made that is especially adapted to the jewelry trade.

The retail price is no more than any good silver-plated coffee pot made by reliable manufacturers without this attachment.

THE "EXCERPTA" is made in two sizes (2½-pint and 4-pint), of pure britannia metal, heavily quadruple silver plated and very finely finished. It is artistic in design and an ornament to the best-appointed table, and is withal a beautiful coffee pot in which to make and from which to serve.

Write for descriptive circular and prices.

Manufactured exclusively by

M. S. Benedict Manufacturing Co.

Main Office and Works:
East Syracuse, N. Y.
Western Factory:
Ottawa, Ill.

Salesrooms:
109-111 Wabash Avenue, Chicago.
409 Broadway, New York.
86 Bay Street, Toronto, Ont.



THE "EXCERPTA." Sectional View.

Manning, Bowman & Company, Meriden, Connecticut.

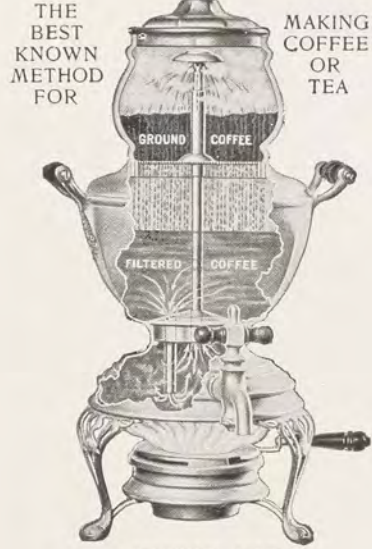
1895

New York.
Chicago.
San Francisco.

Nickel and Silver Plate.

"METEOR"
FRENCH CIRCULATING
COFFEE PERCOLATOR.

Chafing Dishes. Baking Dishes. French Coffee Percolators.
Prize Trophies, Tankards, Etc.



THE BEST KNOWN METHOD FOR MAKING COFFEE OR TEA

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

(With Patent "Ivory" Enamelled Food Pan.)

MADE IN OVER FIFTY STYLES AND SIZES.



No. 1993.

"METEOR"
FRENCH CIRCULATING
COFFEE PERCOLATOR.

For nearly FORTY years we have been manufacturers of COFFEE and TEA POTS, etc. We now make the

"METEOR" FRENCH CIRCULATING COFFEE PERCOLATOR,

which beyond question affords the best known method for producing coffee of the finest flavor. If you want the BEST, see that the word "METEOR" is stamped on each Percolator.
Made in NICKEL PLATE, SILVER PLATE, COPPER.

Sold by Leading Jewelers and Dealers in Sterling and Silver Plate.

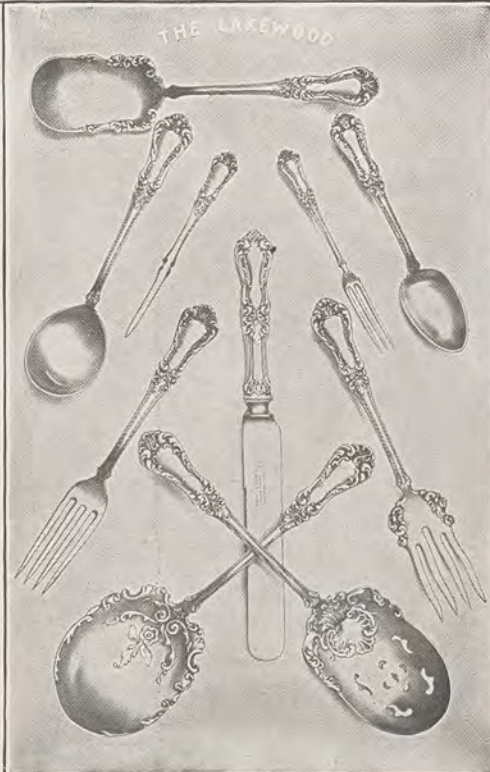
Send for Illustrated Circular No. 80.

Highest-Quality Silver-Plated Ware.

**WE ARE NOT IN
THE TRUST.**

Warranted to strip as much silver as any Rogers Brand on the market.

Send for Catalogue No. 4.



Our patterns are new in design.

And we stake our reputation on the High Quality of our wares.

You can guarantee them to the consumer every time.

Simeon L. and George H. Rogers Company, Hartford, Conn.

P. O. Box 1205. Factories, Hartford and Wallingford, Conn.



Santa Claus,

The Patron Saint of the Jewelers



is sure to be a heavy purchaser at your store if you attract his eye with selections from our line of sellers. Dainty and attractive goods sure to please all whom the Saint desires to please, and their name is legion. Should you perchance not have just what he wants, write, wire or phone us. That will be all that is necessary—you will make the sale.



HENRY FREUND & BRO.,

Diamonds, Watches and Jewelry,
Elk and Fraternal Order of Eagle Goods

A SPECIALTY,

9 Maiden Lane, NEW YORK.

LONDON:
8 HOLBORN VIADUCT.

NEW YORK:
170 BROADWAY.

ALFRED H. SMITH & CO.
DIAMONDS,
PEARLS AND ALL PRECIOUS STONES.

603 COLUMBUS MEMORIAL BLDG.
103 STATE STREET.

CHICAGO.

GOODS SENT ON APPROVAL. TRY US.



POINTERS ON WINDOW TRIMMING

Show Window a Reflex of the Season

THE holiday period usually witnesses the highest achievements in the art of store and window decoration, and this circumstance is becoming more markedly conspicuous with the passing of years; so much so, indeed, that in some important centers of trade, systems of decorative competition have sprung up among rival stores with the result that the aggregate profits of the season are in a degree proportional to the attractiveness of the displays. At no other time of the year is the store judged so much by the character of the window decoration, owing of course to the heightened interest which the public takes in the season's new wares and the methods employed in exhibiting them. The futility, therefore, of endeavoring to obtain the fullest possible profit from a show window during such a period without first having formulated an intelligent and methodical line of procedure will be at once apparent.

System Indispensable

In no branch of storekeeping is there such a palatable need of preconceived plans as in this matter of window decoration. It is remarkable what a multitude of undreamt of impediments spring up to baffle and mystify the man who tries to dress a window or, for that matter, to perform any original task, without first marshalling his wits and mentally arranging each step in regular sequence. Thus will possible stumbling blocks be discovered and in all likelihood timely measures evolved for either overcoming or totally obviating them. Moreover, the limited time at the disposal of the jeweler during the busy season makes it doubly imperative on him to give previous consideration to his display schemes if he means to make his windows the source of profit which they unquestionably should be. Unlike a poorly worded advertisement a poor window display can scarcely be said to be better than none at all. Even the appearance of the dealer's name in the newspaper (provided of course that it is used in an honorable connection) has an advertising value in itself, while a bad window display is decidedly calculated to materially injure his business. By the average individual it is looked upon as an index to the man and as a natural corollary to his methods and goods. A poor window display is tantamount to a negative declaration by the dealer that he is slow, sluggish and slovenly, and we can well imagine the injurious impression which this makes in the minds of those feminine folks upon whom the jeweler has to depend so much for a living, and who are so proverbially capricious even under ordinary circumstances. Accordingly, the earning power of a bright, fetching display is in no way more vividly demonstrated than by contrast with its opposite. Strange then that the object lesson to be drawn should so frequently fail to produce satisfactory results which one ought naturally to expect. This is frequently due to the painful lack of initiative on the part of some dealers and upon which we have often commented heretofore. The first step in the right direction is very often the one upon which permanent improvement depends.

The Habit of Putting Off

The bane of many a merchant is that in his weakness he shrugs himself free from the inward, healthy suggestion to "do it now." How much greater and more gratifying would be the achievements of every individual engaged in the jewelry business, and how much more substantial would be his revenues, if in the course of his diurnal activities he could rid himself of the fatal habit of "putting off." At no time is this enslaving tendency fraught with such dire results as during the brisk season upon which we are emerging. Forethought now may mean dollars later. Within the next few weeks demand will be cumulative, and the spare time of the jeweler and his staff will necessarily be growing less and less.

In view of this we would advise our readers to perfect preliminaries so as to preclude confusion and loss later on. The person to whom the task of executing the window displays is delegated should have all his plans prearranged. Preferably, he should be a mechanical genius with an eye for the artistic and a rich fund of original ideas. Apropos of our advocacy of

systematization we would suggest to the window-man the advisability of keeping a "Book of Dimensions," which should contain plans and measurements of all parts of the windows and various memoranda of the number of yards and feet of different materials which it may be required to make backgrounds and draperies from. The plans of the windows may be drawn to scale one-half inch to the foot, each section of the window, ceiling, sides, front, back, on a separate sheet, these sheets being mounted on heavy cards so as to stand a lot of handling. A lot of blank duplicates of these sheets should be kept on hand unmounted and upon which new trims may be drafted; it being very easy to sketch out the trim in correct proportion, as the cross lines do away with the necessity of measuring off. These plans on heavy card are really a supplement to the book, and in the book proper are duplicates of the plans on a much smaller scale, with all measurements so carefully noted that it is never necessary to do any actual measuring in the windows for any trim.

Useful Records of Measurements

In conjunction with this book the trimmer can record measurements and proportions on the interior woodwork of the window in light but tenacious pencil marks visible and intelligible to the artificer, but which cannot be detected by the ordinary spectator. In this way a ready means of reference is provided in case it is required to put up lattice work. To be perfectly pleasing to the eye lattice work must be symmetrical and proportioned with exactitude, the lines exactly parallel and the meshes formed by the intersecting lines all of the same size and shape. The fundamental principle of accurate proportioning in lattice work is to first measure and mark carefully the points at which the ends are to be attached. A table of measurements can be made out showing how many yards of latticing material crossing at an angle of 30 or 45 degrees, it will take to do the window, whether the lines are placed at intervals of 4, 6, 8 or 12 inches, and whether the latticing covers the whole of the window or extends but half way, or a third of the way from the top. Records should also be kept of the quantity of goods of different widths it will take to cover any part of the window, whether applied flat, plaited or draped, the number of yards necessary to run a Grecian drapery around the top part of the window, form a sunburst at the back, etc.

Practice Makes Master

If the particulars of each display are completely and accurately kept the trimmer will probably possess all the information he will be likely to require by the time a dozen trims of different characters have been executed. For general information a concise and abbreviated record may be kept of the salient facts regarding each trim and the impression which it made upon the public, together with the date upon which it appeared, character of the goods exhibited, color scheme, frameworks and backgrounds. A section of the book should also be set apart for keeping an account of the trimmer's paraphernalia and of its whereabouts. Of course, all these recommendations are capable of modification to suit individual requirements, but we think there are very few instances to which the scheme outlined is not generally adaptable. The time required to keep this helpful book punctually posted is infinitesimal in comparison with the extent to which it will be found to facilitate decorative operations and to materially enhance the earning power of the window. The last-mentioned consideration in itself should be a sufficient stimulus to the jeweler of practical mold to eagerly adopt all such feasible ideas, especially when this involves so little time and labor.

Remember that the show window is one of the store workers that never gets tired, so it is not necessary to give it long rests between its dressings, or in other words the time that the window remains empty is just so much good advertising going to waste. It is on this that we base our assertion that it is better to put in a number of different displays that are simple but tasty, than to leave the window vacant for a whole day while you are putting in an elaborate one. At Christmas time, however, something elaborate is expected and will prove well worth the time spent in its conception and execution. This is especially true at the present time, when so many beautiful trims are in evidence.

EVERY FACTOR IN THE SITUATION
 this season urges the wise retailer to make prompt
 and permanent connections with such a firm as ours.

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The Cumulative Prosperity

of six years foretells such a demand for goods as can be furnished only by a house whose prestige and resources give it first call on the manufacturers and markets of the world.

The Intelligent Buying

necessitated by prevailing conditions suggests the one firm whose stock, equipment and facilities ensure the promptest service and most helpful counsel in stock selection.

The Good-Quality Goods

now in demand suggest the house that handles nothing else—the house whose reputation, stock and methods are alike above reproach.

The Prospective Scarcity

in staple lines suggests the one concern that is best prepared to meet instantly *all* the demands of its patrons at any time or in any quantity—to-day or “Day before Christmas.”

“Equal to Every Occasion”

embodies our reputation. There’s a sense of security in knowing that you have at your service the one house in the United States that is in closest touch with the great body of reputable retail jewelers.

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

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New York Letter

Duty Once Paid Afterwards Increased by Authorities

The question as to whether the Government may lawfully increase duty on an importation of merchandise after the merchandise has already paid duty and has been sold in the usual business course, was argued in the United States Circuit Court, this city, some weeks ago before Judge Hazel. The question arose out of the appeal of Neresheimer & Co., diamond importers, 170 Broadway, from the decision of the board of classification of the United States General Appraisers on two invoices of drilled pearls. One of these was imported in March, 1901, and the other in the November following. They were sold to Black, Starr & Frost while in the possession of the Government. The shipments were respectively classified as "non-enumerated manufactured articles," and assessed for duty at 20 per cent. ad valorem. One of the importations consisted of 45 and the other of 39 drilled pearls; they were invoiced at a value of about \$65,000 and \$67,500, respectively. One year after the importation of the first lot and three months after that of the second, the collector of customs notified the importers that he had made a mistake in the classification and that the goods should have been considered as "pearls strung" and assessed at the rate of 60 per cent. ad valorem.

The amount of duty originally paid was \$25,761, but under the amended assessment an additional sum of \$49,522 was levied, and this was sanctioned by the board of classification on the ground that instead of coming into this country in an unsorted condition, the goods had been selected, sorted and partially prepared for use in making a necklace. The gems were imported in a plush-lined box, and this was construed as indicating the importers' intention to use them for a specific purpose and equivalent to placing them in another class of importations. The counsel for the appellants made a forceful protest against the action of the authorities. He declared that the goods had been sold upon a twenty per cent. basis, and that the asking of nearly \$50,000 additional duty so long after the goods had been imported, and after the sale had been effected, was not only rank injustice, but, if the demand could be sustained, there was no reason why an importer could not be thrown into bankruptcy at any time the officers of the Government felt an inclination to force him there. He argued that it was quite plain from the testimony of the Government's precious-stone clerk for the port of New York, before the board, that the pearls were no more fit for a necklace by reason of the fact that they were of uniform color and quality, and graduated size, than they would have been if they had been of the same size and of different colors and qualities. He cited the Tiffany case to sustain his contentions and asked for a reversal of the board's decision.

The assistant United States attorney, who appeared for the Government, argued that the im-

porters had no further evidence since the board's decision and that the record before the Court was identically the same as that before the board. He said that in the Tiffany case the pearls were unsorted, while in the present instance they were assorted and drilled, and the time and labor of matching and selecting had already been bestowed upon them. He asked for an affirmation of the board's decision. Judgment was reserved.

The regular monthly meeting of the executive committee of the Jewelers' Security Alliance was held on Friday, November 13th, the following members being present: President Sloan, Vice-Presidents Champenois and Wood, Treasurer Karsch, Secretary Noyes and Messrs. Alford, Bowden, Brown and Stern of the committee. The following new members were admitted:

Haldor Anderson, Fessenden, N. D.	D. V. Pound, Durant, Miss.
H. E. Fox, Douglas, Ariz.	Almon G. Stone, Los Angeles, Cal.
T. R. Jones, Tempe, Ariz.	Mat. Bruhy, Kewaskum, Wis.
H. J. Whitley Co., Los Angeles, Cal.	H. W. Foerste, Okawville, Ill.
Roy E. Bertholf, Cherokee, Kans.	M. Hansen, Brooklyn, N. Y.
Lawrence Bryson, Salem, Ohio.	Aug. Schliecker, Vinita, Ind. Ter.
Clark & Conklin, Cazenovia, N. Y.	Edgar R. Whiting, Pittsfield, Mass.
M. J. Daniels, Columbus, Ohio.	Butler & Miller, Indianola, Iowa.
H. P. Hall Jewelry & Music Co., Carthage, Mo.	Butterfield Bros., Portland, Ore.
J. Harvell & Son, Litchfield, Ill.	Chas. E. Goldsmith, Virginia City, Mont.
J. Reuben, Lawrenceville, Va.	Otto F. Russow, Charlottesville, Va.
Daniel R. Brown, Stroudsburg, Pa.	Arthur H. Hadley, Philadelphia, Pa.
E. H. Carey, Le Mars, Iowa.	H. A. Stone, Ayer, Mass.
Bernard B. Gragg, Brook Ind.	William J. Spies, Steubenville, Ohio.
P. E. Holsten, Alliance, Nebr.	D. B. Ryland & Co., Lynchburg, Va.
J. F. Krohne, Jr., Clarksburg, W. Va.	Douglas Jewelry Co., Guthrie, Okla. Ter.
S. Radin, Scranton, Pa.	D. Prager & Sons, Fort Scott, Kans.
M. J. Scudder, St. Marys, Pa.	A. J. Hankin & Co., Roanoke, Va.
W. F. Hackett, Rochelle, Ill.	Combs & VanRoden, Philadelphia, Pa.
W. M. James, Breckenridge, Minn.	Fessler & Demmel, Waterloo, Iowa.
Ernest J. Kittell, Springfield, Mass.	
Joseph Mazer, S. McAlester, Ind. Ter.	

The Duty on Marble Statuary

The appeal of Glaenger, Freres & Rheinholdt, importers, 26 Washington Place, against the decision of the board of classification of the United States General Appraisers, regarding the duty on five figures of marble statuary, imported in the spring of 1901, was argued in the United States Circuit Court some weeks ago before Judge Townsend. At the time of importation the merchandise was assessed for duty at the rate of 50 per cent. ad valorem, under par. 115 of the tariff act of 1897, as "manufactures of marble." This assessment was based chiefly upon the low prices at which the statuary had been purchased. The board called a number of local professional sculptors, who declared that statuary made by a professional could not be sold as cheaply as the collection in question. Upon further inquiry, the board found that the statuary was not made by a professional sculptor, but in the establishment of one, by skilled workmen under his instructions, from a model of his own production and from models of well-known works of art. The appeal against the board's assessment resulted in a decision by Judge Townsend, to the

effect that marble statuary, fashioned in the establishment of a professional sculptor, although not made by his own hands, but made at his dictation by skilled artists working for him, may be classified as the work of a professional sculptor and is, therefore, dutiable at 20 per cent. ad valorem, under par. 454 of the tariff act of 1897. Whether the Government will abide by this decision, or appeal against it, is not known so far.

Stationery Dealers to Hold Annual Banquet

The Stationers' Board of Trade, of New York, will hold its annual banquet as usual early next year, probably some time in January. This was unanimously decided upon at the regular monthly meeting of the trustees held on Tuesday, November 10th. The committee to arrange for the dinner was elected as follows: James Aikin, Patrick Farrelly, Lyman B. Sturgis, William B. Boorum, Jr., and Robert Dickson. Most of the foregoing served on the committee last year when such an enjoyable function was arranged, and the fact that they are to be given an opportunity to try their hands again augurs well for the success of the forthcoming feast. President Henry Bainbridge and Herbert M. Condit, the secretary-treasurer of the board of trade, will lend the dinner committee valuable assistance.

Epoch-Making Properties of Radium

In an address before the National Geographical Society at Washington, November 13th, George F. Kunz, of Tiffany & Co., of this city, who has recently been making some interesting experiments with radium, made the statement that the world was probably on the threshold of new discoveries, which would give as startling results in the twentieth century as did the electrical development of the nineteenth. Some of the remarkable properties of radium, he said, were already discovered, but they were not all understood. Radium surpassed light and electricity and every known substance in its penetrative power. It killed mice and animals subjected to it, it turned glass black, it was always two or five degrees hotter than the surrounding air, and yet never decreased in energy. In fact, all its properties were so utterly different from anything else that had ever been discovered that it belonged to a new class of substances. It was among the possibilities, he asserted, that radium might result in the discovery of a whole series of new elements and the revolution of all scientific laws of to-day. It might be the connecting link between the sun and the earth, for as far as known the sun was the only other known body which continually gave off heat without losing its own energy.

The L. E. Waterman Co., 172 Broadway, is offering fifty prizes to the students of American schools and colleges for the best fifty stories, sketches and poems exploiting Waterman's Ideal fountain pen. The contest will close January 16, 1904, and one of the conditions named is that the article written must not contain more than 350 words. They must be submitted through local dealers. The prizes will consist of fountain pens.

Diamonds and

Diamond Jewelry.



We have been persistent in asserting our ability to promptly fill your orders for Diamond Jewelry. In proving this assertion we may save you the loss of a customer. Our stock is at your service; we but wait your word what to ship. Write, wire or telephone.

Hayden W. Wheeler & Co.

2 Maiden Lane, New York.

Telephone, 8 Cortlandt.

For gift or presentation purposes, there are no watches equal to those made by the Howard Watch Company. Their new model—fitting regular 16 size cases—has every feature that makes it a standard among all modern high-grade movements.

**1903 MODEL.
PENDANT SET.**

16 size, 17, 19 and 21
Jewels. Hunting and
Open-Face, fitting regu-
lar 16-size case.



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

E. Howard & Co.

Watches.

New York Letter

(Continued from page 1899)

Jewelers Organize New Bank

Some facts regarding the Maiden Lane National Bank, the organization of which has been mooted for some months past, were revealed recently. The capital of this organization is to be \$250,000, of which sum more than \$100,000 have already been subscribed by Maiden Lane jewelers and others in the neighborhood of the jewelry district. A committee on organization has been formed, which is composed of the following: Seth E. Thomas, of the Seth Thomas Clock Co.; L. W. Sweet, of L. W. Sweet & Co.; Wm. M. K. Olcott, of Black, Olcott, Gruber & Bonyng; Geo. E. Fahys, of Jos. Fahys & Co.; Henry J. Braker, Wm. M. Perkins and Robert D. Kent. The committee has offices at 39 Maiden Lane, and its functions at the present time are to distribute stock in the enterprise and procure a suitable location. In all probability the new bank will be situated on the Lane or in the immediate vicinity.

Reunion of 24-Karat Club

The first meeting of the 24-Karat Club held since the enjoyable outing and clambake of that organization at Pleasure Bay, last summer, took place on Monday, November 9th, at 21 Maiden Lane. Harry Larter, of Larter, Elcox & Co., was elected a member to succeed Hiram A. Bliss, manager of the down-town branch of the Gorham Mfg. Co., resigned. C. F. Brinck and W. I. Rosenfeld, who composed the executive committee of the outing above referred to, submitted a very satisfactory report relative to its expenses, which was very well received. The committee was discharged and received the thanks of the meeting for the able manner in which it performed its duties. A discussion as to the mid-year banquet of the club eventuated in a decision that this function should be held during the third week in January, 1904, either at Sherry's or Delmonico's, and that the number of guests be limited to 150. C. F. Brinck, W. I. Rosenfeld and Leo Wormser were appointed a committee to make arrangements for the feast, which promises to be a delightful one in every respect.

Missing Watch Throws Suspicion on Strange Visitor

The disappearance of a watch from the salesrooms of Leon Hirsch, 37 Maiden Lane, last month, has cast suspicion upon a young man who called at that store and, stating that he was a representative of the Harlem Supply Co., 103 East 125th Street, ordered a number of watches sent to that concern. The timepiece was missed before the stranger had left the store, but there were so many present at the time and fearing the unpleasant consequences of a false accusation, the jeweler did not feel himself justified in charging the stranger with theft. When a clerk took the goods to the address named by the young man, he learned from the janitor there that it was a year ago since the company for whom the goods were said to be intended were located there. The belief that a fraud had been perpetrated was strengthened by the fact that on the same day a young man similar in appearance to the one mentioned above, attempted to obtain some goods from the S. F. Myers Co., 48 Maiden Lane. He is between 25 and 30 years old, about 130 pounds in weight, 5½ feet tall, with full, florid face and a small reddish moustache.

The John Street annex to the show rooms of the down-town branch of the Gorham Mfg. Co., which is to be used as an office and order depart-

ment, has recently been completed and equipped with desks, files and other office paraphernalia. The sub-cellar will be devoted to shipping, packing and storage purposes. These additional quarters were made by cutting a door through the rear of the premises, at 21 Maiden Lane, to those formerly occupied by Wood & Hughes, silversmiths, 24 John Street. This addition has brought about a change in the offices of the main show room at 21 Maiden Lane. The annex will not have an entrance from John Street as was at first contemplated, and the office hitherto occupied by Mr. Siegman has been transferred to the new building. Counter space and other display facilities take the place formerly occupied by a stenographer and one of the bookkeepers.

At a special meeting of the Maiden Lane Safe Deposit Company last month, C. G. Alford, of C. G. Alford & Co., was elected president in place of Bird S. Coler, who resigned. The new president is well-known to the entire trade, and his executive ability, mercantile experience, broad grasp and well-known mastery of affairs promise an unusual measure of success for the company. The Maiden Lane Safe Deposit Company, which is located at 170 Broadway, has a wide field of usefulness and furnishes facilities and accommodation much needed by the



C. G. Alford

trade. A unique and very valuable feature of the institution is a large and commodious room, adjoining the safe deposit premises, where the jeweler can make himself at home, receive his mail, make use of a library containing almost every book and periodical of interest to him, receive his customers all day, meet buyers, manufacturers and jobbers, rent an office (by the day, week, month or year) in which to exhibit his goods, and when he is through with the day's business, store his merchandise in the fire and burglar-proof vaults. The vaults are open from 9 A. M. to 6 P. M. Special safes for jewelers trunks are accessible at any time, day or night. From this it will be seen that the Maiden Lane Safe Deposit Company is a trade institution with a broad purpose, and it is entirely logical that its management should be under the intelligent executive supervision of Mr. Alford, who has been connected with the jewelry trade since 1868, and who by his own effort and ability advanced himself and his house to their present position of leadership in the trade. He has been much honored by his trade brethren, who have a just estimate of his executive capacity. He was formerly president of the Jewelers' Association and Board of Trade, and is now a trustee of the Maiden Lane Savings Bank and a director of the Jewelers' Safety Fund Society and the Jewelers' Protective Union.

In connection with the above, it is interesting to note that during the week ending November 21st the following firms became members of the Jewelers' Exchange Branch of the Maiden Lane Safe Deposit Co.: Hayden W. Wheeler & Co.; Aiken, Lambert & Co.; George O. Street & Son; Dennison Manufacturing Co.; Albert Lorsch & Co.; Elgin National Watch Co.; Roy Watch Case Co.; Crescent Watch Case Co.; Chas. Keller & Co.; W. I. Rosenfeld; J. F. Sturdy's Sons; Hamilton & Hamilton, Jr.; W. H. Brokaw.

The man whom the police believe to be Louis C. McDowell was recently sentenced to three years and three months in the New York State prison on the specific charge of obtaining a \$150 brooch from Tiffany & Co., by representing himself as J. Pierpont Morgan, Jr. McDowell has a long record as a daring swindler.

The twelfth annual exhibition of the New York Society of Ceramic Arts will be held at the Hotel Majestic, Seventy-second Street and Central Park West, on Tuesday, Wednesday and Thursday, December 1st, 2d and 3d. The exhibition will be open from 10 A. M. to 10 P. M.

The November exhibition at the National Arts Club, 37 W. Thirty-fourth Street, opened on the 16th and closed on the 30th of that month. Antique, modern and Oriental jewelry was shown, and a number of pieces in the *art nouveau* designs were a conspicuous feature. The exhibition was comparatively rich in interest to jewelry manufacturers and art craftsmen.

The firm of A. Anzelewitz & Co., 110 Canal Street, was incorporated some weeks ago under the name of A. Anzelewitz & Co., Inc. The new concern assumes the liabilities and assets of its predecessor and will continue the same line of business at the same address. The officers of the new corporation are: A. Anzelewitz, president; Alexander Anzelewitz, first vice-president; Joseph Anzelewitz, second vice-president; Morris Malawista, treasurer, and Arnold B. Ehrlich, secretary.

The recent opening by Lebolt & Co. of a beautifully-appointed store, at 54 West Twenty-third Street, in this city, makes a notable addition to the jewelry firms of the metropolis. This concern has also an establishment in Chicago and another in Paris, France; both of which, together with the New York branch, are conducted on an elaborate scale. In this city the company has secured the entire buildings in which the business is located, and their situation is considered a very desirable one. The premises have been completely remodeled and handsomely equipped with the most approved furnishings, affording copious facilities for the adequate display of the firm's diamond and jewelry stocks.

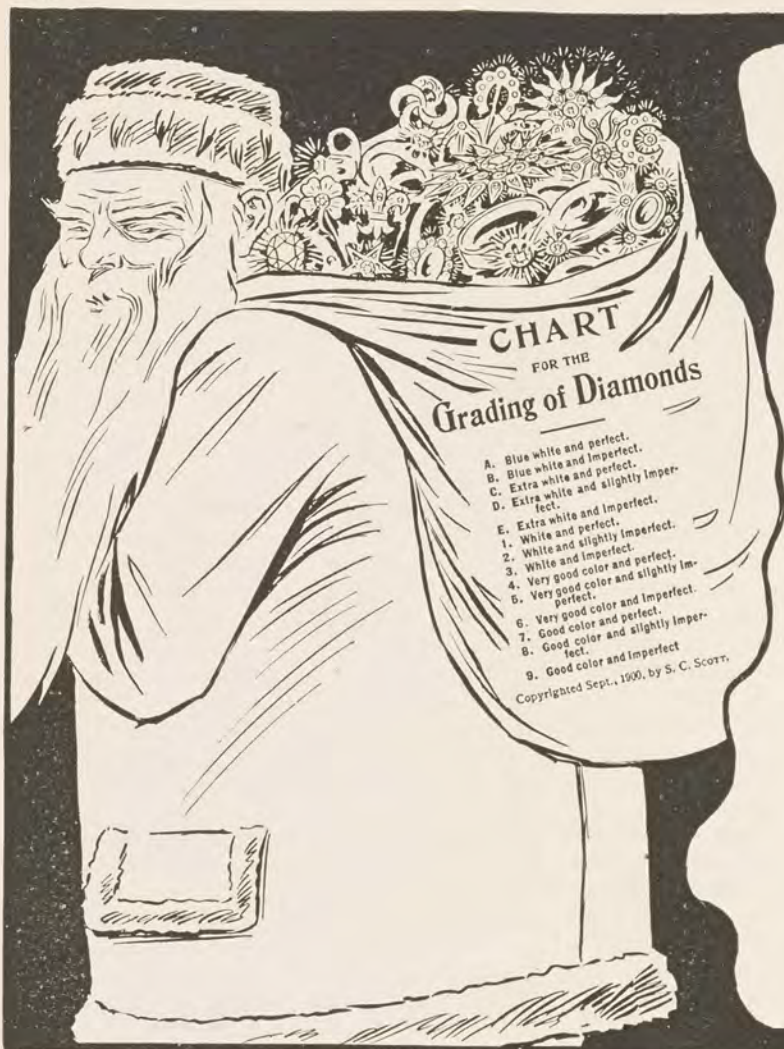
The Pinkerton Detective Agency sent notices to the trade last month requesting notification in case any person should attempt to dispose of a pearl necklace valued at \$8000, containing 101 pearls, which article had been stolen. The pearls, it is stated, are pure white, and graduated in size from one to six grains.

Julian Sternberger, formerly a partner of L. Witsenhausen, 37 and 39 Maiden Lane, has returned from a two-years' sojourn abroad, and has taken an active interest in the Klein Bros. Co., ring manufacturers, recently incorporated, as vice-president of the company.

Vechten Waring, the well-known advertisement writer and illustrator, at 100 William Street, favored THE KEYSTONE representative with impressive evidence of the confidence of manufacturers in the continuation of good times. The exceptionally numerous and extensive orders for the compilation of spring advertising indicate implicit faith in the situation and an unusually aggressive business campaign in the early part of 1904.

The bowling pastime is now occupying the attention of local jewelers to a considerable extent, and some interesting contests have been held of late. The Jewelers' Bowling League under which these competitions are held is offering prizes for high scores as follows: First prize, \$25; second prize, \$15, and third, \$5, to the team winning the greatest number of games.

(Continued on page 1903)



Our System Makes Larger Sales.

Do you know that the Scott System of Grading Diamonds is apt to help you sell a larger and better stone than you otherwise would?

When your customer sees the system of grading diamonds, and has pointed out to him the difference between the stones he is shown, he is more apt to prefer a better, more expensive and more perfect stone, and to pay more for it than he otherwise would.

Our chart guarantees the correctness of the grading. Our price guarantees the sureness of the sale. Let us help you to your next selection.

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

C. Dorflinger & Sons *FINE GLASSWARE*



No. 885 STEMWARE, OPTIC.

36 Murray Street, New York.

The Highest Achievement in Watch Construction

is represented in the

VACHERON & CONSTANTIN

GENEVA, SWITZERLAND



THE LEADER in { Quality Adjustment Durability Style

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

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

New York Letter

(Continued from page 1901)

Jewelers' Association and Board of Trade

At the regular monthly meeting of directors of the Jewelers' Association and Board of Trade, held Thursday, November 12th, the following firms were unanimously elected members of the association: Cooper Diamond Cutting & Polishing Co. of America, Brooklyn; Hirsh & Hyman, New York; Jennings Bros. Mfg. Co., Bridgeport, Conn.; W. Reichert & Co., New York; F. & M. Weintraub, New York; Williams & Anderson, Providence, R. I.

Significant Warning Against Dishonesty

By way of inculcating a wholesome moral lesson from the recent conviction and sentence of Alfred Hausbach for the theft of \$2800 worth of gems from the appraisers' stores, Collector Stranahan has caused to be prepared in the law division of the customs service, and to be conspicuously affixed in the rotunda of the public stores building, a notice cautioning employees that dishonesty will be rigorously dealt with. The notice is signed by the collector, and reads as follows: "On July 11, 1903, a small package containing split pearls and opals of the value of about \$2800 was stolen from the custody of the Government while in the appraisers' stores. On September 18th, one Alfred Hausbach, who worked in the second division, of eighteen years' standing, was arrested, charged with the theft. He was subsequently indicted, and on October 26th, placed on trial in the United States District Court before Judge Thomas. After a full day's hearing, the evidence presented by the Government was so complete that Hausbach withdrew the plea of not guilty, pleaded guilty to the theft, and was sentenced by the court to one year's imprisonment in the Kings County Penitentiary. No money, effort or time will be spared to detect and punish, to the full extent of the law, the man who so far forgets himself as to steal from importers' goods while in the possession of the Government."

Examination of Captain Gelat on Smuggling Charge

The first examination of Captain Seraphim Gelat, who was arrested some time ago at the White Star Line pier charged with smuggling, was held on Monday, November 9th, before United States Commissioner Shields. According to the testimony of Customs Inspector Timothy Donohue, the captain had made his baggage declaration and paid duty to the amount of \$5 on two fans. When he was subsequently about to leave the pier, the inspector thought fit to detain him and make a thorough search of his clothing. Concealed therein the inspector said he found jewelry and precious stones, set and unset, which the official jewelry examiner appraised at \$6800. The captain was held under arrest and held in \$1500 bail. At the hearing, Assistant District Attorney Houghton represented the Government. Five witnesses were introduced to prove the attempt at smuggling. The attorney for the accused pleaded that his client at the time of his arrest had not passed without the customs line or the jurisdiction of the Government and therefore had not smuggled the goods. Counsel asked Francis Hamilton, chief of the law division at the Customs House, if goods imported at New York would be dutiable if carried through the United States to Canada and thence back to where they come from in Europe? Mr. Hamilton replied that in such a

case a bond would have to be given by the importer as a protection to the Government, and the goods themselves while in transit through the United States would have to be under the jurisdiction of the Government. He further declared that the goods must necessarily be entered upon the declaration papers, and that in the event of Mr. Mark's contention that it was the purpose of the importer to take them through the United States to Canada and back again to France, whence they came, his client's transaction on the pier would seem to be irregular. General Mindel, jewelry examiner at the port, was one of the last witnesses examined, and his testimony was merely the submission of an appraisal certificate. The case is still undecided at this writing.

October Importations of Precious Stones

The volume of precious-stone importations at this port during the month of October just passed, while showing a falling off from the figures for the corresponding period of last year, was at the same time well up to the normal standard. The actual decrease, according to the returns of Gen. Geo. W. Mindil, jewelry examiner, was \$903,666.98; the total for October, 1902, being \$2,418,979.70; that for October, 1903, being \$1,515,312.72. The appended table shows the value of importations for the past four years:

Oct.	Oct.	Uncut.	Total.
1903 . .	\$1,021,709.87	\$493,602.85	\$1,515,312.72
1902 . .	1,734,806.31	684,173.39	2,418,979.70
1901 . .	1,186,742.44	271,072.20	1,457,814.64
1900 . .	868,142.52	171,566.20	1,039,708.72

The fifteenth anniversary of the Watchmakers' and Jewelers' Benevolent Association No. 1 was celebrated at the Harlem Arcade, on Sunday, October 25th, with a grand banquet and ball. The attendance included only members and their wives, and tables were set apart for the officers and organizers of the association. An orchestra of twenty-five pieces rendered an enjoyable selection of music, and a number of talented artists also contributed to the success of the occasion. B. Cantor officiated as toastmaster, and speeches were delivered by President S. Meren, on "The Success of the Association;" B. L. Lewis, on "The Success of Organizations;" M. Rainess, on "Organizers and Organization;" Secretary P. Salias, on "Progress." During the progress of the supper unique souvenirs of the occasion were distributed. The ball was thoroughly enjoyed by the participants.

Anniversary of Standard Time System

Probably the most accurate anniversary in the annals of time was celebrated Wednesday, November 18th, when the time ball on the Western Union Building fell exactly at noon, and standard time was just twenty years old to the fraction of a second. As a result of the invention of William F. Allen, secretary of the American Railway Association, which was put in practice November 18th, 1883, the electric current which dropped the ball on the Western Union Building flashed practically instantaneously from the Naval Observatory at Washington to all the big cities in the United States. The time ball on the Western Union Building has not been as regular as the system. The building was erected in 1875, and the ball set in motion in 1883. In 1890 the building was burned down, and it was not until 1892 that it was restored and the ball perched aloft once more. The ball has been changed several times since. The time is flashed all over the United States 313 days in the year. The ball does not drop on Sundays,



14 and 10 K. Gold and Sterling Silver Jewelry.

POPULAR-PRICED Hand-Carved Seal Rings.

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

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

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

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

Selection Packages of Gold and Silver Jewelry sent upon request.

Chas. L. Trout & Co.

15 Maiden Lane,
NEW YORK CITY.

We want to again emphasize the fact that we are pre-eminently a watch house and that we particularly want your hurry-up orders for watches this month.

Let us do your watch business during the holiday rush. No house is better equipped—and our success depends on doing it well.

The rich holiday trade belongs to no one article, and every indication points to watches being in large demand as gift goods this season.

Are you properly armed for the harvest? Is there not something lacking in your stock? Have you all the new things in ladies' watches?

Here is where we come in—what you lack in watches we likely have. Command us by mail or wire from our nearest office.

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

Columbus Memorial Building,
Chicago.

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



WESTERN BUREAU OF THE KEYSTONE
ROOM 601 COLUMBUS MEMORIAL BUILDING
CHICAGO, NOVEMBER 24, 1903.

The Business Situation and Prospects

The jewelry situation in Chicago continues to be a favorable one. November in any year is not a month in which to look for a lively trade in the jewelry business. It is the time in which slowing down occurs for a stop at the station between fall and the holidays. For this reason there should be no surprise manifested if trade is reported quiet in some quarters. This only indicates that the usual November subsidence is taking place. However, the report from a majority of our local wholesalers and jobbers is that their November business will exceed that of the same month last year. The retail jewelers, especially in Chicago, complain of dull trade the last fortnight, doubtless caused by the street-car strike; but this is a local condition, and is expected to be righted in a few days. The wholesale trade is already feeling the stimulating effects of holiday buying, even with Christmas a month away. The fact that the goods almost universally purchased by country dealers are of the best, and the volume large for this period of the year, leads wholesalers to confidently expect a December trade such as will beat all previous records. Any falling off in the volume of trade, the jobbers say, can readily be traced to the inability of the manufacturers to furnish them with the goods, as in the case of watch movements.

Our Imperial Crop

We are pleased to note that the country's imperial crop turns out to be much larger than had been expected. On the basis of the acreage and condition, as set forth by the Government, the statistician of the New York Produce Exchange figures that the yield of corn this year has been about 2,313,000,000 bushels. This is not only a greater yield than had been looked for, but is the greatest in the country's history, save that of 1902, which was 2,523,648,000 bushels. The only years previous to 1903 in which the corn yield passed the 2,000,000,000 mark were 1889, 1891, 1895, 1896, 1899, 1900 and 1902. As estimated by the Department of Agriculture last winter, the value of the corn crop of 1902, on December 1st of that year, was a little over \$1,000,000,000 on the farm. The crop of 1903 will be under that mark, but on the recent average of prices, the department will doubtless be justified, when it makes its figures up for December 1st, in placing it at over \$900,-

000,000. No other agricultural product closely approaches this in value. The farm value of the wheat of 1902, on December 1st of that year was placed by the Department of Agriculture at \$422,000,000, the oats at \$303,000,000, the hay at \$542,000,000, while the value of the cotton was below that of hay. The big corn crop will be of vast benefit to the West, as well as the rest of the country. It will insure a good winter business, reasonable prices for food, a large revenue for the farmers, a heavy export trade, good business for the railroads in transporting it from the points of production to those of consumption, and a plentiful supply of feed for live stock. There is a reasonable certainty that meat prices will be kept from advancing beyond the present line. Besides, these favorable conditions are bound to make the holiday trade good all over the corn belt, because the farmers have money and feel like spending it.

Personal Mention



Benjamin Allen.

Mr. Benjamin Allen, widely known in the trade as the head of the house of Benj. Allen & Co., has recently returned from Europe, after an absence of four and one-half months, being accompanied on his trip by his family. Some of the observations which he made during his visit he has communicated in a recent conversation to the Western representative of THE KEYSTONE. On the tour they visited France, where they landed July 9th, after a fine voyage on the "Savoie," a French liner. Their first stop was at Paris, where they remained for two weeks, enjoying life in the gay capital. From Paris they journeyed to Southern France, where they spent a fortnight most delightfully at one of the famous resorts of that section. Taking up their tour at this point, they went to Switzerland for a three weeks' stop, visiting several points of interest. From the land of the Alps the travelers journeyed to Munich, Germany, the great art center, where they made but a short stay. From Munich the party went direct to Vienna, where they remained for nearly eight weeks, excepting Mr. and Mrs. Allen,

who, after a four weeks' stay in the Austrian capital, turned their faces homeward, going direct to London. Vienna was the objective point of their itinerary from the start, for here is the home of Dr. Lorenz, the famous Austrian surgeon, who treated Mr. Allen's little granddaughter for hip disease last winter while on a visit to Chicago to operate on Loelita Armour. Mr. Allen and family visited Dr. Lorenz so that he might make a final examination of the congenital deformity of the child. After eight weeks of treatment under the noted surgeon, Mr. Allen is free to say that Dr. Lorenz has effected a permanent cure in the case of his little granddaughter. He says of Dr. Lorenz that he is not only one of the world's greatest surgeons, but that he is one of the noblest and kindest of men, and that he exerted himself in every way to make their stay in Vienna delightful.

Mr. Allen was greatly impressed with life in Vienna. Here the party saw considerable of the Kings and Queens and other crowned heads of Europe. At the opera one evening King Edward, of the British Empire, occupied a box next to that of the Allen family, so that they had an excellent opportunity to see and observe his Highness. On another evening at the opera the Emperor of Germany occupied a box quite near their party, so that they had a fine chance to see and observe Germany's ruler. Again, at the opera, it was the Emperor of Austria who occupied a box near them. Seldom are American tourists so fortunate as was Mr. Allen and his party when it came to looking upon royalty. King Edward impressed Mr. Allen as the most democratic monarch of them all; the Emperor as the most solemn, and the Emperor of Austria as the most dignified. King Edward laughs and enjoys life; the Emperor seems to have a scared feeling with him continually, and the Emperor of Austria is most thoughtful and quiet.

"London," said Mr. Allen, "is the world's greatest metropolis—the world's most wonderful city. No city we visited is thriving like London. No other metropolis in Europe is improving so much. It is spreading out in every direction. The growth and improvements are most noticeable in the residence sections. We liked the Londoners, and felt more at home there than anywhere else we visited. The English people show a most kindly spirit toward Americans. They are more like ourselves than any other people of Europe, more democratic, and have more things in common with the Yankee than any of the continental people. America is an interesting topic to the average European you meet on shipboard, on the trains and in the hotels. Our politics, trusts, mergers, strikes, and our phenomenal prosperity, are much discoursed. The business men and the people of Europe generally regard America as an industrial and political giant. On my previous visit, Europe looked upon America mainly as addicted to trade and agriculture, but with no war spirit and no resources of army or navy to match those of the military powers. Now the impression is pretty general that we can do anything we want to in war as well as in the industrial fight. Six or seven years ago there were not many articles of American manufacture to be met with in English and continental markets. When such articles were offered to consumers, it was with some apology on the score of quality, but with the argument that they were cheaper. Now you see in the leading shops of London and Paris, American shoes, New York hats and other articles

(Continued on page 1907)

Between now and Christmas stocks will run short; when this happens a look through our large catalogue will furnish much useful information.

WE talk a lot about our catalogue because we know it stands for the best. The best selections are found among its pages; the best system of filling orders is behind it; these result in the up-to-date and satisfactory service that the wide-awake jeweler is after.

BENJ. ALLEN & Co.
CHICAGO.

Chicago Letter

(Continued from page 1905)

presented usually as higher priced, but of superior quality. The trade in all of these lines seems to be growing.

"The tariff question is now the all-absorbing topic in England. From business men and others whom I talked with, I gleaned that it was a question whether Mr. Chamberlain's tariff policy would prevail. The business men seem to be against the tariff, though it is fair to say that the Chamberlain tariff idea is a popular one with a part of the British public. I always enjoy my trips abroad, as I secure new ideas, and the change is pleasant. I have only the kindest and most appreciative feelings toward the foreign nations and their peoples, but each time when I get back I am delighted to get home again."

The wedding of Miss Laura Young, daughter of Mr. and Mrs. Otto Young, to Mr. Samuel K. Martin, son of the late S. K. Martin, the millionaire lumberman, did not disappoint expectations in regard to either beauty or splendor. It was celebrated at 8 o'clock on the evening of November 17th, in Grace Episcopal Church, which was lavishly decorated with white chrysanthemums and palms. The ceremony was performed by the Rev. Ernest M. Stires, formerly rector of Grace, but now rector of St. Thomas' in New York, who came on expressly for the purpose. The bride's gown was an elaborate one. It was made of rose point lace, with high neck and long sleeves. The long veil was edged with the same rose point lace. The bride carried a white vellum-bound prayer-book as she walked to the altar. Miss Young was attended by her sister, Mrs. Byron S. Hobart, as matron of honor. The bridesmaids were Miss Daisy Derby, of Lansing, Mich.; Miss Natalie Selbie and Miss Leila Cruikshank, of New York; Miss Ann Speed, of Philadelphia; Miss Lillian Wiley and Miss Pearl Tilden, of Chicago. Mr. Edward S. Benson, Jr., of Philadelphia, was the best man, and the groomsmen were Mr. Edward Ford Johnson, Mr. David Fulton Conover, Mr. Silas Cobb Coleman and Mr. Walter Martin, of Chicago; Mr. Keith Donaldson, of Philadelphia, and Mr. Jack Thompson, of Indianapolis. After the ceremony, which was largely attended, there was a reception at the home of the bride's parents, Mr. and Mrs. Otto Young, 2032 Calumet Avenue. While it was in progress the newly married couple slipped away and took a train for New York, where they will stay until the holidays. In January they expect to go abroad.

John H. Hardin, manager at F. A. Hardy & Co.'s, returned to his desk the early part of the month, after a four weeks' invasion of the Snake River country in Northern Wyoming, where he was with a party of Evanston friends on a hunting expedition. Mr. Hardin reports the greatest sport of his life and a splendid time generally. He says that the Wyoming wilds are the hunter's paradise. His party found elk plentiful, but saw little of any other game. They also found fishing in the mountain lakes rare sport. He secured several trophies, which he prizes highly. His good aim brought down a fine specimen of mountain lynx, the pelt of which he brought home with him and is having made into a rug. Mr. Hardin also captured several fine elk, and has secured some of the finest specimens of elk teeth that we have ever examined. But this is not all the trip brought to him, for he tells us

that the "roughing it"—the out-door life—had the greatest charm for him; that it brought him health, rest from business cares and the keenest kind of enjoyment. Mr. Hardin has also secured some really fine snap-shot views of the scenery for which that country is noted, and THE KEYSTONE hopes to make use of some of them at no distant date.

Irving H. Chase, secretary and treasurer of the Waterbury Clock Company, and George W. Van Deventer, the New York agent of the same company, spent a few days recently at the Chicago office of this company, going over the business situation in the West with Manager C. J. Dodgshun, and together making their plans for the future.

Frank M. Sproehle, of Sproehle & Co., and Mrs. Sproehle will have the sincere sympathy of the trade in the great bereavement which came to them, November 6th, in the sudden death of their ten-year-old son, Thomas Albert, who died while undergoing a surgical operation for tonsillitis. He was their only son, a bright and most interesting boy of ten years. A baby sister survives him.

Harry E. Farquharson, Western representative of the Bliss Bros. Company, manufacturers, Attleboro, Mass., with headquarters in Chicago, left last week for a few weeks' sojourn at factory headquarters.

At the last regular monthly meeting of the Chicago Jewelers' Association, the members requested the president to appoint a banquet committee, to appoint a time and make arrangements for the annual banquet of the association. President Ellbogen has appointed on this committee the following representative men in the trade: A. L. Sercomb, Western manager for the International Silver Company; L. W. Flershem, of Lapp & Flershem; W. J. Miller, Western manager for the Seth Thomas Clock Company; B. C. Allen, of Benjamin Allen & Co., and Harry Hahn, of H. F. Hahn & Co.

H. E. Cobb, Chicago and Western agent of the Daggett & Clap Company, left for a three weeks' visit to factory headquarters at Attleboro, Mass., Saturday evening. He will return with his new spring line and be out among his customers displaying it by the new year.

A. W. Payne, Chicago manager of the Howard Clock Company, has just returned from a fortnight's trip to the factory headquarters in Boston.

Ira W. Smith, Chicago and Western representative of the Horton-Angell Company, is spending a month at factory headquarters in Attleboro, Mass.

Steve H. Bridges, of Despres, Bridges & Noel, returned to headquarters yesterday from a fortnight's tour among his Indiana customers. Mr. Bridges tells us that last week was the most phenomenal in his career. He had the great good fortune to run up against two opening bills in a single week, as well as some other good sales. On account of his good luck Mr. Bridges is a great optimist, and refuses to believe but that business is away ahead of last season, and that the holiday trade next month will be the greatest that ever happened.

President Hulburt, of the Elgin Watch Company, addressed the Jewelers' Club of Chicago, as announced in our last issue, in the new club-rooms, 146 State Street, on "Some Present-Day Problems," Saturday evening, November 21st. Fully one hundred club members greeted Mr. Hulburt and gave him most appreciative attention, for he is an interesting and graceful speaker. His talk lasted thirty minutes. He began by saying that he took a warm inter-

est in the Chicago Jewelers' Club, and felt that it had a mission and a work to perform, and that he was highly gratified to see it starting out so well. He thought that good-fellowship meant a good deal in business; that it had a broadening influence, a helpful influence, on all who came under its sway. In referring to the financial outlook he said: "Some have looked to the recent financial troubles in Wall Street and have said that we again are on the verge of hard times. Others have looked at the big crops of the West and have said that the great wave of prosperity will continue. We ought to take a medium ground. When the new President is elected next year we shall have nothing to undo. In 1893 we had to undo the silver legislation, but now we have only to grow up to the new conditions around us. I think we may say that we shall always have good crops. Since twenty-five years ago the crop area of the United States has been so much extended that it is hardly possible for climatic conditions to produce a general failure. There is not much danger of over-production even in steel and copper, as so many seem to fear. As we grow and accumulate more wealth, ever-increasing uses will be found for these products. The movement of the copper and steel industries in the future will be to discover and supply the new demands. We must not forget that there is an element of speculation in our nation, even in the farmer who gets a little piece of land and then buys more than he can pay for. But this seldom goes to extremes."

G. E. Trebing, better known as "Ed.," resigned his position as Chicago and Western representative of George L. Brown & Co., the Attleboro chain-makers, November 1st, to return to Moore & Evans, his first love. Mr. Trebing goes back to his old house to the position of assistant manager. The first-named firm has not as yet announced Mr. Trebing's successor, and probably will not until the first of the year.

V. H. Decker, retail, formerly at 244 East Fifty-fifth Street, is now located on the opposite side of the street at 233.

David Fulton Conover, of the Chicago office of Robbins & Appleton, agents for the Waltham Watch Company, was one of the ushers at the Young-Martin wedding last week, which was the largest and most fashionable affair of the season in Chicago.

Roy H. King, manager of the jewelry repair department at Moore & Evans', was married to Miss Beulah Shirley, at the home of the bride's aunt, 42 Thirty-third Place, this city, on the evening of November 19th. The wedding was a quiet affair, only the intimate friends of the young couple being present. They will make their future home in Chicago. Among the many presents received was a box of handsome sterling silver tableware from Mr. King's associates in the house of Moore & Evans. THE KEYSTONE joins with Mr. King's friends in the trade in tendering congratulations.

Fred. R. Sheridan, Chicago and Western representative of Arnold & Steere, went to the factory headquarters in Providence, R. I., last week for a month's stay. Mr. Sheridan was accompanied by his family.

William G. Swartchild, youngest son of Samuel Swartchild, head of the house of Swartchild & Co., made his maiden trip on the road last month. Young Swartchild took up the regular trip of his brother Ed., who was at home sick, and made a fine success of his month's trip. His brother has recovered from his indisposition, and will start out on his regular trip right after Thanksgiving.

Harry Aller, buyer for the L. Bauman Company, wholesale, St. Louis, was in town for a day recently, calling on the manufacturers.

Fred. H. Smith, manager of the Geneva Optical Company, spent two days last week at their Des Moines branch on an inspection trip. Mr. Smith reports their business steadily expanding at their Iowa branch establishment, with bright future prospects.

Kendrick & Davis, the widely and favorably known makers of watchmakers' tools at Lebanon, N. H., were represented in this market last week by Mr. Kendrick, the head of the house, who was in Chicago in the interests of his firm.

(Continued on page 1909)

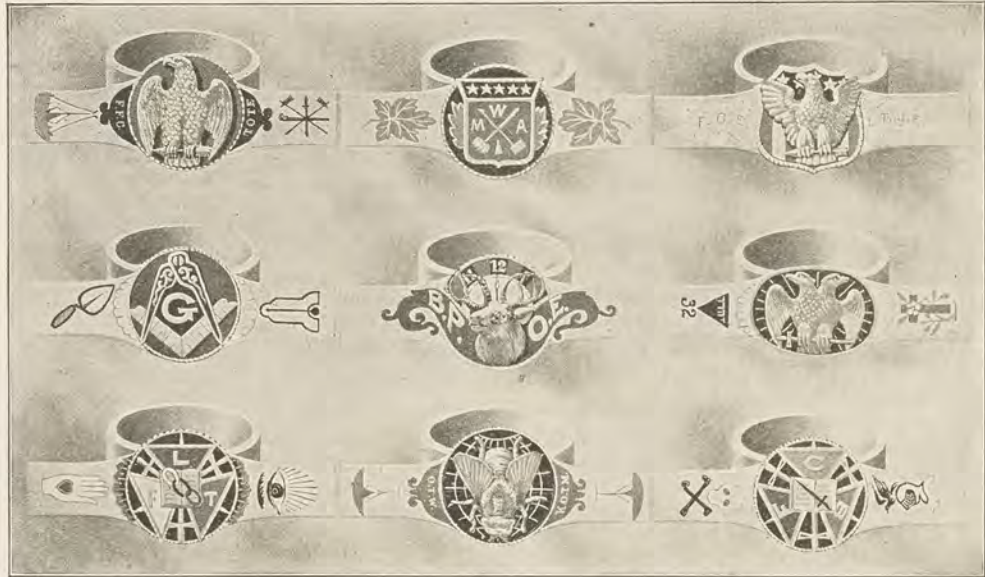
1908

This Is What You Have Been Looking For

A Plump 10 K., Good Weight EMBLEM RING at a Medium Price.

Eagle,
Elk,
Scottish Rite,

\$6.11
NET CASH.



Red Men,
Woodman,
Masonic,
Knights of Pythias,
Maccabees,
Odd Fellows,

\$5.64
NET CASH.

BALDWIN-MILLER CO., Wholesale Jewelers,
304 Stevenson Building, INDIANAPOLIS, IND.

Our Electro-Plating Salts

THESE ELECTRO-PLATING SALTS ARE PREPARATIONS IN DRY FORM, CONTAINING METAL AND CHEMICALS IN ACCURATE PROPORTION, PRODUCING AT ALL TIMES CORRECT SHADES. DISSOLVED IN WATER, BATH IS AT ONCE READY FOR USE. WORKED WITH EITHER DYNAMO OR BATTERY SAME AS OTHER SOLUTIONS.

SOME OF THE SALTS:
ROSE GOLD, GREEN GOLD, PARISIAN, ROMAN, 14, 18, KARAT, RED, GUINEA, OLD ENGLISH, GUINEA GREEN, GUINEA, ROSE GOLD DIP, SILVER SALTS, FRENCH GREY DIP, SILVER EBONIZER, OXIDES, COPPER, BRASS ETC.

U. S. ELECTRO-CHEMICAL CO. 218 CENTRE STREET, NEW YORK.

H. HIRSCHBACH, PROP.

OUR GUINEA GREEN GOLD IS THE YELLOW GREEN SHADE.

THE DIAMONETTE
TRADE MARK REGISTERED.
The IMITATION DIAMOND
PAR EXCELLENCE

A BLOOD RELATION to the genuine DIAMOND is the IMITATION DIAMOND PAR EXCELLENCE, owned and controlled by REGNELL, BIGNEY & CO. under the registered TRADE-MARK "DIAMONETTE," mounted in popular-priced Jewelry, Ladies' Brooches and Pins of every description; who also make a complete line of Jewelry and Chains for men's and women's wear. WORKMANSHIP FIRST-CLASS, QUALITY A No. 1. For your protection all goods are labeled or stamped "Diamonette." Buy no others. All Jobbers and Dealers throughout United States and Canada carry these goods. Made only by

Regnell, Bigney & Co., Manufacturing Jewelers,
OFFICE AND FACTORY, **Attleboro, Mass.**

NEW YORK OFFICE—37 Maiden Lane. CHICAGO OFFICE—126 State Street. SAN FRANCISCO OFFICE—713 Market Street.

Chicago Letter

(Continued from page 1907)

C. L. Merry and his son, Fred. Merry, of the C. L. Merry Optical Company, Kansas City, were in Chicago for a day last week, calling on their friends in the wholesale and manufacturing optical trade. Mr. Merry reports business as all right in the Southwest, with every prospect of a bumper holiday trade in Missouri, Kansas and Oklahoma.

Sol. Kaiser, junior partner and Chicago and Western manager for the diamond house of Louis Strasburger's Son & Co., returned last week from a ten days' trip to the New York headquarters of the firm.

Out-of-Town Visitors

E. L. Marsh, of Fort Dodge, Iowa, was a visiting buyer in this market last week, selecting goods for his Christmas trade.

F. W. Vanderpool, of Lodi, Wis., was buying goods in holiday lines in this market last week.

L. A. Foundersmith, of Hoopston, Ill., visited this market last week in search of new things for his Christmas trade.

Jeweler J. B. Johnson, of Goodland, Ind., was met in one of our wholesale offices last week, where he was buying liberally in holiday lines. Mr. Johnson said his trade compared favorably with last year—if anything, it was a little better—and that he was anticipating a lively December business.

J. R. Losey, of Plymouth, Ind., was among the many dealers who have been in this market lately buying goods for their holiday trade.

W. J. Graff, of Bascobel, Wis., was in Chicago for a few days recently, looking over the holiday lines and selecting his Christmas bills. Mr. Graff reports prospects bright in his section for a lively December trade.

Bert Bills, of J. A. Bills & Son, of Vinton, Iowa, and Mrs. Bills were in town for several days last week, combining their holiday buying with the pleasures of metropolitan life. Mr. Bills was a liberal buyer in Christmas lines while here, and said that dealers generally in his section of the Hawkeye State were anticipating a holiday trade fully up to the fine business of last season.

J. W. Crouch, of Fowler, Ind., came to Chicago recently to see the Horse Show and do some holiday buying.

J. Gansl, of Grand Forks, N. Dak., visited the Chicago market last week, on the lookout for the latest novelties for his Christmas trade. He was a liberal buyer, as he was anticipating a lively December business.

Jeweler K. C. Pederson, of Warsaw, Ill., was represented in this market last week by Mrs. Pederson, who was here on a buying trip.

Paul C. Puls, of Eau Claire, Wis., visited this market last week, and was laying in his holiday supplies.

George H. Frese & Bro., of McGregor, Iowa, were represented in the Chicago market recently by Mr. George H. Frese, the head of the firm, who was here on a holiday purchasing trip.

Charles G. Lord, a well-known and successful optician of Fort Worth, Tex., was in Chicago for a day or two last week, calling on the wholesale and manufacturing optical trade and buying goods for the home market.

A. C. Wortley, of Kalamazoo, Mich., was a welcome trade visitor in this market last week. He reports trade as good in his section of the country as last year, with excellent prospects for a fine holiday business.

G. C. Lang, of Barton, Vt., and his sister, Mrs. A. R. Campbell, wife of Jeweler Campbell, Morrisville, Vt., have been visiting relatives in Chicago the past week. They were pleasant callers among the trade during their stay in town.

McGreal Bros., of Milwaukee, were represented in this market last week by S. E. McGreal, who was here on a holiday buying trip.

C. T. Allen, of Plymouth, Ind., was here last week on a holiday purchasing trip.

J. B. Dennis, of Williamsport, Ind., accompanied by his wife and child, was in Chicago last week, combining some holiday buying with a glimpse of life in the Western metropolis.

Clark, Giddings & Co., the well-known jewelers of Sterling, Ill., were trading here last week in the person of Mr. Giddings, who was scanning the market for new things for their Christmas trade.

The Warren Jewelry and Optical Company, Colorado Springs, Colo., were represented in this market by M. F. Warren, head of the firm, who is selecting the firm's holiday lines. Mr. Warren was met in the trade, and said that he believed business was better in his section of the country this year than last, and that they were expecting an increase in their holiday business over that of last year.

J. P. Landfield, of P. Landfield & Son, Crystal Falls, Mich., was a recent buyer in this market, selecting holiday supplies. He was a pleasant caller at KEYSTONE headquarters while in town.

The J. E. Micks Company, of Elkhart, Ind., was represented in this market recently by the head of the firm, Mr. Micks, who was selecting goods for their Christmas trade.

Henry Plumb, the well-known and successful jeweler of Des Moines, Iowa, was a welcome trade visitor in Chicago recently. Mr. Plumb was looking through the holiday lines for the new things.

John Pierik, the well-known and successful retail jeweler of Springfield, Ill., was in Chicago for a few days early in the month, on the lookout for new things for the Christmas trade. He was accompanied by Mrs. Pierik.

T. G. Burkhardt and Mrs. Burkhardt, of Jefferson City, Mo., were here for several days last week, looking over the holiday lines and laying in supplies for their December trade.

C. I. Josephson, of Moline, Ill., was among the recent holiday buyers in this market, on the lookout for new things for their Christmas business.

W. J. Gamm, of Madison, Wis., a familiar and always welcome figure in this market, was here last week selecting his holiday lines.

H. W. Kloff, of Neillsville, Wis., was a recent buyer in this market, selecting his holiday bills.

W. P. Reichert, of Canton, Ill., visited this market recently on a holiday buying expedition.

The firm of H. Princen & Son, of Mineota, Minn., was represented in this market recently by both members of the firm, who were here selecting their holiday bills.

L. Beckman, a leading and well-known optician of Toledo, Ohio, spent a few days in Chicago the early part of the month, doing some buying and visiting among his relatives.

News from the Trade

George E. Feagans, the well-known and successful jeweler of Joliet, Ill., has just returned from Los Angeles, Cal., where he spent about two months in assisting his partner, G. A. Brock, in opening their new store in the Chamber of Commerce Building in Los Angeles. The new firm is Brock & Feagans, and they are now nicely settled in their handsome new store. On the opening day several thousand persons were present to inspect the new establishment, which they pronounced one of the most elegant and best arranged modern jewelry stores they had seen from one end of the country to the other. It is finished in mahogany inlaid with holly, and there are mirrors and glass show cases at all available points. Each woman who visited the store on the opening day was presented with a handsome shell spoon with a silver handle for a souvenir. Mr. Feagans expresses himself as feeling very much encouraged with the way business is starting out with the firm. He believes that Los Angeles is a good business point, with a bright and promising future, and that there is an opening there for just such an establishment as theirs.

Lebolt & Co., the well-known Palmer House jewelers, have only recently opened a handsome new retail jewelry store at 54 West Twenty-third Street, New York. The new establishment is right in the heart of the retail shopping district of the metropolis, near the leading department stores. It is a thoroughly modern store, with all the features of the up-to-the-minute merchandising. M. H. Lebolt, head of the firm, has had charge of the opening of this new establishment, and will remain with it until after the holidays, when his brother, Joseph Y. Lebolt, will remove to New York and take charge permanently, the former returning to Chicago to take charge of the firm's store in this city.

E. R. Matters, of Neosho, Mo., has recently moved into a new store next door to his old stand. Travelers who have lately called on Mr. Matters tell us that his new establishment is modern and in every way most creditable to the town and its enterprising owner. A noticeable feature of this new store is that the entire front is French plate glass, with a unique and fancy decorated entrance.

Jeweler J. H. Schmidt, of Clinton, Ill., has recently made extensive improvements in his store by putting in a new modern front and otherwise improving its appearance. Travelers who have visited Mr. Schmidt of late tell us that he now has one of the neatest and most attractive stores in the State.

News has been received by the Chicago trade that Bert F. Spencer has bought the jewelry business of H. J. Welch at Remington, Ind. Mr. Welch has removed to Wabash, Ind., where he is opening up a handsome new store in time for the holidays. Mr. Spencer is restocking the Remington store, and fixing up in good style for the Christmas trade.

Robert Lockhart, of Jackson, Mich., has fitted up one of the most attractive and best arranged jewelry establishments in the State. Travelers who have recently called there compliment the new store highly.

Jeweler Sam Swart, of West Bay City, Mich., is the owner of a new and handsome automobile, which he takes a deal of pride in. Mr. Swart is quite enthusiastic over the sport the machine affords him.

Jeweler J. B. Johnson, of Goodland, Ind., was recently the victim of a foot-ball accident, having been unfortunate enough to be kicked in the face while playing. He finds great difficulty in eating and talking, and suffers a great deal of pain and worry. Mr. Johnson has consulted several specialists, who were unable to give him much relief.

The son of Jeweler Henry Volkman, Kankakee, Ill., has recently returned from a month's stay at the Bradley Institute, Peoria, where he was receiving instruction in several special branches taught there, and has taken hold in his father's store to help out during the holiday rush.

Harry Coffin, the well-known jeweler of New Castle, Ind., has recently made extensive improvements in his store which have added much to its attractiveness. Mr. Coffin is anticipating a prosperous holiday business.

Jeweler Charles Piella, of Lansing, Mich., was lately put through the mysteries of Masonry, and still lives to tell the tale.

H. C. Kline, of Muncie, is now said to have the best-lighted store in the State of Indiana. He recently put in his own electric light plant, which gives him splendid light at moderate expense.

H. J. Welch, who recently sold out at Remington, Ind., to Bert F. Spencer, is now nicely located in his new store at Wabash, Ind., and doing a fine business. Mr. Welch has an ambition to have one of the most modern, best-arranged and neat-appearing jewelry establishments in the Hoosier State. His building is new and built especially for his use, the fixtures are entirely new, as is his stock of goods. Travelers who have called on Mr. Welch at his new location tell us that the new store is a model of neatness and attractiveness. Mr. Welch bought his opening bill from this market.

The M. J. A. Finger Rings and Jewelry are not high in price.

Our goods are **better made**; the stones **better set**; the Pearls and Precious Stones **better quality** than many lines offered the trade.
It is just this case in the **make up**, this **artistic taste** in design that makes the M. J. A. line "successful sellers."

DIAMOND COMBINATION RINGS THE NEWEST AND MOST SALABLE DESIGNS. PEARL, EMERALD, SAPPHIRE, RUBIES AND OPAL AND EMBROIDERED TRIPLETS. ILLUSTRATIONS FULL SIZE.

Our Pearl, Ruby, Opal and Diamond Combination Rings deserve particular attention.

SOLID GOLD FANCY STONE SET RINGS. ANY CUT OR ORIENTAL CUT. ILLUSTRATIONS FULL SIZE.

An attractive Setting for Diamonds makes selling easy. M. J. A. Stamp stands for Merit.

DIAMOND RINGS FOR LADIES AND GENTLEMEN. SINGLE STONE, PAIR AND FIVE STONE RINGS IN LARGE VARIETY. ALL NEW AND DESIGNED IN A BARGAIN GOLD SETTING. ILLUSTRATIONS FULL SIZE.

We make over one thousand different styles for Ladies, Gentlemen and Children. We save you money on Rings.

SCARF PINS FOURTEEN CARAT AND 18 CARAT LATEST DESIGN EXTRA FINE FINISH SET WITH DIAMONDS, RUBIES, PEARLS AND CUBIC STONES. ILLUSTRATIONS FULL SIZE.

Scarf Pins in endless variety. Ours is a medium-price line.

DIAMOND BROOCHES FINEST IN MARKET AND GOLD SET WITH BEST CUT STONES. ONE, TWO, THREE AND FOUR STONE. ALL NEW AND DESIGNED IN A BARGAIN GOLD SETTING. ILLUSTRATIONS FULL SIZE.

Over four hundred styles of Brooches to select from.

DUMB BELL LINKS SOLID GOLD LATEST DESIGN EXTRA FINE FINISH SET WITH DIAMONDS, RUBIES AND CUBIC STONES. ILLUSTRATIONS FULL SIZE.

The Design, the Die Work on our Dumb-bell Links is unsurpassed.

PRICES SUBJECT TO CATALOGUE DISCOUNT.

We can supply **all the Gold Jewelry** needs of the Retailer.
LOCKETS, NECK CHAINS, GUARD CHAINS, VEST CHAINS, Etc.
We have increased our business each year. Why not increase yours by handling the M. J. A. Goods?
We carry a complete assortment at our salesrooms.


M. J. AVERBECK, Manufacturing Jeweler,

If you cannot visit our office, one of our salesmen will call on you.

Nineteen Maiden Lane, New York.

His Check was Cashed

How a Stranger got Accommodation in South America—Tragedy that Ended in Comedy

ORTHINGTON CHEEVER, the president of the Banco del Prado of Bogota, the capital of Colombia, was sitting in his private office opening his mail. Most of it was from New York, for Mr. Cheever was an old Broadway beau, and many a pink and pale blue envelope, exhaling dainty perfumes, had found him in his strange environment in South America. He had been there but six months, and his secretaries and assistants had found out that the words "New York" or "United States" on anybody's card were certain to win an audience from their new chief. He was a tall, strong, well-poised man of fifty-six, a widower with two beautiful daughters, an ex-colonel of the Indian wars and a stately but deliberate and cautious man of affairs.

"Senor James Trefny, of New York, would wish that he may speak with you, Senor," said the soft-voiced office boy in dulcet Spanish accents.

"Thank you, Emilio. Show the gentleman in," said President Cheever, with a look of pleased anticipation, though he could not remember having ever met or heard of the visitor.

The young man who came in was perfectly attired in well-fitting flannels. In the pale buff stock about his neck was a fine gold scarfpin set with diamonds. Upon his finger a splendid solitaire sparkled in a heavy gold band. His hat was in his hand, and Mr. Cheever noticed the singularly calm, unconscious beauty of his manly head and face. He was dark with the tan of the sea, but his thick, fine hair was carefully arranged and his whole manner betokened the patrician man of education, travel, gentleness and courage. Cheever liked his looks and showed his welcome in a frank smile and a hearty handshake. But he had reason to quickly change the first favorable impression, for Mr. Trefny, of New York, sitting calmly beside him and speaking in measured, clear tones without a suggestion of a tremor, said:

"Mr. Cheever, this walking stick is filled with nitro-cotton; if you move I'll explode it. There, quite still; that will do. Nitro-cotton is the new explosive just adopted by the German army, and is, as you probably know, the most terrible medium of destruction ever perfected. It is ignited by a fuse of mercury. See,

here, in the handle of my cane, is the fulminating cap. Don't look round. If any one comes in, say you will be busy for half an hour. Thank you. No, no! Don't tap your foot against the velvet rug. It annoys me.

"As I was saying, all I have to do is touch this disk with my finger and you and I, this bank and building and every one and everything in it will be torn instantly to atoms. In such an event there would not be enough of us left for identification or burial. There are, as I understand it, about \$217,000 in your vaults. It would be scattered to the four winds."

There was a knock at the door. Cheever looked an inquiry at Trefny.

"Say what I told you or not, as you please," said the latter.

"Not in for thirty minutes," said Cheever.

"Now, to resume. I have here," taking from his inside pocket a check, "an ordinary check on the Plaza bank, your rival, you know. It is made payable to me, James Trefny. It is signed—let's see—oh, yes; it is signed Homer O. Dunlevy, and calls for \$50,000. You see," turning over the slip of paper, "I have indorsed it in form. Now my business with you is this: You must call a clerk, tell him to bring fifty one-thousand dollar bills, get them and hand them over to me. I need hardly tell you that my name, 'James Trefny,' is wholly mythical. This cane, loaded with instant death for all of us, is the only argument I have. See, my finger is just above the disk. The first sign, word or motion you make to betray me—down it comes. Now get the money."

"Ramon, Ramon," called the banker, without moving. And to the suave clerk who came in he said: "Bring \$50,000 at once for this check, and——"

"I want it in all large bills, a thousand each, if possible," interrupted "Trefny," smiling blandly.

The clerk disappeared bowing, came back with the money, laid it before Cheever and departed. Trefny reached across the table, picked up the money, counted it, placed it in his inside pocket, waved his terrible cane as in salute, and said:

"Thank you. I want but ten minutes to catch my train. If you pursue me within that time I'll come back and wreck the bank as a mere matter of protest. Adios, senor," and he was gone.

Of course Cheever had sent a messenger to the police inside of two minutes. They held the train, but they didn't

find Trefny, nor anybody like him. They searched the town; and about an hour later found the robber, slipped and at ease over his cigarette and highball in his sumptuous room at the Hotel del Orinoco. He was engaged in writing a letter, too, so he did not forestall the approach of ten officers in time to seize the awful cane which stood harmless in a remote corner while Trefny looked, calmly enough, into the muzzles of six rifles. As none of his captors could speak English, and only Cheever was there to complete his identification, a messenger was dispatched for the Magistrate, who presently arrived to begin an inquiry. When the court was thus installed, and the prisoner put under oath, this odd criminal explained matters thus:

"In the first place, gentlemen, especially you, Mr. Cheever, put yourselves at ease about that cane. It's quite harmless, even in my hands. It's a sword cane. That's the worst that can be truthfully said about it. Now, my name is Homer O. Dunlevy, of New York, and I robbed the Banco del Prado—don't laugh, gentlemen—just to test my personal courage."

Cheever sneered, and the Magistrate put his tongue in his cheek.

"Oh, I assure you, gentlemen. See?" holding up the letter he had begun. "I was just in the act of writing a letter of explanation to you, Mr. Cheever, I——"

"You had better quit this foolishness and, if you are telling the truth, return the \$50,000 you stole."

"I didn't steal it, I should say. Stealing implies skulking, sneaking—'stealth,' so to speak. Besides, I really needed the money and intend to keep it."

"Put on the manacles," ordered the Magistrate, gathering courage after a hesitating glance at the walking-stick.

"But I protest!" cried Trefny, looking quite pained as he saw the fierce glances of Cheever. "I protest, Mr. Cheever. Don't you understand?"

"Understand? The devil! Of course I don't understand anything but that you forced me to pay you \$50,000 on a worthless——"

"Check?" interrupted Trefny, or Dunlevy, as he claimed. "Why, my dear sir, that check is as good as gold. Have you tried to cash it? Of course you haven't. I might have known you were too excited to think of that. But, before I explain any further, would you, Mr. Cheever, and you, Senor," to the wondering Magistrate, "would you mind taking my check over to the Plaza bank? It will be paid quite readily, on my word. All you have to do is to indorse it. My deposit and letters of credit are more than enough to cover it. I'll wait here with these pleasant but overzealous warriors of the police."

Cheever and the Magistrate consulted together for a moment. Then they went away together. When they returned, in ten minutes, they were smiling audibly. The check was good!—*Chicago Record-Herald.*

The Wealthy West, the Country's Salvation

The Big Crops and Financial Strength of the West—The Bulwark of the Country's Prosperity

IN recent months the West, with its immense crops, has been recognized by the country at large as the magnificent mainstay of its prosperity, the impregnable bulwark between it and a possible period of depression. It is an interesting and significant reversal of the order of things to find the West coming to the aid of the East with money, and sustaining, in the face of a number of untoward influences, the prosperity of the country. Commenting on the novelty of this happy situation, a writer in a recent issue of the *Saturday Evening Post* said:

Relations of East to West

This is not the first time the East has asked for Western money, but conditions are somewhat different now from what they were before. When the financial stringency of a decade ago came upon the nation the East held a mortgage on the West. The East wanted its money, but the West could not pay. Crop failure followed crop failure, and the East foreclosed its mortgage. Some of the securities would not bring more than a fraction of their face value, and general hard times ensued throughout the country.

To-day conditions are entirely different, and this difference will save the country from a repetition of the financial difficulties of a decade ago. Now the West is out of debt. No one has a mortgage on it. The banks are overflowing with deposits and the fields are rich with munificent crops. The East is not coming to it for funds as a creditor this time, but as a borrower, and the West has the money to lend.

The big crops of the West are the financial salvation of the country to-day. They will keep the country from "going broke" as it did a decade ago. Big crops cure that panicky feeling. They will tide over the stringency until our finances assume a normal condition, and real prosperity will then be more prevalent than ever. This may be the optimist's view, but a little consideration of present conditions and a comparison of them with those of ten years ago will demonstrate that it is a logical conclusion.

The Logic of the Situation

A few months ago the statement was made in these pages that the payment of Western mortgages had caused a flood of uninvested capital in the East; that this had brought on speculation, and when the flow of money from the West ceased the East would find itself short. This statement was criticised by some financial

authorities, but present conditions have proved its truth. When crops began to improve in the latter nineties the West began to pay off its judgments and mortgages. Little by little at first, and then in greater quantities, the money was sent East. By 1900 millions of dollars had been poured into Eastern financial centers, and two years ago the West had practically paid both the principal and interest of its debts and was accumulating a bank account of its own. Of course there were, and still are, some Western mortgages held by Eastern investors, but the great bulk had been paid off by 1901. All these millions upon millions were not called for again by the West; even the customary capital "to move the crops" has not been asked for—the West had money of its own. This flood of money in the East had to seek new channels of investment, and much of it went into promoting new industries, but it was cheap, and much more went into wild speculation and stock gambling. The East was suddenly and unexpectedly "flush." It did not realize where all its money came from, nor that the supply would some time cease in a measure, and it went in for over-speculation in a great degree. In the mean time, the West concluded its debt-paying, and the supply of money from that source stopped. A few months ago slight flurries in speculation centers began to be felt. Money was not so plentiful as it had been. Interest rates began to advance. Too much wealth had gone into permanent investments from which it could not be withdrawn, and the Wall Street speculators found themselves confronted with a serious financial stringency.

Different Conditions To-day

But the hard times of a decade ago cannot come again now because the West is in shape, not only to care for itself, but also to pull the East through its difficulties. There may be some local financial disasters, but there will not be the widespread hardships that prevailed during the middle nineties. Western banks are overflowing with deposits. For instance, on June 9th the deposits in the Kansas banks were approximately \$91,000,000, or a trifle more than \$60 for every man, woman and child in the State. During the summer several millions were withdrawn to repair the damage caused by the great floods of the first of June and to handle the great wheat crop of the State; yet during the four months from June 9th to October 9th, on which date the banks again reported, the deposits increased to over \$98,000,000.

And other Western States are in almost as good financial condition as Kansas, although they have not the big wheat crop Kansas has. Nearly all have corn, however, and corn is really king in the West. Even Kansas, with the greatest wheat crop ever produced by a single State, worth \$60,000,000, has a corn crop of still greater value standing in the fields as yet untouched, and Iowa, Illinois, Missouri and Nebraska all have still more. Only the returns from the wheat and other small grain crops have yet commenced to reach the banks. The corn still stands in the fields, a vast reserve that will in the next twelve months add millions more to the bank accounts of the farmers.

The returns from the wheat crop, too, are only partially realized. I recently made a personal investigation of conditions in the Kansas wheat country, and found little more than 50 per cent. of the grain threshed, and less than 40 per cent. marketed in the Western counties which produced the bulk of this year's crop. Yet, with these great resources just coming in, the bank deposits in most Western farming communities are greater than ever before, and are daily increasing. In Kansas, too, the reserve is above 40 per cent., or, in other words, the banks of Kansas had \$40,000,000 of their deposits on hand on October 9th. That is why the West is prepared to loan money to the East.

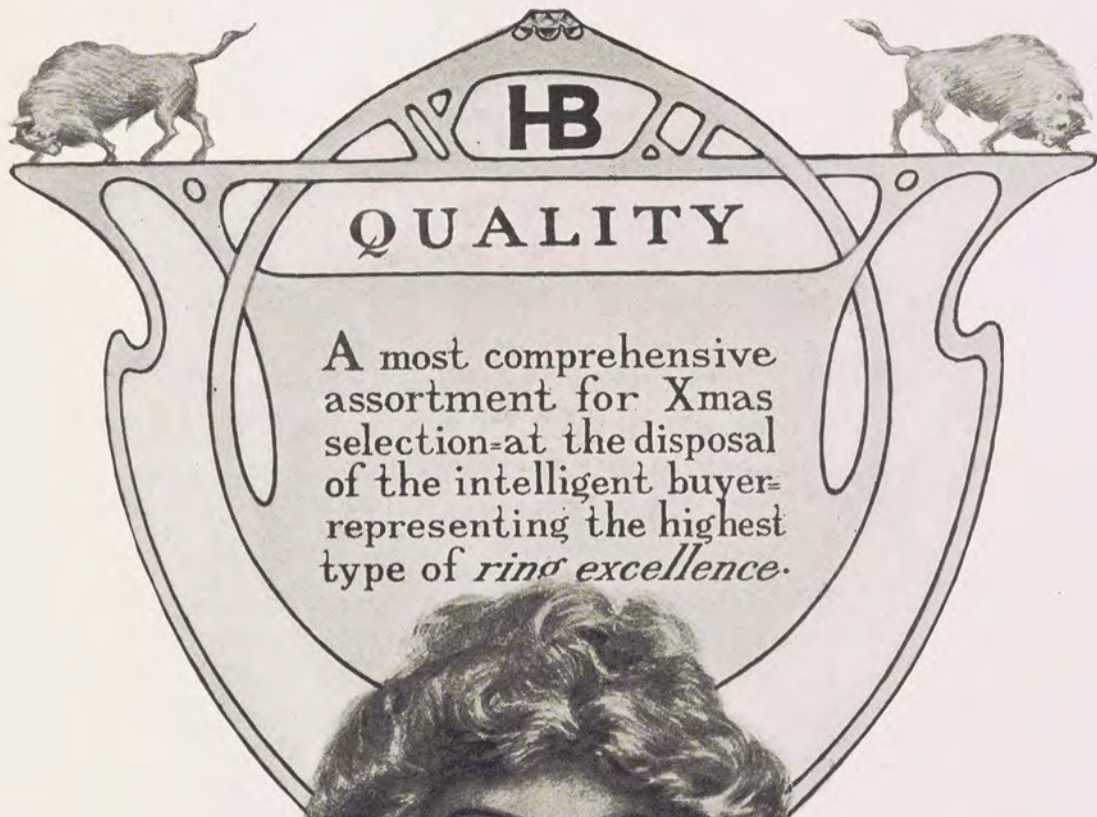
West Has Money in Abundance

It is the industrial world that is calling for money from the West. St. Louis, itself a Western community, has needed funds for carrying on the preparations for the Louisiana Purchase Exposition, but the greatest demands have come from Eastern industrials. A prominent Western banker told me recently that a big Eastern manufacturing concern had just sent him a draft that was not due for ninety days for \$2,000 on a Western merchant, and asked him to cash it. The merchant was rated at \$30,000 and the paper was as good as gold, yet it was offered to the banker to discount at his own figures. The manufacturing company explained that money was hard to get in the East, but the company had to have it to carry on the extremely prosperous business it is doing. Another banker said that offers of this kind from the East are now of daily occurrence with him. A short time ago one of the largest packing houses of the country, a corporation worth many millions, attempted to float \$300,000 worth of commercial paper. This company usually made its loans in New York, but on this occasion New York did not want to take the paper. Chicago was not in shape to handle it, and it remained for Kansas City to buy it with the Kansas money. These are instances of how the East is borrowing from the West.

The encouraging feature about this demand for money is that it is not needed to cover business losses, but to conduct increased business operations. When the farming class has money it creates business in all other lines. When crops are good the railroads are kept busy hauling the farm products to market, the farmers purchase the output of the factories, the railroads haul these products back to the farmers, and the round of business activity is good. It is to carry on this business activity that industrial enterprises must have funds.

No Cause for Alarm

The financial troubles in the East are not nearly so bad as some people imagine. They are really only on the surface. The farms are the real foundation of the national wealth of America. On the prosperity of the farms—and the mines in a minor degree—is built the prosperity of the factory, the railroad and the tradesman. The speculator is only on the surface, and it is really only the speculator who is disastrously affected by the present financial situation.



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of the intelligent buyer-
representing the highest
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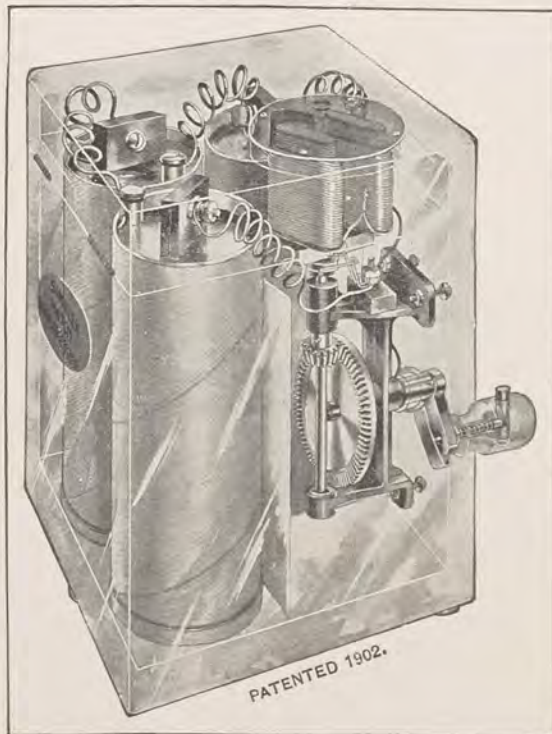
THIS is the first time in many years that we have been able to say this in December; but though our business this season is the greatest we have ever had, yet our factory facilities have been enlarged to such an extent that we have been able to take care of a very large business comfortably.

So we say that if you have neglected so far to send in the order for your Holiday showing of Cuckoo Clocks, there is still time to do it and have it filled promptly.

It is possible to do quite a few out-of-the-ordinary things with the largest Cuckoo Clock plant in the world as the back-bone of our business.

AMERICAN CUCKOO CLOCK COMPANY,
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The Simplex Watch Demagnetizer



requires no outside current. This obviates the difficulty experienced by many watchmakers who have found that their demagnetizer requires the opposite current to that which they are able to secure and that they are obliged to use a transformer. With the Simplex all you have to do is to press the spring, turn the crank and gradually move the watch away and the work is done.

THE SIMPLEX DEMAGNETIZER has an automatic switch which cannot remain closed through neglect, making it absolutely impossible for it to "burn out" your machine, an advantage over all other demagnetizers. It is portable, also. You can carry it with you to any part of your shop, or town, or county. It is always ready for use at a moment's notice, anywhere. It weighs only 9 pounds, and is enclosed in a substantial piano-finished quartered oak case with nickel plated trimmings. It measures 6 by 6 by 8 inches.

THE SIMPLEX DEMAGNETIZER is actuated by a three cell dry battery which will last for a year or more and can be renewed at any time for 45 cents. The gears are of brass, cut from the solid, and all pinions are of steel, accurately fitted.

And the price cannot fail to fit your pocketbook. In fact the additional profit that you can make on demagnetizing twenty watches will more than pay the ten dollars which we charge you for **THE SIMPLEX DEMAGNETIZER**.

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Price, \$10.00, express prepaid.



New Automatic Eyeglass Holder, made in silver, roll-plate and gold.



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129 B

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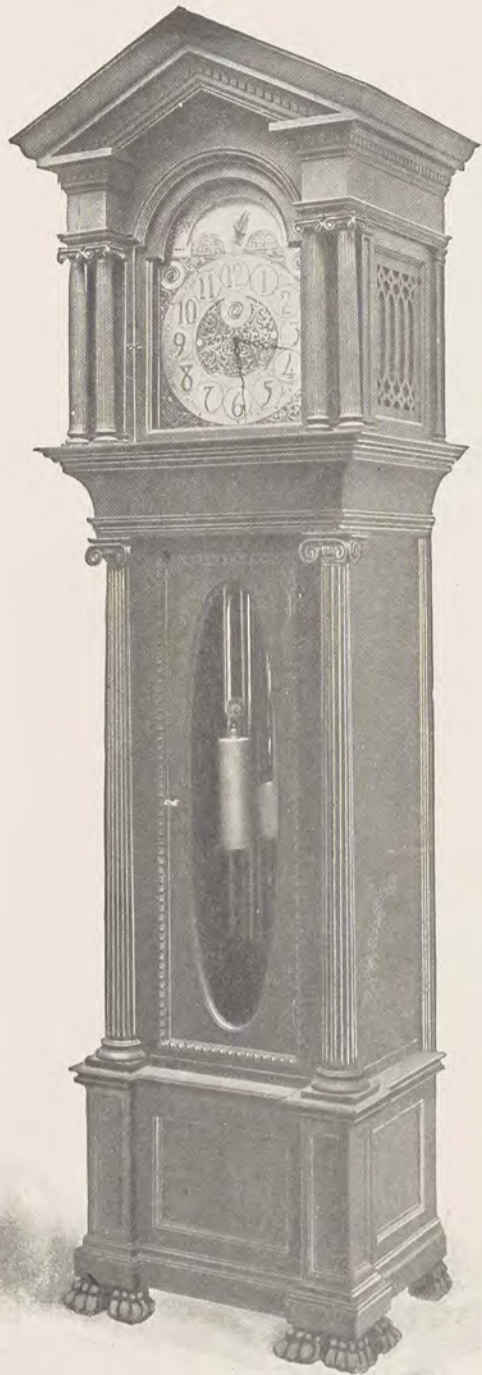
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Finest Imported Movements, solid brass plates, Graham dead-beat escapement and maintaining power.

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

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The Waltham Tubular Chime

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Why do you buy foreign-made Hall Clocks when you can buy as good or better clocks made right in our own country, and at prices that are attractive for high-grade work.

Our methods of manufacture are much superior to the general foreign system. Our pinions, escapement and many of the minor details are certainly in advance of many other clocks.

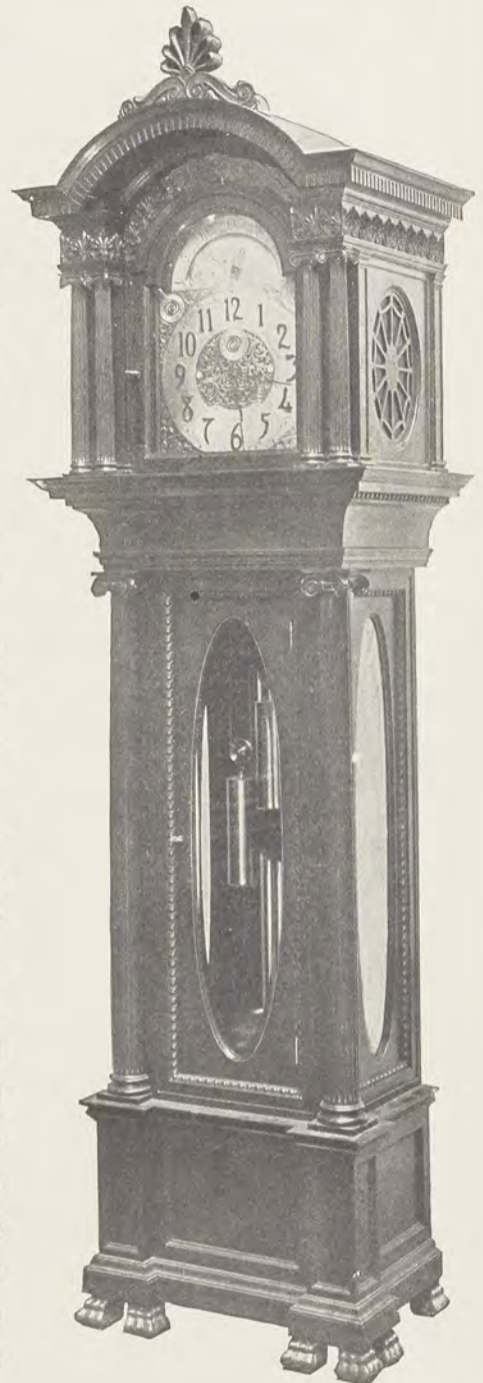
Our interchangeable parts are very suggestive to the man who has to repair these clocks in later years. Our interchangeable dial, adjustable moon wheel spring and beat, hardened pinions and pivots, are among the many features of the superior Waltham Clock. These clocks are of very heavy construction and are fitted with the most approved tubes and hammer action on the market.

We also manufacture a full line of

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Send for illustrated catalogue.

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If there is such a thing as applying the word Best, we still maintain it can be safely applied to our line of Rings. We invite your inspection, knowing orders will follow.



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B44.	Inlaid 22 K. Gold Initial or Emblem	Each. \$10.00	0526.	Seal Rings, Roman, bright or rose finish,	Each. \$12.00	0532.	Seal Rings, Roman, bright or rose finish,	Each. \$8.00
B44E.	" " " " " " " "	11.00	0527.	" " " " " " " "	10.50	B5E.	" " " " " " " "	4.50
B45E.	Seal Rings, Roman, bright or rose finish,	9.50	0528.	" " " " " " " "	10.00	B19.	" " " " " " " "	4.75
B46E.	" " " " " " " "	14.00	0529.	" " " " " " " "	10.50	B76.	" " " " " " " "	1.42
B47E.	" " " " " " " "	14.00	0530.	" " " " " " " "	11.00	0533.	" " " " " " " "	6.00
0524.	" " " " " " " "	13.00	B5.	" " " " " " " "	3.25	0534.	" " " " " " " "	12.00
0525.	" " " " " " " "	10.50	0531.	" " " " " " " "	5.50	B80.	" " " " " " " "	2.25

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No. 102 $\frac{1}{4}$



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No. 104



No. 106



No. 108



No. 111



No. 101



No. 102 $\frac{1}{10}$



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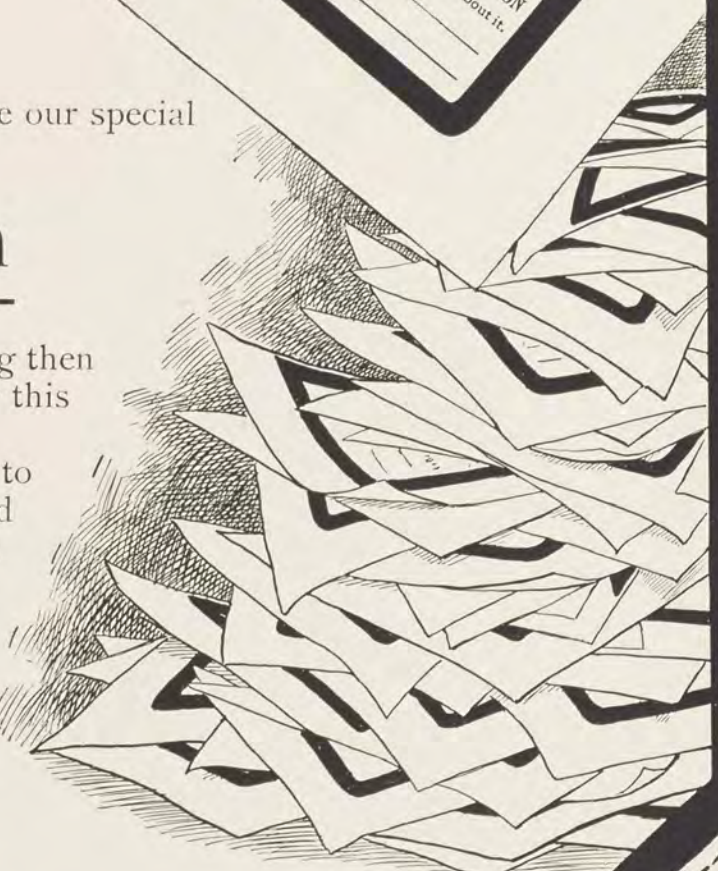
For **this month** only we resume our special

Ring Proposition

We discontinued this offer a year ago thinking then it were for all time—and it is apt to be so after this month.

Perhaps YOU had been promising yourself to do so, but had been postponing it. If you had made up your mind to investigate, why defer it longer? There aren't millions in it, but quite enough to make it interesting. Cut off or tear off the coupon on this page to-day.

We make only high-grade rings, superior in design, workmanship and finish. We think we make the best rings in the market—better than you are getting. We make a well-nigh endless variety—and it's growing.



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ADDRESS _____

Providence and Attleboro

The Attleboro Jewelers and Express Service

The jewelers of Attleboro and North Attleboro are making a concerted effort to induce the Consolidated Electric Street Railway Co. to carry express packages, and to this end a petition has been sent to the company. Under the existing conditions all express matter between the two towns is conveyed by wagon, and this system has been followed since the discontinuance of the steam railroad which formerly connected these centers. Coincident with this, another movement has been inaugurated by the local newspaper; the object of which is to obtain "postal" express rates on packages outgoing from Attleboro. A number of cities in other parts of the United States enjoy this privilege and are enabled to send packages to Attleboro at rates from 50 to 200 per cent. cheaper than the rate at which they could be despatched from this town. The character of jewelry packages, usually so comparatively portable, would seem to amply justify a demand for "postal" rates and, moreover, the fact that tens of thousands of packages are annually sent from Attleboro makes the claim appear eminently reasonable.

Mrs. A. R. Crosby, wife of Alfred R. Crosby, of Smith & Crosby, Attleboro,

recently presented the Attleboro school board with \$100 on behalf of a whist club composed exclusively of manufacturing jewelers' wives. This gift is to be utilized in the furtherance of the recently-inaugurated movement to teach practical jewelry designing in the public schools.

Watson & Newell Co., of Attleboro, gave a complimentary dance and supper to about 300 of its employees, at the Watson Hall, Park Street, recently. During the early part of the evening there was dancing in the larger hall, and at 9.30 a copious repast was partaken of in the banquet hall. When supper was concluded another programme of dancing was gone through, and this together with periods of social intercourse and pleasantries brought a very enjoyable event to a close.

By way of celebrating the close of a year of usefulness, the Findings Board of Trade, of Providence, recently held a happy social reunion at the Crown Hotel in that city. This interesting function was likewise meant to serve as an object lesson of the organization's practicability, by bringing its work under the notice of all those to whom it may possibly be of interest. Some twenty-four members, together with a number of invited guests, were in attendance. They were representative of the electroplating, enameling, rolled-gold and silver houses, box manufacturers, jewelry, card and die-sinking firms.

An admirable round of dishes was provided, and Adolph Vester, president of the board, who officiated as toastmaster, made a neat speech; in the course of which he reviewed the career of the organization and explained its aims. Addresses

were also made by Harry Fulford, Edgar Craddock and Harry M. Mays, and a number of speakers related their grievances since they became members of the board. The question of including in the personnel of the board members of trades allied to the findings business was discussed, and occupied the attention of the diners until high midnight.

The T. I. Smith Co., of North Attleboro, is about to erect an addition to its factory. This will be situated on the south side of the present building, adjacent to the boiler room. The new structure will be thirty-four feet square, and will be occupied by the firm's force of toolmakers.

The New England Manufacturing Jewelers' and Silversmiths' Association was incorporated some weeks ago with a capital of \$15,000. The

William H. Luther, of W. H. Luther & Son, Providence, who figures conspicuously in the political arena, was recently elected chairman of the Board of Police Commissioners in succession to the late Col. Frank C. Olney. This is one of the most onerous civic offices, and the incumbency of Mr. Luther is a sufficient assurance that the department will be conducted with satisfaction to all concerned.

Frank M. Whiting Co., of North Attleboro, are about to erect an addition to their new factory. When completed this structure will be utilized by R. Blackinton & Co., of that town, for their hub cutters and die sinkers.

The members of the trade recently elected to office by the Attleboro Republican club are: Walter E. Allen, of the Allen, Smith & Thurston Co.; William L. King, of E. D. Gilmore & Co.; and Frank W. Weaver, of F. W. Weaver & Co.

Among the visiting jewelers whom THE KEYSTONE representative encountered among the factories last month was Kinjoro Ezawa, wholesale and retail jeweler, of Tokio, Japan, who is here making an examination of American lines for importation to his country. This is his second visit to the United States, the first occurring in 1896. Kinjoro Ezawa ranks amongst the most progressive of Japanese merchants, and makes a specialty of introducing American goods in Japan.

E. A. Fargo Co. announce that they will remove about January 1st from Attleboro to Taunton, Mass. The company have secured the factory formerly occupied by the Atlas Tack Co., where they will have 15,000 square feet of floor space, about double that of their present quarters. Not only will they have a much larger factory space, but the firm will also effect quite a material saving in rental and cost of labor. A great many of their employees now live in Taunton, and a great many others come to other jewelry factories in Attleboro from Taunton and, of course, have the car-fare between the two points to pay and this, in addition to the time consumed, is quite a factor for the working people, who would, of

course, much prefer to save this time and car-fare and work in their own home town. The force of the Fargo Company has increased so rapidly that the labor question has assumed serious proportions. The company has had the matter under consideration for several weeks past, and have gone over every phase of the question very carefully and believe the change in location will be a good one.

Arthur C. Stone, formerly a manufacturing jeweler and salesman, of Providence, died suddenly last month as the result of an accident. Deceased, it is stated, was ascending the stairway in his home when he made a false step and fell to the floor below, breaking his neck. He survived but a few minutes and had expired before medical aid was at hand. In his earlier days was traveling salesman for Isaac Stone & Co. He subsequently entered the employment of Pitts & Hicks, afterwards becoming associated with Stone, Griffith & Co. He then opened a manufacturing business for himself, but after a number of years gave it up to become bookkeeper in a wholesale grocery concern. He was forty-eight years old.



A cool-headed bystander with a lightning camera is responsible for the above photographic perpetuation of a recent thrilling adventure of C. Keeler, of McRae & Keeler, Attleboro, in the woods of Maine. Bruin did not take kindly to the overtures of the Attleboro sportsman, and the instinct of self-preservation resulted in the strenuous situation shown in the picture. Mr. Keeler saved his anatomy, his life and his pants, much to the gratification of his companion hunters. "In the words of the immortal bard," said Mr. Keeler, "he who hunts and runs away will live to hunt another day." It would seem as if the most effective shot on the occasion was the snap-shot.

incorporators named are: Frank T. Pearce, William A. Copeland, Samuel A. Baldwin, Theodore W. Foster, Henry G. Thresher and Albert A. Bushee. The incorporation of this body had been in contemplation for some time past. The activities of the association in the promotion of the interests of its members will continue unabated.

The Standard Machinery Co., Providence, successors to the Mossberg & Granville Mfg. Co., has completed its organization. The officers of the company are: John T. Maguire, president; Frank Mossberg, vice-president; M. J. Houlihan, treasurer, and Thomas Z. Lee, secretary. The managing committee is composed of Messrs. Maguire, Houlihan and Mossberg. L. M. Lincoln has been elected assistant secretary and will superintend the office business. The mechanical department will be under the supervision of H. H. Ricker. The company has an office on the ground floor of the Manufacturers' Building.

William F. Maintien, of Maintien Bros. & Elliott, Plainville, was recently elected to a seat in the State Legislature,

1922
SWARTCHILD & CO., Jewelers' Building,
 134 and 136 Wabash Ave., Chicago, Ill.

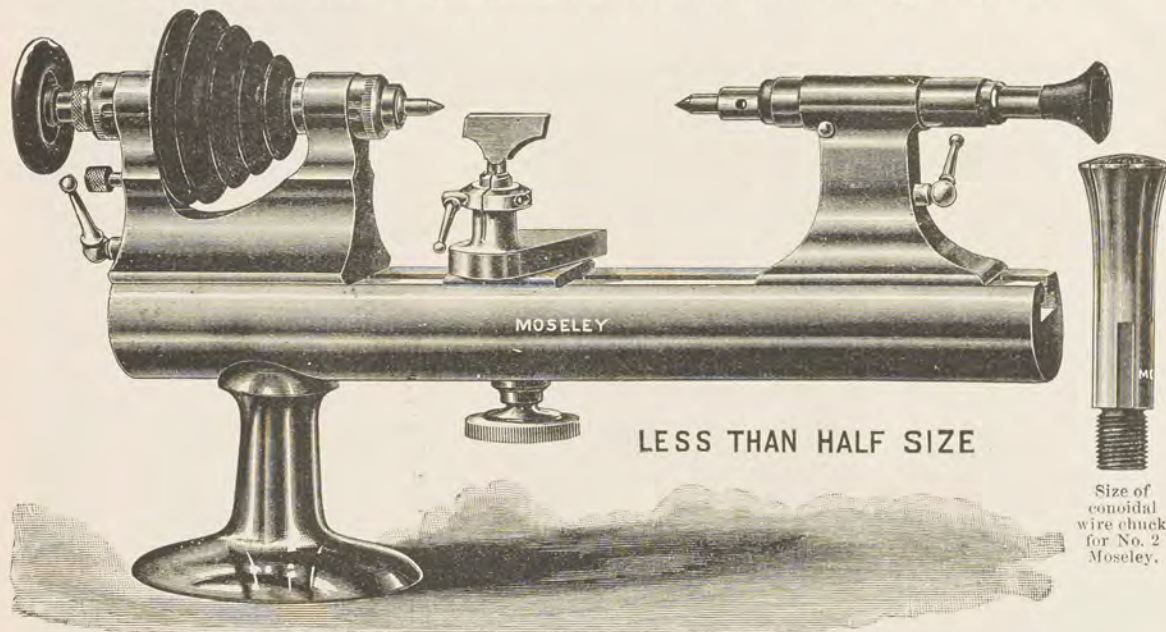
The Largest and Only Exclusive Watchmakers', Jewelers' and Engravers' Supply House in the United States.

Established 1870.

Reduction in Prices!!

While Standard of Quality Remains.

Genuine Moseley No. 2 Lathe.
 A Desirable and Suitable Holiday Gift.



LESS THAN HALF SIZE

Size of conoidal wire chuck for No. 2 Moseley.

Lathe, with tailstock, taper chuck, screw chuck, 6 1/4-in. cement brasses and belting	\$32.00
Lathe, same as above, 12 chuck combination, including 10 wire chucks	38.00
Lathe, " " " 17 " " " 15 " "	41.00
Lathe, " " " 22 " " " 20 " "	44.00
Lathe, " " " 32 " " " 30 " "	51.00
Lathe, " " " 42 " " " 40 " "	59.00
Lathe, " " " 56 " " " 48 " " and 5 wheel chucks and arbor chuck	70.00
Genuine Wire and Wheel Chucks, \$.75 each.	
" Screw " Taper " 1.00 "	
" Arbor Chucks 1.25 "	
Universal Face-Plate	9.00
Combinations to suit the purchaser,	

Dimensions of Lathe.

Bed to center	2.00 inches.
Swing	4.00 "
Length of bed	10.50 "
Diameter	1.75 "

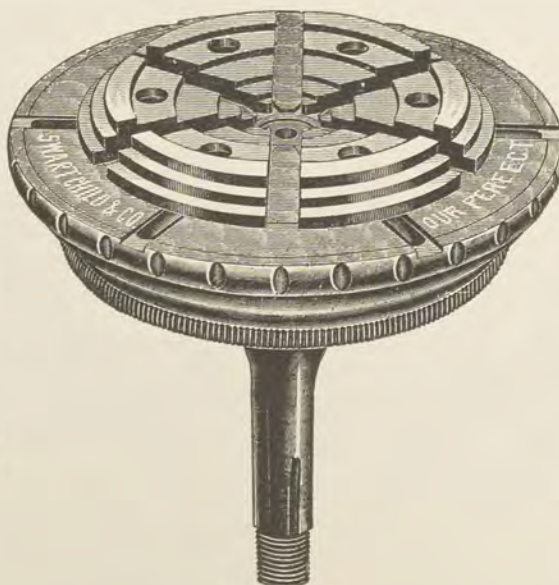


"Our Perfect" Combination Bezel, Wheel and Plate Chuck.

Will hold any size of case bezel, watch or clock wheel or other large work. It takes the place of a full set of ten wheel chucks.

Mounted on taper chuck to fit all makes of lathes.

Price, \$8.50.



Cut full size.

EUREMA.

A Revolution in the Jeweler's Shop.
 A Revolution in Hard Soldering.
 4 oz. Bottle, now \$.65.



A Solution Which is { An Anti-Oxidizer Firstly!
 A Soldering Flux Secondly!
 A Pickle Thirdly! } ALL IN ONE.

Will make 14 karat solder flow on low karat gold without the aid of borax, requiring but little heat. EUREMA makes hard soldering as easy as soft soldering. A child can do it. Will solder gold, gold filled, silver, brass, steel, nickel, aluminum. No blow-pipe required for small articles, like spectacle frames, rings, etc. The heat of an alcohol flame is sufficient. After using EUREMA once you will not return to the old way of soldering. Guaranteed to be exactly as represented. Directions with each bottle.

Price, per 4 oz. Bottle, now \$.65.

Cincinnati Letter

November Trade Rather Quiet

Traveling men who have been on the road through Indiana and Illinois, report that the retail merchants in these States are complaining considerably of dullness. This should have been expected in November, the month being a between-season month, too late for fall trade and too early for the holiday business.

Davis and Humphreys, the Bellefontaine, Ohio, merchants, were in the city during the latter part of the month.

The opera glass rush has struck the jobbers and has developed into a business which has taxed the trade to its limit. E. & J. Swigart report great activity in this line. Their salesmen have all been in their respective territory, and have made big sales.

William Ende, of Ada, Ohio, put in several days among the wholesalers.

The firm of J. E. Long, of Richwood, Ohio, has been changed to Langstaff & Long, by the addition of John Langstaff. The firm expects to increase its business to the extent of the additional capital brought into it by Mr. Langstaff.

Lindenberg, Strauss & Co. report an active and profitable business in holiday novelties and staple jewelry.

A. Clooney, of the well-known firm of Clooney & Ferrine, of Maysville, Ky., made a number of generous purchases of novelties and staple goods for the holiday trade.

Joseph Noterman, Sr., for many years a pioneer resident of Covington, Ky., has returned to his home near Asheville, N. C., after a visit of several weeks to his old friends and associations. Mr. Noterman is the father of Joseph Noterman, of the wholesale firm of Noterman & Co.

The Duhme Jewelry Company has completed arrangements for an elaborate art room in the rear of their big salesroom on West Fourth Street. The new art room will occupy the space formerly occupied by the office. The Duhme Jewelry Company has placed on exhibition one of the most beautiful lines of art goods ever seen in this city, and their art buyer is coming in for considerable commendation.

The Emerie Optical Company, at 444 Race Street, has enlarged its quarters and employed additional help to handle the big holiday trade expected.

R. Moss, the well-known jeweler of Owensboro, Ky., whose store is considered one of the best in his town, left some liberal orders with the manufacturers and jobbers during the past month.

W. D. Bogue, of Carrollton, Ky., paid the trade a visit of several days, and left sundry orders.

The manufacturing firm of Dorst & Co. has been obliged to employ extra help to get out its orders. Arno Dorst told THE KEYSTONE that his firm had found so much trouble in securing skilled men that they had resorted to the safeguard of breaking in a lot of apprentices.

The butchers and other employes in fifteen packing-houses here went on a strike during the past month, for a 10 per cent. increase in pay and shorter hours. They were granted the concessions asked. Plumbers were locked out by the Master

Plumbers' Association, on technical questions. The labor situation is becoming unsettled.

The work of elevating a number of the railroads within the limits of the lower part of the city will be commenced early in the spring. Connections will be established between the elevated structures of the various roads.

C. W. Ernsting, of New York, passed through the city a few weeks ago, en route from San Diego, Cal., and left among the manufacturers several specimens of Kunzite, the recent discovery which bears a considerable resemblance to the garnet.

William H. Todd, the Madison, Ind., jeweler, accompanied by his better half, was in the city last month purchasing holiday goods.

W. L. Miller, of the Miller Jewelry Company, has finished an extensive trip through Illinois and Indiana, and reports having had unexpected success. He says the trade has been heavier than for several years, and the demand is for a better class of goods. Clifford Miller started later on a tour through Ohio.

Charles Blume, of Marietta, Ohio, placed nice orders for emblem goods and novelties with local manufacturers recently.

William Pflueger, of Noterman & Co., started on an Eastern trip on November 18th, to be absent several weeks. He will visit the Virginias and other Eastern States. Mr. Noterman states that his firm has done an extensive business in the past month with high-grade set and unset diamonds.

T. K. Brunner, the Circleville jeweler, was here several days and laid in a big supply of holiday goods. He will enlarge his store the coming spring.

The firm of Dorst & Co. recently designed and made for one of the local Masonic lodges a complete and elegant set of twenty Past Master's jewels. The jewels were delivered in time for an auspicious event which was given by the lodge the latter part of November.

Some of the Ohio men who were among the trade recently are J. B. Swain, of Sidney; C. M. Davis, of Galion; R. C. Patterson, of Wilmington; Charles Blume, of Marietta, and Davis and Humphreys, of Bellefontaine.

Leonard Stephens and step-brothers Hugh and Frank Devine, three criminals known all over the country as dangerous counterfeiters, are under arrest at Zanesville, Ohio. For years they were suspected of counterfeiting, but never were arrested, as they hid in the West Virginia mountains in a cabin, where they made their spurious silver coins.

Bagley Brothers, doing business at Greenup and Grayson, Ky., made a flying visit to Cincinnati to visit the trade and see the sights.

Burglars made a bold attempt to rob the jewelry store of Louis Hohnek, at 233 Broadway, at an early hour on Sunday morning a few weeks ago. A heavy boulder was thrown through one of the large plate-glass windows, shattering it and affording the stone-throwers an opportunity to carry away all the goods exhibited. Police officers heard the crash and hastened to the store, but the thieves made their escape.

A. C. Marshall, of Dayton, Ohio, secretary of the National Association of Manufacturers, which was organized about six weeks ago in Chicago, issued a call for a meeting of the executive committee in Dayton the last week in No-

vember. The meeting was for the purpose of outlining a system of procedure which is to be national in its scope. The Cincinnati Employers' Association is a member of the national body, and the Manufacturing Jewelers' Association a branch of the Employers' Association.

Manufacturing jewelers report a continued heavy demand for Eagle and Elk emblems.

A messenger boy employed by the manufacturing jewelry firm of Pohlmeier & Roth, at 120 Longworth Street, was recently fleeced out of \$130 which he had been sent to the bank to get to make up the firm's pay-roll. The boy carried the money in a small satchel, and on his return with the money was accosted by a stranger, who asked him to go to a bank and get a \$200 bill changed, in return for which he would pay him a half dollar. The bill was supposed to be in a sealed envelope, and the boy bit on the proposition. The man demanded some kind of security, and agreed to hold the satchel until the messenger returned. At the bank the boy was dumfounded to learn that the envelope contained only blank paper. A few minutes later he learned, to his further sorrow, that the man and satchel had disappeared. The police believe the "con." man had been watching at the bank and had followed the boy, knowing his mission had been to draw the pay-roll money.

No Festival in 1904

The members of the Cincinnati Fall Festival Association have concluded not to hold a festival here next year. The fact that of the four events which have been given during the past four years only the first made any money, is the chief reason. This year's festival lost in the neighborhood of \$15,000, and wiped out completely the surplus which had been left from previous events. Another reason which is being advanced against holding a festival in 1904 is the fact that the World's Fair at St. Louis would detract heavily from the local event. Various other forms of entertainment are being discussed, among them being a horse show and a Mardi Gras week of festivity, but each is meeting with a certain degree of opposition from merchants who were guarantors of the Fall Festival Fund.

Louis Goosman, the retail jeweler of 909 Central Avenue, who was seriously wounded by a burglar some weeks ago, has recovered from the wounds inflicted by the pistol ball.

Burglars recently battered down the doors of Louis Dornseifer's jewelry store at 4014 Hamilton Avenue, and secured a small amount of jewelry. They were frightened away before making a big haul.

E. E. Bixby, the Ironton, Ohio, jeweler, is something of a diplomat. Mr. Bixby was summoned to Cincinnati to serve on the United States Grand Jury in the criminal trials of former Attorney-General Daniel Miller and Attorney J. M. Johns, of Rockville, Ind., for alleged postal bribery. The case lasted a week, and Mr. Bixby thought too much of his holiday trade to feel like sitting on a jury for a week, so he visited Judge Thompson, who is an old Irontonian, and succeeded in being excused. He then visited the trade and placed a number of orders, thereby killing two birds with one stone.

Some of the late arrivals to swell the list of visiting jewelers to the wholesale jobbing trade are the following merchants: W. T. Stratton, Seymour, Ind.; Lee Baldwin, of Baldwin Brothers, of Winchester, Ky.; William Ende, of Ada, Ohio; E. E. Bixby, Ironton, Ohio; T. K. Brunner, Circleville, Ohio; D. A. Lamb, Wilmington, Ohio; R. M. Bagby, Greenup, Ky.

More Labor Troubles



Read While You Run.

A great many Jobbers are continually asking us why we do not advertise more. The reason is, we make an **excellent quality of chain**, and it appears to us that it will pay the retailers as well as ourselves in the long run, to have our **gold put on our chains**, in preference to paying it out for **Wind** in advertising, and, at the same time, cutting down the quality endeavoring to get rich, quick.

When a manufacturer advertises that his ONE-TENTH chains are ONE-TENTH, if he makes ONE-FORTIETH he should also REMARK that his ONE-FORTIETH chains are ONE-FORTIETH, then a retailer would have a chance to know what he is buying, and not get into a trap, baited with ONE-TENTH, and find a little later on that most of the stuff in the trap is ONE-FORTIETH.

Large quantities of one-fortieth Woven Wire Fobs have been placed on the market. Get a U. S. Assay of some of them. We make all of our Woven Seamless Wire Fobs in one-fifteenth stock, which is one hundred and fifty per cent. better than one-fortieth. Never be fooled by a big ad. that states anyone is making very fine goods, when prices are about the same as REPUTABLE CHEAP CHAIN HOUSES sell them for. No first-class chain house can make goods even five per cent. cheaper than others from the same quality of stock.

Our Spring styles will be ready in season.
No doubt you will want some WOVEN WIRE FOBS in fine quality.

C. A. MARSH & CO., Attleboro, Mass.

OMEGA MOVEMENTS

ARE FINE TIMEPIECES.

All made with Lever Escapements and Double Roller. Pendant Set. Fitting American Cases.

Made in
 6 Different
 Grades.

10 Ligne.
 11 Ligne.
 O Size.
 12 Size.
 16 Size.

From 7 Jewels to 21 Jewels,
 Adjusted to heat and cold,
 and 5 Positions.

SOLD ONLY TO LEGITIMATE JEWELERS.
PRICES NOT ADVERTISED IN ANY JOURNAL.

A TRIAL WILL CONVINCEN YOU OF THEIR MERITS.

SEND FOR PRICE-LIST.

EDMOND E. ROBERT, }
 3 Maiden Lane, NEW YORK.

SELLING
 AGENTS.

CROSS & BEGUELIN, }
 17 Maiden Lane, NEW YORK.

Pittsburg and Vicinity

Signs of Christmas

Just enough spice has been injected into the jewelry trade of Pittsburg during the past month by the celebration of numerous weddings to make the business interesting, as well as brighter for the tradesman. Most of the stores have taken on somewhat of a holiday appearance, but of course lack their full dress for the Christmas buyers. The newness of the stocks and their brightness attract attention. Unpacking of new consignments continues, much of the material coming from foreign shores, and show cases have a decidedly attractive and well-filled appearance. The dealers, as a rule, express more satisfaction than they did a month ago, and some of the more despondent ones of the earlier date are taking courage with the approach of the Yuletide season.

Business Prospects

After taking a general view of local conditions, including the financial market and the slowing down of all the high-pressure steel operations of the local district, most of the more thoughtful dealers say that while trade is going to be good this season, it will not come up to last year. This is a belief founded on what seems the best of grounds, for the scarcity of cash in the banks and the depression in all lines must of a necessity affect the expenditures of people for such goods as the jeweler has for sale. It is said, however, that collections have improved after a temporary bad spell, and that the local banks have become strongly entrenched and are willing to give all necessary facilities for the carrying on of legitimate business.

Imposing Importations

Regarding the importations of stock by the local trade, there seems to have been a good slice of goods taken from the foreigner this year. Heeren Bros. & Company have made a special effort to bring out an unusually large and handsome line of imported electroliers. These, by the way, are playing a conspicuous part in the decorations of all the stores here. The recently-closed exposition, which is an annual event in Pittsburg, demonstrated the general interest in this line, for Heeren Bros. & Company had a huge display booth filled with a magnificent line of these works of art, which are believed to be the finest that have ever been seen in this city. Included in the exhibit was a large display of stands, brackets and statuettes, all of the highest class and of great value. The display booth was in itself a magnificent affair of Corinthian columns and inclosed in massive plate glass. The display was one of the most attractive in the exposition main building.

Gillespie Brothers have just had a large consignment of these goods placed in their stock. This firm reports trade vastly improved, and the members speak hopefully of the future. Diamond importations are said to be fully as heavy as last season, and in some cases, where orders were placed early, the importation has exceeded last season somewhat.

Pottery Association

On Tuesday, November 10th, the annual meeting of the National Association of Pottery Manufacturers was held in this city. The association embraces almost all of the leading potters of the country, and their discussions were mostly upon trade matters in which the jewelry trade is more or less interested. It was in the development of the art pottery which the American manufacturer has been striving to

get a foothold in and replace foreign products that most interest centered. It was stated by President C. E. Wells that the trade conditions were never better than the reports submitted showed at this meeting. Some discussion was held on the new Colonial pottery, which is rapidly becoming a popular fad, at least locally. This material has a beautiful finish in deep browns or blues, and is trimmed with solid silver. Most of the shapes produced are teapots, but of late attention has been directed to smaller articles, such as toilet ware, and in not a few windows there has appeared a display of this line of goods that the public is watching with much interest.

Activity of the Burglars

Activity of the burglar continues in some of the outer sections of the city, and the jewelers are aroused to the necessity of unusual precautions for the winter. Some weeks ago the store of A. C. Gies, in Frankstown Avenue, East End, was visited by burglars early in the morning. Mr. Gies sleeps over his store and was aroused by the noise made by the men. Two men were at work on the windows on the side of the building, and were discovered by a policeman. They gave battle and several pistol shots were fired. The officer went at the men vigorously, but was wounded and knocked down, and they escaped after firing a parting shot at both him and the proprietor of the store. Nothing was taken, however, and Mr. Gies is thankful that he escaped as well as he did in this experience. Other minor attempts to rob jewelers have been reported from time to time, but nothing of importance has been brought to the attention of the police.

The warning that these cases give to the trade in general is such as to put all dealers on their guard. Pittsburg is unfortunate in its police protection. There are very few officers and a large extent of territory for them to get over. In addition to this the demoralization of politics has much to do with the inefficiency of the police, and has given the restless and ever-active burglar a chance to ply his trade with more vim than he has for some time past. The quieter artists, generally called sneak thieves, are still absent, but they are so closely watched that most of the dealers in the down-town sections are able to protect themselves promptly. It is the outlying districts that seem to suffer the most.

Views of the Travelers

Among the salesmen from Eastern houses who were in Pittsburg during the latter part of last month, were several who have been pretty far into the West, and are on their inbound route. They stopped off in the city outbound and were so disappointed with their orders that they made a second call. It was interesting to hear the remarks of these men. The statement of one showed that a fairly conservative estimate of the business of his house for the year would show an increase of \$200,000. This increase will, however, all be in the West. In the East there has been a falling off. Business, he said, was fairly active, but the stocks showed up too large to permit of heavy fresh buying.

Another salesman stated that the fall buying had been light in the Eastern territory because the dealers were afraid of the outlook, but that at the last moment he believed that there would be an unusually large number of rush orders from delaying purchasers. This, he said, would affect Pittsburg as well as other localities. A third called attention to the fact that the cheaper grades of stock were having the strongest call, and reasoned

out that it was the working classes that were still doing the main portion of the buying, and were consequently prosperous.

Locally, the trade admits that the buying of diamonds among the larger houses has been light this year. It is believed that in this one stock the slacking off has been enough to affect the totals beyond all the recuperative powers between now and the end of the holiday season.

A number of changes are being made in the clerical force of B. C. Aaron's store in Smithfield Street. These are in the way of additions to the regular staff, and include Miss Marcella Heyl, formerly with Biggard & Wolff, jobbers, of Smithfield Street, who will act in the same capacity in the new store. James B. Fergy, a watch repairer, has also been located in this store, while a new department of engraving is to be started early this month with a well-known engraver in charge. The store has been wonderfully brightened by new stocks, and especially in art ware, a goodly portion of which is imported stock.

The annual meeting of the Scottish Rite branch of Masonry was held here during the second week of November, and drew many prominent members of that famous organization to Pittsburg. It also had some effect on the demand for Masonic pins and degree emblems of the order. Some exceedingly fine Masonic jewels were seen, and ambitions were stirred among the large class of new members initiated to secure similar ornaments as a result of their experiences of the week.

Cheering news of the early resumption of the two suspended national banks of this locality is given out, and the public is informed that the Federal National, which has been closed for some weeks, will be opened early in December with a strong backing and able to cope with any situation that may arise, as well as having a new board of directors and a much larger surplus. The First National Bank, of Allegheny, which is also closed temporarily, is to be reopened about the same time, and new men will head the institution, all of whom are well known in financial circles. These incidents have encouraged local merchants materially, and the hope for better things is felt keenly.

The Battle with the Safe-Blowers

For years there has been waging a battle royal between the people who build safes and the army of experts whose business it is to crack and rob the strong boxes. In fact, the competition has been on a smaller scale quite like that between the makers of armor plate and the gunners. When the safe-maker secured a steel which could not be drilled, the safe-cracker resorted to nitro-glycerine and blew the doors open. Then the doors were made to fit more tightly, and the crackers simply took a sledge, knocked the handle off the door and used an air pump to draw in his explosive. After awhile this was guarded against, and thereupon the enterprising burglar found a new agent more powerful than ever, in thermit. W. J. Hammond, an electrical expert, says: "I have seen steel safes in which enormous holes had been burned by employing thermit, and it would be possible for a burglar to carry some thermit in his pocket and burn a hole in a safe large enough to insert his arm and extract the valuables. I saw in Germany, last summer, a substance called 'anti-thermit,' which it is intended to place in the lining of safes to prevent the reaction taking place, thus protecting the safe."

At last accounts the burglars were still up to date.

1926
You Can
Order Your
Holiday
Goods
By Mail
Or Wire
From the
Catalogue
With the
Dark Blue
Cover.

THE Jewelers of the Great West and Southwest will find it to their decided advantage to consult the Catalogue with the "Dark Blue Cover," during the holiday rush, for the latest and newest articles in Cut Glass, Sterling Silverware, Pearl Goods and Carvers, Canes and Umbrellas, Mirrors, Picture Frames, Ink Stands, Ebony Goods and Toilet Ware, Bronzes, Music Boxes, Austrian Court Boxes, Leather Goods, Chafing Dishes, Plated Flatware, Silver-Plated Ware and Clocks, and then buy quick.

This Catalogue with the "Dark Blue Cover" illustrates a line of Holiday Goods that could not be crowded into a hundred sample trunks.

If your self-interest has not prompted you to ask for one of our Catalogues, it certainly should compel you to send for a copy if you are a dealer in the Southwestern or Western territory, for the reason that it illustrates and prices our gigantic stock of Holiday Goods—the most complete and attractive in the above lines ever offered to the Western and Southern trade. It will be sent absolutely free if you will but ask for it.

The dealers in the above territory will understand that our central location enables us to give fast service on "hurry-up" and "rush quick" orders. We pride ourselves on our ability to take good care of just such favors. Let us hear from you by mail or wire.

St. Louis Clock and Silver Ware Co.
616 Locust Street, St. Louis, Mo.

Dallas and the Lone Star State

Good Prospects for Holiday Trade

As the holidays approach, the most casual observation reveals a much increased business activity. By the 10th of December, it is thought, the rush will be well on. Preparations, unusually elaborate and complete in detail, have been entered into by the local trade to take care of the extra influx, when it comes. Reports from all over the State are indicative of similar conditions. The things partly, if not wholly, justifying the hopeful feeling are to be found mostly in the crop and weather conditions, both of which are good.

In addition to the solid mahogany fixtures lately installed by Morgan & Hawley, of this city, an entire new front, of the most substantial and attractive design, has added much to the handsome appearance of their new retail jewelry store.

W. S. Norton, jeweler, of Lubbock, has moved to Tenaha.

R. Mathias, who has been located at Fayetteville for some time, has moved to Coppers Cave.

Lee S. Smith, of Hereford, was in the city recently inquiring for a good location. He has just sold his entire stock and fixtures to Jeweler Nix, who will run the business hereafter.

T. A. Long, of Whitesboro, was among the large number of out-of-town jewelers who recently visited the markets on a buying expedition.

Jeweler Bowden, of Granbury, was in the markets last month doing some buying for his home store and enjoying a few days in the metropolis of Texas.

R. C. Glover & Co., now located at 220 Main Street, are making all preparations to move into their new home on or about January 1st, 1904. When completed, this will be a very beautiful store.

November has been notable here for marriages in the trade, three jewelers and the daughter of a jeweler having entered into the matrimonial state. Miss Newton, daughter of G. C. Newton, the well-known jeweler of Waxahatchie, was united to Mr. Templeton, the ceremony having taken place at the bride's home.

H. H. Hawley, of Morgan & Hawley, this city, was married on November 18th to one of the most popular and accomplished young ladies of Huntsville. F. E. Chase, of Dallas, was best man.

Ras Redwine, of Henderson, left his business for a few days and went to Nashville, Ark., where he was married to Miss Beuna Baker, an esteemed young lady of that place.

E. J. Thomason, of McGregor, became a benedict on October 26th, when he became happily united to Miss Alma Hall, of McGregor, Tex., a young lady popular in the social life of that center.

The well-known firm of Turek & Bruns, doing a jewelry and drug business at El Campo, Tex., recently changed its name. Mr. Bruns purchased Mr. Turek's interest, and the firm will now be run under the name of W. H. Bruns.

T. H. Benninger, manager of the Benninger Jewelry Company, of Cleburne, has sold his entire stock and fixtures to J. W. Pittman. Mr. Pittman expects to do well in the business. Both of the dealers named were in Dallas recently visiting the jobbers.

W. R. Thomas, of Celeste, had the misfortune to lose his home by fire recently. Both the house and its contents were a total loss.

D. Davis, of Sanger, was a recent purchaser in the local markets.

W. B. Crowder, of Kemp, was on a purchasing tour in Dallas recently.

C. G. McCord, who recently opened up business in Dublin, was a welcome visitor and purchaser in this market recently. Since opening, Mr. McCord has enjoyed a very nice business.

Brownwood has been having a street carnival for a week, and the merchants, especially the jewelers, have gone to extra trouble and expense making their stores as attractive as possible to visitors. The store of the Armstrong

Jewelry Company was fitted up in a handsome manner, and was much admired.

Something of a sensation was caused here last month by the reported robbery of \$2100 worth of jewelry from the apartments of a Mr. and Mrs. Thomas in the Oriental Hotel. The whole machinery of the detective department was put in motion for the purpose of finding a clue, and a liberal reward for information was offered by the authorities. After the lapse of several days the gems were discovered in the washstand of the owner's room, alleged to have been returned there by the person who removed them.

News from the Northwest

November business, as usual, has been quiet in the retail line. It was ever thus at the approach of the holiday season. People always put off purchasing until Christmas is nearer. Another reason for light November business with the retail jeweler in this section is the fact that with November weather on hand, the public thought turns to the fuel problem, and a generous supply is a wise precaution. The scarcity of coal last year has cautioned all to provide a good supply early, and we think we can safely say that never before has the demand been as thoroughly supplied as this year. As this expense is now over, more money can be spent for luxuries, and the jeweler will get his share as Christmas draws nearer.

Travelers report good, large orders the rule, and the trade expecting good business, although they continue to buy carefully. With prospects of early snow to make good sleighing, the farmer will soon begin to haul the 1903 crop to market, and this will mean a greater circulation of money. Jobbers report country orders well in hand. There is a scarcity in a few lines, as is usual at this season, but, generally speaking, orders are being well filled.

Collections have improved in the past month, and with the good month of December still to come, we may expect by January 1st quite an addition to the "I want that cash discount" list of customers.

J. F. Knott has moved from Troy, Idaho, to Nora, Idaho.

W. L. Button, lately in the employ of F. H. Towne, Sisseton, S. Dak., has begun business at Selby, S. Dak.

The Anchor Silver Plate Company, of Muncie, Ind., has removed to St. Paul, Minn., where it has been reorganized and its capital increased to \$150,000, \$125,000 of which has been paid in. The officers are: A. F. Seliger, Muncie, Ind., president; H. W. Fagley, St. Paul, vice-president, and H. W. Collins, Columbus, Ohio, secretary. They expect to be in running order December 10th, and should have a successful career, as it is the only concern in that line in the Northwest.

Charles H. McLean, for the past five years watchmaker for W. M. Stone, Minneapolis, while riding a bicycle, October 21st, was run into by a fire engine and so badly injured that he died within twenty-four hours.

August Melsness, Eagle Bend, Minn., spent several days in the Twin Cities last month, buying his holiday stock. He reports very good prospects for trade in his section.

Theo. G. Mahler, Le Sueur, Minn., has traded his North Dakota land for business property at home, which he will improve and occupy as his store room.

Walter Allen has left the employ of W. R. Lasham, Grand Forks, N. Dak., and gone to work for George K. Munro.

Evan Nelson, Hillsboro, N. Dak., was buying cigars and looking pleasant last month, owing to the arrival of a baby girl at home. "All doing nicely, thank you."

August Grerer, Stillwater, Minn., has made a much-needed improvement by adding new show cases.

Lee Schaefer, Lakota, N. Dak., is meeting prosperity half way by putting in new fixtures and generally brightening up his store—unmistakable signs of success.

Miss Emma Conyne, Mandan, N. Dak., paid a visit to Elgin, Ill., last month.

Sischo & Beard, St. Paul, have just sent out to the trade their new optical catalogue. It is full of good things, and they are justly proud of it.

Louis J. Ritter, formerly with Picard & Moss, Jamestown, N. Dak., has gone to Chino, Mont.

A. O. Wold, Langdon, N. Dak., has improved his store by adding new fixtures.

Fred. L. Husby has been compelled by poor health to give up his position with S. Perlman, Washburn, Wis., and is now at Red Wing, Minn., recuperating.

Al. E. Winter, Bermidji, Minn., has just placed a new safe in his store to further protect his increasing wealth.

Charles F. Lyman & Co. have started in business at Fessenden, N. Dak.

M. Shaw has begun business at Crandon, Wis.

Henry W. Klopff, Nielsville, Wis., has returned from a six weeks' visit to Eastern markets.

Albert Johnson, lately watchmaker for O. G. Hulberg, Duluth, Minn., has gone to Seattle, Wash.

Fred. L. Schmalz, junior partner of E. Schmalz & Son, joined the circle of benedicts last month. Heartly congratulations, Fritz.

A. U. Wetzel, Minneapolis, has moved from 208 South Third Street to 408 Nicollet Avenue, a much better location.

Will Chapman, for the past year with Wooley & Shirley, St. Paul, is now with M. Thourteen & Co., Minneapolis.

Ben. Matteson, Jackson, Minn., has enlarged and improved his store by adding new wall cases, etc. Quite an improvement, and a sign of progress.

A. C. Hoose, Billings, Mont., has been compelled by continuous poor health to give up business for a while. He is now at Sixteen, Mont., living an out-door life, and reports a decided improvement in his health.

J. J. Zimmerman, Eden Valley, Minn., has moved to Alma, Wis., his former home, where he will continue in business.

D. Sharp, Elk Point, S. Dak., has opened a branch store at Parkston, S. Dak.

I. D. Allen succeeds to the jewelry business of Evanson & Allen, Cooperstown, N. Dak.

P. A. Landberg, father-in-law of Arvid Osterberg, with A. I. Shapira & Bro., St. Paul, died November 1st.

Jay C. Herdliska, Princeton, Minn., spent a few days in the Twin Cities last month. "I just ran down to pay my bills," was the way he put it.

B. Schmidt, watchmaker for M. L. Finkelstein, St. Paul, is now with Henry Bockstruck.

L. W. Mowry, formerly in business at Slayton, Minn., is now in charge of the Scott Jewelry Company's store at Stillwater, Minn.

H. O. Jacobson, Cumberland, Wis., was married, November 8th, to Miss Olive Hanson. THE KEYSTONE extends hearty congratulations.

Visitors to Twin City jobbers the past month were not as numerous as usual. All are apparently too busy at home getting ready for the holiday rush. Among those noticed were:

J. J. Zimmerman, Alma, Wis.; George C. Nerbovig, Le Sueur Center, Minn.; Theo. G. Mahler, Le Sueur, Minn.; L. O. Gale, Mitchell, S. Dak.; A. W. Wilske, St. Cloud, Minn.; G. R. Simons, Langford, N. Dak.; Jay C. Herdliska, Princeton, Minn.; Mrs. P. L. Lillie, Spring Valley, Wis.; Emil F. Huhner, Stillwater, Minn.; I. M. Radabaugh, Hastings, Minn.; Mrs. I. C. Adams, Estherville, Iowa; August Melsness, Eagle Bend, Minn.; F. H. Boehrer, Durand, Wis.; Herman Hoch, Alma, Wis.; A. W. Carlson, Lindstrom, Minn.; L. H. Bruns, Anoka, Minn.; J. Henry Eggers, Jr., Plainview, Minn.

There has been considerable agitation of the subject of a State retail jewelers' association in Minnesota the past month, and matters have progressed so far that a meeting will soon be called for that purpose. Such an organization, carried on on broad lines, should prove of great value to the jewelers of the State, and is decidedly in line with the general organizations to promote good and harmonious feeling in the craft. We wish them success, and all should respond promptly at the first call.



AUTOMOBILES

IN STERLING SILVER.



Latest and Prettiest in Novelties

We make a complete line of quick-selling novelties in Sterling Silver:

CARD CASES,
CIGARETTE CASES,
MATCH BOXES,
STAMP BOXES,
SCISSORS,

READING GLASSES,
POCKET KNIVES,
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CIGAR CUTTERS,
NAIL POLISHERS,

KEY RINGS,
EMERIES,
HEM GAUGES,
TAPE NEEDLES, Etc., Etc.

Full line of the popular **BEAD NECKS and LORGNETTES** in Sterling and Rolled-Plate.
BRACELETS in all the up-to-date styles.

Also a great variety of handsome new designs in **Sash Pins, Hat Pins, Buckles, Fobs, Chatelaine Bags, Purses, Etc.,** in Sterling Silver and Plate.

State Spoons and other Souvenir Spoons—Tea and Coffee Size.

Chas. Van Ness,
No. 11 Maiden Lane,
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Importers of **DIAMONDS**

Agents for

ELGIN AND WALTHAM MOVEMENTS.

Solid Gold and Gold Filled Cases.

Full Line of

Jewel Series Waltham } Complete Watches
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Smallest Watches made in

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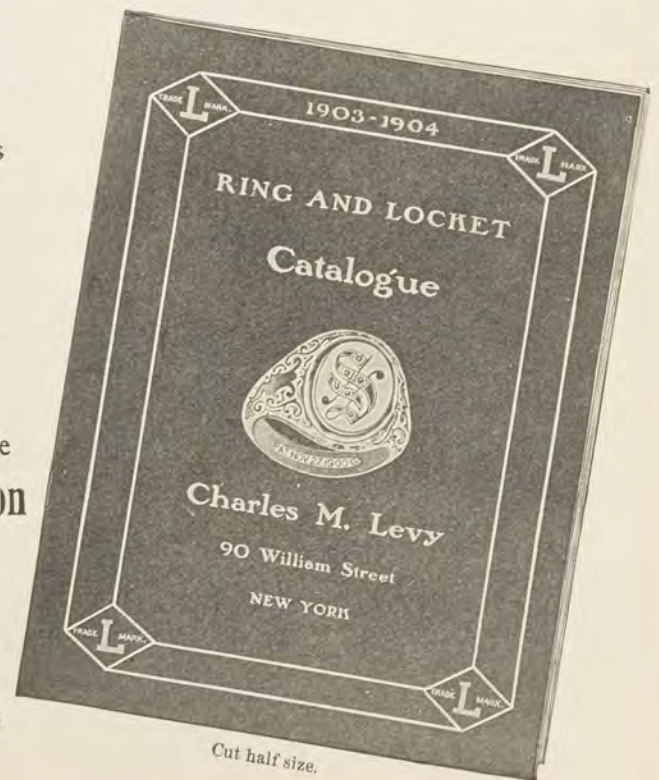
NO SALARY,
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Is at your command in our complete New Ring Catalogue. If you haven't one, a postal will bring it to any dealer.

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Illustrations
of the
Latest Designs
in
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and
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Our New
Interchangeable
Combination
Initial
Ring

is the best
seller
in a Jeweler's
stock.



Cut half size.

Omaha and Vicinity

Business Conditions and Prospects

Some interesting reports are heard as to the condition of trade. Several wholesalers declare that October was the biggest month in the history of their business, but that November showed something of a slump. Several retailers say that July and August were the most successful summer months in the history of their business, but that September was a disappointment. During October and the early part of November the retailers enjoyed a good business, but the latter part of November showed a falling off. This changeable trend of trade is considered puzzling, but on the whole the prospects are held to be encouraging. The average business for months is better than the average for last year. Trade is good in all sections except Northwestern Iowa, where severe hailstorms and excessive moisture caused an almost complete crop failure. Last year this same section suffered a partial crop failure, so that business in Northwestern Iowa is dull and the prospects far from bright. In Nebraska and other portions of Iowa the volume of trade is large. In Western Nebraska and in Wyoming the cattlemen are complaining that the low prices for live stock have cut down their profits immensely and the traders in those sections are buying conservatively. Collections are slow.

Omaha's Future Development

Some changes have been wrought within the last two months which may have an important effect upon the city with reference to its development. Last month the Chicago Great Western Road entered the city and with it a strenuous character in the person of President Stickney, who seems to have inspired the local business men with much confidence. When President Stickney visited the city the first time after the completion of his road to Omaha he told the Commercial Club that Omaha would never be a great city until it had become a grain market. On his second visit he announced that he had bought thirty acres of ground for the establishment of grain terminals. When he came again he brought a large party of Minnesota millers to inspect the field, and one of them said that he would probably soon build a large mill in Omaha. It was on this visit that President Stickney suggested the organization of a grain exchange, and already the Grain Exchange has been formed with a membership of 125. It is hoped that within a brief time the membership will be increased to 250. It is President Stickney's idea that just as Omaha was made a city of 150,000 inhabitants by the establishment of the packing industry, so it can be made a city of 300,000 by the establishment of a grain market and the upbuilding of a milling industry. It will be seen that President Stickney has been something of a commercial revivalist and has won many converts to his ideas. If his plans are consummated the business importance of the city will doubtless be greatly enhanced. While all these plans are laid with the purpose of making Omaha a manufacturing and milling center, the wholesalers are impressed with the fact that the success of these plans means the expansion of the city as a jobbing center. The jobbing interests were long ago established on firm foundation, because the city was splendidly situated as a distributing point for a vast region; but it is realized that the upbuilding of the city cannot fail to build up the State as well. Moreover, irrigation in Nebraska is making rapid strides, and the middle

and western portions of the State which hitherto have been more adapted to grazing than to agriculture, will in the not distant future add prodigiously to the wealth to the State.

George Guerner, of the firm of Jacquemin & Co., of Council Bluffs, was married on the evening of Wednesday, November 18th. His bride was Miss Frances Bowman, daughter of former Congressman Thomas Bowman.

Ira Scott, a jeweler, of Hastings, Nebr., has filed a petition in United States Court, asking to be adjudged a bankrupt. He places his liabilities at \$541.37 in unsecured claims. His assets are a stock at \$274.50 and \$85 worth of machinery, tools, etc.

Louis Borsheim, of Omaha, has taken a position with Victor A. Engstrom, of Evanston, Wyo. He is an engraver and optician.

E. G. Harris, watchmaker, who was formerly employed by Jacquemin & Co., of Council Bluffs, is now working for S. W. Lindsay.

Dr. C. W. Weigle, optician for S. W. Lindsay until recently, has accepted a position with Jacquemin & Co., of Council Bluffs.

Oscar Pihl, for many years with W. R. Bennett & Co., has taken a position with S. W. Lindsay as a clock repairer.

H. A. Borsheim, who has been with P. Stillings, a manufacturing jeweler, has gone to Kansas City.

H. A. Shumaker is in charge of the jewelry department of W. R. Bennett & Co.'s store temporarily.

H. A. Greenblat, the well-known Omaha road man, has taken a position with the M. S. Fleishman Company, a Chicago wholesale house, and will cover his old territory.

Robert Bayer, Earling, Iowa, was in town recently visiting the trade.

Cinek Vyskocil, jeweler, of Western, Nebr., was in the city recently calling on the jobbers.

Mr. Grassberg, who has been in business at Schuyler, Nebr., for ten years, was in South Omaha recently looking for a location. He thinks of establishing himself in business in South Omaha after closing out his business at Schuyler.

Fritz Sandwall, of South Omaha, has returned from a three-months' visit to Europe. Fred Nelson was in charge of Mr. Sandwall's jewelry store during the proprietor's absence.

Manager A. I. Agnew, of the Columbian Optical Company, visited Minneapolis recently with the Shriners.

The New York Fire Insurance Company has paid its share of the loss sustained by the Columbian Optical Company, recently, on account of a fire. This insurance company declined to take advantage of the technicality which impelled five other insurance companies to refuse to pay insurance on this fire. It will be recalled that Manager A. I. Agnew was using gasoline without a permit, not knowing that one was required. The suit against the five companies, instituted by Mr. Agnew, will be tried at the February term of the district court.

A Remarkable Telescope

With a 13-inch parabolic reflector of only 20 inches focus, Professor Schaeberle has obtained, with less than five minutes' exposure, images of stars which are too faint to be seen in the great 36-inch telescope of the Lick Observatory. The little instrument also reveals, with a similarly short exposure, all the stars that the large Crossley reflector of three feet diameter is able to picture with an exposure of two hours.

Philadelphia Letter

Plan to Advertise Philadelphia

The newly-organized Merchants' and Travelers' Association has a plan for a campaign of advertising, entailing an expenditure of \$100,000, which will soon be laid before the business men of this city by the committee on publicity of the association. It is intended to devote a considerable part of this fund to attracting public notice by means of the Philadelphia papers. The formation of a \$100,000 fund will be suggested, each firm or individual to subscribe \$100. This fund will include not only wholesale merchants, but jobbers, retailers and, in fact, every class of business man who may care to enter. The money is to be expended in a wholesale distribution of circulars, the preparation of a weekly news letter to every weekly newspaper in the country, and in the possible publication of a magazine devoted to the interests of Philadelphia and its merchants. It is expected by this means to reach hundreds of thousands of readers and convince them that Philadelphia has decided advantages in many respects over other Eastern cities.

Jeweler's Mother a Centenarian

Children, grandchildren, great-grandchildren and great-great-grandchildren aided Mrs. Mary A. Marriner Cooper in the celebration of the one hundredth anniversary of her birth on November 9th. During the day she received more than two hundred callers at her home, 2049 East York Street, and in the evening a small family dinner was given by the centenarian, who, in spite of her years, remains remarkably active, and planned for the happy occasion herself. Of her six children, two have died at the respective ages of seventy and eighty years. Three are living, one of whom is Richard M. Cooper, the well-known wholesale jeweler, 2127 Columbia Avenue. Mrs. Cooper was born in Putney, England, and came to America in 1822. Blindness, caused by cataract, is the only ailment with which she has been afflicted, and even this does not prevent her conducting the affairs of the home she keeps, aided by a housekeeper. Several relatives from a distance came to visit her on her recent birthday, and the excitement incident to the reception of her guests affected her even less than it would many a society dame of younger years. Indigestion and similar ills are unknown to Mrs. Cooper, who eats what she wants and drinks tea and coffee regularly.

Death of Edward Moore

The death of Edward Moore, for many years a well-known jeweler and watchmaker, 4119 Haverford Avenue, occurred rather suddenly on October 27th. The deceased jeweler had been interviewing a number of jobbers early on the day of his demise, and was then apparently in excellent health and spirits. In the evening, however, he was seized with heart failure in his home and expired in the arms of his wife. Deceased was in his fifty-eighth year, and was highly esteemed by a large circle of friends, both in and out of the jewelry trade.

Warren Schloterer and G. F. Oberland, students at the Philadelphia College of Horology, paid a pleasant visit to THE KEYSTONE office last month.

J. A. Schwarz & Co., now located at 528 Market Street, have leased and will move into the store 516 Market Street, which will be remodeled and improved, giving them increased facilities. The removal will take place January 1st.

(Continued on page 1933)

To the Jewelers of the Great West & Southwest

If you don't know us it is your loss. This is especially true in regard to your Diamond orders. Our prices and terms are made to compete with the largest Eastern markets and our Diamond stock is complete.

Besides, no matter what you want in the line of Special Order Work, Diamond Mounting, Repairs and Engraving, you can get it from MEYER and get it QUICK during the holiday season as well as at all times. Do business with the people who do business quick.

THE MEYER JEWELRY COMPANY

Manufacturing Jewelers and Wholesale Diamonds,
KANSAS CITY, MO.



The
Bassett Jewelry Co.

Manufacturers' Building,
Providence, R. I.

NEW YORK OFFICE, 37 Maiden Lane.
CHICAGO OFFICE, Masonic Temple Safety Deposit Vaults.
SAN FRANCISCO OFFICE, 120 Sutter Street.
MINNEAPOLIS OFFICE, 1116 Lumber Exchange.

Quality is the
redeeming feature
of Bassett Goods.
Sold direct to the
Retailer.

Detroit Letter

The Holiday Outlook

The past month has been a very active one in the jewelry business in this market, and everything is in readiness for the Christmas rush, which promises to be at least equal to any we have had for some years back. This section of the country has been experiencing typical fall weather, which has been giving all classes an excellent opportunity to close up a very prosperous year. Old Sol has been exceptionally good to the farmer, giving him a period of glorious weather in which to get in his fall crops, build up his wood pile and make ready for the cold and snow, which they are now getting in some parts of the State.

It is very noticeable, from the large increase of visitors from the surrounding territory to this market, that the retail jeweler has at last realized that his wants can be taken care of in every way just as satisfactorily in Detroit as in the larger places East and West.

Both retailer and wholesaler are in readiness for the rush, and when it comes all will be able to handle it in the proper way. The jobbers throughout here have a stock on hand quite up to former years, both in variety and quantity, and the retailer is taking notice and buying very freely, but still using good judgment.

It is with deep regret we announce the death of Charles Latchson, the oldest watchmaker in Detroit. Mr. Latchson was ninety years old. He was born in Prussia, and came to Detroit in 1852. He was employed by Patrick Walsh for forty-five years, and when the Walsh store occupied part of the Russell House Block. Mr. Latchson made many acquaintances among the traveling public. He worked at his trade until four years ago, when he retired, at the wishes of his children.

Miss S. Helen King, of Adrian, Mich., sister of W. F. King, passed away last month, leaving a father, mother and two brothers.

N. C. White, of Port Huron, Mich., died last month, after being in ill health for the past few years. Mr. White was very prominent among the Maccabees, and for a number of years was at the head of the Port Huron Lodge.

M. C. Graves and wife, of Vassar, Mich., and their son, C. T. Graves, who is in the jewelry business in Bad Axe, Mich., spent a few days visiting relatives and selecting Christmas stock here the first of last month.

C. G. Draper, of Plymouth, Mich., was a recent caller on the trade here.

J. L. Chapman and wife, Ann Arbor, Mich., spent a day in town last month, picking out a part of his holiday line.

William Riker, of Jackson, Mich., was in town on a buying expedition, and selected a large line of goods for fall.

Max Jennings, St. Clair, Mich., spent three days in town this week, selecting his fall line.

George F. Schaffner, of this city, has returned from a short vacation, which he spent up North shooting deer.

E. V. Allison, of Pontiac, Mich., called on the trade here last month.

D. E. Holland, of Lapeer, Mich., was here on a business trip, and selected a nice line of goods to meet the holiday rush.

D. Atyeo, Belleville, Mich., dropped in on the wholesale trade last month, looking over the new lines of fall goods.

S. Wagner, of Monroe, Mich., was in the city last month on business and found time to spend a few hours with the trade.

D. E. Hinkley, Fenton, Mich., was spending a few days with his son, who is employed with Noack & Gorenflo, Detroit, and at the same time selecting his stock for Christmas trade.

C. W. Chamberlin, of Farmington, Mich., was in town one day last month, purchasing his holiday goods.

C. E. Monford, Utica, Mich., was a visitor here last month.

A. Crongeyer and W. H. Skeeman, of Wyandotte, Mich., spent a day visiting the trade here last month.

Otmar Lutz, of Ann Arbor, Mich., was a recent visitor in this market.

W. J. Bottomly, of Brown City, Mich., called on the trade here recently.

Other buyers in this market were: D. D. Ranney, Leslie, Mich.; G. G. Case, Jackson, Mich.; Mr. Clark, Grass Lake, Mich.; A. E. Winans, Chelsea, Mich.; S. M. Schairer, Dexter, Mich.; H. Phelps, Tekonsha, Mich.; A. H. Cathcart, Marshall, Mich.; A. J. Smith, Plainville, Mich.; Mrs. M. Bucher, Allegan, Mich.; H. Wykhuyzen, Holland, Mich.; S. E. Avery, South Haven, Mich.; L. S. Case, Niles, Mich.; Briggs & Cooley, Vicksburg, Mich.; K. F. Richt, Kendallville, Mich.; Thomas H. Callamore, West Unity, Ohio; W. M. Denman, West Unity, Ohio; B. H. Broer, Toledo, Ohio; A. R. Gardner, Fowlerville, Mich.; C. Pieper & Son, Holland, Mich.; A. Brunk & Co., Deerfield, Ohio.

J. G. Bruce, Burnside, Mich., spent a day in town last month, selecting new stock for the holidays.

L. W. Kerbs, Wayne, Mich., was a recent visitor in this market.

Cleveland and Northern Ohio

Business Conditions

The political pot having ceased to boil, the attention of the public reverts again to a consideration of the holiday question, which is matter of prime importance to our trade. Among the jobbers, business has been fair so far this month, but no one reports as good a business as for the corresponding period of last year. The retail houses are not up to last year. The general condition of the jewelry business in this city has been much better than in some of our other large cities in this country, the reports of travelers being the basis for such an opinion.

J. H. Danforth, secretary and treasurer of the Cowell & Hubbard Company, spent a few days in Pittsburg, the middle of the month, and called upon the trade. Mr. Danforth was one of a large party of local merchants who inspected several large business concerns in that city.

Charles Keim, secretary of the Scribner & Loehr Company, is in Cambridge Springs, recuperating and getting into trim for the demands of the next few weeks.

Grant Whittlesey, of the Whittlesey Optical Company, has been to New York for a few days, attending a meeting of the jobbers.

The Wingate-Nusbaum Company, in the Bennet & Fish Building, have added extra show cases to their equipment, and report a very satisfactory business.

The Deutsch Jewelry Company, mention of whose removal to the Lennox Building was

made last month, were hardly settled before they suffered a loss by robbery of several thousand dollars' worth of diamond jewelry, etc. The police department, by good work, succeeded in getting one of the men who did the job, and some of the jewelry was found.

Charles Ettinger has opened his new store in the Park Building. The location is the same that Mr. Ettinger has occupied for many years, but a sky-scraper is now being completed on the site. New fixtures and new trays—in fact, everything in the fixture line is new. The principal color scheme is green, and the decorations are artistic. Mr. Ettinger will continue his Euclid Avenue store for a time, at least, in connection with his regular place, and if business guarantees it, he will make it a permanent one.

Frank Cox, for many years with the Bowler & Burdick Company, has joined the inspection force of the Webb C. Ball Company in their railroad department.

W. D. McVitty, the well-known salesman with the Cowell & Hubbard Company, will leave this city for Florida immediately after Christmas. Mr. McVitty has become interested in potato raising for the early markets, and has bought a plantation at Hastings, Fla. This region in the past few years has developed fast as a potato town, a very fine quality of so-called Irish potato being cultivated there successfully.

Local jewelers have been much interested of late in the claims of two young ladies who have an "arts and crafts shop" in the King-Moore Building. These artists claim to have discovered and perfected a pink enamel. The work that these young women turn out is a credit to the city, and finds a ready sale. In fact, the surplus stock is taken by a certain Fifth Avenue jewelry house of New York.

Ben. Sands, 130 Euclid Avenue, has added new show cases to his store room, and is now ready to attend to all the Christmas trade that comes.

J. M. Jenks, of the Scribner & Loehr Company, has returned from a six weeks' trip with his line of Masonic goods, and reports a fine trade.

L. F. Gooel has recently opened a new store on Erie Street, near Superior.

W. F. Broer, Toledo, Ohio, spent a day in this city, calling on the trade, last month. Social calls were made on the retail trade and THE KEYSTONE representative.

Mr. Jelliff, of Jelliff & Pickering, Mansfield, Ohio, was in Pittsburg last month, buying holiday stock.

Lawrence Bryson, Salem, Ohio, was also in Pittsburg last month.

E. E. Lerch, Sebring, Ohio, made an assignment the first of the month; assets \$550, and liabilities \$800.

H. C. Bostwick, Newark, Ohio, was in New York early last month on a personal business trip.

Marquart Bros., Crestline, Ohio, have opened a new store.

Brown Bros., Hubbard, Ohio, have opened a new store. After being in California a year, they decided to return and start again.

C. N. Chilson, Geneva, Ohio, was in town last month, buying for a new store which he will open in a few days.

F. R. Montgomery, Sandusky, Ohio, will open a new store this month in the above city.

Austin & Younglove, Green Springs, Ohio, have opened a new store, and are prepared to get their share of patronage.

The following jewelers of this State were seen in the city during the past month: C. Strausmyer, Fremont; John Rich, Painesville; W. J. Higgins, Shelby; C. M. Wilson, Salem; J. C. Joss, New Philadelphia; M. R. Shingler, Wellsville; W. C. Fisher, Lorain; G. L. Guenther, Bellevue; J. E. Beck, Martins Ferry; E. J. G. Lovett, Willoughby; C. J. McCormick, Akron; C. F. Gardner, Newton Falls; F. H. De Witt and wife, Port Clinton; J. B. Swain, wife and son, Sidney; Mr. Young, Mt. Vernon; L. J. Goddard, Ravenna; W. J. Kappler, Akron; Philip McCracken, Barberton; J. O. Adams, Milan; A. O. Wright, Berea; also, P. F. Craig, of Sandy Lake, Pa., and Mr. Eroo, of Hanna & Eroo, New Castle, Pa.

1932

The Giant of Collar Buttons

}

in Quality
in Sales



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 your 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.



BRAND

The world's greatest Gold and Silver Solders. Known everywhere to be absolutely the best. Made in low karat, 6 K., 8 K., 10 K., 12 K., 14 K., 16 K., 18 K. and 20 K. Flows easy, will not ball and has a fine color. Used by the largest jewelry manufacturers as well as the repairer.

Every piece fully guaranteed to give satisfactory results. Sold by all Wholesale Jewelers and Material Houses.

F. H. Noble & Co.,

New York Office:
51-53 Maiden Lane.

103 State Street, Chicago.

Catalogue of Jewelers' Supplies furnished to the Wholesale and Manufacturing trade upon application.

Any Jobber Can
Supply You Promptly.

A trial with

FAVORENE

and you will never go back to the old way of soldering with borax, anti-oxidizer, pickle, etc.

Order from your jobber a sample bottle, 2-oz. size, and if not perfectly satisfied we refund your money. 2-oz. bottle will solder over 200 jobs of the ordinary size.

Price, 35 Cents.



Cut reduced 1/2 size.

"Nothing Like It!"

The greatest invention
of the age

is the universal verdict of
every dealer that uses

FAVORENE

Does your work in less time, requires less heat, requires no pickle, no anti-oxidizer, no borax, etc. With Favorene you can make 14 K. gold solder flow on 8 K. goods without danger of melting the goods. Favorene is a hard soldering solution that is guaranteed and does give absolute satisfaction.

Patented October 28, 1902.

KLENZENE

the greatest tarnish remover of the age.

Removes tarnish instantly and without the slightest injury, either to the article or to the hands.

Requires No Rubbing or Brushing. Price, 2-oz. Bottle, 25 cents.

Jobbing trade supplied through

WAYNE JEWELRY CO., Fort Wayne, Ind.,

—or by—

HAMMEL, RIGLANDER & CO., 35 Maiden Lane, New York.

Birmingham, Ala., Letter

Uncertainties of the Situation

Business conditions are rather peculiar in this section of the South. While big crops and high-priced cotton are making the country merchant and farmer prosperous, low-priced iron and steel are causing slow times in the manufacturing centers. Birmingham is suffering because of the drop in price of these classes of metal and products created therefrom. Pig iron has gone down in price to below cost of manufacture and many furnaces have been forced to blow out. Rolling mills are out of orders and can run only part time. The big steel mill at Ensley, one of the most extensive enterprises in the Birmingham district, has been forced to stop work for a time, because the returns from sales are not consistent with cost of making. There is no general fear of a continuance of these conditions, and the idea prevails that with the advent of the new year prosperous times will recur, because with the immense tonnage of the products of the farm, the railroads are forced to make constant improvements to meet the demands upon them. There is plenty of money in the country, and none but the over-pessimistic believe that any protracted trouble is really in prospect.

Jewelry Trade Satisfied

The fact remains, however, that while industrial lines are suffering to some extent, commercial interests are moving along equal to last month in most cases with better records than those made the same time last year. P. H. Linnehan when asked to-day how his jewelry business was coming along, replied: "If you had asked me that question this morning I should have answered that it was not good. I thought so at the time. But after coming down town to-day I looked over my books and found that up to to-day my sales were \$500 ahead of the same time last year. I have found collections a little slow, but as a whole business is satisfactory in my line." This view was held by several others seen, all of whom look for a large fall and winter trade. Abbott Bros. are cheerful over the prospect, and have laid in a big stock of all classes of goods. The same thing is true of F. W. Bromberg, Jobe-Rose and the others. No such stocks as are now here were ever before brought to Birmingham.

Danger of Future Strikes

Students of social and economic conditions see in the present dull period among industries the approach of a crisis between capital and labor that may or may not result in great financial loss. The coal miners of the district, numbering about 15,000, are all employed on a scale based on the price of coal mining, the minimum price being forty-five cents per ton, with pig iron at \$8.50. All other classes of labor are similarly favored, for with iron around \$10.00 the coal miner gets good pay. In every contest for some time the laborer has been given the best of it until the end of the see-saw he occupies has the other fellow up in the air most of the time. It is a well-known fact that when iron goes below \$10.00 many furnaces are forced out of blast. This price has been reached, and the decline goes on, with prospect of \$9.00 in a few days. With coal mining at fifty cents and iron at \$9.00 few furnace companies can make money. The same range of high prices prevail among all the labor unions, and it does not take a prophet to see that something must happen to even up matters. That something, many believe, will be an immense strike next July when an

attempt is made to make a new contract with the miners.

Unsatisfactory Arbitration

There was an attempt last July to make a contract between furnace companies and coal miners which came near to being a failure. As a last resort both sides agreed to arbitration, each choosing two men and both a fifth. The choice as fifth man fell to Judge George Gray, of Delaware, member of the famous anthracite commission. The miners contended for an increase in the minimum and maximum price of mining, the abolition of the check system and two-weeks pay day, all of which Judge Gray allowed. The award was not satisfactory to the operators, as they received nothing and the miners everything; but all agreed to keep and have kept the spirit and letter of the agreement. That there is lack of appreciation of the plan none attempt to conceal. Some operators feel very bitter over the outcome, and none are so blind as not to see that there is the finest outlook on earth for a big and long-drawn struggle next summer.

The marriage on the same evening this month of two daughters of Judge H. A. Sharpe, member of the Supreme Court, made sales of heavy plate and cut glass very large among local jewelers. Abbott Bros. sold something like \$5000 worth, while others came in for a goodly share. Among the pieces were two tea seats, one costing \$350.00 and the other \$250.00. An attaché of Abbott Bros., who unpacked the goods sent out by his house, relates that the value of the presents received would run into many thousands of dollars.

A remarkable instance of business success is the case of A. S. Smith, who has a large stock of goods on Nineteenth Street. He began six years ago with a small "hole in the wall" on Twentieth Street, where he paid strict attention to business. Pretty soon he moved into larger quarters and began to invest his money. He now has eight houses, which bring him large rents, and is constantly adding to his possessions. Mr. Smith is a leading church and Sunday school worker and has a large number of friends.

Sales of diamonds are reported for the past month in fairly good volume. A. S. Smith disposed of half a dozen, or so, fine stones at good profit. P. H. Linnehan turned loose some valuable ones also. Others made sales at good prices, and are expecting more during the next few days because of the Christmas holidays. Pat. Linnehan says he does not care for diamond sales, as they are less profitable than others to him. J. Lowinsohn sold a stone for a good price last week, getting a first payment of fifteen dollars. The purchaser pawned the stone in less than a week for sixty dollars and lit out. He was arrested later, however. The pawnbroker will have to make his money out of the man. Mr. Lowinsohn gets his stone back.

The whole interior of P. H. Linnehan's store has been remodeled. More room has been given for stock and an optical room built. New show cases have been put to service to show off a fine lot of new goods.

F. W. Bromberg has put in a new electric lathe and enlarged his manufacturing department. His many friends will be glad to know that he has entirely recovered from his recent illness. Mr. Bromberg is making room for a large winter stock.

W. E. Perry, who was with J. Lowinsohn for some months, has transferred to P. H. Linnehan, and his associate, Mr. McDuffee, has returned to Atlanta. A. W. Dick, formerly manager of the

Parritt Jewelry Co., Bloomington, Ill., has gone with Mr. Lowinsohn.

The Calhoun Jewelry Co. is sending out a beautiful calendar for 1904.

Philadelphia Letter

(Continued from page 1929)

L. V. Garron, for eighteen years with J. E. Caldwell & Co. as jewelry salesman and head of the decorative department, has accepted a similar position in the Wanamaker jewelry store.

A pretty social affair in West Philadelphia was the marriage of A. Reed McIntire, of the firm of McIntire, Magee & Brown, to Miss Adelaide R. Hall, an accomplished and popular young lady of this city. The ceremony was performed at the Epiphany Baptist Church, Thirty-sixth and Chestnut Streets, and was witnessed by a large number of the friends of the bridegroom and bride. The ceremony in the church was followed by a reception, after which the happy couple left on a wedding trip. THE KEYSTONE joins with Mr. McIntire's host of friends in the trade in extending congratulations.

S. Kind & Sons, now located at 928 Chestnut Street, will move into the handsome store of H. Muhr's Sons on March 1st, when the latter firm will have retired from business. When installed in their capacious new quarters S. Kind & Sons will expand the jobbing branch of their business, which will be in charge of Oscar Kind. Stocks will be increased and additional travelers will call on the trade. S. Kind will continue in charge of the financial end of the business as heretofore, and Frank Kind will have charge of the retail department. So capacious will be the new store that there will be ample room on the first floor for the wholesale as well as the retail branches of the business, which will be a convenience alike to patrons and to the management of the store.

Wm. H. Doeble, manufacturing jeweler, has moved from 722 Chestnut Street to new quarters at 722 Sansom Street, where he has installed new machinery and added greatly to his facilities. The new shops and equipment are thoroughly up-to-date.

M. Sickles & Sons, 726 Chestnut Street, have issued a handsome catalogue and price-list of silver novelties and toilet articles. This catalogue is a richly-bound compilation of large sheets of illustrations printed on one side only. The illustrations are remarkable in that a majority of them are the actual size of the goods, and the fidelity of the reproduction elicits admiration. The number and character of the illustrations are no less remarkable than the beauty of the styles illustrated, the conception and execution showing art and skill of a high degree. The goods are of the kind that are especially suitable for holiday stock, and consequently the catalogue will be found especially useful at this time. Any jeweler who has not received a copy can have one by sending a request for same accompanied by business card to M. Sickles & Sons. The goods are so priced that the book can be shown to customers without betraying the actual cost of the articles.

"I have been a subscriber to *The Keystone* for twelve or fourteen years and do not see how I could conveniently do without it. I consider *The Keystone* the best jewelers' paper that I know of."—J. M. Thompson, Jeweler, Eagleville, Missouri.

LEONARD KROWER, 536-538 Canal St., New Orleans, La.

**Manufacturer
and
Wholesale
Jeweler.**

Proprietor of the
**American
Cut Glass Co.**

Our long career in the wholesale business and our connection with the largest manufacturers places us in a position to supply you with your requirements at prices to defy all competition.

Since we assumed the American Cut Glass Co., supply you with Cut will induce your consideration of every line appertaining to the jewelry business, is an extra inducement for you to accept our invitation to visit New Orleans at our expense and inspect our line.



proprietorship of the we are in a position to Glass at prices which ation of the line. Our

Yours truly, **LEONARD KROWER.**

**Importer and
Exporter.**

**Manufacturing
Optician.**

Manufacturer of the
**French Alliance
Rings,** in 10, 14 and
18 Karat.

**WE CAN TEACH YOU TO DO
AS WELL.**



Designed and engraved by MARIE A. SPIES, Steubenville, Ohio.
Our instructions in engraving are more thorough and practical than many so-called engraving schools. Our prospectus proves this, and she will tell you so. Write her.

Why Will You Work

for \$6.00 or \$8.00 a week in a store where you can never become a first-class workman when a short course at our college will enable you to earn a good salary?

We Are Expert Teachers

and teach thoroughly and practically watchmaking, engraving and optics.

You will not make a mistake by attending our college in January, 1904, but write at once, as we only take a limited number of pupils. Our prospectus gives full information.

The Philadelphia College of Horology,

Broad and Somerset Sts., PHILADELPHIA, PA.

Established 1894.

F. W. SCHULER, Principal.



DIAMONDS

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

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

A. C. BARD & CO.,

IMPORTERS AND CUTTERS,

103 State Street, Chicago, Ill.

San Francisco Letter

G. E. Wolfe, one of the new arrivals on the Pacific coast, has opened a neat little jewelry store in the Richmond district of this city, and is doing a nice little business.

F. Straut, formerly located in Minneapolis, Minn., has opened a retail jewelry store in Hoquiam, Wash., making a welcome addition to that enterprising town.

C. R. Goodenough has severed his connection with Jeager Bros., of Portland, Oregon, and is now installed as watchmaker with Brock & Fegans, the new retailers located at Broadway and Fourth Street, Los Angeles, Cal.

Owen Jones, who formerly conducted a jewelry store in Hoquiam, has gone into business again, having opened up a fine new store in North Yakima.

A. M. Samuels' new retail store at 1223 Market Street, this city, is a fair sample of what a little capital will do. It is a very attractive little store, and they are doing a nice business.

Krogh & Co., of Everett, Wash., dealers in watches and jewelry, have been incorporated lately, and are doing business under the name of the Krogh Jewelry Company, Inc.

Licate Guiseppe, who owns a jewelry store at 512 Broadway, this city, was visited by burglars recently, but fortunately the police arrived while the two burglars were in the store, after having gained admittance with pass keys, and before any of the stock was disturbed. The police think they have the parties who have been committing a lot of petty thieving in this neighborhood, and the jewelers in this section are now more at ease.

E. A. Cochran, after spending three years in Alaska, has returned to San Francisco and accepted a position as watchmaker with the Vanderslice Company, the Sutter Street retail jewelers.

Emil Pfund, retail jeweler of Aberdeen and Hoquiam, Wash., met with quite a misfortune recently, fire having completely destroyed his stock and fixtures in his Aberdeen store. He will immediately find a new location in Aberdeen and place half of his Hoquiam stock in it, so as to enable his many friends to do their Christmas buying without going elsewhere. We trust he will be able to get as much business as if there had been no fire. His friends in the trade wish him every success.

W. J. White, formerly of Reno, Nev., has accepted a position with Frank Smith, the San Jose jeweler, as watchmaker.

H. N. Skinner and N. Colvin, who formerly conducted separate jewelry stores at Everett, Wash., have consolidated the two establishments into one, and will hereafter do business under the name of Skinner & Colvin.

A. E. Colburn, of New Whatcom, has secured the services of Henry Moore, who will take entire charge of his rapidly growing manufacturing plant, which will enable Mr. Colburn to take care of his regular trade.

Minasian & Co.'s new jewelry store at 209 Post Street, this city, is an ornament to the trade. Mr. Minasian was previously employed by Frank Conant, of Santa Barbara, Cal., and G. G. Brooks, of Colusa, Cal. The store and fixtures speak well for his educators.

Frank Donnerberg, formerly watchmaker with Armer & Weinshenk, the Pacific Coast Material House of Sutter Street, San Francisco, has

accepted a position with J. H. Seymour, of Astoria.

Charles Heitkemper, son of G. Heitkemper, the Portland, Oregon, jeweler, has accepted a position as watchmaker with Frank Smith, of San Jose, Cal. This pilgrimage will give the young man an insight into how business is conducted away from home.

THE KEYSTONE received the following recently: Mr. and Mrs. Edward C. Watt announce the marriage of their daughter, Ella Thompson, to Mr. Harold A. Forbes, at Denver, Colo. Mr. Forbes is one of Heacock & Freer's hustling road force, and is receiving the congratulations of the trade. Mr. and Mrs. Forbes will receive their friends in their new home after November 15th, at 321 Cherry Street, San Francisco, Cal.

A. Roger Cooper, of M. Schussler & Co., joined the growing order of benedicts on Wednesday, October 21st. The first degree was conferred in Los Angeles, Cal. The bride, née Miss Paula Adele Coblenz, is well known among the jewelry trade in San Francisco, and THE KEYSTONE wishes to join their host of friends in wishing them a happy and prosperous future.

E. E. Vicary, who was employed by Nordman Bros., of Sutter Street, this city, has severed his connections with the jewelry trade, and is taking up a full course of studies in dentistry. His many friends in the trade wish him every success in his new venture.

Felix Friedlander, who is in business with his father, W. Friedlander, retail jeweler of Portland, was married recently, and spent his honeymoon in San Francisco and Southern California. While visiting his host of friends among the trade of this city he was showered with very hearty congratulations upon the recent important event.

S. Conradi, the retail jeweler of South Spring Street, Los Angeles, Cal., called on his friends in this city on his return from Washington, D. C., where he attended the Supreme Council of Thirty-third Degree Masons, he being one of the few actives of that degree on the Pacific Coast.

Louis Freund, of Henry Freund & Bro., wholesale jewelry jobbers of 9, 11 and 13 Maiden Lane, New York City, made his fall visit to the trade in this city recently, and called upon THE KEYSTONE representative. Mr. Freund reports the outlook for a prosperous Christmas trade as the best in his experience.

James Rasmussen, who is connected with the Bartlett Company, retail jewelers of Ventura, Cal., spent a visit among the trade recently, and incidentally selected a complete line of novelties and staples for their holiday season.

E. M. Eastings, who was formerly located in Cedarville, this State, has opened a new retail jewelry store in Sierraville, Cal.

Herman D. Hadenfeldt, of Rothschild & Hadenfeldt, jewelry jobbers of Sutter Street, is making his initial Northern trip, and from the size of the orders being sent in, we are inclined to think he is getting his share of the business in the North. This firm is growing rapidly, and will henceforth be in better condition to take care of the wants of their many old friends in the retail trade throughout the entire Pacific Coast. "Rothschild & Hadenfeldt, Incorporated," is the new heading under which this old firm will continue to do business in the future.

Nordman Bros.' watch and material house, of Sutter Street, is a very busy concern just now, and the entire force are working at top speed.

The new catalogue issued by this house appears to be filling a long-felt want, as it furnishes employment for quite a few clerks, and incidentally enables the retailer to have his orders filled without any unnecessary delay. If you have not written for the new issue, do so at once.

A. I. Hall & Son, wholesale jewelers of San Francisco, during the annual foot ball match between the University of California and Stanford University last month, allowed their entire force to attend same, thereby approving the old adage, "All work and no play makes Jack a dull boy." Needless to say, this custom promotes a very good feeling between the employé and employer.

A host of visiting jewelers were in town last month, and the following were noticed among the heavy buyers from this State: Peter Johnson, Angels Camp and Sonora; A. H. Edwards, Ferndale; E. Maybem, Chico; F. A. Willets, Watsonville; Mrs. Anson P. Hall, Visalia; F. F. Bars, Placerville; J. H. Hoever, Willow; H. O. Ball, Sonora; J. J. Wilson, Dunsmuir; L. Nordlinger, Los Angeles; B. Klum, Sacramento; R. Friedberger, Stockton; E. Howard, Merced; J. H. Langhorst, Jackson; M. Gravatt, Hanford; E. L. Hass, Napa; D. V. Gardner, Santa Maria; A. F. Sigwart, Oakland; J. T. Lowe, Hollister; C. J. Klein, Santa Cruz; also, C. H. Hinges, of Salem, Oregon.

Names of Vehicles

Men who in these days "hire a hack" never stop to inquire how the vehicle they engage to wheel them to their homes or to a depot got its name. It suffices to know that everybody else calls it a hack, and to them it is simply that, and nothing more. The original hacks were termed hackney coaches, because they were drawn by "hackneys," a name applied to easy-going, safe-pacing horses.

"Coach" is derived from the French *coche*, a diminutive form of the Latin *conchula*, a shell, in which shape the body of such conveyances was originally fashioned. Seldom, if ever, is the full term "omnibus" applied to those heavy, lumbering vehicles found in so many large cities. With the characteristic brevity of English-speaking races, the title has been changed to "bus."

These were first seen in Paris in 1827, and the original name of "omnibus" is derived from the fact that it first appeared on the sides of each conveyance, being nothing more than the Latin word signifying "for all."

"Cab" is an abbreviation of the Italian word *cabriola*, which was changed to *cabriolet* in French. Both words have a common derivative—*cabriolet*—signifying a goat's leap. The exact reason for giving it this strange appellation is unknown, unless because of the lightness and springiness of the vehicle in its original form.

In some instances the names of special forms of carriages are derived from the titles of the persons who introduced them. The brougham was first used by the famous Lord Brougham, and William IV, who was originally the Duke of Clarence, gave the latter name to his favorite conveyance.

The popular hansom derives its name from its introducer, Mr. Hansom, and the tilbury, at one time a very fashionable two-wheeled vehicle, was called from a sporting gentleman of the same name.

Landau, a city in Germany, was the locality in which was first made the style of vehicle bearing that name.

Sulky, as applied to a wheeled conveyance, had its origin in the fact that when it first appeared the person who saw it considered that none but a sulky, selfish person would ride in such an affair, which afforded accommodation to but one individual. The strange title was never changed.

Coupé is French in origin, being derived from the verb *couper* (coo-pay), to cut. This was considered an appropriate designation, because it greatly resembled a coach with the front part cut off.

The old-fashioned gig was given that name from its peculiar jumping and jolting motion, the word being taken from the French *gigue*, signifying jig, or a lively dance.

Among the Trade

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

Alaska

I. J. Sharick, who assumed proprietorship of the Alaska Jewelry Co., Juneau, some time ago, recently installed a handsome line of goods for the holiday trade. Jeweler Sharick states that for obvious geographical reasons the trade in Alaska must get in their orders for freight shipments at latest by the middle of October. He hopes the holiday business will be of satisfactory dimensions.

V. W. Taylor, who opened a jewelry store in Juneau and subsequently converted it into an auction room, has closed out the business and gone South to winter in the milder climate.

THE KEYSTONE is in receipt of copies of the *Daily Alaska Dispatch* and the *Daily Record-Miner* sent by jeweler I. J. Sharick, of Juneau. The last-named publication contains a most gratifying amount of testimony from well-known authorities relative to future business possibilities in that far North country. In the *Dispatch* there is an interesting account of the preliminaries incident to the laying of the cable between Sitka and Seattle, Wash. This will be the final stretch of submarine wire to connect the far North with Washington.

Iowa

Victor S. Maurseth, of St. Ansgar, has issued a small neat folder entitled "Gift Hints," which is intended as an aid to the selection of seasonable presents during the holidays. The reading matter is practical and full of sound sense, and additional interest is given it by the page devoted to birth stones and the pearls and other commodities associated with wedding anniversaries. It is customary with Jeweler Maurseth to issue a booklet prior to the holiday season, and his enterprise in this regard is always well repaid. In addition to this he runs a display ad. in the weekly journal published at St. Ansgar.

Kansas

Wm. Rowe, of Lawrence, according to the *Jeffersonian Gazette* of that place, recently fell a prey to the wiles of a bogus-check impostor, who represented himself as a student at the university. This individual stated that some of the boys had made up a purse to buy the chancellor the gift of a diamond ring to be presented after the football game that day. After looking over the stock he selected one costing \$125 and left with the remark that he would call later in the day. Meanwhile he had registered at the Eldridge House under the name of L. B. Cummings. He repaired to the Watkins bank and drew a draft on Col. Cummings, of Louisville, Ky., for \$300. The cashier, not liking the fellow's looks, refused to allow him to draw on the draft until collection was made. The stranger demanded a deposit slip and the cashier, still suspecting him, wrote on the slip, "not good until collected." With this slip the man came into Mr. Rowe's store about 6.20 in the evening and stated that he would take the ring. He showed his deposit slip and gave Mr. Rowe a deposit check for \$125, the price of the ring, stating that it was too late to get into the bank and the University boys were in a hurry. After he had departed with the ring it was found that the check was worthless. A clerk was sent to notify the police, and he and an officer found the man at the Union Pacific Station. The stranger showed no signs of uneasiness and said that his name was not Cummings but Jess W. Majors. The policeman dispatched the clerk in quest of Jeweler Rowe for full identification, and in the interval that followed, according to the *Gazette*, the suspected man by a sly pretence managed to effect his escape. The paper states that he is really Majors as he asserted, and that the Lawrence bank officials subsequently received a warning from the bankers' association to beware of him.

Louisiana

T. J. Vorhaben, who recently moved to his new quarters, at 809 Baronne Street, New Orleans, reports a gratifying fall trade and bright prospects for holiday business.

J. A. Peterman, the popular young watchmaker and jeweler, of Pollock, was recently married to

Miss Lillian B. Cook, an accomplished young lady of Pineville. The ceremony was performed at the residence of the groom's mother, Mrs. M. Peterman, in Alexandria, Rev. Father Degnan of Pineville, being the officiating clergyman. The wedding was private, only the immediate relatives of the bride and groom being present. The happy couple will reside in Pollock. THE KEYSTONE extends congratulations.

Massachusetts

At the ripe old age of eighty-five years, Martin P. Kennard, one of the founders of Bigelow & Kennard, the well-known Boston firm, passed away last month at his home in Brookline. From the time he entered the services of Jones, Lows & Ball, his initial step in the jewelry business, until his retirement in 1876, his career was one of uninterrupted and well-merited success. His unusual business aptitude was quickly recognized by the firm already mentioned, and he was rapidly advanced to the position of foreign buyer for that concern. He became associated with Bigelow Bros., in 1846, which firm afterwards became reorganized as Bigelow Bros. & Kennard, and his connection with it continued unbroken until he retired from business thirty years afterwards. Deceased had been so long identified with the commercial life of Boston that he naturally became interested in movements without the domain of trade. He had been president of the Boston Art Club and of the Mercantile Library Association.

Michigan

Mrs. William Steel, wife of Jeweler Steel, of Albion, died some weeks ago at the age of seventy-one years. The deceased lady had been in poor health all through last summer, but it was not until something over a month ago that her condition became serious and she eventually succumbed to paralysis of the brain. The late Mrs. Steel was a native of Stirling, Scotland, and came to this country with her husband in the early fifties. Besides her husband five children survive her, with all of whom much sympathy is felt by a large circle of friends.

Montana

H. C. Williams, who sold out his store at Walkerton, Ind., in September last, to W. E. Sanders & Co., has opened another jewelry establishment in Fridley.

New York

Herbert O. Dodge, watchmaker for the Tuttle & Parshall Co., of Plattsburgh, was married on November 25th to Miss Julia W. Howe, of Beekmantown. THE KEYSTONE extends congratulations to the happy pair.

E. J. Peters, of Albany, was recently made the victim of a scheme that has been successfully practiced on more than one jeweler heretofore. On November 7th a strange man visited his store and, giving his name as Mosher, said he would like to look at some ladies' watches. The jeweler submitted three timepieces, said by the local press to be worth \$20, \$22 and \$25 respectively. "I am going to get married," explained Mosher, "and I want to make my wife the present of a watch. Will you kindly send the three watches up to No. 1 Plain Street, at four o'clock this afternoon, so that she can take her pick from them. I want her to be suited." He paid a dollar and the jeweler said he would do as requested. This happened in the forenoon, and about four o'clock in the evening Mosher returned, beaming with well-feigned joy, and said he called to escort the clerk who was to deliver the watches to his fiancee's home on Plain Street. The watches were placed in care of one of Mr. Peter's clerks, and upon arrival at the house the stranger took them ostensibly to show them to his intended. His protracted absence aroused the clerk's suspicions, and upon inquiry he found that the fellow had flown and that he had engaged a room in the house only a few hours previously.

Jeweler W. A. Kennedy, Jr., of Rochester, is reported by the *Union-Advertiser*, of that city, to have been imposed upon by the crook who defrauded Jeweler Peters, of Albany, a short time previously, as reported above. The tactics adopted in both cities were practically identical, and are reported to have been attended with equal success.

Nova Scotia

Messrs. Frank M. Duchemin and Charles T. A. Mitchell have opened a bright and attractive jewelry store on Commercial Street, Glace Bay. Mr. Duchemin has been for six or seven years in the employ of G. F. Hutcheson, jeweler, of Charlottetown, Prince Edward Island, while Mr. Mitchell was one of the firm of Mitchell Bros., printers, of the same place. The business will be run under the name of Duchemin & Mitchell, "The Little Jewelers."

Oklahoma Territory

G. T. Templeton has opened up a jewelry establishment in the premises of the Shawnee Drug Store, Shawnee, and has installed therein a handsome line of watches, jewelry, silverware and optical goods. He anticipates a Christmas trade of profitable dimensions.

Pennsylvania

Solomon Loeb, the well-known jeweler, of Erie, paid a pleasant visit to this office last month. He reported satisfactory trade conditions in that section, with encouraging prospects for a profitable holiday business.

E. B. Brumm, who conducted a jewelry store in Shenandoah for seventeen years, recently removed to a large store room, where he disposed of his stock of jewelry at auction previous to retiring from retail business. He will in future devote his attention to his anthracite coal souvenir factory and wholesale business.

Texas

John B. Girardet, of Irion, Girardet & Co., Louisville, died recently in St. Joseph's Infirmary, that city, from stomach trouble, an ailment from which he had suffered for some years. The late Mr. Girardet was fifty-three years old. He had been a member of the firm of Irion, Girardet & Co., jewelers, for twenty-two years, and was widely known in business circles. Mr. Girardet was born in Nashville, and came to Louisville at an early age, and while securing a common school education, spent his spare time in learning the trade of an engraver. When he had finished his education he opened a small engraving establishment. His business grew, and in 1876 he formed a partnership with Joseph Washley. In 1881 he became associated with the firm of Irion, Girardet & Co. A wife and one daughter survive him. Resolutions of condolence with the survivors were passed by the lodges with which deceased was affiliated and by the jewelers of Louisville, as follows:

Whereas, The jewelers of this city have learned with sorrow of the death of our colleague, John B. Girardet; therefore, be it

Resolved, That we tender our sympathy and condolence to those who are left to mourn his loss, and we are sure that his presence will be sadly missed, not only by his immediate family and his business associates, but by the community at large, in which he has lived so many years, to be honored and respected by all who knew him.

Vermont

The jewelry store of Phillips & Lucas, at Montpelier, contains an interesting clock, eight and one-half feet high, which was constructed by H. A. Dewey, at spare intervals, and was five years in making. The works are all jeweled, and the clock strikes the half hour and hour. It indicates the days of the week, date of the month and phases of the moon. The dial is of brass, inlaid in wood to represent orchids. The circles showing the days of the week, month, etc., are of mother-of-pearl. The pendulum, also inlaid, is of the long, old style, running the entire length of the clock, and the timepiece has been so carefully adjusted that since it was started last week it has not perceptibly varied. In the movements there are 335 distinct parts, all cut and polished by hand. The clock is encased in a fine mahogany box with piano finish, the whole effect of which is very rich. On the back of the works is this inscription: "Made for C. N. Phillips, by Howe A. Dewey, Montpelier, Vt., 1898."

Is Your Stock Complete? Are You Prepared for the Holiday Rush?

Remember, we can supply you with anything, from the smallest piece of Silver to the finest piece of Diamond Jewelry—and send it to you the same day as order is received. We have without doubt the most complete stock we have ever had, which is saying a good deal.

In Elgin and Waltham Movements (with the exception of a few numbers) and all the standard makes of Gold and Gold Filled Cases, we stand prepared to fill your orders instantly.

Our stock of New England Watches is complete in every detail. You cannot order a number that we cannot supply *at once*.

Diamonds and Precious Stones, loose and set, in endless variety.

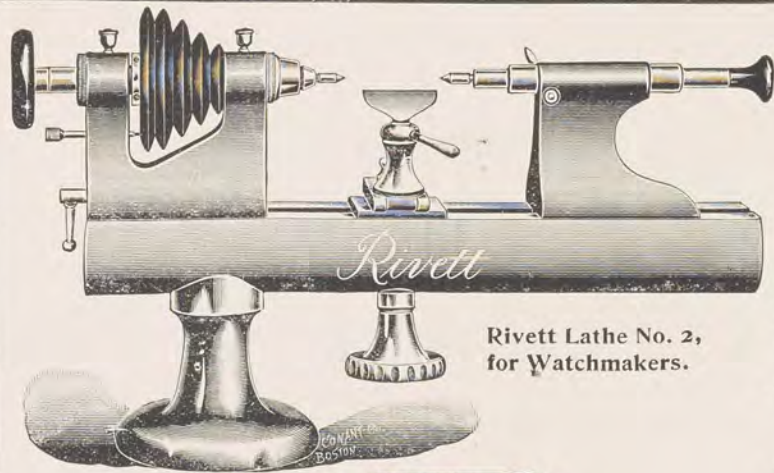
Have you received our New 1903-04 Silver Catalogue? If not, send in your name at once. It is without doubt the finest Catalogue, artistically, ever issued, and you cannot afford to be without it. It will make many a sale for you, especially in the month of December.

W. Sickles & Sons

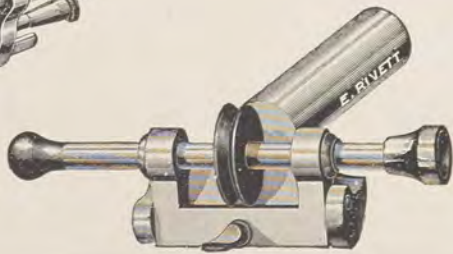
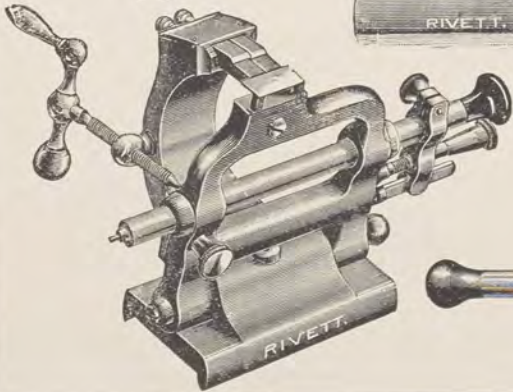
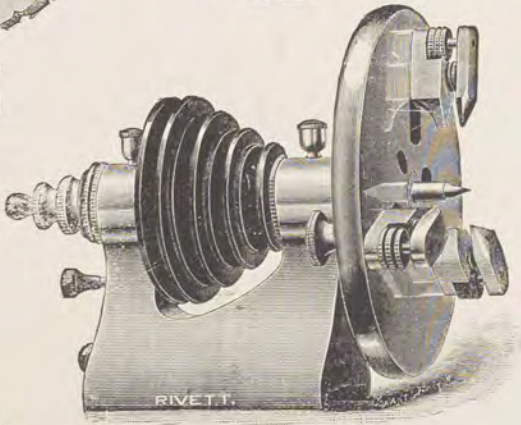
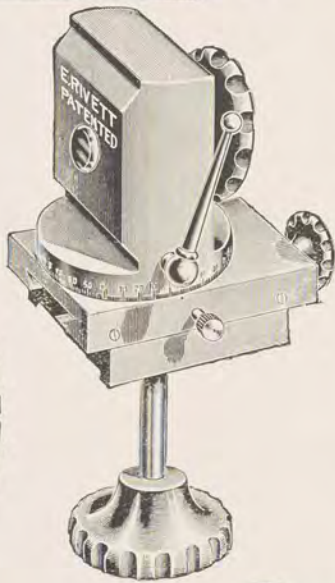
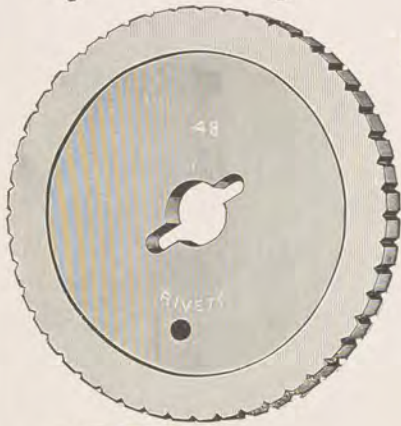
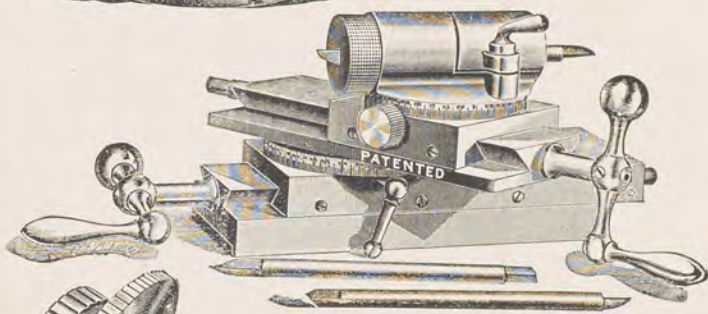
Manufacturing Jewelers,

726 Chestnut St., Philadelphia.

Factory,
Newark, N. J.



Rivett Lathe No. 2,
for Watchmakers.



For the Rivett Lathe.

- We claim** it is the finest lathe in the world.
- We claim** we give you more for your money than any other manufacturer does.
- We claim** we sell to the finest shops in the world.
- We claim** we have the best equipped shop for making this kind of tool.
- We claim** we have the largest shop in the world for this kind of work.
- We claim** we give you attachments for the lathe more practical and useful than any others do.
- We claim** it is the standard of Watch Tool excellence.
- We claim** that the schools which turn out the best students use it.
- We claim** that we use the best material regardless of cost.
- We claim** that no other tool maker ever undertook to make such a tool, putting in as much labor as we do.
- We claim** that the value of our Universal Face-Plate is three times as much as any other, in accuracy, in workmanship and in material.
- We claim** we are the only manufacturers who ever correctly put the peep-hole in the Face-plate.
- We claim** that the U. S. Bureau of Standards, after thorough investigation, and without solicitation, is now using the Rivett lathes for making the standard gages of the country.
- We claim** that the best mechanics such, as the Brown & Sharpe Mfg. Co., the L. S. Starrett Co., Nath'l. G. Herreshoff, etc., are using and recommending our tools.
- We claim** we can give you more references from that class of people than any other tool builder.
- We claim** that the most reliable dealers buy them, indorse them, sell them.

It is for you to investigate.
We can prove all our claims.

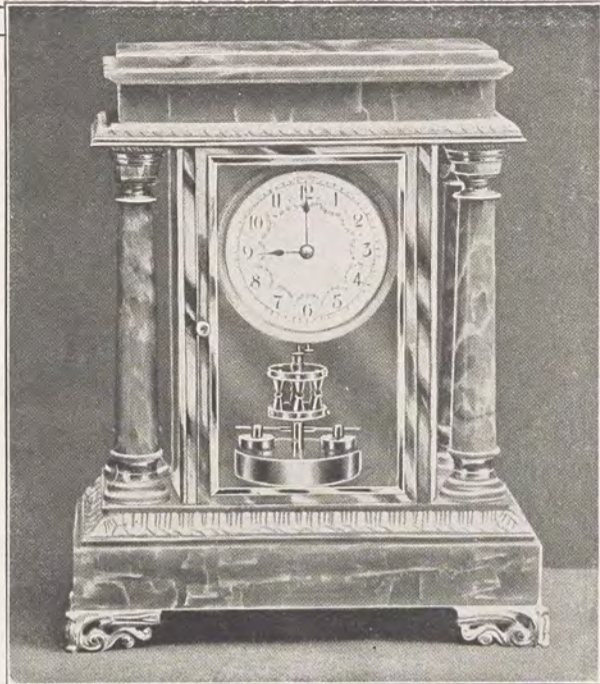
Faneuil Watch Tool Co.,
Brighton, Boston, Mass., U.S.A.

"COLONIAL,"

of Mexican Onyx and Gilded Bronze,
with **Anniversary** Movement.

Height,	Width,	Dial,
13 $\frac{1}{2}$ in.	10 $\frac{3}{4}$ in.	4 in.

This style is also made in White Marble and Mahogany in place of Onyx.



We have Eighteen Styles of the Best and Newest Mantel Clock Cases, made expressly for us in Paris, in which we fit the **Anniversary** Clock.

Send for illustrations and prices.

The Anniversary Clock is now so well known to both the Trade and the public that further introduction seems unnecessary. A timepiece of merit. Noiseless. Sells at sight for wedding and birthday gifts.

Wind it only on each Anniversary day. No up-to-date jewelry store can afford to be without them in stock.

Buy only the genuine, and beware of imitations.

All real Anniversary Clocks are plainly stamped "Anniversary Trade Mark registered."

CRYSTAL CASE.

Height,	Width,	Dial,
10 $\frac{3}{4}$ in.	7 in.	4 in.

N. B.—We also sell the ordinary 400-day clock No. 202, gilt base, dome-shaped glass globe, for \$9.50, net cash, f. o. b. Cleveland.

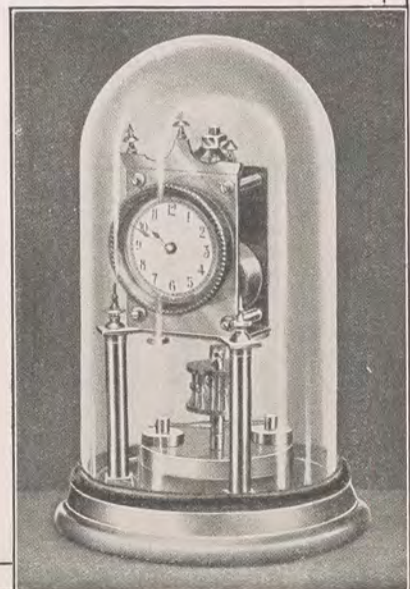
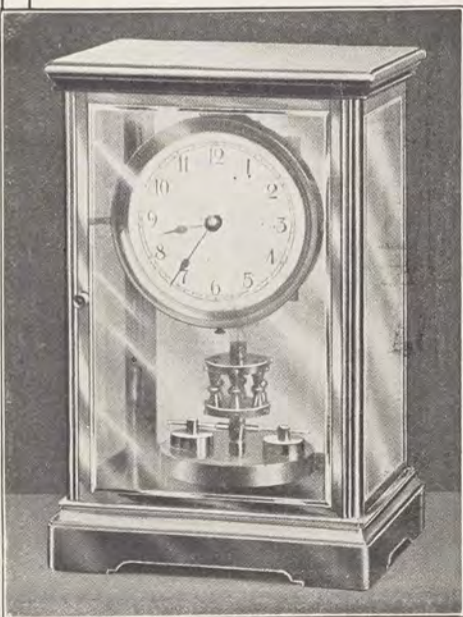
GLOBE CASE.

Height,	Width,	Porcelain
11 in.	7 in.	Dial,
		2 $\frac{1}{2}$ in.

THE BOWLER & BURDICK CO.

CLEVELAND, OHIO,

Sole American Agents of the
Anniversary Clock.



A TIMELY HINT.

Too busy to read much? Then only a few words; but these are really worth while, just at this time.

The busiest selling time presents the best opportunity for advertising your store by actual demonstration of the goods to the largest number of people. December will therefore most help, or most hurt, your reputation, according to the quality of the stuff that you sell in this busiest month.

The *consequences* of a sale—your reward or your punishment from the results of the *wear* of the thing sold—are just the same whether the thing is sold quickly in December or slowly in July. Because the customer may seem less careful in her inquiries as to quality, in this “rush” time, don’t make the

mistake of putting out inferior merchandise. Don't go wrong on the "extra profit" fallacy. It isn't to-day's penny but to-morrow's dollar that you are after. You want her trade *next* Christmas—and in Christmas of 1913. Remember,

"It cuts more ice
To pay the price
And gather *twice*."

Sell stuff that will come up to your promises and your customer's expectations. Sell only Keystone Gold and Boss Filled Cases and then the bigger your December watch business the better you will be *permanently* advertised in your community.

Here's hoping your Christmas trade may be a corker!

THE KEYSTONE WATCH CASE CO.,

19th and Brown Sts., Philadelphia.

Here's a Testimonial

which carries a suggestion to the Retail Jeweler
who would secure the best value for his money.

E. C. Fitch, President

R. E. Robbins, Treasurer

American Waltham Watch Company.
Waltham, Mass. June 8th, 1903

New York Standard Watch Co.,
Jersey City, N.J.

Gentlemen:

I have had one of your "Standard" Electric Clocks
in my house for five years or more, and as it has run so well
I would like to get more of them. Will you therefore kindly
send me a catalog showing styles of cases, together with your
special prices, and oblige,

Yours truly,

E. A. Marsh, Gen'l Supt.

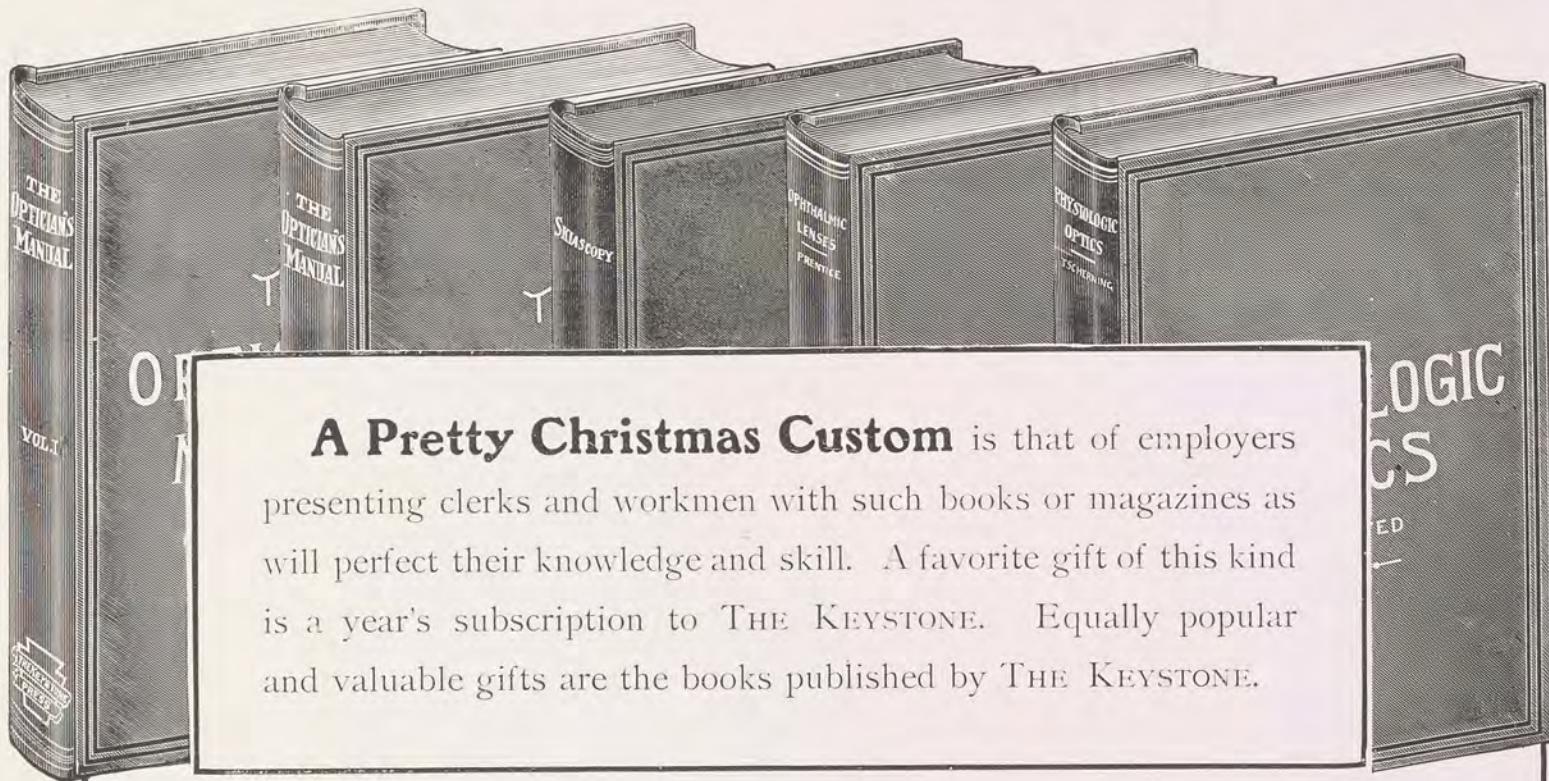
(Four days after the writing
of the above letter, Mr. Marsh
ordered three additional
"STANDARD" ELECTRIC CLOCKS
for his personal use.)

Order direct from the factory,

New York Standard Watch Co.,
Jersey City, New Jersey.

Books for Christmas Gifts

1943



A Pretty Christmas Custom is that of employers presenting clerks and workmen with such books or magazines as will perfect their knowledge and skill. A favorite gift of this kind is a year's subscription to THE KEYSTONE. Equally popular and valuable gifts are the books published by THE KEYSTONE.

Many workers in jewelry stores are interested in optics. For these one or more of the following treatises would be very acceptable and suggestive:

The Optician's Manual, Vol. I.	- -	\$2.00	(8s. 4d.)
The Optician's Manual, Vol. II.	- -	2.00	(8s. 4d.)
Physiologic Optics	(Translated from the French by Carl Weiland, M. D.) - -	3.50	(14s. 7d.)
Ophthalmic Lenses	- - - -	1.50	(6s. 3d.)
Skiascopy, and the Use of the Retinoscope	- -	1.00	(4s. 2d.)

For watch repairers, engravers or bench workers of any kind one or more of the following works would be a suitable and valuable gift:

The Watch Adjuster's Manual	-	\$2.50	(10s. 5d.)
The Art of Engraving	- - - -	1.50	(6s. 3d.)
The Keystone Book of Monograms	-	1.00	(4s. 2d.)
The Keystone Portfolio of Monograms	.50		(2s.)

An increasing number of these books are purchased for gifts yearly. They will be mailed, postpaid, to any address from this office on receipt of price stated above.

THE KEYSTONE,
19th & Brown Streets, Philadelphia, Pa., U.S.A.

847

8473

8971

8459

25101

8973

8975

18

9617

9611

8805

8431

56

12

25563

12709

3248

**Merry
Christmas**
The New England
Watch Company
WATERBURY, CONN.

VEHTEN WARING
110 WILLIAM STREET
WATERBURY, CONN.
ADVERTISING PHOTO
ADVERTISING PHOTO
ADVERTISING PHOTO



Technical Department

New Machinery for Producing Rotary Mills or Cutters

Article No. 38 of the serial entitled "Gold Working," begun in the November, 1900, issue of THE KEYSTONE.

WE have repeatedly pointed out advantages to be derived from the use of the pantograph shaper, and now have another opportunity of using this principle for the production of rotary cutters for milling purposes. The principle of the device we shall employ is essentially pantographic, but still different in almost every respect from anything we have heretofore described. We will first define what we wish to produce, and then describe in detail the machine for producing the thing desired. We desire perfect rotary cutters for milling out certain forms.

Now we have described how mills of this kind can be made with great ease and certainty, but we still have the trouble remaining of being unable to perfectly correct the form of such cutters after their being distorted, or as the usual phrase goes, "sprung" in the process of hardening. The idea to be borne in mind in making rotary cutters or mills is, each tooth should do its just share of cutting. Let us, in illustration, imagine we have a rotary cutter or mill with eleven teeth, and in doing our work, that is, milling a job, the cutter is fed forward $\frac{1}{30000}$ " for each revolution of itself. That is, each tooth should cut $\frac{1}{11}$ of $\frac{1}{30000}$ ", not two or three of the teeth doing the work and the remainder simply going around on the arbor.

Erroneous Ideas Corrected

Many workmen contend that such cutters tend to correct themselves by use. Now, this is not true, as will be understood by a little inspection. The greatest spring or distortion effected in a thin flat cutter is to turn the cutting tooth to one side and prevent successive teeth from cutting in the same plane. Meet this problem as we will, the only solution tending toward perfect cutters is to grind them to form after they are hardened. Of course, it is to be understood that every known precaution is to be observed to prevent springing in the operation of hardening.

We will, at this time, mention only one of these precautions, which is: to never bend or hammer, when cold, a piece of steel of which a mill or die is to be made. Steel of

which cutters or dies are to be made, should be roughed out to approximate form and then perfectly annealed in the charcoal box, raising the heat as high as it can go and not burn the steel.

Steel so treated shows the minimum tendency to warp or distort in hardening. A certain amount of distortion is inevitable, hence, as we said previously, the only way to produce perfect rotary cutters is to grind them after hardening.

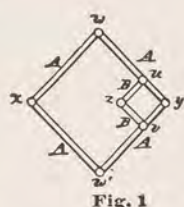


Fig. 1

The form of pantograph we have in former articles made use of is illustrated at Fig. 1, and consists of a frame composed of six pieces as shown at Fig. 1. We will now only add to former descriptions by saying that we can locate the working joint, that is, the point or joint on which the device turns, either at z or y . The proportions of reduction in such a machine depend on the distance the joints $u v$ are placed from y . As, for instance, if the length of the pieces A are 15" and the distance $u y$ and $v y$ is 3", the proportion of reduction will be 5 to 1. The pieces A are all of the same length; and the pieces B are each of equal length; and the measure of their length is the distance between the points $u y$ and $v y$.

The Production of Perfect Rotary Cutters

The pantograph shown at Fig. 1 will only work in a plane at right angles to the axes of the joints $x w y$.

The form of pantograph shown at Fig. 2 is

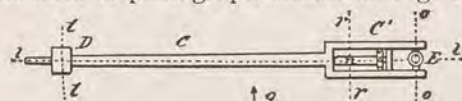


Fig. 2

known as the ball-joint pantograph and is well adapted for milling out rotary cutters and also for grinding them into perfect form after hardening and, consequently, correcting any distortion arising from hardening. We will not attempt at this time to describe in detail the construction of this machine, but will try and give the general principles involved.

The arm, or lever C , Fig. 2, is bifurcated at C' and admits a cylindrical cutter shown at n , and is also connected to a socket shown at E ; said socket forming a portion of a universal joint. It is to be supposed that the

arm C is free to swing from the center E in any direction, but it cannot turn on its axis; said axis being represented by the dotted line l . At Fig. 3 we show a diagram which



Fig. 3

gives an idea of motion of the arm C , which is free to swing from the center p . As shown at Fig. 2 the milling tool n is arranged to reproduce on the line r the form of a pattern placed to coincide with the line l , but of one-sixth the size.

At D , Fig. 2, is placed a roller turning free on the arm C . Now it is imperative that the diameter of this roller should bear the same proportion to the mill n as the ratio of reduction the pantograph is to produce. As for instance, as shown in the cut at Fig. 2, the ratio of reduction is six to one; hence, if the cutter or mill n is $\frac{1}{4}$ " diameter, the roller D should be six times $\frac{1}{4}$ ", or $1\frac{1}{2}$ ". And if the mill n was $\frac{1}{8}$ " in diameter the roller D should be $\frac{3}{4}$ ". Mounted on the arbor of the mill n is the pulley s which, on being driven by a driving band, will mill to almost any shape as guided by the roller D , and the milled piece will be in exact size ratio to the relative distances between lines of proportion as shown at the dotted lines $t r o$, Fig. 2. Cutter teeth milled with the cylindrical cutter n will have a clearance, because the teeth will taper back in the same proportion as the lines $l'l'$ converge in Fig. 3. For correcting distortion by hardening the cylindrical mill n is changed for one charged with diamond dust.

Of course, it is to be understood that the diamond lap is only employed for correction and perfection of form, and removes but little metal.

[TO BE CONTINUED]

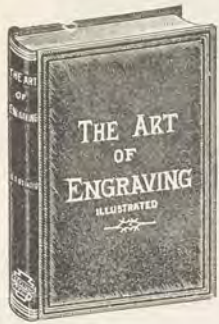
Rushed to Death

One time there lived a busy man
Who worked both day and night,
And oh! his desk was covered up
Until it was a sight.
He got one day a postal card
From good old Father Time,
"Dear Sir: Please let me know when you're
Prepared to leave this clime."
And thus he wrote, as deep he heaved
A mighty chunk of sigh:
"Dear Father Time: Excuse me, please;
I haven't time to die!"

Established
1867

DEPARTMENT OF
ART POTTERY
PORCELAIN
AND FINE
GLASSWARE

HEEREN BROS. & CO.
IMPORTERS
PITTSBURG, PA.



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 X. Begun in March, 1903.)

One of the most difficult problems in cutting the block or Gothic letters is the lapping of the bars. We have thoroughly described the bars of the letters and how they should be cut, and must ask the reader to strictly bear in mind what has been said in reference thereto in order to enable us to advance as rapidly as possible.

At Fig. 39 we illustrate the block or Gothic letter B which, with the exception of the letter S, has more octagonal corners than any other letter of the alphabet, and the letter S is perhaps the most difficult one to cut. In cutting this letter there are a number of methods of procedure which are equally efficacious, and few engravers will agree which is the best to commend to the beginner. We will give the reader the methods that are most in use, and he then can use either or all, in cutting the same letter, if he so desires.

First cut the bar *A* in the direction of the arrow; next cut the bar *C* in the direction of the arrow. It will be noted at the point of this letter indicated by the *E* that the two bars of the letter meet and lap over one another. Great care should be exercised in such a case that all of the metal is cut out and that the *C* bar should begin exactly on the left side of the bar *A*, and should not protrude above or lack of coming up to the end of said bar, so that all of the metal in the square indicated by the letter *H* should be cut out entirely and that the depth should be the same as either of the bars separately. Next cut the bar *D* in the direction of the arrow. Next the bar *M* in the direction of the arrow. It will now be seen that we have a perfect *E*, and to convert the letter into a *B* all we have to do is to cut the remaining portion of the letter as shown in the figure. Now begin at the bar indicated by the letter *F* and cut up to the next turn, where the graver is thrown out; then the next bar up to the next turn where the graver is thrown out and the angle changed, and the next bar cut up. The top of the letter is cut the same as the bottom. It will be noticed here that each bar laps over the bar of the letter formerly cut, and it is advisable that great care should be exercised in lapping such bars as, in case of neglect to do so, the corner where the angle of the letter changes would be open instead

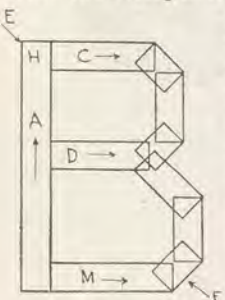


Fig. 39

dot *C* indicates the point where both bars meet. It will therefore be seen that it is always necessary to place the left corner of the graver to the left of the bar last cut, and to let its cutting edge and right point start exactly on the upper left-hand corner of said stroke. By so doing the corners are sharp and accurately made.

Cutting the Bars

Another great difficulty in this work is to cut various bars the exact depth, and also to avoid backing up the graver as described in inserting the graver in the first instructions given in reference to the use of the flat-face graver. It is difficult to lap a letter in this manner, or in fact in any other and not cut one angle a little deeper, or apparently a little deeper than the other; but great care will enable one to cut the letters with such accuracy that they will appear to be and, in fact, will be the same depth. In this method of cutting it is therefore seen that this letter is cut in the form of the *E* first, and then a portion of the *E* added at the right. Another method of cutting is to first cut the bar *A*, and then begin at the bottom and cut around up to the top. Some begin at the bottom and cut the letter right around to the top and cut the bar *A* down.

The method of squaring up the top of a *W* or of a *V*, the bottom of an *R*, of a *7*, top and bottom of an *X* or a *Y*, are the same as described for such work on the first letter of the alphabet.

Referring to Fig. 38, it will be seen that the letters are drawn on strictly mechanical lines, and these strict rules governing the general formation of these letters are given so that the student may thoroughly familiarize himself with their formation, and that the letters will be perfectly spaced when placed side by side in a word. In actual work it would not be practical for the engraver to use these exact drawings of horizontal and perpendicular guide lines to form the little squares mentioned, but a knowledge of them in his practice work and some actual practice in drawing them on paper with the aid of these accurate mechanical forms would be conducive to a high degree of accuracy. After he has educated his eye by the use of them, it would be only necessary to use the top and base guide lines. In die cutting, where extreme accuracy in spacing and forming the letters is required, artists use the perpendicular guide lines—not scratched on the die equidistant apart, they using them merely to get the perpendicular of the letter. The mechanical form of the letters given above will enable the student to know the exact distance between letters according to their height and width. The question has often been asked by students what the difference should be between the widths of certain letters, and for this reason we have made this accurate means of giving the correct mechanical forms of the letters.

We have now gone through the mechanical forms and methods of cutting the block or Gothic alphabet, and we will next take up another style of letter formed on the same general principles.

Wriggling block letters is done with the flat-face graver previously described, as shown at Fig. 40, which is there shown in three different positions. Position *A* represents the graver flat; position *B*, with the graver turned on the left corner; position *C*, with the graver turned on the right corner. The graver is thus rocked from one corner to another and gently pushed forward in the process of wriggling. The angle on which the graver is held and the amount of pressure forward determines the degree of fineness of the wriggling. For illustration, in starting a wriggle the graver can be held on an angle of 30° and gradually raised up to 75°, and between these degrees the graver would be capable of wriggling five or six degrees of wriggled cuts. The use of block letters, wriggled, is very common, especially in cheap work; a great many engravers using this class of lettering for engraving coffin plates, because it makes a showy letter and yet is easily executed. These letters can be wriggled by making the horizontal bars wriggled fine and the perpendicular bars wriggled coarse.

The method of shading letters with a flat-face graver is one of the greatest errors in engraving that has come to the author's attention and one that it seems to be easy to see the error of. No better illustration can be given for the correction of this error in one's mind than to observe the panels of a door in which we will see that when the panel is raised the incline is toward the center; when the panel is sunken the incline is from the center to the outer part of the door. This supplies two panels in wood work and is also applicable to the art of shading letters. When a letter is to be shaded the incline of the incision or, in other words, the side of the incision that is most inclined, should be over against the letter.

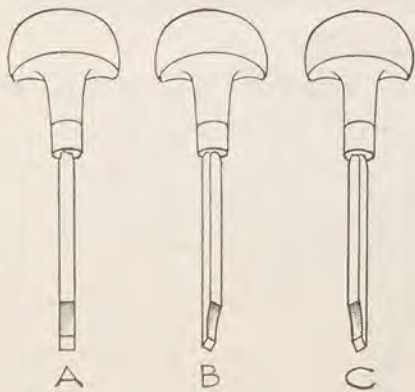


Fig. 40

of being pointed. The lapping is illustrated on a large scale at Fig. 40. The dot *E* on the bar *A* indicates the point where the point of the graver should be placed in cutting the bar *B*. The



No. 125. "FORTUNA." 16 Size, 12 Jewels.
Solid nickel top plate handsomely damaskeened in gold, micrometer regulator, cut expansion balance, safety pinion, screw bankings, straight line lever escapement, hardened and tempered breguet hairspring, quick train, exposed winding wheels, dust band, handsome white enamel dial with depressed second and center and with red marginal figures. Hunting lever set. Open-face pendant set.
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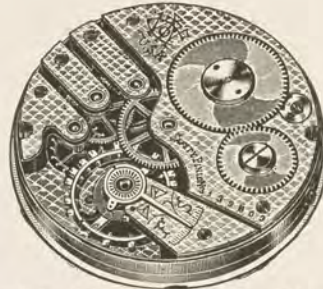
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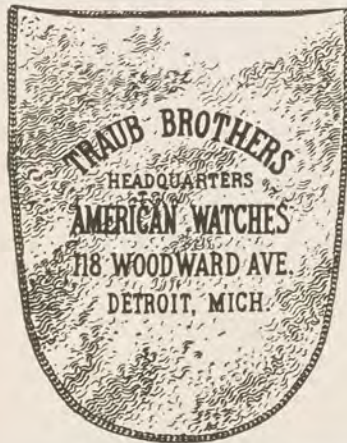
No. 300. "FORTUNA." 6 Size, 7 Jewels.
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Sample free.

About Fitting Case Springs

Article No. 33 of the serial entitled "Cleaning and Restoring," begun in the April, 1901, issue of THE KEYSTONE.

FEW workmen fancy the job of putting in a case spring, and still it is one of almost everyday occurrence. With American watches the job is easy enough, as it is no difficult matter to keep a stock on hand of some of the patent kinds, which are easily and quickly fitted; but it is some of the foreign watches which try one's temper and patience. For such watches, usually ready fitted springs are a delusion and a snare. As a rule, a spring of this kind can be made from the stock quicker than one can be selected and "modified."

Making a Case Spring

For making case springs (and for many other purposes) square steel should be kept in stock. The smaller sizes of watches will require $\frac{3}{8}$ of an inch square steel, while heavier cases will require $\frac{5}{32}$ of an inch, or even $\frac{3}{16}$ of an inch. All watch workmen should have some place where they can do coarse work, and such place provided with a heavy vise and large files. One of the first requisites for a case-spring job is a small pair of dividers to measure the distance from the notch in the case, where the end of the case spring protrudes, to the screw hole in the case.

This distance should not be taken in the dividers at once, but should be stepped off; that is, the dividers should be set so that five or six divisions would be made from the screw hole to the notch in the case, where the lip rises. This will, perhaps, be better understood by inspecting Fig. 2, where we

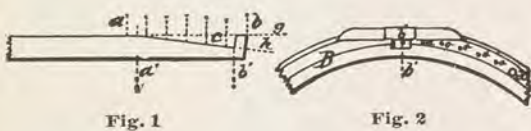


Fig. 1



Fig. 2

represent a portion of the center of a case. In this cut, *b* represents the process through which the lip of the case spring rises; *d*, the hole for the case-spring screw, and the dots *a* the spaces where we step off between *b* and *d*.

In the cut we have shown six. To carry these spaces to the case spring we are making, we cut off from the proper sized square steel a piece long enough to make a case spring, and placing it in our heavy vise, mark across as shown the dotted line *b b'*, and from this line space off six spaces, as shown at the dots, and at the sixth dot or space mark with a prick punch (at *a*) for drilling the hole for the case-spring screw. While the piece *A* is in the vise, we should file a recess or notch, as shown at *c*, Fig. 1.

It may be well to say that Fig. 1 is a side view of *A*, as shown in Fig. 3, as if seen in the direction of the arrow *e*. After the recess at *c* is filed, that portion of *A* to the right of the dotted line *a*, Fig. 1, is bent upward, so the sloping face of the notch *c* (corresponds to the line *a b*) corresponds to the line *a g*. By this course we get the proper rise for the lip *b*, as shown at Fig. 5. We would beg to say that the dread of such a job as making a case spring is more than the real work. A notch like *c* is filed in the steel in a few seconds, if the workman only is sure of what he is doing; it is hesitating and picking that swallows up the time in doing such jobs.

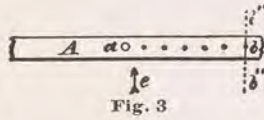


Fig. 3

The spring blank is next filed, as shown at *k*, Fig. 4, to reduce the blade of the

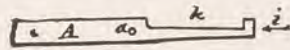


Fig. 4



Fig. 5

spring. Fig. 4 is seen precisely the same as Fig. 3, except the recess is made at *k*. We show at Fig. 5 an end view of Fig. 4, seen in the direction of the arrow *i*; here the lip *b* is now shaped as shown at the full lines. It is well to now bend the spring to conform to the curvature of the case. This is best effected by means of fixed steel jaws and a special wrench. The steel jaws are shown at Fig. 6, as if placed in the bench vise jaws down to the line *p*, said line representing the top of the vise jaws.



Fig. 6

The wrench is shown at *D*, Fig. 7; the two projections *n n* being formed from a portion of *D*. The notch *D'* grasps the spring *A* as it rests between *l l*, when by a turn of the wrench the bend is effected in the spring *A*. Two or three blocks of brass can be provided, which are filed to the curvature of the spring, which are to be placed between it and the vise jaws, while being held in the vise. A description in detail to almost any length could be written for instructing

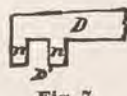


Fig. 7

an apprentice, or even a workman of long experience, about making a case spring; but if any workman will carry out the instructions given above, and keep constantly in mind the fact that he *must quickly* shape out a case spring after having provided himself with a heavy vise resting on a substantial bench, and some files proportioned to the work, he will soon master all difficulties. Such strong heavy accessories are not only needed for case springs, but for a thousand

and one other jobs. A case spring should be fitted perfectly before hardening, except a very trifle to be removed from the blade, which will adapt it to the case in hand. Of course, it is understood that we cannot try the spring before tempering, except to see that the lip *b* rests firm against the step at the joint, and our judgment tells us when they will act all right when tempered.

[TO BE CONTINUED]

Washington as an Advertisement Writer

The Baltimore *American*, in celebrating the 130th anniversary of the birth of the *Maryland Journal and Baltimore Advertiser*, which was the precursor of the *American*, publishes a fac-simile of the first issue. It bore date Friday, August 20, 1773. This paper was the first to be published in Baltimore, and it contains much of interest to modern Washington readers. One of the most noteworthy things about this old-time newspaper is that its largest advertiser was George Washington.

The immortal soldier, later to become father of his country, was then in his forty-first year, and was in the real estate business on a very extensive scale, says the *Washington Star*. His advertisement was dated "Mount Vernon, in Virginia, July 15, 1773," and announced that the subscriber, "having obtained patents for upward of 20,000 acres of land on the Ohio and Great Kanawha (10,000 of which are situated on the banks of the first-mentioned river, between the mouths of the two Kanawhas and the remainder on the Great Kanawha, or New River, from the mouth, or near it, upwards, in one continued survey) proposes to divide the same into any sized tenements that may be desired, and lease them upon moderate terms, allowing a reasonable number of years, rent free, provided within the space of two years from next October three acres for every fifty contained in each lot, and proportionably for a lesser quantity, shall be cleared, fenced and tilled; and that, by or before the time limited for the commencement of the first rent, five acres for every hundred, and proportionately, as above, shall be inclosed and laid down in good grass for meadow; and, moreover, that at least fifty good fruit trees for every like quantity of land shall be planted on the premises."

Would-be purchasers were told to apply to "Mr. George Washington, near Alexandria;" or, in his absence, to Mr. Lund Washington. The latter was General Washington's favorite cousin and the great-grandfather of the late Colonel L. Q. Washington, of this city.

General—then Colonel—Washington was an excellent ad. writer, and his style might be studied to advantage by some real estate sellers of to-day. He suggested intimately that "any person inclined to settle on these lands would do well in communicating their intentions before the 1st of October next, in order that a sufficient number of lots may be laid off to answer the demand." Then followed an ornate description of the good thing he had to offer, and the description shows him as fully the equal of the most alluring of our modern adsmiths.

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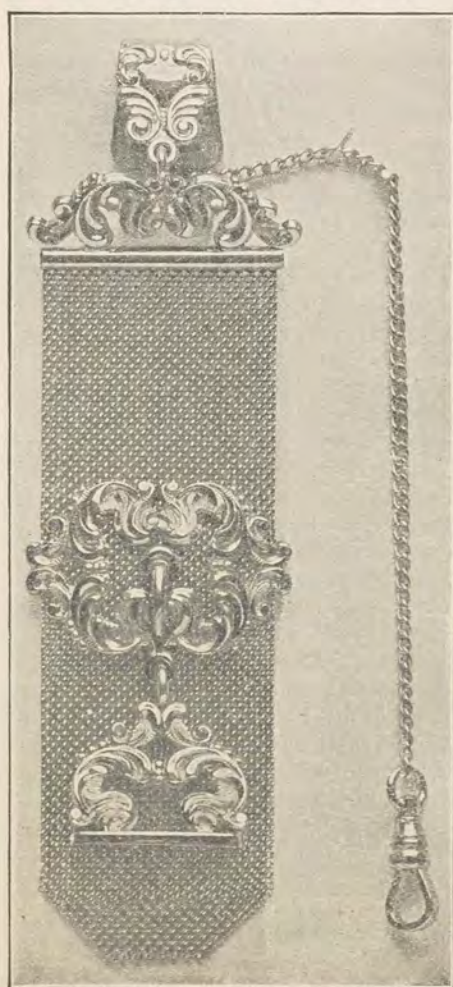
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A Chapter on Escapements

(Continued, Part II.)

WE show another escapement with two pendulums in Fig. 9. These are fixed directly upon two axes, each one carrying a pallet $P P'$ and a segment of a toothed wheel $D D$, which produces the effect of solidarity between them. The two pendulums oscillate inversely one to the other, and one after the other receives an impulse. This escapement was constructed by Jean Baptiste Dutertre, master-horologist, of Paris. Fig. 10 shows another disposition of a double pendulum. While the pendulum here is double it has but one bob; it receives the impulse by means of a double fork F . $C C$ represent the cycloidal curves and are placed with a view of correcting the inequality in the duration of the oscillations. In watches the circular balances did not afford any better results than

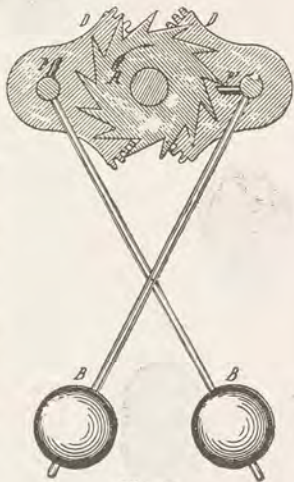


Fig. 9

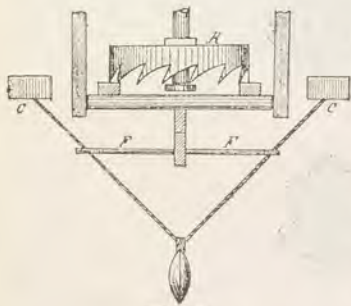


Fig. 10

the regulating rods or rules of the clocks, and the pendulum, of course, was out of the question altogether; it therefore became imperative to invent some other regulating system. It occurred to the Abbé d'Hautefeuille to form a sort of resilient mechanism by attaching one end of a hog's bristle to the plate and the other to the balance near the axis. Though imperfect in results, this was nevertheless a brilliant idea, and it was but a short step to replace the bristle with a straight and very flexible spring, which later was supplanted by one coiled up like a serpent; but in spite of this advancement the watches did not keep much better time. Harrison, the celebrated English horologist, had recourse to two artifices, of which the one consisted in giving to the pallets of the escapement such a curvature that the balance could be led back with a velocity corresponding to the extension of the oscillation; the second consisted of an accessory piece, the resultant action of which was analagous to that of the cycloidal curves in connection with the pendulum.

Huygens attempted to correct these irregularities in the verge escapement in watches by amplifying the arc of oscillation of the balance itself. He constructed for that purpose a pirouette escapement shown in Fig. 11, in which a toothed wheel A ad-

justed upon the verge V serves as an intermediary between that and the balance B , upon the axis of which was fixed a pinion D . By this method he obtained extended arcs of vibration, but the vibrations were as a consequence very slow, and they still remained subject to all the irregularities arising from the variation in the motive power as well as from shocks. A little later, but about the same epoch, a certain Dr. Hook, of the Royal Society of London, contrived another arrangement by means of which he succeeded, so it appeared to him at least, in greatly diminishing the influence of shock upon the escapement; but many other, perhaps greater, inconveniences caused his invention to be speedily rejected. We shall give our readers an idea of what Dr. Hook's escapement was like.

On looking at Fig. 12 we see the escape wheel R , which was flat and in the form of a ratchet; it was provided with two balances, $B B$ engaging each other in teeth, each one carrying a pallet $P P'$ upon its axis; the axes of the three wheels being parallel. Now in our drawing the tooth a of the escape wheel exerts its lift upon the pallet P' ; when this tooth escapes the tooth b will fall upon the pallet P' on the opposite side, a recoil will be produced upon the action of the two united balances, then the tooth b will give its



Fig. 12

impulse in the contrary direction. Considerable analogy exists between this form of escapement and that shown in Fig. 9 and intended for clocks. This was the busy era in the watchmaker's line. All the great heads were pondering upon the subject and everyone was on the *qui vive* for the newest thing in the art. In 1674 Huygens brought out the first watch having a regulating spring in the form of a spiral; the merit of this invention was disputed by the English savant, Dr. Hook, who pretended, as did Galileo, in the application of the pendulum, to have priority in the idea. Huygens who had discovered and corrected the irregularities in the oscillations of the pendulum did not think

of those of the balance with the spiral spring. And it was not until the close of the year 1750 that Pierre Le Roy and Ferdinand Berthoud studied the conditions of isochronism pertaining to the spiral.

However that may be, this magnificent invention, like the adaptation of the pendulum, was welcomed with general enthusiasm throughout the scientific world: without spiral and without pendulum, no other escapement but the recoil escapement was possible; a new highway was thus opened to the searchers. The water clocks (*clepsydræ*) and the hour glasses disappeared completely, and the timepieces which had till then only marked the hours, having been perfected up to the point of keeping more exact time, were graced with the addition of another hand to tell off the minutes.

It was not until 1695 that the first *dead-beat escapement* appeared upon the scene; during the interval of over twenty years all thought had been directed toward the one goal, viz.: the perfecting of the *verge escapement*; but practice demonstrated that no other arrangement of the parts was superior to the original idea. For the benefit of our readers we shall give a few of these attempts at betterment, and you may see for yourselves wherein the trials failed.

Fig. 13 represents a *verge escapement* with a ratchet wheel, the pallets $P P'$ being

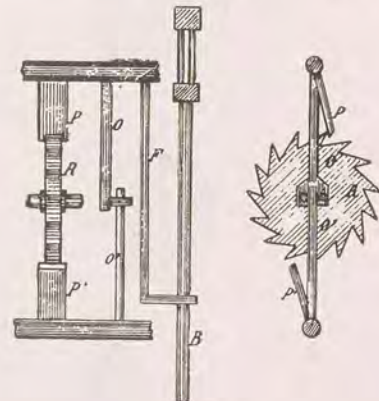


Fig. 13

carried upon separate axes. The two axes are rigidly connected, the one to the other, by means of the arms $o o'$.

One of the axes carries besides the fork F , which transmits the impulse to the pendulum B .

In the front view, at the right of the plate, for the sake of clearness the fork and the pendulum are not shown, but one may easily see the jointure of the arms $o o'$ and their mode of operation.

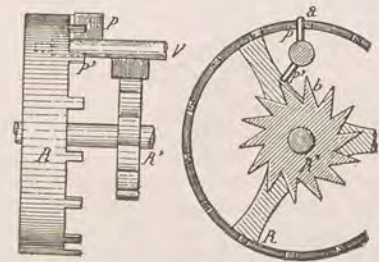


Fig. 14

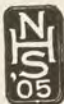
Another very peculiar arrangement of the *verge escapement* we show in Fig. 14. In this there are two wheels, one, R' , a small one in the form of a ratchet; the other, R ,

(Continued on page 1953)

1952



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A Chapter on Escapements

(Continued from page 1951)

somewhat larger called the balance wheel, but being supplied with straight and slender teeth. The verge *V* carrying the two pallets is pivoted in the vertical diameter of the larger wheel. The front view shows the *modus operandi* of this combination which is practically the same as the others. The tooth *a* of the large wheel exerts its force upon the pallet *P*, and the tooth *b* of the ratchet will encounter the pallet *P'*.

This pallet, after suffering its recoil, will receive the impulse communicated by the tooth *b*. This escapement surely could not have given much satisfaction, for it offers no advantage over the others, besides it is of very difficult construction.

Much ingenuity to a worthy end, but of little practical value, is displayed in these various attempts at the solution of a very difficult problem. In Fig. 15 we have a

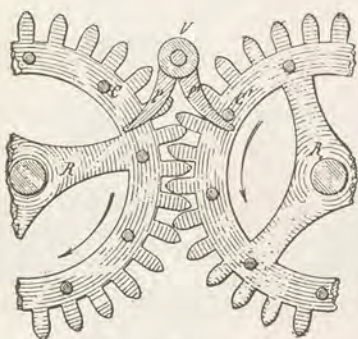


Fig. 15

mechanism combining two escape wheels engaging each other in gear; of the two wheels, *R R'*, one alone is driven directly by the train, the other being turned in the opposite direction by its comrade. Both are furnished with pins *c c'*, which act alternately upon the pallets *P P'* disposed in the same plane upon the verge *V* and pivoted between the wheels. Our drawing represents the escapement at the moment when the pin *C'* delivers its impulse, and this having been accomplished, the locking takes place upon the pin *C* of the other wheel upon the pallet *P'*.

Another system of two escape wheels is shown in Fig. 16, but in this case the two

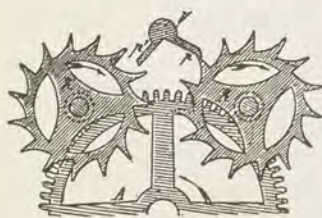


Fig. 16

wheels *R R* are driven in a like direction by the last wheel *A* of the train. The operation of the escapement is the same as the above. In

Fig. 17 we have a departure from the road ordinarily pursued. Here we see an escapement combining two levers, invented by the Chevalier de Béthune and applied by M. Thiout, master-horologist, at Paris in 1727. *P P'* are the two levers or pallets separately pivoted. Upon the axis *V*, of the lever *P*, is fixed a fork which communicates the motion to the pendulum. The two levers are intimately connected by the two arms *B B'*, of

which the former carries an adjusting screw, a well-conceived addition for regulating the opening between the pallets. The counterweight *C* compels constant contact between

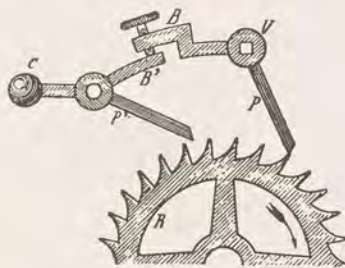


Fig. 17

the arms *B B'*. The function is always the same, the recoil and the impulsion operate upon the two pallets simultaneously; this

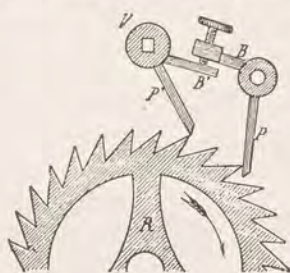


Fig. 18

escapement enjoyed a certain degree of success, having been employed by a number of horologists who modified it in various ways. Some of these modifications we shall show. For the first example then let Fig. 18 illustrate. In this arrangement the fork is carried upon the axis of the pallet *P'* which effectually does away with the counterweight *C* shown above. Somewhat more complicated, but of the same intrinsic nature, is the arrangement displayed in Fig. 19. We should not imagine that it enjoyed a very extensive application. Here the two levers are completely independent of each other; they act upon the piece *B B*

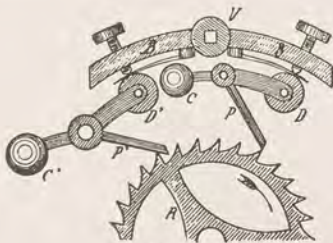


Fig. 19

upon the axis *V* of the fork. The counterweights *C C'* maintain the arms carrying the rollers *D D'* in contact with the piece *B B'* which thus receives the impulse from the wheel *R*. Two adjusting screws serve to place the escapement upon the center. By degrees these fantastic constructions were abandoned to make way for the anchor recoil escapement which was invented, as we have said above, in 1675 by G. Clement, a horologist of London. In Fig. 20 we have the disposition of the parts as first arranged by this artist. Here the pallets are replaced by the inclines *A* and *B* of the anchor, which is pivoted at *V*, upon an axis to which is fixed



Fig. 20

also the fork. The tooth *a* escapes from the incline or lever *A*, and the tooth *b* immediately rests upon the lever *B*; by the action of the pendulum the escape wheel suffers a recoil as in the pallet escapement, and on the return of the pendulum the tooth *c* gives out its impulse in the contrary direction. With this new system it became possible to increase the weight of the bob, and at the same time lessen the effective motor power. The travel of the pendulum, or arc of oscillation, being reduced in a marked degree, an accuracy of rate was obtained far superior to that of the crown wheel escapement. However, this new application of the recoil escapement was not adopted in France until 1695.

The travel of the pendulum, though greatly reduced, still surpassed in breadth the arc in which it is isochronous, and repeated efforts were made to give such shape to the levers as would compel its oscillation within the arc of equal time; a motion which is, as was recognized even at that epoch, the prime requisite to a precise rating. Thus, in 1720, Julien Leroy occupied himself working out the proper shapes for the inclines to produce this desired isochronism. Searching along the same path Ferd. Berthoud constructed an escapement represented by the Fig. 21. In it we see the

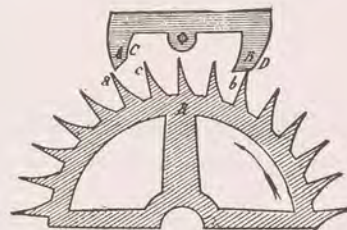


Fig. 21

same inclines *AB* of the former construction, but the locking is effected against the sides *C* and *D*, the curved faces of which produce isochronous oscillations of the pendulum. The tooth *b* imparts its lift and the tooth *c* will lock against the face *C*; after having passed through its recoil motion this tooth *c* will butt against the incline *A* and work out its lift or impulse upon it.

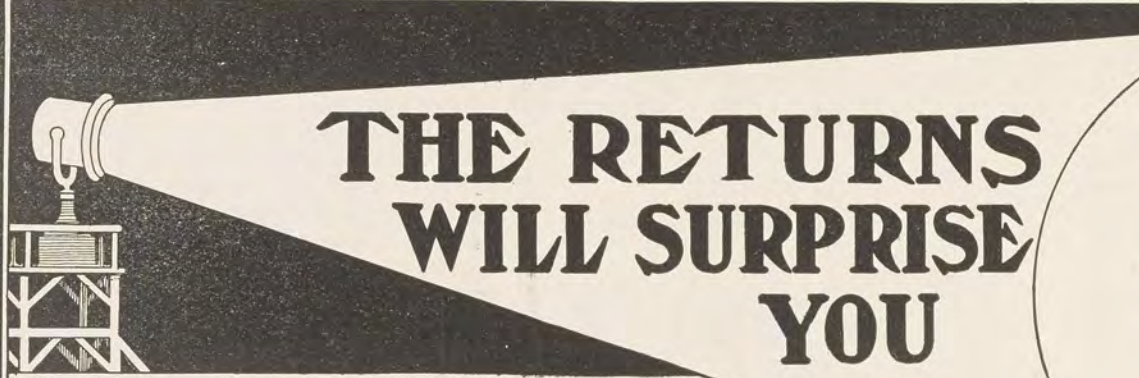
The *gable escapement* shown in Fig. 22 allows the use of a heavier pendulum, at the same time the



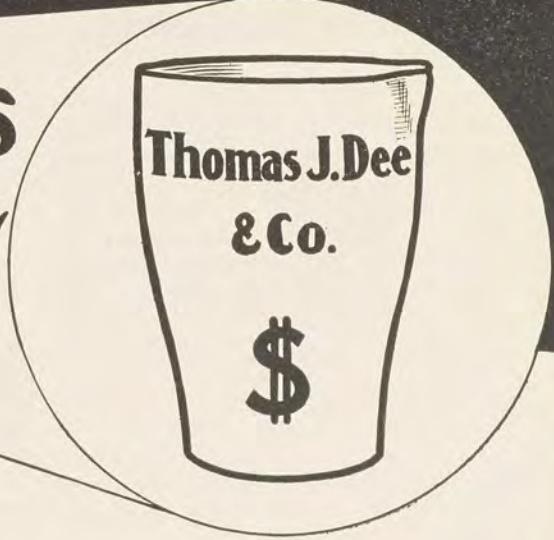
Fig. 22

anchor embraces within its jaws a greater number of the escape-wheel teeth; an arrangement after this manner leads to the conclusion that with these long levers of the anchor the friction will be considerably increased and the recoil faces will, as a consequence, be quickly worn away. Without a doubt this was invented to permit of opening and closing the contact points of the anchor more easily. Under the name of the *English recoil anchor* there came into use an escapement with a *reduced gable*, which embraced fewer teeth between the pallets or inclines; we give a representation of this in

(Continued on page 1955)



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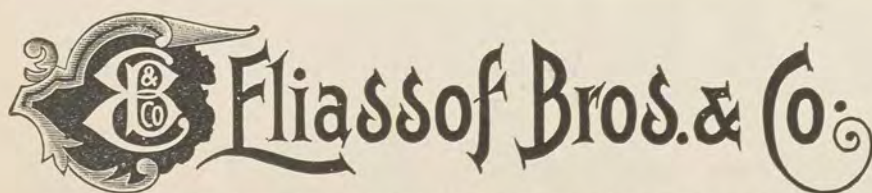
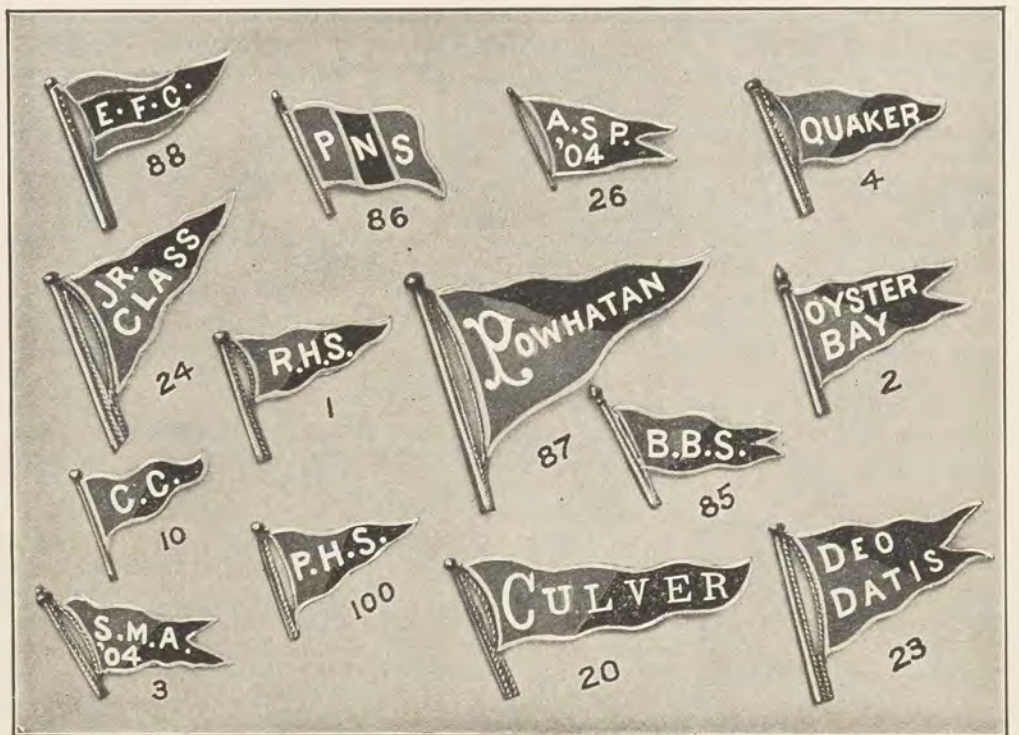
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A Chapter on Escapements

(Continued from page 1953)

Fig. 23. This system seems to have been moderately successful. The anchor recoil escapement in use in Germany to-day is demonstrated in Fig. 24; this arrangement is also found in the American clocks. As we see, the anchor is composed of a single piece of steel bent to the desired curves; clocks provided with this escapement keep reasonably good time; the resistance of the recoils compensate in a measure for the want of isochronism in the oscillations of the pendulum. Ordinary clocks require considerably more power to drive them than finer clocks and, as a consequence, their ticking is very noisy. Several means have been employed to dampen this noise, one of which we show in Fig. 25.



Fig. 23

escapement in use in Germany to-day is demonstrated in Fig. 24; this arrangement is also found in the American clocks. As we see, the anchor is composed of a single piece of steel bent to the desired curves; clocks provided with this escapement keep reasonably good time; the resistance of the recoils compensate in a measure for the want of isochronism in the oscillations of the pendulum. Ordinary clocks require considerably more power to drive them than finer clocks and, as a consequence, their ticking is very noisy. Several means have been employed to dampen this noise, one of which we show in Fig. 25.

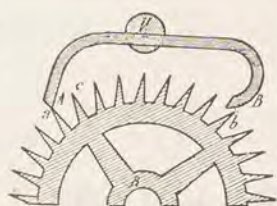


Fig. 24

steel bent to the desired curves; clocks provided with this escapement keep reasonably good time; the resistance of the recoils compensate in a measure for the want of isochronism in the oscillations of the pendulum. Ordinary clocks require considerably more power to drive them than finer clocks and, as a consequence, their ticking is very noisy. Several means have been employed to dampen this noise, one of which we show in Fig. 25.

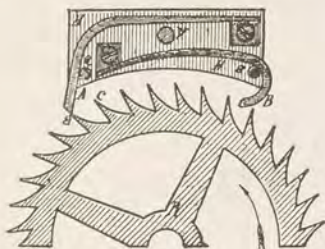


Fig. 25

Here the anchor is composed of two pieces, *A B*, screwed upon a plate *H* pivoting at *V*. In their arrangement the two pieces represent, as to distance and curvature, the counterpart of Fig. 24. At the moment of impact their extreme ends recoil or spring back from the shock of the escape teeth, but the resiliency of the metal is calculated to be strong enough to return them immediately to the contact studs *e z*.

As a termination to this chapter we shall mention the use made at the present day of the recoil lever escapement in repeating watches. We give a diagram of this construction in Fig. 26. The lever here is intended to restrain and regulate the motion of the small striking work. It is pivoted at *V* and is capable of a very rapid oscillatory motion, the arc of which may, however, be fixed by the stud or stop *D* which limits the swing of the fly *C*. This fly is of one piece with the lever and, together with the stud *D*, determines the angular motion of the

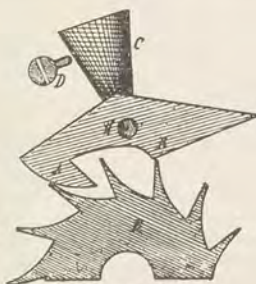


Fig. 26

lever. If the angle be large that means the path of the fly be long, then the striking train will move slowly; but if the teeth of the escape wheel *R* can just pass by without causing the lever to describe a supplementary or extended arc the striking work will run off rapidly.

[THE END]

Crystals and Gems

Sketching crystals, says *Mines and Minerals*, is fine and delicate work, requiring much study, a sharp-pointed, hard pencil and a steady hand. First of all, having selected your nest of crystals, it is well to study all the books have to say about them, their angles, cleavage planes, luster, etc., then take a large ore magnifying glass and examine them closely under it. An unexpected world of beauty will thus often be revealed. If the crystals are in a little geode or cavity, such as is common in the zeolite class in volcanic rocks, you may see the fairy-like cavern lined with sparkling gems, from which radiate tufts of fine silken hairs with a big gem crystal set in the midst; sometimes the caverns contain purple gems of amethyst or fluor-spar. You will observe crystals that have been stunted in their growth or misshapen by the pressing against them of other stronger growing crystals. You may see fine striae or parallel lines or indications of twining of crystals; you will notice also the lines of cleavage characteristic of certain crystals and invisible to the naked eye, also crystals that have been broken and faulted and re-cemented by mineral matter.

Having thus thoroughly studied the crystals, place them on a piece of white paper in strong light and shadow. Draw the outlines clear and strong, and the angles and faces of the crystals sharply. Some crystals resemble one another so closely, like certain forms of calcite and quartz, that only by very careful drawing can one be distinguished from the other, especially without the use of color. In highly-colored ores and crystals some beautiful realistic effects have been attained by photo-lithography in colors, but many ores and crystals have no distinctive colors; then you must rely on form.

Again, some forms of crystals are identical in form with others of an entirely different order, and you may have to distinguish them by color. Shading, especially in transparent crystals, should be used sparingly, except when the shadow is very pronounced or when the bases of the crystals descend into the dark depths and recesses of the geode cavern. To bring out distinctly the forms of white or translucent crystals it may be well to shade a dark background back of them.

Sometimes a row of quartz crystals in the center of a vein is locked in the embrace of an opposite set, like a row of clenched teeth. Occasionally these are beautifully tinted with amethystine purple, whilst back of them is a layer of milky white opaline quartz, agate or chalcedony, and back of that a dense layer of red, yellow, or variegated jasper. In drawing crystals the main point to be aimed at is their characteristic shape or grouping, so that any one seeing the sketch may recognize them as belonging to a particular family. When crystals are very small, as in twin crystals of tin, or in crystals of telluride ores, it is legitimate to magnify the crystal so as to bring out its distinctive features. Some ores form a series of concentric rings, like green malachite and blue azurite of copper; they had better be represented by their natural vivid colors.

Army Officers as Inventors

As the science of war develops, the officer with an ingenious head supplants the traditional hero, for war grows yearly more and more a matter of mechanics and engineering. In recognition of this, the Army Department has established at Fort Totten on Long Island, in connection with the graduate army school, an engineering, chemical and electrical laboratory. One of its products has been the officer-inventor.

The school and the laboratory exist to train army men in running and caring for dynamos and motors, in erecting wiring systems, in laying harbor mines, and in testing and experimenting with explosives. The need of such training was recently shown when the captain of the *Oregon* threw forty tons of powder overboard in South American waters. The powder had so deteriorated as to approach the point of danger of spontaneous combustion. Officers must know, as the officers of the *Oregon* knew, the various chemical forms their explosives may assume. They must be able, moreover, to keep a check on unscrupulous manufacturers by possessing expert information to guide them in inspection of materials. But while the officers at Fort Totten are working at their special tasks they find time to exercise their ingenuity in other than warlike fields, thus enhancing the value of the special studies devoted to the interest of the government.

One captain has devised a system for transmitting news by positive mechanical means rather than by the more complex methods common to electrical services. Another officer, Captain Arthur W. Chase, has perfected a metallurgical furnace for roasting or desulphurizing sulphide ores. It is claimed that this furnace operates with rare success and economy, occupying a field of its own, in that iron ores unsuitable for steel and iron manufacture by reason of high sulphur content may be crushed and roasted to a point within the limit for Bessemer iron manufacture. Other officers have made other inventions. The government, in maintaining a school of experts to improve the science of war, is at the same time helping to develop the arts of peace.



In the tower of the ancient seminary, shown in the above illustration, which stands at the rear of the Cathedral of Notre Dame, in Montreal, is an antique clock, reputed to be the oldest on the continent of America. It was brought over by the original founders of Montreal, and is still to be seen running and keeping time. The building, of which it is a feature, was erected as early as 1657, and counting even from that time its age would now be 246 years, but having been in existence before that year it is, of course, something older.



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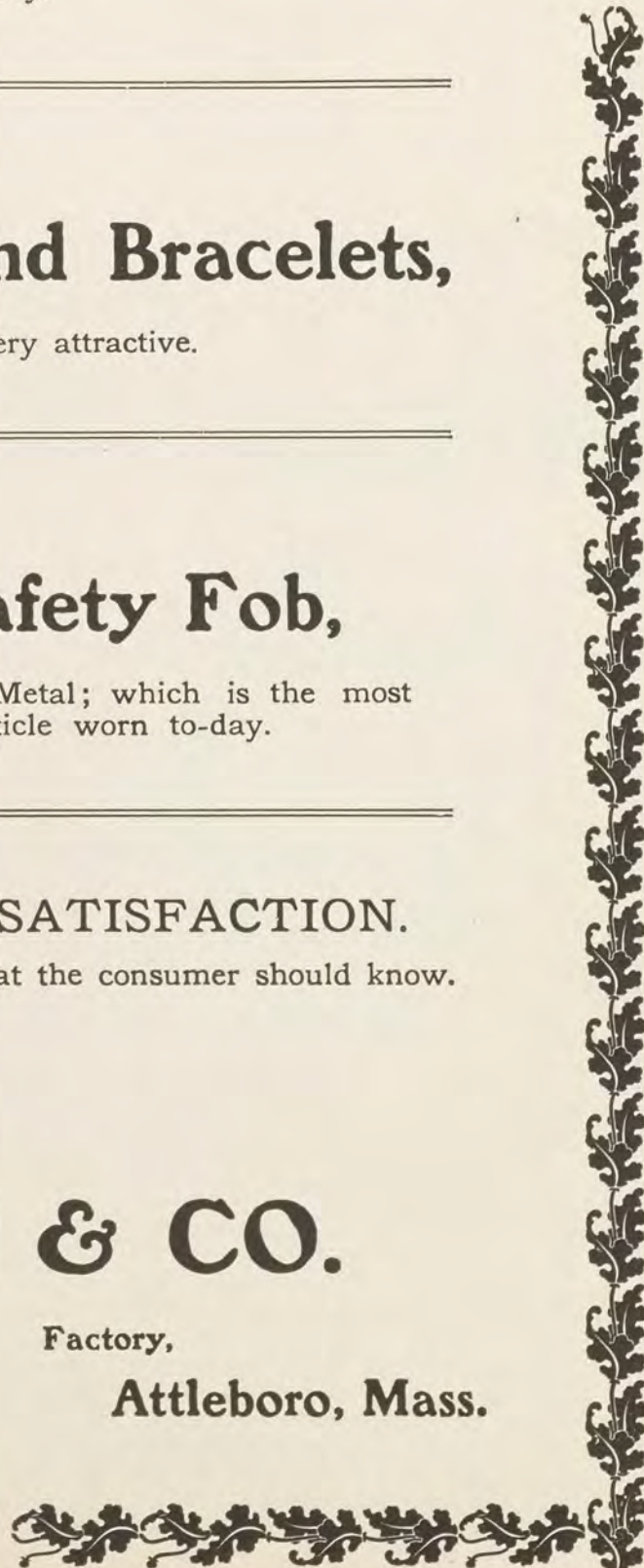
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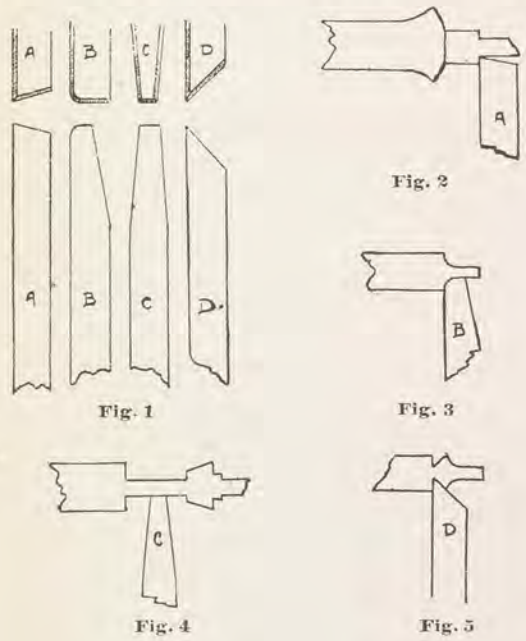


Workshop Notes

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An INDEX to the questions answered in Workshop Notes department for each year accompanies each December number. Subscribers are requested to preserve these indexes, and, before mailing questions, to refer to them, as similar questions may have been answered in previous issues. These indexes are arranged alphabetically, according to subject covered in each answer, and tell the issue and page on which the information may be found.

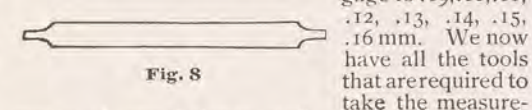
"Staffing."—Kindly give instructions for turning in a balance staff in the lathe between centers, also how to take the different measurements and say what gage is used.—The most up-to-date method of turning a balance staff, where the workman has an American lathe, or a lathe that takes a split chuck, is to turn and finish one end while the wire is held in a wire chuck; then finish the other end in a cement chuck. The turning and finishing of a fine balance staff requires more skill and care than any other piece of turning a watchmaker is called upon to do—nearly every workman has his own pet gravers, gages and methods of doing the work. We first require a good set of gravers. At Fig. 1 we show such a set; A is used



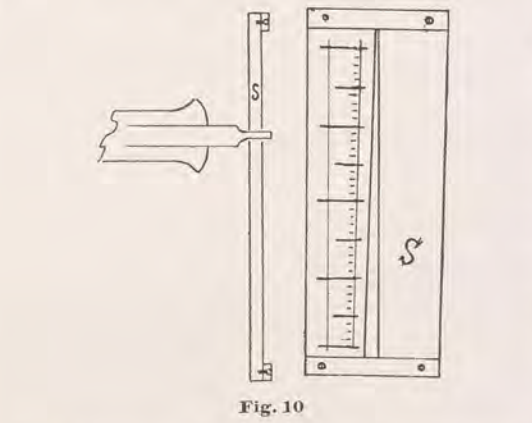
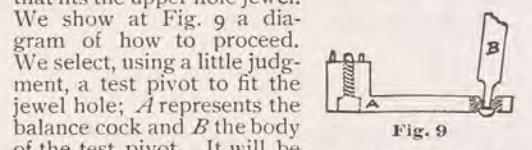
for turning square shoulders. (See Fig. 2). B has a rounded corner and is used for turning cone pivots. (See Fig. 3). C is used for roughing out the rear end of a staff. (See Fig. 4). E is used for turning the groove in the rear of the pivot. (See Fig. 5.) These gravers cannot be bought in the shape described, but can easily be made by any workman from 1/8" square wire. We will not go into the details of making gravers, as the illustrations show the shape and what is required of them, but we might say that after a graver is tempered hard, it is advisable to draw it to a light straw, and don't sharpen the cutting angles too long. In Fig. 6 A represents the incorrect and B the correct angle. For measuring tools we need a Grossman .01 mm. gage (this gage is made something like the old douzieme gage), a Boley mm. and also a pivot gage such as comes with the Jacot lathe. These gages can be had at any

wholesale tool house; the use of the gages we will explain later on. We also require a tool for measuring the height of the roller table seat; such a tool we illustrate at Fig. 7, and can be very readily made. A is made from a No. 5 needle, which is threaded about half way up and contains a pivot on one end which should be small enough to go through the smallest hole jewel. B is made of brass, and

screws up and down on A. The finger piece, or handle C, is made of brass and is put on like the top of a screw-driver. Next we require a set of test pivots to get the proper size our pivots should be. We require a set of four, and are made from a No. 3 needle, and we put a pivot on each end, see Fig. 8, these pivots we gage with our Grossman



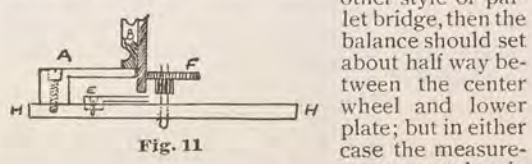
gages to .09, .10, .11, .12, .13, .14, .15, .16 mm. We now have all the tools that are required to take the measurements of any balance staff. The simplest and quickest way to turn a balance staff is, first to take all measurements. Suppose we are going to turn one for a Swiss watch where the old staff is lost. Take the watch apart, then get the size of pivots. We do this by picking out one of our test pivots that fits the upper hole jewel. We show at Fig. 9 a diagram of how to proceed. We select, using a little judgment, a test pivot to fit the jewel hole; A represents the balance cock and B the body of the test pivot. It will be noticed that the body of said test pivot leans to one side, and a good idea as to its fit can be obtained from the angle at which it leans; it should stand as near perpendicular as possible without binding in the jewel. We now find what our test pivot that fits the jewel measures on our pivot gage by holding the test pivot in the lathe and placing the gage on the pivot as shown at Fig. 10.



Do not press on the gage, but let its weight hang on the pivot when we can read on the gage just what it measures. We get the size of our lower pivot the same way. We measure the diameter of the hole in the balance wheel, hairspring collet and roller table by placing each on a round broach and measure where they rest with our Grossman gage. We now have all diameter measurements, which we make a note of on a slip of paper something like this:

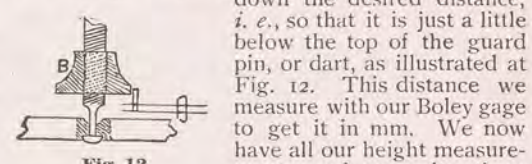
- Top Pivot —————
- Balance —————
- Roller —————
- H. Shoulder —————
- Hub —————
- B. Pivot —————

The hub of the staff does not need to be any particular diameter, just so it is large enough to allow a good seat for the balance wheel. We now want our complete length and height measurements. We get the complete length by removing both upper and lower cap jewels, screw balance cock in place, and using the Grossman gage we measure from hole jewel to hole jewel; next the height of the balance. This will depend upon the construction of the watch. If it contains a pallet bridge that sets under the balance, then the balance should just free that bridge. If it contains the other style of pallet bridge, then the balance should set about half way between the center wheel and lower plate; but in either case the measurements are taken in

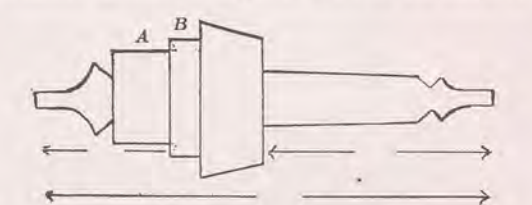


this way: Rest one part of the Boley gage on the balance bridge; slide the gage down to the desired height, see Fig. 11, where A represents balance

cock; E pallet bridge; F center wheel; H bottom plate; B gage. The next measurement is to get the height of our roller table seat: Replace bottom cap jewel, also put fork in place; now we use the small gage shown at Fig. 7. We place the pivot of our gage in jewel hole and screw the nut B

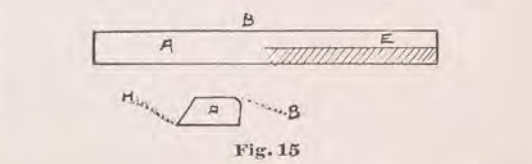
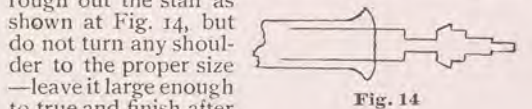


down the desired distance, i. e., so that it is just a little below the top of the guard pin, or dart, as illustrated at Fig. 12. This distance we measure with our Boley gage to get it in mm. We now have all our height measurements and we write them down by designing a staff on

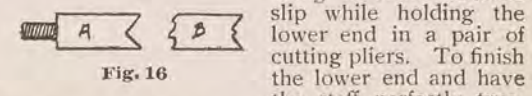


paper, as shown at Fig. 13. The length of the balance shoulder B depends upon the thickness of the balance arm, and it should be left about .1 mm. more than the arm is thick for riveting. The length of the hairspring shoulder A is of little importance; it can be the same length as the collet or a little shorter.

To proceed to turn a staff we select a piece of Stubbs' steel wire a little larger than the hub or body of the staff; place it in a wire chuck and rough out the staff as shown at Fig. 14, but do not turn any shoulder to the proper size—leave it large enough to true and finish after tempering. Now remove the whole piece of wire and heat to a cherry-red and plunge into a vessel of oil. Don't be afraid of using too much oil; put it back in the chuck and polish bright with an emery buff; place it in a tin box about the size of an 18 size movement box; have it about one-quarter filled with sand; heat over the alcohol lamp until the wire takes a good, dark purple color; now replace it in the chuck and get it to run true, or as near true as possible, and proceed to turn the balance shoulder, then hairspring shoulder, and what remains of this end to the diameter we want the cone of the pivot to be. We now make sure that the length from the balance seat to pivot end is correct; then proceed to turn pivot and shape the hub, when we are ready to polish this end. In polishing, we

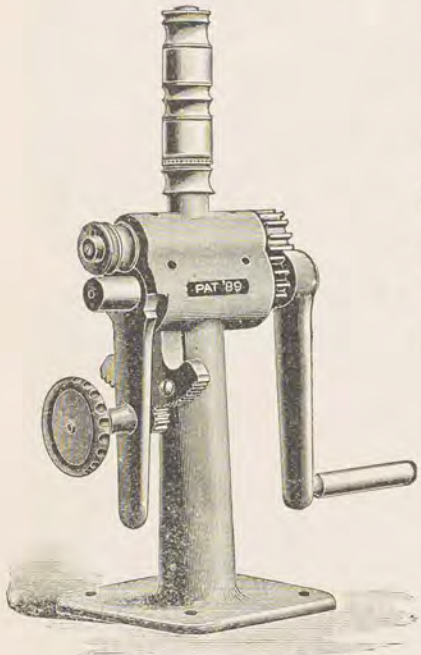
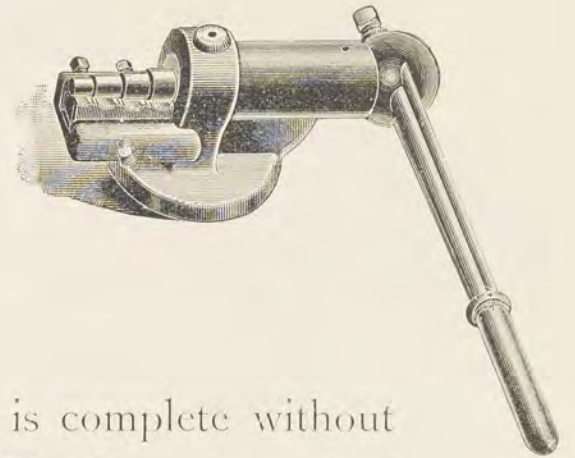


require a piece of iron and a bell-metal slip, both shaped like Fig. 15, where A represents an end view of E. One-half of the side of the slip, as shown at H, comes very near to a knife-edge, and is used against all square shoulders, also to grind in back of the cone of the pivot. The edge B is rounded to take the cone of the pivot. With the iron slip we use oilstone powder and oil to grind out all of the graver marks. We then use No. 1 diamantine and oil with the bell metal slip; this leaves it perfectly smooth but not bright. To finish we use No. 2 diamantine and alcohol on a piece of boxwood or pegwood. We now have one end finished, which we cut from the wire a little longer than the complete length, and reduce it to the exact length from pivot end to pivot end; using a small oilstone slip while holding the lower end in a pair of cutting pliers. To finish the lower end and have the staff perfectly true, we must use a wax chuck as shown at A, Fig. 16, which represents a perfect centered chuck. Be careful when centering your wax chuck that you



(Continued on page 1959)

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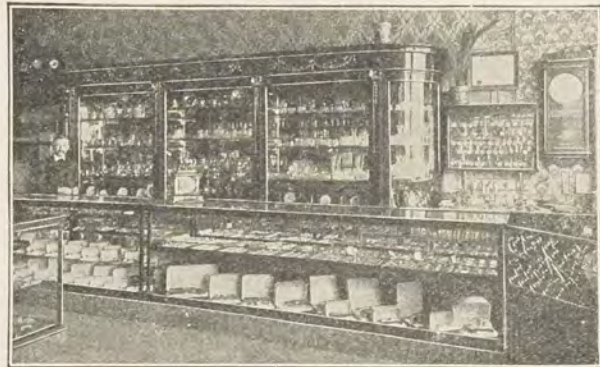
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Subscribers wishing inquiries answered in this department must send name and address—not for publication, but as an evidence of good faith. No attention will be paid to anonymous communications. Questions will be answered in the order in which they are received.

(Continued from page 1957)

do not leave a slight projection as in *B*. At Fig. 17 we show a magnified view of a staff and cement chuck. The dotted line *A A* represents how far the wax should extend. When putting wax on the chuck, and also when putting the staff in, be careful not to let the wax catch fire, as this will at once destroy the wax and the staff will not be held securely. While the wax is warm we insert our staff and press it back gently until we feel positive the pivot has entered the center of the chuck; then use a pointed piece of pegwood, resting it on the T-rest as shown at *H*, Fig. 17, to make it run absolutely true. We now turn and finish this end the same way as described for the upper end, when we will have a perfect fitting, finished and true balance staff.

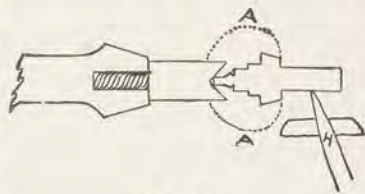


Fig. 17

"Teaspoon."—(1) When solid silver teaspoons, which are in constant use, become spotted with black spots what will remove the same? I have tried to remove them, but have not been successful.—The ordinary cyanide solution employed by the trade for removing dirt and oxidations will, no doubt, prove effective in this instance. We would suggest that you do not make the solution too strong. One and a half ounces to the quart will prove as effective as a greater quantity, and there will be less liability of affecting the work in any way. When spoons are in constant use, as you say these are, we think that a rubbing up about once a week with one of the numerous polishing compounds on the market, announcements of which appear on our advertising pages, will prove all that is necessary to keep them in good condition. No doubt, the spoons became spotted on being laid away and not used for some time.

(2) Is there any company that makes wooden clock wheels for old grandfather clocks?—We regret to state that we know of no concern making supplies of this kind.

"Lathe."—I would like you to tell me why it is that when a cylinder movement is running with a rather slow motion and I put a little more power on the train by touching it with a screw driver the watch will instantly stop.—The cylinder, like the duplex escapement, is what we term a frictional rest escapement; that is, the power of the train is on the cylinder while the balance is taking an action. If too strong a mainspring is used in a cylinder watch it would stop it. A weaker mainspring is always used in a cylinder watch than in the same size lever watch. The cause of your watch stopping with just a little pressure on the center wheel proves that there is something wrong with the cylinder or escapement. Look for a bent cylinder, bent pivot, broken hole jewel or escapement too deep. Remove the escape wheel and try alone to see if it is free in all positions; then remove the hairspring and replace escape wheel and balance; put a little power on the train, move the balance with your finger very slow until it receives impulse, and at that instant let go of the balance. If the balance is free the impulse it receives will cause the balance to take at least a half of a revolution; if it does not, then the balance binds somewhere. For the depth of the escapement read the serial on the cylinder escapement that appeared in THE KEYSTONE from August, 1901, to January, 1902, inclusive.

(2) I am about to buy a new lathe. Will the imported give the satisfaction the American will?—Our preference is for the genuine American, as we think them superior to the imported imitations.

"Hard."—I have trouble in drilling hard staffs for pivoting. Can you give me instructions for annealing staff without discoloring the balance?—There is no occasion to discolor the balance while drawing the temper on either end of a staff, if you go about it in the right way and use a little precaution. One of the simplest methods to draw the temper is to take a piece of copper wire about

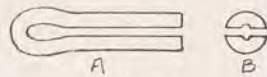


Fig. 1

40 mm. long and 1.5 mm. thick, file each end flat, also a small groove, bend it to the shape shown at Fig. 1, where *A* gives a side and *B* an end view. Insert the end of the staff to be drawn, but don't allow the copper wire to touch the balance arm; hold the other end of the staff with a pair of flat-nose pliers, allowing the flame of the alcohol lamp to touch the copper wire only, as shown at Fig. 2. You can see when the temper is drawn enough; it wants to come to a good blue, and it need not be drawn all the way to the balance arm, but only a little farther than the depth you want to drill your hole. The blue can be removed from the staff by touching the discolored part with a toothpick containing oil of vitriol. Be sure you clean the balance thoroughly so as to prevent the acid from rusting the staff. A good drill is one of the most important things in pivoting. We have found in our experience that home-made drills are better than those you buy. The next pivot job you do, use a drill made in this manner: Take a good sewing needle (about a No. 5 sharp)

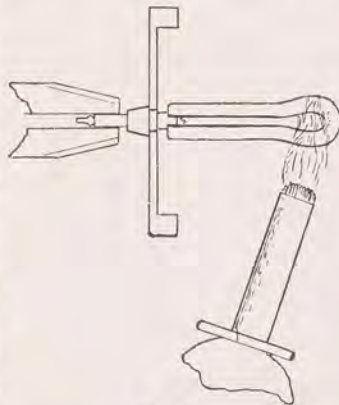
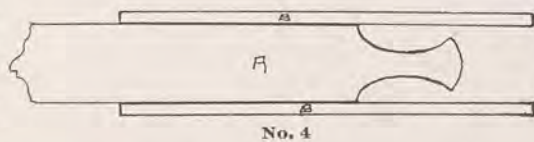


Fig. 2



Fig. 3

draw the temper on one end and turn to the shape shown at *A*, Fig. 3; do not make the drill any longer than your hole is to be, now spread the point as shown at *B*, by giving it a light blow with a hammer, now comes the most important part in making a good drill, and that is not to heat the drill too much, so as to burn it while tempering; to temper a small drill take a piece of copper about



No. 4

quarter of an inch long and a little thicker than the needle, drill a hole through it until the needle enters freely, now allow this wire or shield to extend over the drill as shown at Fig. 4, where *A* represents the drill and *B* the shield, hold the extreme end of *A* with a pair of tweezers, heat the shield and needle at about *B* until it comes to a pale red, then plunge it into beeswax, allowing the drill to slide through the shield; you must be quick in doing this, so that the point of the drill strikes the wax while it is red. The pointing of a drill is something to pay attention to; large drills are generally sharpened to cut in one direction, but in small drills it is advisable to shape and sharpen them to cut in both directions, by rounding the end as shown at *A*, Fig. 5. We now have a drill that will drill many a staff or pinion without drawing the temper.

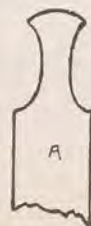


Fig. 5

"Potassium."—Please give the chemical process of getting cyanide of potassium, and state whether it is connected with the elementary metal that has such a violent action when put in water or on ice?—Potassium cyanide (CNK, or KC y) can be obtained in various ways. The metal potassium which you mention, heated in cyanogen gas, takes fire and burns in a beautiful manner, at the same time yielding potassium cyanide. This substance is also produced when potassium is heated in a vapor of hydrocyanic acid, hydrogen being liberated. When pure nitrogen is transmitted through a white-hot tube containing a mixture of potassium carbonate and charcoal, a small quantity of potassium cyanide is formed which will settle on the cooler portions of the tube as a white powder. At the same time carbon monoxide is evolved. When ozotized organic matter that is capable of furnishing ammonia by destructive distillation, as horn shaving, hide parings, etc., is heated to redness with potassium carbonate in a glass vessel, abundant production of potassium cyanide results. As a rule, however, when thus derived, it is converted into ferrocyanide. Cyanide is often produced in considerable quantity in blast-furnaces in which iron ores are smelted with coal or coke. The above are but a few of the many processes by which this well-known, though deadly substance, can be obtained; but we think that those given are of such a character and so varied that you can form a very good idea of the matter.

"Romanize."—(1) What is the most practical way to romanize small articles such as repairing rings, etc., in an ordinary jewelry store?—The most practical way to do such work is to deposit the gold by means of electro-deposition. There are of course many solutions that can be used to give color to an article without the aid of an electric current of any kind, but we do not think them adapted to the class of work that comes within the province of the jeweler. We would suggest that if it is your desire to take up such work that you read carefully the serial "Electro-Metallurgy" that recently appeared in our journal. In this serial full instructions were given for this class of work, including the making of solutions for gold, silver, copper and various other metals and also the making of the different apparatus required.

(2) Please tell me how quicksilver is deposited on the back of mirrors. Is there a way to repair mirrors that have the quicksilver scratched off in places? if so, how?—Various methods of silvering mirrors have been described in our Workshop Notes Department at different times. To locate these we would suggest that our readers refer to the index accompanying each December issue. For the repairing of mirrors we would call especial attention to the reply to "Three Mirrors," page 1167, of the August, 1903, issue.

"Soft Solder."—Kindly give me some information concerning the removal of soft solder from gold. I have tried one formula that I had for this purpose, but I have not met with success. The ingredients were 8 ozs. muriatic acid, 1 oz. crocus; to 1 oz. of the mixture add 4 ozs. of hot water; place in an earthen dish and keep up the heat by means of a gas flame. If you can give any different information on the subject kindly do so.—We think the following formula will give satisfaction:

Proto-sulphate of iron	2 ozs.
Nitrate of potassa	1 "
Water	10 "

Reduce the proto-sulphate of iron (green copperas) and nitrate of potassa (saltpeter) to a fine powder, and add these ingredients to the water, and boil the preparation in a cast-iron saucepan for some time; afterwards allow the liquid to cool, and in doing so it will shoot into fine crystals. If any of the liquid should remain uncrystallized, pour it from the crystals and again heat it, when, on cooling a second time, it will all have become crystallized. The crystallized salt should then be taken and dissolved in muriatic acid (spirits of salt), in the proportion of one ounce of salt to eight ounces of acid. Now take of the latter preparation one ounce, and add it to four ounces of boiling water in a pipkin, keeping up the heat. In a short space of time the most obstinate cases of soft solder will be cleanly and entirely removed, and without the work changing color, if these instructions are properly carried out in preparing the mixture, etc.

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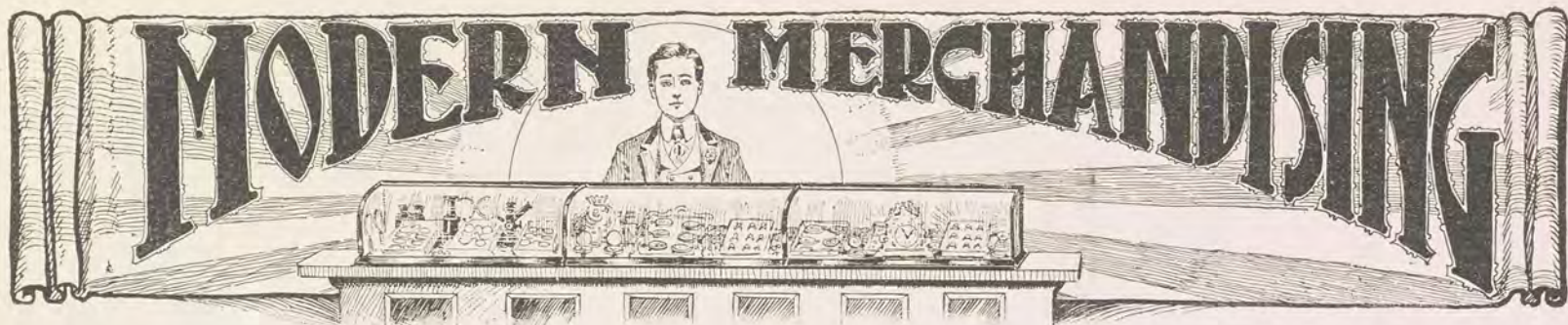
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The Philosophy of Discounts

IN his eagerness to buy at the best possible terms the jeweler should never lose sight of the quality of the goods or their reputation with the public when the question of discounts is considered. How often the traveling man is told: "I can't very well handle your line. You see you allow only a discount of 25 per cent. while Messrs. So and So have offered me 40 per cent." Often the dealer says this in a decisive, matter-of-fact way as if quality or salability were no consideration whatever. Quite likely the article on which the lower discount is offered is a standard article of proved merit, well advertised and known to the public. In such a case the wise merchant will, first of all, compare the time and cost of selling, say \$200 worth, of goods with an established reputation, and that are asked for by the public, with the time and cost of disposing of the same amount of another make practically unknown, and that you have to persuade customers to buy against their own inclination. Not infrequently an unusually big discount is a suspicious symptom of dangerously poor quality, and be it remembered in this connection that a jeweler's good name is his most valuable asset.

IN handling reliable goods that are thoroughly advertised the jeweler has an advantage that means much to him in dollars and cents. If the dealer has to make the reputation for the goods he handles and create a demand where none existed, and this, too, in competition with goods of established reputation and in constant demand, twice the discount offered by the manufacturer of the standard product would be too small.

When the progressive dealer rents a store he doesn't go into the side streets or away from the retail center where he might get an elegant store at a very low figure, but he secures the best location possible right on the principal retail street and pays a good big rent for it, knowing that the location will secure a volume of business that will justify the rental.

Just so in handling goods that are known to be standard, that have secured a reputation, that are advertised so extensively and judiciously that they are known almost to the exclusion of competitors' goods—the vol-

ume of sales of such merchandise will more than justify the smaller discount received.

This difference in discount represents but part of the cost to the manufacturer of making his wares the best known in the world, of advertising and creating a demand for them, of placing them in a position where they're called for and very little effort is required to sell them. He has taken the land in its virgin state, cut down the timber of prejudice, cleared the stumps of opposition and prepared it for the highest cultivation. Incidentally this costs the manufacturer lots of money, but it makes, at the lower discount, the most profitable line of goods the retailer can handle.

There's more money in selling \$100 worth of goods a month at 25 per cent. profit than there is in selling \$100 worth of goods in two months at 40 per cent. profit. Furthermore, there may be reputation for you in the one, and possible disaster in the other. It is the jeweler's privilege to insist on the most favorable terms, but he must not allow an exaggerated discount to blind him to what is best for his good name and his business.

Holiday Temptation to Substitution

AT this season when there is an unusual rush for goods of standard quality and a possible scarcity in some lines beware of the temptation to substitution. Even though the substitute be actually just as good, which it rarely if ever is, it is difficult to convince the customer of the fact. The mere fact of saying that one article of merchandise is "just as good" as another means in a sense that actually it is inferior to it since the other is accepted as an arbitrary standard of comparison. Looked at from a purely business viewpoint, however, substitution is a risky practice. The average person in quest of some particular article, of the value of which he or she has certain pre-conceived notions, is seldom willing to readily accept in lieu of it another that is different even though the dealer vouches that it is "just as good." Substitution in almost every case means disappointment to the customer no matter how the merchant may endeavor to preclude it. The customer's expectations are balked when he cannot procure the thing required and to fully compensate for this calls at least

for "something better." Above all, customers should never be pressed into taking what they manifestly do not want. Zealous salesmen often practice this policy of push not wisely but to well. To persuade a person into doing what he really does not wish to do is an encroachment upon his personal independence, and it is only natural that he should show his resentment by patronizing a store in which his wishes would be more respected. If you are sold out of the particular merchandise that the customer asks for, but stocked in something closely akin to it, politely intimate the condition and leave the inquirer absolutely to his own free will. If he is puzzled advise him; explain the merits of the standard article and of the "just as good." Don't sit back and mystify by oracular hints at how much more you know about the goods than he. This is sowing the seed of doubt and distrust, whereas a frank and courteous explanation may establish a life-long confidence. You may make the sale and the goods may turn out to be "just as good" in fact, but there will still be a feeling rankling in the mind of the purchaser that bodes no good for the seller. Of what avail is a sale if it inures to your detriment? Most substitution sales are of their very nature unsatisfactory, and an unsatisfactory sale is worse than none.

Exports of Clocks

IT has recently been announced that the exports of American clocks now amount to over \$1,000,000 a year, and the record of their destination shows that they go to practically every civilized country on the face of the globe. In one week recently \$15,000 worth of clocks left our shores, and the countries to which they were shipped included England, Germany, Scotland, Spain, Madeira, the Azores, Cuba, Colombia, Brazil, Argentine, Natal, India and Newfoundland. Records of shipments for other weeks add many other countries to this list. As the New York *Sun* puts it: "The exasperating shriek of the American alarm clock breaks the stillness of the morning from the equator to the frozen pole, and men of all races, colors and tongues hurl their anathemas at it in their respective languages, even though they hurl nothing more weighty."

Where the Wear Comes



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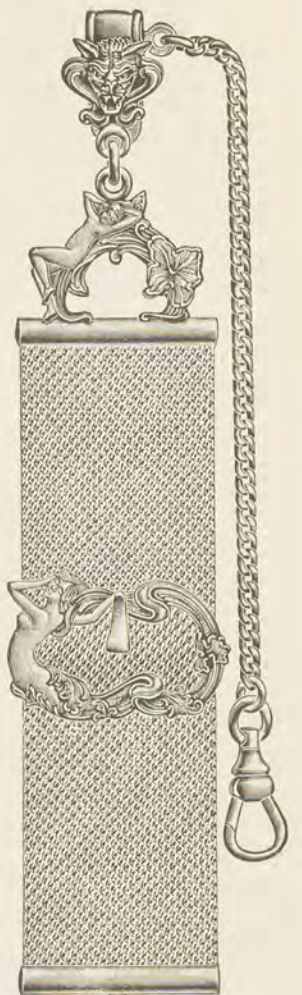
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Gold Lost in the World's History

How the Precious Metal Disappears—The Gold of the Ancients—Nature's Lavishness

WE see men every day applying gold leaf to signs and shop windows. Many thousands of dollars' worth of gold is thus used in this city every year, says the *New York Sun*. Gold leaf makes the most attractive business signs that have yet been invented. But in all our busy thoroughfares, even in Broadway, wherever the shopkeeper, the financier, the manufacturer or the professional man advertises his name and utility, we may find these gilt signs in every stage of dilapidation. The storms and winds are playing havoc with the gold and eventually every dollar of it will be lost.

The Gold Leaf Waste

This is one of the ways in which millions of dollars of gold have been lost as surely as though the metal had been sunk in mid-ocean. It is a phase of the disappearance of gold that has been going on since the days before history was written; for the art of gold beating is referred to by Homer, and Pliny tells of an ounce of gold extended to 750 leaves, each four fingers square, which is three times the thickness of the ordinary gold leaf of the present day.

It seems a startling statement, but it is true, that economists have held the belief that nearly all the gold of ancient times has entirely disappeared, and yet there is good ground for the conclusion that from the earliest times of which we have record of the prevalence and use of gold to the downfall of the Roman republic, the total quantity of gold utilized in one form or another exceeded in volume the present gold stock of the world.

Ancient history abounds with allusions to gold. We read of the abundance of gold in King Solomon's time, of the temple at Jerusalem, with its gold ornaments and the gold utensils of the altar. Gold is frequently referred to in the Old Testament, and the refining of gold and silver by cupellation, the process of separating the precious metals from lead in a cupelling furnace, was a favorite illustration used by Jewish poets.

Beautiful ornaments and vessels of gold brought to light by the excavations of archeologists show the perfection to which the art of gold working was brought by Egyptian, Etruscan, Greek and many other ancient goldsmiths. But these relics which adorn modern museums and private collections are all we have to show of the gold of ancient times.

Disappearance of Gold of Ancients

What has been recovered in the past centuries in the form of ancient gold manufactures is scarcely worth mentioning in comparison with the great volume of gold that was utilized in the early days. We have proof that this is so, and that the quantity of ancient gold now available is so inconsiderable that it may be regarded as negligible. Since the discovery of the Western world fairly accurate statistics of the production of gold have been kept. We know approximately the quantity of gold that has been added to the supply for three centuries, and the present amount of the gold stock of the world, and these statistics show conclusively that ancient gold is not represented in the modern figures. Of course, a large amount of modern gold has been lost, but this deficit is a mere bagatelle in comparison with the great volume of ancient gold which cannot now be accounted for in any manner.

Unless the chronicles of the ancient writers are largely unworthy of credence, the total amount of gold that was utilized throughout the known world in the days of the Persian empire was not very far behind the quantity of gold that is now in use. But even though we may regard these early statements as far in excess of the truth, still there is no doubt whatever that the supply in that epoch was enormous.

It is gone beyond recovery, and various influences have contributed to its disappearance. Gold is a soft metal and is peculiarly liable to abrasion. In making our gold coin we mix nine-tenths of fine gold with one-tenth of alloy to retard abrasion. But this wearing away of the metal is only delayed, not prevented, by the efforts to save it. Gold is best preserved in the form of utensils or art works, which are little handled. It is constantly wearing away when it is in the form of coin or of other manufactured articles which are much used and manipulated.

Waste in Manufactures

The ancients made gold leaf and gold thread, as we do, and in such forms the loss of the metal is accelerated. Soldiers tell us that the very thin coating of gold which gilds their epaulets is not enduring. Gold used in manufactures is wasted, in spite of the almost infinite pains taken to preserve the tiniest particle. All dentists, for example, will tell us that as they clip with scissors the bands and other forms of gold which they shape in their laboratories, they cannot avoid losing a little of the metal.

Much of the gold turned into the works of art, the form in which the metal is best preserved, is in time melted again for other utilities. Though Benvenuto Cellini was the most celebrated goldsmith of the fifteenth

century, only a few specimens of his rarely beautiful work are now to be found in museums or in private hands. The vicissitudes of fortune compelled many once wealthy families to part with these works of art for the gold that was in them, and they were melted by sordid persons who wanted only the gold.

All the hundreds of influences which today are depleting the gold supply were, of course, operative in ancient times. Gold was lost in the processes of manufacture; it was lost in deep waters, buried in tombs and, in troublous times, was hidden in the earth and never recovered. It passed out of human hands in many other ways. Not a bit of it could be destroyed, but it was just as far beyond the reach of man, for the lost gold was so widely and thinly distributed that it would never pay to hunt for it. It is, in fact, believed that very little of the vast amount of gold contributed to the supply in the earliest days of gold seeking in America is now available.

Nature Hides the Metal

The forces of nature also are incessantly trying to put gold beyond our reach. We know that a large part of our present supply has been derived from placer mines. By the action of water, fine particles of gold are being daily carried seaward. Much of it is scattered through the sand and mud banks of the lower streams, which are to make the sandstones and slates of future geological eras; but much of it also is carried out to sea and scattered over the sea floor beyond human reach, probably, for all time; and an enormous amount of gold that impregnates the banks and valleys of the streams is so very thinly distributed that it takes all the way from 1000 to 3000 colors to make a cent, and so can never pay in practical mining.

As far as we yet know, however, the supply of gold retained in the rocks for us to liberate and utilize is inexhaustible. New discoveries, as remarkable as any that have been made, will swell the gold resources; and the history of some of these discoveries will undoubtedly be as interesting and romantic as that of the discovery of the precious metal at Helena, Mont., which gave that region its importance as a great gold mining center. The story of this first "find" in Montana illustrates the purely accidental and fortuitous manner in which some of the most important discoveries have been made.

The story goes that a party of four prospectors had started for a well-known mining camp. On July 15, 1864, they halted on the site of the city of Helena to prepare dinner and rest their horses. When they were ready to resume their journey, one of them happened to walk down to the stream to get a drink of water. It chanced that he began mechanically to scratch the gravel with his hands, after the habit of prospectors, when to his astonishment he drew out a nugget as large as a gold dollar. A hundred dollars' worth of gold was taken out in about twenty minutes. Of course, the men at once settled on the spot and located claims. In a short time news of their success spread abroad, hundreds of other miners flocked to the spot, and the mining camp that was established grew into the city of Helena.



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Weight, ½ carat.

Jeweler's Prize-Winning Advertisement

There are numerous evidences that the improvement which we have noted for some time past in jewelers' advertising, continues to be well sustained. It is our earnest hope that there will be no reaction until the jewelers of every locality become conspicuous for the superiority of their announcements. That this is not such a remote consummation as some may imagine, is clearly illustrated in the case of J. L. Wolff, the jeweler, of Paducah, Ky, one of whose advertisements was awarded first prize in a recent contest held under the auspices of the *News-Democrat*, of that city. We reproduce the prize-winning ad. on this page, but of course in reduced form. In the columns of the *News-Democrat* it occupied a space of 9 x 7½ inches, and Mr. Wolff's trade-mark, comprising a wolf and watch, occupied the spaces in which the small watch cuts now appear. The umpire in the contest was the editor of *Printers' Ink*, known in the advertising world as "the little schoolmaster." The contest was for the best written advertisement, containing thirty inches or more, and the prize was an apportionment of 100 inches of display advertising space in the *News-Democrat*, to be used when wanted by the winner. Jeweler Wolff is justly proud of the result, and THE KEYSTONE hastens to congratulate him upon his clever achievement. We also felicitate ourselves upon the perfection attained by one of our esteemed readers in the great art of publicity. The enterprise of the newspaper which inaugurated the contest is likewise deserving of praise, as these competitions impart an invigorating stimulus to trade conditions that sharpens the wits of local dealers and exerts a healthy influence on the body-commercial. If competition is not always the life of trade it is certainly the life of advertising. Competitive advertising is an educative force; one dealer learns from another, and thus they are mutually benefited.

One of the prettiest and most forceful announcements of an improved repair department that has come under our notice is a little folder issued by Bert McFarland, of Burgettstown, Pa. This folder has on the outside an embossed stag's head printed in colors. Inside is a photograph of his new repairer, and opposite to it this announcement:

Having had the unpleasant experience and services of some apprentices, I have realized the fact that to secure good work and workmen I must put up the cash, and I now take pleasure in announcing to you that I have secured the services of Adolph Rosenbaum, of Sandusky, Ohio, a middle-aged man of eighteen years' practical experience at the bench, and a man well known to the trade.

I hope with your support to be able to keep this workman, whose services I have secured at no little expense, and with increased business at present this seems possible. I can now assure you that you have at your command a thoroughly competent workman. This store will be open from 7 A. M. to 8.30 P. M., with obliging and courteous treatment always assured.

Thanking you for past patronage,

Yours truly,

BERT MCFARLAND,
Watch, Clock and Jewelry Repairing,
Burgettstown, Pa.

There is logic enough in this announcement to make it impressive, and we have no doubt that the dainty little folder proved an effective advertisement.

We take it that all jewelers are alive to the necessity for judicious advertising during the Christmas season, and if there are any who are still skeptical in the matter we feel assured that they will be duly disillusioned by time or rather experience, an effective school of wisdom, even if its rates are necessarily high. Advertising is no longer a matter of option with the merchant who means to advance. Indeed, with the exception of cash, whose potency no other factor can ever attain, nothing exerts so vital an influence upon the life of a business as does advertising.

That it may bring profitable returns, Christmas advertising must be exceptionally attractive and forceful, on account of the abnormal competitive conditions which prevail around that time, and more especially to the urgent need of using every available means to profitably dispose of the heavy stocks which have been put in to meet the anticipated brisk demand. This demand, like

New Form of Hypnotism

Professor Walter D. Scott, of the Northwestern University, has been studying the secret of advertising success. For years he has been studying the leading advertising mediums, both periodicals and daily newspapers. From his analysis he has made these deductions:

Successful advertising is a form of hypnotism.

All men are naturally obedient.

Use the form of "Direct command."







Make the ad. contrast with its environment so as to give it greater prominence.

Place the ad. near what will give a pleasant impression.

Place the characteristic feature first.

Repeat the essential mark at every reappearance of the ad.

Have the illustration represent what the ad. is and not what it is not.

				
<h2 style="margin: 0;">Done on Time.</h2> <p style="font-size: small; margin: 0;">In our Jewelry Store we have a special department "fenced off," so to speak, from the main show room. In charge of this is an expert workman—a mechanic, a genius. You should call at this department quite often, as your watch should be examined at least once a year, or the claws of your diamond ring may be worn off and you run the risk of losing the stone. We never charge for examinations, and all work left in our shop will be fixed in a thorough, workmanlike manner, will be DONE ON TIME it is promised, and the price will be reasonable and satisfactory. If your watch or diamond ring does not need repairing, you may have a clock to fix.</p> <h3 style="margin: 0;">J. L. WOLFF, Jeweler.</h3>				
				

many other things in business, is variable, and while the outlook now gives hope that the culmination of 1903 will surpass in magnitude that of any former season, the merchant must nevertheless be always prepared to confront unpleasant contingencies. Many jewelers know to their cost the difficulty of getting rid of left-over stocks when the holiday season has waned and the public are no longer in the buying humor. The time to obviate this began with the buying of the goods and continues all through the season. In other words, only goods that the public desire should be bought, and thereafter the merchant's efforts to push them must be tireless and unremitting.

The great prophylactic against troublesome "left-overs" is advertising—not the tame advertising which so many dealers do more as a matter of course than a matter of business, but a vigorous and systematic campaign planned with intelligence and thoroughness, and followed up with a persistency that will compel attention and impress by its force. There is no time to be lost now in formulating holiday schemes, and THE KEYSTONE earnestly hopes that the continued improvement in jewelers' announcements already noted will be so markedly in evidence during the forthcoming festival as to make it more profitable than any which the trade has experienced since the present prolonged period of prosperity began.

He writes: It is assumed that the advertising efforts have relation to psychology, because psychology is the study of the minds of the people whom the advertiser seeks to influence.

Advertising is a serious thing with the business man of to-day. It is estimated that business men of the United States are spending \$6,000,000,000 a year on advertising. What the advertiser is after is to learn the customer's wants, what will catch the attention, what will impress itself upon his mind and lead him to buy.

Among the first requirements for the successful advertisement is this, that it makes the least possible demand upon the intelligence of the reader. It must be simple, clear, direct and, therefore, easily understood. In other words, it must call for the least possible effort. It must at once attract attention. To do this, it must be either a new thing attractively presented, or an old thing presented in such a way that it gives it the semblance of newness.

Direct command is the most effective form of advertising. This is because people are naturally obedient. They are influenced unconsciously by suggestion. Unless their attention is called to the fact that they are following the will of another, they will without realizing it do as they are told, because it saves them the trouble of thinking for themselves.

LET YOUR LIGHT SO SHINE

that it will display the goods in your show case to the best advantage.



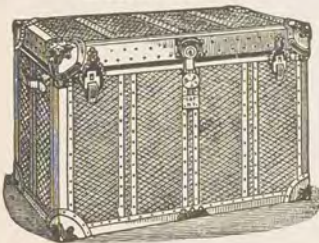
The Jones Show Case Fixture

has that advantage. Gives a strong light without obstructing the view. It is easily put up, takes little space and is inexpensive.

Write for Catalogue 19.

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

ESTABLISHED 1839.



**Crouch & Fitzgerald,
Jewelry Sample
Trunks and Cases.**

Extra Deep Trunks and Cases Always in Stock.

161 Broadway, 688 Broadway, 723 Sixth Avenue,
Below Cortlandt Street. Below Fourth Street. Between 41st and Streets.

NEW YORK.



**Hold-On Clutch
For Scarf Pins**



"Hold-On" attached to Scarf Pin



To release, pull the ball

Advantages:

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

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

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

Hold-On Clutch Co.

33 Gold Street, NEW YORK.

**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

A. N. SPERRY, Manager.

1429 Wabash Ave., CHICAGO.

**Are Your Special Orders and Repairs
Being Done to Your Satisfaction**

IF NOT, WHY NOT

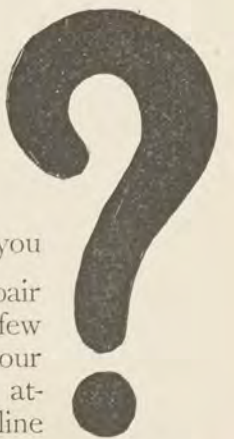
A. P. CRAFT & CO.

312 Stevenson Building,

INDIANAPOLIS, IND.

We are satisfying 500 retail jewelers. Why not you

We are filling Special Orders and doing Repair Work every business day in the year and a few nights and other days besides; why shouldn't our work be more satisfactory than the shop that attends to Repairs and Special Orders as a side line



OUR PRICES WILL CAUSE MORE SATISFACTION.

Send for stickers.

Items of Interest

Heiland, Meiskey & Co., Lancaster, Pa., have just completed putting in the machinery and tools for their new jewel plant, which is on the third floor of their building. This plant, no doubt, is one of the best equipped of its kind, and they are now in a position to manufacture all kinds of jewels of every description.

George F. Gambrill, manager of the watch department of the Eisenstadt Manufacturing Company, St. Louis, Mo., underwent a severe surgical operation for appendicitis, November 3d, at the Jewish Hospital in that city. Mr. Gambrill's case has progressed since as well as could be expected, and he is now considered out of danger. He hopes to be in his place again before the month is over.

Louis A. Masterman and Frederick Fuchs, who for many years were associated in business with H. Bealmear, 25 S. Charles Street, Baltimore, Md., are now conducting a wholesale business in clocks, bronzes and bric-a-brac at 14 West German Street, in that city, under the firm-name of Masterman & Fuchs. The new firm has made encouraging progress since the inception of the enterprise in May last.

John Frederick, a jeweler, of Newport, Washington, is the proud father of what one of Dickens' cockney characters styled a "hinfant phenomenon," or what a Frenchman once called an *enfant terrible*. Frederick, *pere*, assures us that his new boy, who weighed eleven pounds at birth, was able, when only two weeks old, to support his own weight, to stand unsupported on the paternal knee for half a minute and to say "papa" without any foreign accent. Father Frederick justly takes credit for the strenuousness of this infant Hercules, who is still too young to have his well-developed flexors and extensors credited to any patent baby food.

Wm. F. Nye, the well-known oil manufacturer, of New Bedford, Mass., has recently purchased the business of the New Bedford Oil Company, of East Boston, Mass., and has consolidated it with his New Bedford plant. This company was formed several years ago and dealt in clock and watch oils, but found it difficult to market their product in competition with the two old and favorably known oils that have been used by the trade for so long. It may be that Mr. Nye caught the "community of interest" fever, from the fact that the Standard Oil Co. are his tenants on his island in New Bedford harbor, and gave him the idea of becoming a sort of John D. Rockefeller himself in the lubricating oil line. However this may be, the new company is no more, but Nye's oil flows on like one sweet song.

Attractive New Catalogues

One very imposing evidence of the activity of the present season is the large number of handsome catalogues that have been issued by various wholesale and retail jewelers. Catalogue No. 30, of the New England Watch Co., containing illustrations of new designs in watches, is a beautiful specimen of typographical art. This catalogue is mainly of a pictorial character. The illustrations are handsomely executed in harmonious and attractive color combinations. Space is reserved at the foot of each page for a short description of the articles shown above, and a de-

tached list of prices permits of the catalogue being submitted to customers.

Hayden W. Wheeler & Co., of New York City, have issued a timely booklet exploiting new designs in diamond jewelry. Pendants, brooches, pins, rings, etc., are profusely illustrated with rich and handsomely executed cuts. This booklet is printed on white enameled paper, and a morticed space on each page contains the particulars of the articles shown thereon.

Another interesting piece of jewelry publicity is the neat catalogue and price-list of "Oneida Community Quality" silverware, the introductory pages of which contain some interesting historical facts regarding the Oneida Community. The "Avalon" pattern is copiously illustrated in its various adaptations, and the prices of the multifarious articles produced by the company are tabulated with much exactness.

"Solid silver—where the wear comes" is the caption of a very interesting little booklet gotten up by the Holmes & Edwards Silver Co., Bridgeport, Conn. Its dominant feature, and one that should certainly be of concern to housewives, is the unique way in which it describes how articles of tableware become worn at certain points. It also relates the precautions taken by the company to provide against this in the production of its goods.

E. Howard & Co. watches form the theme of another neatly compiled booklet containing abundant illustrations, pithy descriptions, and conveniently arranged prices of the goods indicated in the title of the booklet. It is a pretty little book containing some fine examples of monogram work on watches.

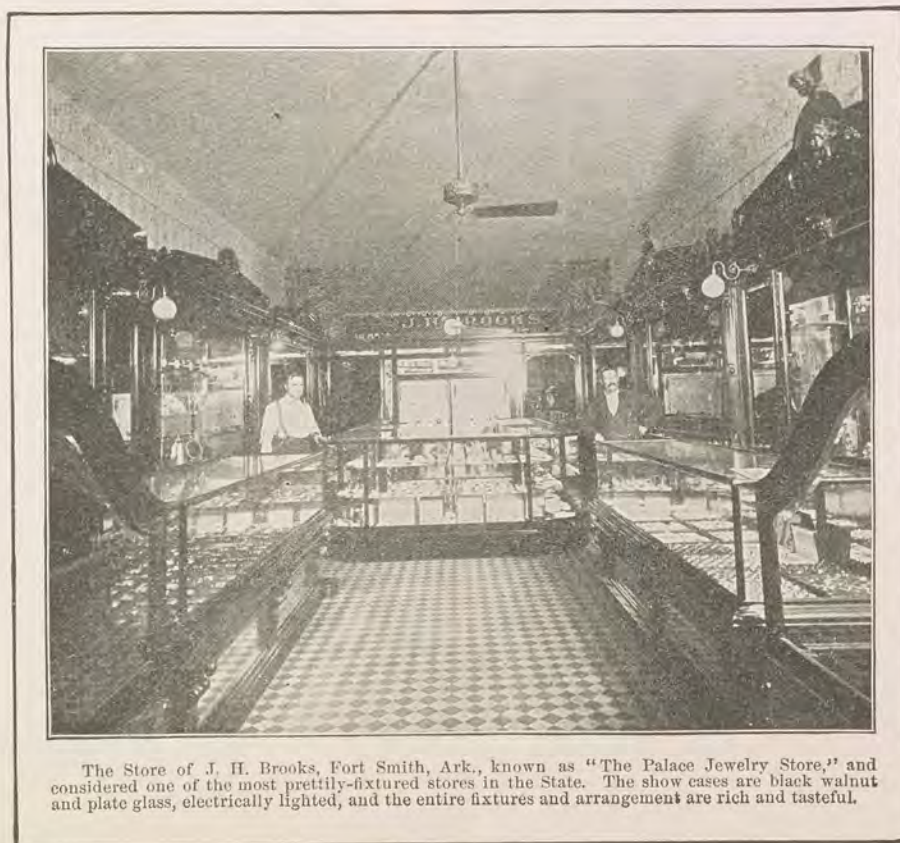
One of the most notable pieces of retail publicity that we have seen of late is that issued by J. C. Derby Co., Concord, N. H., and devoted to "Christian Science Jewelry and Pictures." The first page contains the cross and crown, submitted by J. C. Derby to Mrs. Eddy, as a fitting symbol of Christian Science, together with a letter from

that lady commending the skill of the designer and accepting the device as emblematic of her creed. This insignia is much in evidence throughout the numerous handsome illustrations. The book is excellently printed on enameled paper.

One of the most attractive and voluminous of those which have come under our notice is a 268-page compilation issued by Bogle Brothers, White River Junction, Vt. This catalogue is entitled "The United States Jeweler," No. 6, and all the lines of jewelry and kindred goods handled by the firm are comprehended in the contents and exploited in regular order. It is copiously illustrated. The progress made in the art of advertising is well evidenced in the new catalogues and booklets compiled for the purposes of holiday trade. The illustrations are of a high order, being effectively planned and admirably executed. The paper, as a rule, is of a higher grade than heretofore, and the typography and presswork are of the best.

Selium: An Alleged New Metal

German papers, says Consul Guenther, of Frankfort, report the discovery by Edward Mollard, a Frenchman, of a new metal called "selium." According to the *English Mechanic*, the discoverer claims that selium costs but one-twelfth as much as aluminum, and is lighter and stronger. It does not rust, and is therefore suitable for use in ship-building, for the manufacture of pipes, and for railroad construction. On account of its cheapness, and as it is capable of a fine polish, resembling nickel, it would be desirable for manufacturing cooking utensils. Its density is 2.6 and its hardness not quite that of iron, but greater than that of lead or zinc. Its power of resistance is said to be greater than that of iron, but less than that of steel. The melting point is at 1600 degrees C. (2912 degrees F.). In melting it contracts somewhat, but molding in forms is not impossible. It will be well, however, to await more definite information concerning its properties.



The Store of J. H. Brooks, Fort Smith, Ark., known as "The Palace Jewelry Store," and considered one of the most prettily-fixtured stores in the State. The show cases are black walnut and plate glass, electrically lighted, and the entire fixtures and arrangement are rich and tasteful.

1968

Come to us the first Monday of January, 1904, IF YOU ARE LOSING MONEY.

ARE YOU LOSING MONEY

by not being in possession of the ability to command the wages of a first-class workman? If so, do as thousands of others have done, come to the **Horological Department of Bradley Polytechnic Institute** (formerly Parsons' Institute) and perfect yourself in **Watch Work, Jewelry Work, Engraving and Optics.**

Do not put it off this time as you have in the past, but make up your mind that you will put yourself in shape to be on equal footing with the best workmen in the country, thereby being able to draw wages due a thorough workman.

This school is not an experiment, having had sixteen years' successful experience. It is endorsed by the leading jobbers and watch manufacturers of this country; besides, we have hundreds of testimonials from individual jewelers who have been fortunate enough to get one of our students; and from many students who are in business for themselves or have secured lucrative positions with salaries much in advance of what they had before coming to us.

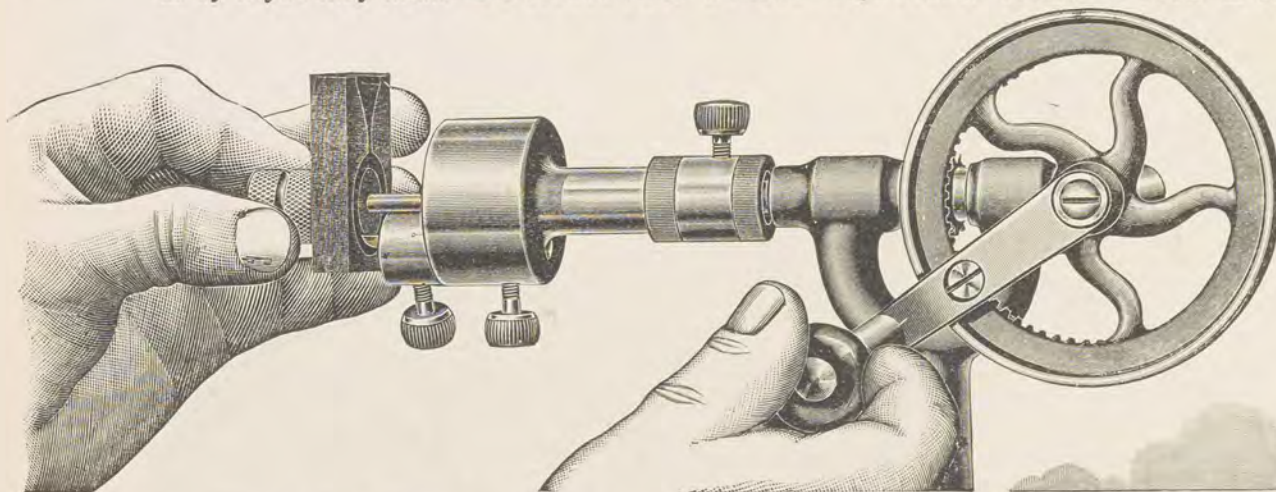
Illustrated Catalogue free on application. Send a postal card to-day with your name and address to



HOROLOGY HALL.

Horological Department, Bradley Polytechnic Institute, PEORIA, ILLINOIS.

You should have the Ringset Outfit, as by it you may make **Seamless Half-Round and Flat Band Rings**



free from pin-holes and malleable. If you have been too busy to order a catalogue from Ringset Company, Boston, Mass., you should do so at once, and learn of their entirely new and successful departure in ring making, whereby you can make, finish and deliver to your customer in a few moments a perfect ring from new or old gold. Anyone can use our outfit, and make salable rings. The catalogue tells how to use the outfit and illustrates fifty styles of rings, giving the weight of each style in seventeen finger sizes. Our molds blocks are the only molds in which *any* gold may be cast free from pin-holes. Our outfit costs **\$25.00**, and with it, and some mold blocks which we furnish customers at reasonable figures, you can make any of the illustrated rings to the complete

satisfaction of your customer, and make all the profit between the cost of the gold and the selling price of the ring. We will send prepaid, on receipt of 10 cents, a sample half-round ring mold of any desired finger size, and casting in the mold will convince you immediately of the practicability of the outfit.

P. S.—We are making, and have most ready for delivery, a new machine for cutting and shaping automatically the stone-holding claws of any diamond mounting. Claws of any number shaped by our machine are ready to be polished. Great labor saver. No filing of claws needed.

E. H. GOULDING'S SONS,
WHOLESALE AND RETAIL DEALERS IN
FINE WATCHES, JEWELRY, DIAMONDS.

Freeport, Ill., March 13, 1903.

RINGSET COMPANY, Boston, Mass.

Gentlemen:—In answer to your inquiry, dated March 2, 1903, as to how we like the Plain Ring Outfit you sent us, will say that when the sample mold sent us arrived we had a customer for a plain ring and did not have a ring in stock such as he wanted. Your mold called for just the ring our customer wanted, and we told him to call by noon and we would supply him with a ring. We made the ring and delivered it to our customer. This transaction settled the matter with us that the outfit was a good thing and that we had need of it.

We are more than pleased with the outfit, and there is not a day that we don't have use for it. Respectfully,

E. H. GOULDING'S SONS.

Some customers using our outfit have assented to our publishing the accompanying letters.

Buffalo, N.Y., March 4, 1903.
RINGSET COMPANY, Boston, Mass.
Gentlemen:—We can and do heartily endorse your plain-ring mold outfit that we are using to our entire satisfaction. We are,
Yours very truly,
DAMM & BLOCK.

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

Our Outfits may be had from

- SWARTCHILD & CO., Chicago, Ill.
- W. Green & Co., 6 Maiden Lane, New York, N. Y.
- Nordman Bros., San Francisco, Cal.
- King & Eisele, Buffalo, N. Y.
- M. Myers, Boston, Mass.
- J. B. Bechtel & Co., Philadelphia, Pa.
- Baltimore Watch & Jewelry Supply Co., Baltimore, Md.
- Reed-Bennett Company, Minneapolis, Minn.

Ringset Company,
BOSTON, MASS.

Letters from the Trade

Readers are requested to send for publication new ideas on any subject, technical or mercantile, of general interest to the trade. As this page is for the use of individual readers, we do not hold ourselves responsible for the views expressed.—Editor The Keystone.

A Ceylon Sapphire

ED. KEYSTONE:—I thought it would interest the readers of your valuable and much-read journal to hear about an exquisite gem found lately. The owners of the wonderful gem are the well-known gem merchants, D. F. de Silva & Co., of Colombo, Ceylon. Mr. De Silva has handled many very valuable gems found in Ceylon, but claims this to be the most valuable that has ever been found up to date. It is a perfect blue sapphire of 132 carats in weight, and measures 1" x 1¼", surface face measurement. Mr. De Silva kindly showed me the gem when I called to see him last week, and I must say it is a most beautiful sapphire, with almost the brilliancy of a diamond. I have spoken to Mr. De Silva as to the advantages of our American market, and he is now having the gem reduced 12 carats in order to have proper cut to meet same, and I should not be surprised if it found its way there in the near future. The value of the gem has been placed at 50,000 rupees—about \$16,500—which price Mr. De Silva deems very reasonable.

Yours truly,
Colombo, Ceylon. GEO. C. WARR.

Talking Shop

ED. KEYSTONE:—Sometime ago I saw an inquiry in THE KEYSTONE regarding subjects of interest and value that might be introduced to customers or visitors while looking at goods or waiting in the store. I wish to say that in my opinion these topics to be most effective, should be brought about without any apparent effort. A question of interest to every watch owner is the best time to wind the watch. Some wind early, others late, and it sometimes happens that in this way a watch will vary the time five or six hours in three days. This process will upset the running of any fine watch.

The shipmaster, going around the world, winds his chronometer at exactly 12 M. I think his plan the best for all, but regularity is the great point. The best place for a man to carry his watch I would say, is in the pants watch pocket, with a simple cord attached, to be worn under the vest, or if preferred, after the vest is on put the watch through the left arm hole and drop it into that watch pocket. In either case the cord should be so arranged as not to show when the vest is buttoned. The watch is thus secure against being dropped—that greatest of all misfortunes that happens to a watch—when wanted for time, and it is also very nearly secure from thieves, as there is nothing in sight to reveal it.

Regarding disposal at night, I would say, put under the pillow, as that gives nearly equal temperature throughout the year. If a full-plate movement, put the face downward every time; if three-quarters or bridges, then change every other week. The upper balance pivot of a full plate—as we look at it—does nearly double duty when carried in the pocket, as the balance is attached to the staff at about one-third from the end. On its face at night the long end pivot gets in its work to even up

friction as nearly as possible. If you show this to a railroad man he will thank you for it. They seem to prefer full plates, as being heavier and more reliable. As a fact, however, the reverse is true, but this question I will leave for another time.

Yours truly,
Olean, N. Y. H. W. RUGG.

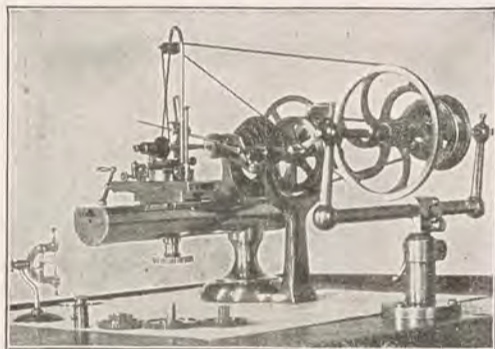
Price Symbols

ED. KEYSTONE:—I would suggest the use of letters or some other characters instead of giving figures in quoting prices. Often the only illustration we have of an article is in THE KEYSTONE, and often the cost price is with the advertisement, so we cannot show the illustration without giving the price away.

Yours truly,
Dows, Iowa. R. L. GRIMES.

Learned from The Keystone

ED. KEYSTONE:—I send prints of pivot-polisher, worm index and photo. of damaskeening attachment that I designed and made. As I



learned my trade from THE KEYSTONE I thought they might prove of interest. I have changed fine Swiss watches from key to stem wind, and have made the most difficult parts—in fact, everything pertaining to fine watch work.

Yours truly,
Pulteney, N. Y. "METRIC."

[The prints show the pivot-polisher and worm index to be ingenious devices, and we reproduce the photo. of the damaskeening attachment, which speaks for itself. THE KEYSTONE is naturally proud of its pupil.—Ed.]

Holding Clock Screws

ED. KEYSTONE:—The method of holding and starting clock screws, described by Geo. W. Gates in October KEYSTONE, page 1533, is a good one, but I think I have a better. Rub a piece of bees-wax across the slot in the screw-head and place it on the screw-driver. The screw can thus be held in any position without danger of losing it. The workman does not have to change from pegwood to screw-driver and can reach places he cannot reach in the other way.

Yours truly,
Pacific Grove, Cal. E. B. LEWIS.

Bear Beats the Drum

The most strange looking clocks are doubtless to be found in the Royal Salon of Mathematics and Physics in the Zwingerhof, the ancient Electoral Palace at Dresden, Saxony. There is, among other oddities, a Nuremberg egg with angular wheels, an odometer dating from the year 1580, an instrument which proves that even at that distant

day, over 300 years ago, people of means were interested in the measurement of distances passed over by their carriages. There is also a great universal clock, which stands 8½ feet high. It was constructed in 1727, and displays 360 dials showing the time at as many different points upon the earth's surface. Another artistic clock, enclosed in a case standing five feet high, bears the name "The Dance of the Hottentots." This humorous clock seeks to amuse persons every hour by the appearance of twelve astonishing figures which execute a ludicrous dance accompanied by strains of music from a music box. Behind the large door of the Salon is a most original alarm clock, used, no doubt, to awaken sleepers of the seventeenth century. This clock has the form of a very life-like bear with a drum, upon which he beats a thrilling roll at the proper hour, adding to his life-like behavior by turning his eyes and working his jaws in a silent but none the less threatening manner. This was a present from Duke Julius of Saxony to the Elector John George in the year 1655.

Literary Notice

As the years increase *The Youth's Companion* endeavors to keep pace with them in all that is wise, beautiful and progressive, and not only to retain but to deserve the honorable and exceptionally high place it holds in the confidence and affection of three generations of readers. The greatest living authors in all branches of literature continue to contribute to it.

The gospel of good cheer brightens its every page, and although the paper is nearly seventy-seven years of age, it does not look back on the past as a better period than the present.

The Companion believes that the time most full of promise is the time we are living in, and every weekly issue reflects this spirit of looking forward and not back.

To more than half a million American families it carries every week its message of cheer. Its stories picture the true characteristics of the young men and women of America. Its articles bring nearly three million readers in touch with the best thought of the most famous of living men and women. *The Youth's Companion* is published in Boston, and the subscription price is \$1.75.

Clock for Blind and Deaf

W. E. Shaw, of Brookline, gave an "electrical party" last night, the feature of which was the exhibition of an electric clock for blind and deaf mutes. Mr. Shaw is deaf and dumb, and he was assisted in demonstrating the workings of his invention by Tommy Stringer, blind, deaf and dumb, who is making great progress in the sciences.

The clock tells the time and alarms the sleeper by agitating a lever, which is connected by a string to a pillow, causing the pillow to move up and down, the vibrations being communicated to the sleeper by touch.

A circuit is closed by which an electric current is sent through a small incandescent lamp in front of a parabolic mirror, the rays of which are thrown into the face of the sleeper. It releases a spring connected with a hammer, which falls upon a fulminating cap, the loud explosion of which at close quarters is perceptible to a deaf person.

It also gives notice of the entrance of burglars by any of the above methods, by means of connection by a wire with the doors and windows. It gives indication of fire by electric thermostats placed anywhere on the premises.



CLEAN-TO-HANDLE
MOORE'S NON-LEAKABLE FOUNTAIN PEN
CLEAN-TO-CARRY
CLEAN-TO-FILL
UNLIKE ALL OTHERS

INKY FINGERS

ARE NOT PLEASANT and a good fountain pen is appreciated. Designs from the most elaborate gold chased barrel to the modest plain rubber. All pens shipped filled ready for use.

Guaranteed to write freely at first stroke.

Send for Catalogue
 AMERICAN FOUNTAIN PEN CO., 168 DEVONSHIRE STREET, BOSTON

L. A. LITTLEFIELD,

Manufacturer of



No. 105 Candlestick.

SILVER PLATE SPECIALTIES

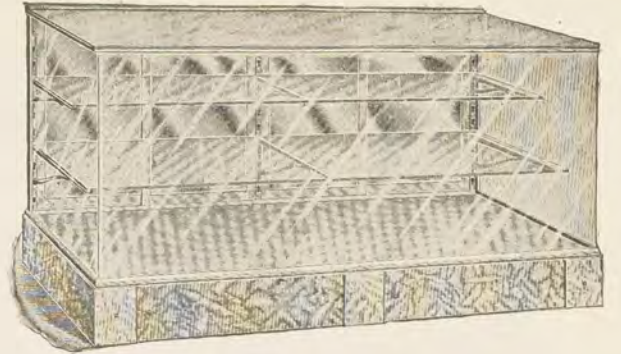
Write for Catalogue.
 Factory,
New Bedford, Mass.

ESTABLISHED 1867

SMITH BROS.
DESIGNING AND ENGRAVING

WOOD AND PHOTO-ENGRAVING
 ZINC ETCHING
 HALF TONE AND FINE COLOR WORK
 JEWELRY CUTS A SPECIALTY

FORREST BUILDING
 119 So. FOURTH ST.
 PHILADELPHIA
 TELEPHONE CONNECTION



We Furnish Jewelry Stores

with **SHOW CASES, FLOOR CASES, WALL CASES, SCREENS,** and fixtures of every sort.

HUGH LYONS & CO.'S fixtures have a known reputation for substantial quality as well as beauty. They are built for style as well as service.

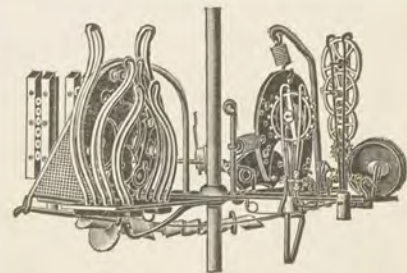
Because of our large output we can make some very interesting prices.

You won't be treating yourself right if you don't send for our catalogs.

HUGH LYONS & CO.

Lansing, Mich.

NEW YORK SALESROOMS, 679 Broadway.
 CHICAGO SALESROOMS, 238 East Madison Street.



Pat'd Feb. 4, 1903.

The Higgins Watch-Cleaning Machine.

Saves watches, saves time,
 Makes money, makes reputation.

J. J. HIGGINS,
 Du Quoin, Ill.

ANTI-OXIDIZING **FLUID** HARD SOLDERING

50 cents **9/10 LABOR SAVING** **By Mail.**

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

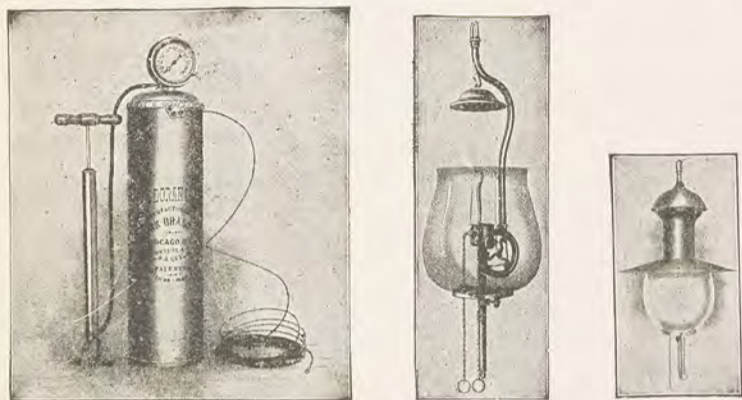
A. Levytansky, Victoria, Texas.

New Goods and Inventions

[The illustration and description of new goods and inventions as hereunder is a permanent feature of THE KEYSTONE, our twofold object being to keep the merchant jeweler thoroughly posted on the very latest and most salable goods, and the practical jeweler equally well posted on the newest inventions and improvements in tools and appliances used at the bench. For the benefit of the optician, we also illustrate and describe new optical goods and instruments in this department.]

A New System of Lighting

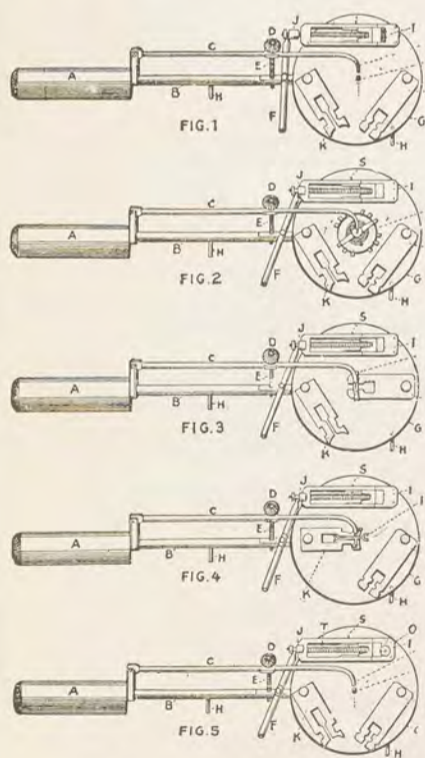
Our illustrations convey an idea of the new gasoline lighting system known as the Doran light, made by the Acorn Brass Mfg. Co., of Chicago. Each light is equal to 1200 candle power and the light is produced by direct combustion of the gasoline. The lights are fed from a small wire tube, not larger in diameter than a match, which can be run through a



building after the manner of electric-light wires. By this feed-wire the lamps are connected with a storage tank placed out of doors, and the element of danger is entirely eliminated. The gasoline is forced into the lamps as fast as it is used, and all that it is necessary to do to light them is to pull a small chain conveniently placed. The light can be regulated to any candle power, and the cost of production is said to be very materially less than any other illuminant of like intensity. The peculiar features of the mechanism remove every element of risk, so that the Doran light combines safety with its many other desirable qualifications.

New Jewel Setter and Adjuster

The mechanical end of the jewelry trade continues to be a fruitful source of inspiration for the inventor and it is to the credit of the watchmaking fraternity that they have contributed in such a notable degree to the equipment of the bench. One of the latest creations by a member of the trade is the jewel setter and adjuster shown in the illustration herewith. This device is the product of H. W. Lett, North Little Rock, Ark., who has applied for a patent on it. Its full name is the Universal Pallet Jewel and Roller Jewel Setter and Adjuster. The best feature claimed for this contrivance is that one may mount a balance wheel with roller table and hairspring intact and set a new jewel or adjust or tighten the old one as the case may require. Another feature of this apparatus is that one

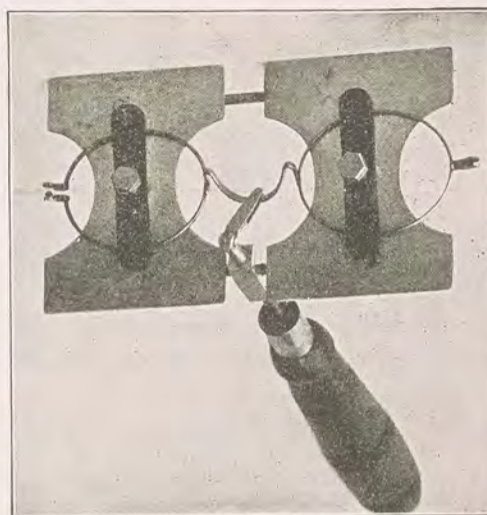


may work on pallet jewels and roller jewels at the same heating of the tool, thus saving a good deal of time. There is a stop-pin to prevent overheating of one's fingers and there are three legs for the tool to stand on while the operator has both hands free to do his work. This tool is made entirely of brass except a wood handle. Its length is over 5½ inches and the body plate is 1¾ inches in diameter. The work clamp is small and

enables one to see all around the work, and the tool holds heat for a sufficient length of time to enable a slow operator to set the jewel properly.

Improved Soldering Clamp

The mechanical equipment of the practical optician has been enhanced by a new soldering clamp shown in the accompanying illustration; the invention of W. E. Fenstermacher, the jeweler-optician of Beloit, Kansas, who is having the device patented and intends to manufacture it for the trade. This interesting contrivance possesses new and improved features specially designed to facilitate soldering operations. It is easily adjustable and by means of it the operator can hold the nose piece of a rimless mount while soldering the strap to same. This the inventor states has never before been accomplished in soldering clamps.



An Automobile in the Novelty Field



In view of the growing popularity of the automobile and its assured ultimate triumph as the most available of vehicles, it was to be expected that the automobile design would be used in the novelty field. In the accompanying illustration we show a miniature automobile made of sterling silver and remarkably complete in constructive detail. It is one of a great variety of novelties just placed on the market by Codding & Heilborn Co., of North Attleboro, Mass., and is assured a ready sale among the devotees of the horseless vehicles.

A New Bon-Bon Dish

There are few of the articles which the jeweler handles more interesting from the decorative view-point than cut glass. A handsome example of glassware ornamentation, and a new departure in its general outline from the low saucer or nappy, is the piece shown in the accompanying illustration.



This is known as the Footed Bon-bon Dish and is made by the A. L. Blackmer Co., of New Bedford, Mass. The decorative detail of this article is very rich and artistic, and its general character is such a pleasing deviation from the regular styles that its popularity would seem to be assured. As a holiday seller it would seem to have especial qualifications. Cut glass has now become an important feature of the stock of many jewelers, and the number of those who handle it is continually growing. As a holiday specialty it has especial profit-making possibilities.

Mercantile Fountain Pen

In many new styles, in cabinet and show case assortments.

No. 3 A retails \$2.00



ACTUAL SIZE.

STERLING SILVER PENCIL HOLDER.

The daintiest and most useful pencil holder yet made, and in the most convenient shape—nearly flat, in reality an oval flat.

Retail price—
Plain . . . \$1.00
Chased . . . 1.50
Decorated Pattern, 2.00

Made and warranted by

AIKIN, LAMBERT & CO.

Nineteen Maiden Lane, NEW YORK.

Manufacturers and Exporters of

GOLD PENS, PENCILS, TOOTHPICKS and NOVELTIES.

General Agents of PAUL E. WIRT.



OUR LEADER.

Imperial Monogram Stationery put up in attractive two and four-quire boxes at **Special Prices, pre-paid to your city.** Send for folder to display in your window.

Every Jeweler who wishes a profitable side line, one that will bring you in contact with the class of trade you want to meet, should write for full information as to our samples of Engraved Stationery and Calling Cards.

Wm. Freund & Sons,

174-176 State St., CHICAGO, ILL.

Largest Plant in the Middle States.

The "Wright" Writes Right.

That is the sole reason why it is the best seller and most popular fountain pen made.

ELEGANT CATALOGUE, illustrating over 100 Patterns, FREE ON REQUEST.



No. 30. \$7.50 per dozen. 14 K. Solid Gold Pen. Assorted Holders—Black, Mottled and Chased.

This Solid Oak Show Case free with first order for \$10.00 to \$15.00.

Style B Oak Case, with space for 18 pens and drawer for boxes, free with first order for \$20.00 or more.



Write for particulars for our FOUNTAIN PEN CONTEST. We have a splendid advertising proposition which will sell fountain pens for you.

WRIGHT PEN CO., 614 Locust St., St. Louis, Mo.

Also Makers of Every Size and Style of

Gold Pens, Pen Holders, Pencils, Toothpicks, Thermometer Cases, etc.

Catalogues Free.

THE JOHN HOLLAND GOLD PEN CO.

Established 1841.

127-129 East Fourth Street, Cincinnati, Ohio.

JOHN HOLLAND FOUNTAIN PENS

Fitted with New Patent Elastic Fissured Feed (Pat. July 1, '02).

Incomparably the Best Fountain Pen Made.

Trays, show cases, etc., furnished gratis to dealers.



THE "RIVAL" FOUNTAIN PEN

SPECIAL No. 1, plain and chased, assorted, \$7.50 per dozen, net cash.

A HANDSOME PLUSH TRAY, holding twelve pens, given with the first order of one dozen or more pens.

Send for catalogue. Export trade solicited. Send for prices and discount to the trade.



No. 20. Gold-Plate Barrel and Cap.
All makes of Fountain Pens and Gold Pens Repaired.

Ask your jobber for the "RIVAL" Pen. All pens are 14 K. gold. Every pen warranted.

Members of National Association of Manufacturers of U.S.A.

D. W. BEAUMEL & CO.,

Office and Factory,

45 John St., New York City.

SEND FOR CATALOGUE OF
MASONIC
AND OTHER SECRET SOCIETY
CHARMS, JEWELS,
RINGS, BADGES
AND LAPEL BUTTONS.

SEND FOR CATALOGUE OF
COLLEGE BADGES
CLASS PINS
AND SCHOOL MEDALS.

The C. G. Braxmar Co.
Manufacturing Jewelers
No. 10 MAIDEN LANE
NEW YORK.
BADGES & MEDALS
A SPECIALTY.

SEND FOR CATALOGUE OF
MILITARY
G. A. R.
ATHLETIC,
SHOOTING,
AND SPORTING MEDALS.

SEND FOR CATALOGUE OF
FIRE AND POLICE
DEPARTMENT
AND OTHER BADGES.



An Innovation in Envelopes

A new kind of envelope that is attracting much attention has recently been placed on the market. The peculiar feature of this envelope is an oblong opening in the face of the envelope in the place usually occupied by the address. This opening is covered securely with tough, transparent tissue which protects the contents and at the same time permits a plain view of the address of the letter or bill, which is folded so that it comes directly under the opening, but so that other parts of the letter cannot be seen. The peculiar advantages of this envelope are numerous. It renders absolutely impossible the mistakes—always annoying, and in many cases embarrassing and expensive, which so frequently occur through addressing envelopes or inserting the wrong contents. Stenographers use from forty-five minutes to one hour per day in addressing envelopes. In using the new envelope the address on the statement, invoice, letter, notice, circular or any other communication, constitutes the address for mailing, thus eliminating entirely the time and labor involved in addressing ordinary envelopes.

Local Views on Cards and Calendars

Souvenir Postal Cards

Manufacturers report an unusually large demand for souvenir postal cards this fall, says the *American Stationer*. Special orders in particular for cards showing important buildings, interesting scenes and other local subjects have increased very perceptibly. This is a good sign. It shows that stationers, all of whom have not manifested as much enterprise in the past as they should have in the matter of localizing stationery, are awakening to the advantages of paying considerable attention to this field.

Stationers who are showing renewed interest in the local post card because they are having good success with it, ought to remember that this little article is but one of a number to which the local idea may be profitably applied. A somewhat more ambitious undertaking, but one that if correctly handled would insure better profits than the local postal card, is the compilation of an album of local views. Several firms in the stationery line now make a specialty of making these albums, asking of the stationer only a selection of suitable views and his preference of the sequence in which they shall be run.

Albums and Calendars

These albums may be gotten up very attractively, or they may be made with less handsome bindings to sell for about any price that the stationer thinks his trade can afford to pay. If a medium-price cover is chosen, the album can be gotten out at a very reasonable rate, since the pictures, though artistically reproduced, are made by a process that has been materially cheapened in recent years. An album of this sort containing a sufficient number of good local views is sure to sell well, and the stationer who has it made enjoys all the profit, since he does not encounter competition as he does on staple goods.

Calendars showing local views likewise may be ordered specially made by the stationer, as may a variety of things in the same category. Those who are enjoying a good trade on post cards now will undoubtedly be stimulated to pay increasing attention to embodying local ideas on stationery of other descriptions.

A Quick Success

A clerk in a small store in a Western city grew tired some years ago of his bicycle. "Why don't you sell it?" suggested a friend.

"I think I will," said the youth, and he inserted an advertisement in the morning paper.

At nine o'clock the following morning a purchaser appeared who bought the "wheel" for ten dollars. At half-past nine appeared another.

"I'd like to see that bicycle you advertised," said he.

"But I've sold it," the young man said. About ten o'clock two other men asked to see him, though by this time his employer was beginning to frown. When the young man returned to work an idea struck him.

"There seem to be a good many people looking for second-hand bicycles," he said to himself, "and it's a pity they can't have them."

Two other buyers appeared before lunch time. These he did not send away.

"Come around again to-morrow," said he; "I'll have the bicycle here for you."

At lunch time he hurried to the newspaper office and inserted another advertisement, this one reading, "Wanted—a second-hand bicycle."

That afternoon he had several more callers in answer to the first advertisement. The next day his experience was, briefly, this: Besieged all morning by people with bicycles for sale, he asked each seller to leave his wheel a day for trial. Then at noon, when his callers of the previous day came back, he sold the bicycles one by one at a higher price than the owners had placed on them. The next day, when he had paid for the wheels, his balance of profit made a comfortable little sum. Moreover, the advertisements were still producing results.

But here his employer came to him in wrath.

"What's that heap of bicycles out there in the yard?" said he. "Do you think this is a bicycle factory?"

Gloom fell at once on the bicycle merchant, but this business was too profitable to lose. He continued thinking. At noon he interviewed a boy across the street who worked in a little ice cream store that had a shed behind it, with the result that the boy agreed to receive and store the bicycles and help to sell them. The advertising went on. Presently the clerk left his employment to devote all his time to second-hand bicycles.

His stores grew and multiplied. He took agencies for new bicycles. And to-day, already wealthy, he and his partner own a large automobile business. The partner is the boy who sold ice cream across the street from the "factory."

Insurance

Too many look upon insurance as a wager or source of speculation, instead of indemnity pure and simple. Insurance companies agree to pay actual loss up to the amount insured and require the claimant to show that actual loss was sustained for the amount claimed. In case of building being burned or damaged, it is comparatively easy to ascertain the amount of loss or damage, as there are plenty of builders who can estimate the cost of rebuilding or repairing. But when the loss is on merchandise, such loss cannot be accurately ascertained unless books are properly kept and with invoices placed where they are safe from destruction when the building burns. If the loss is to be ascertained by a guessing contest, it is safe to predict that each party will try to guess to his own advantage. Policy conditions are not (as usually supposed) for the purpose of avoiding payments of claims, but are to protect the company against changes in the risk without their knowledge or consent. A company might be willing to insure "A," but not "B," and if after a policy had been written "A" should sell to "B," the company should be given the privilege of accepting the changes or cancelling the policy.

There are numerous other conditions equally as vital to the company, such as increased hazard by placing manufacturing apparatus in a building, mortgaging the property or obtaining other insurance, thus reducing the owner's interest in the property, making him less careful as to its protection or placing him in the position of realizing more than the property is worth should it burn, thus offering an incentive to incendiarism. No individual would consider himself bound by a contract if the other party to it had violated his agreement. A contract to be binding must be strictly adhered to by both parties. Nevertheless insurance contracts are violated frequently by the insured, and in the event of loss he does not expect to have his actions criticized by the companies and denounces them as frauds, because they question his right to hold them without himself complying with the conditions of his contract. If insurers would observe their policies closely and notify the companies of any changes that need their approval, litigation with insurance companies would be unheard of.

"I am interested in every darned article in *The Keystone*."—Charles Van Buren, Jeweler, Springfield, Missouri.

1974¹³



That Rush Order Can Best be Handled by

The Oldsmobile Light Delivery Wagon

the most practical and convenient vehicle ever produced for the use of the retail merchant in delivering goods.

No matter how complete your delivery system is, there are always special orders or long-distance deliveries that cannot be handled in the regular way. The Oldsmobile Delivery Wagon takes care of such orders as nothing else can. Simple, strong, speedy; will carry 500 pounds, and has space of one cubic yard for goods.

Price, \$850.00.

Cheaper to keep than a horse; nothing to equal it for style and dignity.

Made with all the excellent features that have made the famous Oldsmobile the favorite runabout of America.

Complete information can be had from our agent in your city, or writing Dept. 66,

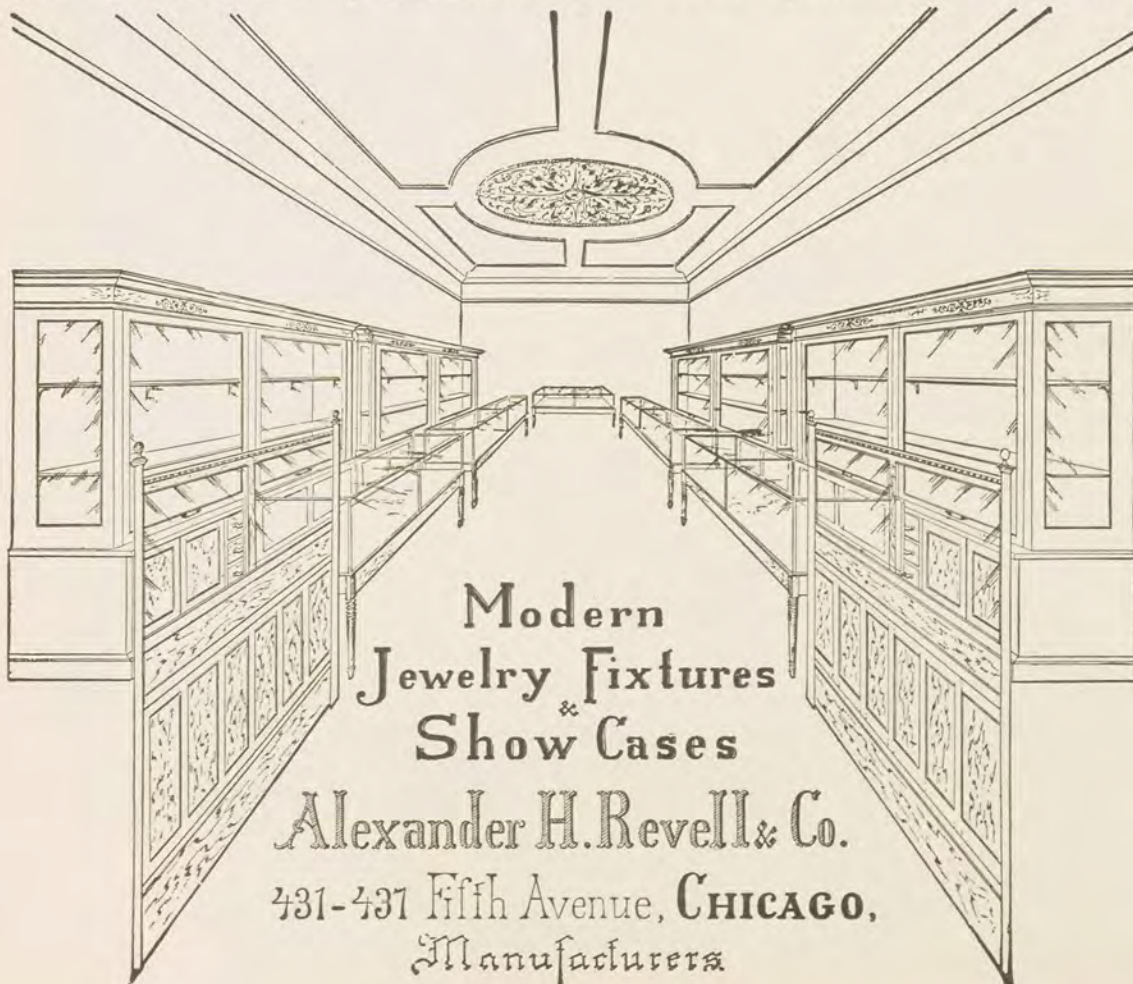
OLDS MOTOR WORKS, Detroit, Mich.

Members of the Association of Licensed Automobile Manufacturers.

SPECIAL VALUE. Revell No. 400 K Outfit.

PRICES QUOTED UPON APPLICATION.

- 4 Wall Cases, each 8 feet long;
- 5 Show Cases and Tables, each 8 feet long;
- 2 Screens, each 6 feet long.



Modern
Jewelry Fixtures
&
Show Cases

Alexander H. Revell & Co.

431-437 Fifth Avenue, CHICAGO,
Manufacturers

We can furnish any quantity of wall cases, show cases, tables and screens immediately.

Send list of each kind required and we will be glad to quote prices.

DESCRIPTION.

Oak, hard oil rubbed finish. Glass double strength.

WALL CASE.

Base part 30 inches high, 29 inches deep, outside; three drawers in center, cupboards either side with horizontal sliding paneled doors. Upper part 54 inches high, 18 inches deep, inside. One 10-inch and one 12-inch wide shelves on brackets. Shelves and interior lined with dark green felt. Two doors sliding up and balanced by weights.

SHOW CASE AND TABLE.

42 inches high, 28 inches deep, outside. Show case front glass 14 inches high, top glass 24 inches wide, front and top in two lights each, horizontal sliding doors lined with American mirrors.

SCREEN.

66 inches high to top of rail, 71 inches high over all, paneled below, glass above.



The Drummer's Experiment

The commercial traveler in his automobile has arrived and has brought his wife with him. Six hundred miles out of Chicago Mr. and Mrs. F. A. Spielman stopped their fourteen horse-power automobile on a corner at Macon, Mo., and began to do business with the merchants. It is said to be the pioneer venture of the sort in Missouri. Mr. and Mrs. Spielman call their machine "Old Buck." It is painted red and built for hard service. Under the rear seat is a locker for their sample cases. The commercial tourists represent a Chicago manufacturing concern, and the present trip is an experiment. If more miles can be covered in a day, more towns visited and the rate cheapened, the firm will withdraw all its traveling salesman from the railroads in the months when the country roads are fairly good and send them out in automobiles. "The advantages of automobiles for traveling representatives are numerous," said Mr. Spielman. "We visit small towns off the railroad that we never thought of going to before, and much new business is worked up that way. When we finish a town we don't have to wait two or three hours or maybe half a day to get out. When we've finished we can start. We never travel at night, don't have to wait for wrecks to be cleared away and are relieved of paying hack fare between stations and hotels. So far our actual traveling expenses, by which I mean the operation of the machine, has been just a cent a mile. There have been no livery bills, of course. On two or three occasions we have met fellow salesmen stranded in small towns by failure of train service and have taken them back to civilization. We have made two speed records—one of 148 miles a day and the other of 154. As a rule we found better roads in Illinois and Iowa than in Missouri."

Tom Hoefler, of M. A. Mead & Co., Chicago, returned to headquarters the middle of last month after an extended and successful Southern trip.

George Cureton, until recently with the Calvin Clauer Company, Chicago, has gone on the road for the Ledos Manufacturing Company, Newark, N. J., and will call on the Western wholesale trade. Mr. Cureton will make his headquarters in Chicago.

Ed. Swartchild, Michigan, Indiana and Illinois traveler for Swartchild & Co., was at his home sick in Chicago most of November. He has recovered his health and is now out among his customers again.

George F. Perry is a new member of the traveling staff of F. H. Sadler & Co., ringmakers, of Attleboro, Mass. He will travel in the far West and Pacific coast States, also the Southwest. Mr. Perry has been connected with W. H. Wilmarth & Co., manufacturing jewelers, and is an experienced and successful salesman, and will be a strong addition to the Sadler corps of travelers.

W. D. Kee, who has been doing missionary work for the Elgin Watch Company, was seen at Chicago headquarters recently on his return from an extended trip over the Pacific coast territory. He reports the retail jewelers of the coast country as doing a good business this year, generally speaking.

Will H. Wagner, Western traveler for the Sigler Bros. Company, Cleveland, was met in Chicago the early part of last month en route home from a successful Western trip. Mr. Wagner tells us that trade has been unusually good with him this fall, somewhat ahead of last season.

J. M. Curley, missionary for the Waltham Watch Company, has been making Michigan territory recently and was met in Detroit by THE KEYSTONE representative. Mr. Curley is one of best known watch men in the country in the missionary field, and is a popular man with the trade and a pleasant gentleman to meet.

John W. Solar, Southern representative for E. & J. Swigart, Cincinnati, will be in the South right up to Christmas.

Harry Greenblatt, for seven years past with Sol. Bergman Jewelry Company, Omaha, most of that time on the road, has accepted a position as traveler for the M. S. Fleishman Company, Chicago. Mr. Greenblatt will cover Nebraska, the Black Hills country, Montana and Colorado territory in his new position.

Henry S. Davis has accepted a position with Heiland, Meiskey & Co., Lancaster, Pa., and after January 1st will travel through Pennsylvania, Ohio and the South with a full line of tools, materials, supplies and jobbing stones.

Kansas City and the Great Southwest

Prosperous Holiday Season Promised As time goes on there is nothing of a commercial nature to report concerning Kansas City and adjacent territory, except a record of continued prosperity. Business is good in all branches of the jewelry trade, and of course will continue so until after the Christmas rush is over. Many of the wholesale houses are working their people nights in order to keep up with the business, and everywhere the answer is "good," when the condition of business is asked about.

"These are the times when the traveling man, if he takes any interest in his business at all, is satisfied," said one of the road representatives of a big wholesale house the other day. "The traveling man, this season, is not only selling plenty of goods, but he is selling the very best goods that the factories can turn out, and if there were any better there would be ready sale for them. There has been plenty of money made in the country during the past year, and people are not afraid to spend it. The highest-priced goods go first, and there never was such a demand for diamonds, notwithstanding the fact that they are very high." The sentiments of this salesman find endorsement by all of the others, and in the wholesale houses as well, where the forces are fairly swamped by piles of orders.

Kansas City itself is still prosperous-looking, and is continuing the large building enterprises that were proposed shortly after the flood. Several large factories are rapidly being built, and even in the residence districts the town has grown beyond the belief of anyone who has not seen it in

the last few months. Residence property, of medium price, finds ready sale, and in what used to be the country are rows upon rows of comfortable, cozy homes owned by their occupants. Rents continue high, and there are few small, medium-priced houses to be had.

Handsome New Wholesale Store

The Edwards & Sloane Company, who for years have occupied a large portion of the sixth floor of the Keith & Perry Building, expect to move early in January into their new quarters in the Gumbel Building, at Eighth and Walnut Streets. As told in THE KEYSTONE, some time ago, the Gumbel Building is being prepared especially with the idea of furnishing suitable and convenient quarters for wholesale jewelers. It is a handsome buff brick structure, with rows of large, broad windows on both Eighth and Walnut Streets. Edwards & Sloane will occupy the entire second floor, which will give them a floor space of 80 x 110 feet, an expanse of 7500 square feet available for actual use. "We expect to have very handsome quarters," said Mr. Edwards, "and we intend to spare no expense in procuring fine fixtures for our new place. At present we intend to have the stock about the sides of the big show room, and will arrange a very pretty reception room in the center for the use of our out-of-town customers."

J. W. Montfort, Alva, Okla. Ter., visited Kansas City last month.

Fred Chamberlain, who was several years ago with J. R. Mercer, has returned temporarily to his old position there.

The family of Henry Roton, who is with the Meyer Jewelry Company, arrived recently from Switzerland to join him. Mr. Roton has not seen them for years, and did not recognize his children when he saw them at the depot.

W. S. Gurney, of Gurney & Ware, has returned from a hunting trip in the country, near Kansas City.

Joseph Quigley, an employee of the Meyer Jewelry Company, was seriously hurt last month by a fall from an electric car.

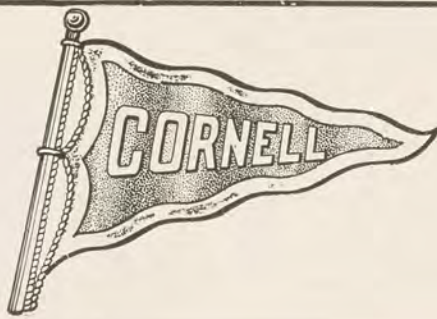
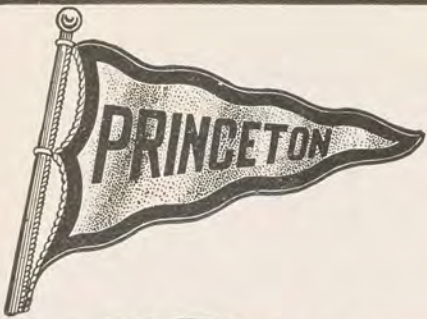
T. J. Ellis, of Jonesboro, Ark., visited the wholesale houses lately, buying goods for his holiday trade.

Harry Gee, who was formerly with Gurney & Ware, but who has been in Salt Lake City for some time, has re-entered the employ of Gurney & Ware.

Among the out-of-town visitors to the Kansas City wholesale houses recently were: S. J. Strickler, Salina, Kans.; C. H. Morrison, Topeka, Kans.; George H. Merthe, Council Grove, Kans.; Walter Sperling, Seneca, Kans.; C. A. Clement, Springfield, Mo.

Gurney & Ware have enlarged their workshop on the second floor of their store, and have extended the space of their watch room to accommodate several more watchmakers. Since this pretty store was established, only a few years ago, it has grown steadily, and improvements are constantly under way. At present the Gurney & Ware shops are especially busy, and the fact that they are constantly adding to them indicates that there is plenty for the men to do.

"The Keystone is certainly the jeweler's friend and no up-to-date jeweler should be without it. Everything in it is interesting, so it is rather hard to decide just which part is the best for me."—A. OpdenDyk, Jeweler, Grand Rapids, Michigan.



WE make the only line of high-grade college seals, flags and buttons on the market and sell them exclusively to the Retail Jewelry Trade.

Jewelers in college towns who have discontinued selling flags on account of dry goods, clothing and furnishing goods stores competition, will find it will pay them to carry our goods in stock, and that their customers will readily appreciate the superior workmanship, finish and artistic merit, as the tendency heretofore has been to cheapen the quality and price of college goods.

The trade has our positive assurance that the standard of the goods and our policy of dealing direct with retail jewelers only, will be strictly maintained.

Jewelers outside of college towns carrying a large or small assorted stock of our college goods have the privilege of exchanging any of the pieces that are unsalable or shop-worn, if not damaged, for other college goods.

Orders for single pieces are also solicited from Retailers who carry no stock.

Special Flags made to order for Academies, Seminaries, Business Colleges, Public Schools, etc.

WENDELL & COMPANY,

The Special Manufacturers for the Retail Jewelry Trade

93, 95 and 97 William Street,

57 Washington Street,

NEW YORK.

CHICAGO.

LIST PRICES.

Large Flags, Sterling Silver, each, \$2.00	Seals, with ring for fob charm, or with joint pin and catch for brooch, Sterling Silver, each \$2.20
Medium Flags, Sterling Silver, " .85	Seals, Sterling Silver, Rose Gold Finish, " 2.70
Small Flags, Sterling Silver, " .50	Initial Lapel Button or Scarf Pin, " .50
" " Gilt, " 2.50	" " Gilt, " .66
" " Gilt, " 1.10	
" " Gilt, " .66	

Finest quality enamel used on all college goods to reproduce the colors absolutely correct.



Solomon Silverplate's Christmas Dinner to His Clerks

As Described by the Office Boy to his Chum

BY JOHN TWEEZER

"Say, Reddy, just poke your finger into my stummick—there—an' say if it isn't hard! Well, that's two turkey legs, an' a wing, an' stuffin' an' sweet pertaters an' things, an' puddin' an' ice cream an' cakes an' nuts an' cider. An' you'll be paralyzed w'en I tell you where I got it. All that bunch of good things was give by the boss hisself!

"It was this-a way. Night before Christmas, w'en we was all ready to go home, the boss he up and says, pleasant and smilin', 'Well, boys, here's a week's wages extra for each of you for a Christmas gift, an' I want you all to come up to my house on the evening of the 26th for dinner. We'll call it a Christmas dinner, though it'll be a day late; but I guess you won't mind.' Then we gave three cheers for the boss.

"Well, I just now come from the dinner; an' it was a corker. Say, Reddy, I'm stuffed full to bustin'! There was a whole lot of flowers on the table, an' a kind of a little towel under each plate to wipe your mouth on, an' they chased all the dirty dishes off of the table w'en they brought on the ice cream. There wasn't nobody there but just the boss and the store push; but w'en we was all busy shovin' down the turkey and fixin's the missus and some ladies came in for a minute, just to take in the show. Say, mebbe they didn't have on their glad rags! Gee! It was just like a theayter!

"After we had chucked ourselves full of grub, the boss he tinkle-tinkled his knife against a tumbler for everybody to stop yammering; then, w'en we was all quiet he says, says he, 'Boys,' says he, 'The old store has come through another Christmas season an' we're about ready to tackle another New Year in business. I thought it would do all of us good to get together at this time in a friendly an' sociable way and talk things over. I'd like to hear what each one of you has to say on anything connected with the business—anything that comes to your mind as to the things to do to improve the business. I happen to be the boss, but that doesn't make me wiser than any of you—certainly not wiser than all of you put together; an' while I've been in business a long time I am sure that I don't know it all but can learn something from each one of you. Because I *am* the boss I've got some responsibilities that you don't have. I've got to lead you, for one thing; an' I've got to learn all I can, so as to lead you right, an' so that you can learn from me. So now each one of you will

just speak his mind freely; let us have criticisms of our present ways, and suggestions; and we'll first hear from the man who made the most sales in December. Stand up, Henry.'

"Henry Hayseed is a feller the boss picked up somewhere out in the country a couple of years ago. First he was office-boy; but he had the darndest luck! He was always nosin' around and askin' questions and learnin' about goods; an' one day, w'en the boss and the clerk was both out, blamed if he didn't sell an old lady the finest piece of silverware that was in the store! Say, Reddy, mebbe the boss didn't grin! He didn't do a thing but yank that feller into some new clothes an' put him behind the counter for keeps; an' now he's our cracka-jack salesman all right. Well, when the boss called on Hayseed to chin, he got all red in the face, an' hemmed and hawed; then he said:

"If I may make a suggestion that grows out of my own experience, I would advise that we think more of the *future* sale than we do, when making the *present* sale. We are all anxious to see the store make big money an' keep at the head of the line; but that very zeal on our part sometimes leads us to take a short-sighted view. We want to see the 'chestnuts' worked off, an' at their regular price; and we crow when we get rid of a bad pattern, or an out-of-style article, at a good profit. I think there is no cause for crowing, in such a case. I think such a sale returns an unprofitable profit. To my mind, it would pay better to mark such goods right down to cost, or less than cost; then try to sell them, of course, but in all instances to *tell the customer frankly* that the goods are old, or out of style, an' that the only argument in favor of them is the quality is all right and the price is less than on something newer. Even if the customer then passes over the old thing and takes something else, she appreciates your candor and will always have confidence in your statements. I think the most important thing in making a sale is to secure the confidence of the customer, for the *next* sale; and I feel sure that the reason I made the largest number of sales in December (as Mr. Silverplate has told you) was not that I am a better talker than some of you—for I'm not—but because people seemed to want me to wait on them from the fact that they had confidence that I would be perfectly candid with them and would keep in mind *their* interest, in making the sale. It is a good thing to look ahead; the customer that buys only once is not worth while, in a small town like this—you've got to win the people who are in-and-out all the time; and the only way to fetch them for keeps is to prove to them that you are thinking for *them* when you're thinking for *yourself*.'

"Say, Reddy, that man Hayseed just reeled his language right off the handle!

"Then Mr. Silverplate he said, 'Henry has given us a good talk, and I endorse all he has told you. You can't be too careful to get into your customer a conviction that we are trying to do the square thing all around. Show her that we are not entirely

selfish; or, that we believe that we are doing the best for the store when we are doing what is for *her* best at the same time. There's a whole lot of truth and good sense in what Henry has said. An' now William will talk for the bench.'

"Bill is our watchmaker; and sure he knows how to fix up a busted ticker. Bill up and said that he was 'too full for utterance'; but he managed to spin out a little speech on prices for repairing. He thought it was all wrong to bring down our charges to meet the prices of the chump in the next block who had to send all his hard jobs out of town and lived on a dollar a day. Bill said that good work was worth its price, an' if we kep' at it the people would find it out an' we'd win out all right.

"The boss said that William was right, but that we couldn't put our prices for repairing at the top notch just yet; soon as the people had sized up his competitor they wouldn't let him monkey with their watches any longer at any price, an' then we'd be able to advance our charges.

"Then there was a whole lot of chin on this subject from Henry Hayseed and the new clerk, Thompson, an' Bill and Mr. Silverplate: an' they all told the boss that he was wrong about prices on repairing, an' he never should have come down.

"Then—what do you think? The boss turned to me an' says, 'I'd like to hear what the boy has to say. Speak up, Joe'—just like that, right out before the whole push! Golly, I felt myself getting wobbly in the knees and my face was as hot as Fourt' of July! But I spoke up this-a way:

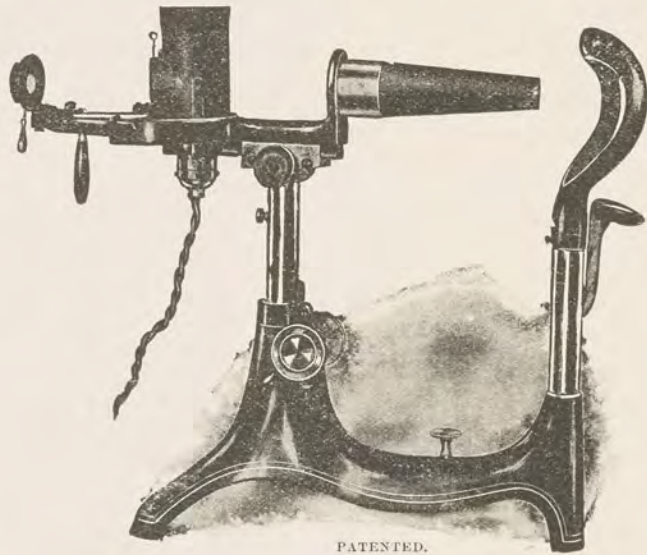
"I don't know nottin' about prices an' confidence of customers an' all that tall talk you'se all been yammerin' here; but I know that I've got the bulliest boss ever, an' the store is the only real thing in the hull street—that's what!

"Well, what do you think? Them fellers all laughed an' pounded the table, an' the boss he up an' says, says he, 'Boys,' says he, 'I'm not sure that Joe hasn't made the best speech of the evening; for he shows he possesses the quality of enthusiasm and faith. There can be no real success without enthusiasm. You've got to *believe* our store is the best, to get out the best that is in *you*. If we are all enthusiastic in our efforts we'll carry to the public our own faith in our own things an' the public will catch the contagion of our confidence in the goods we have for sale. I'm very glad Joe said just what he did—it shall be the slogan of our New Year's effort.' (Say, Reddy, what's a slogan? You can search me—I don't know!)

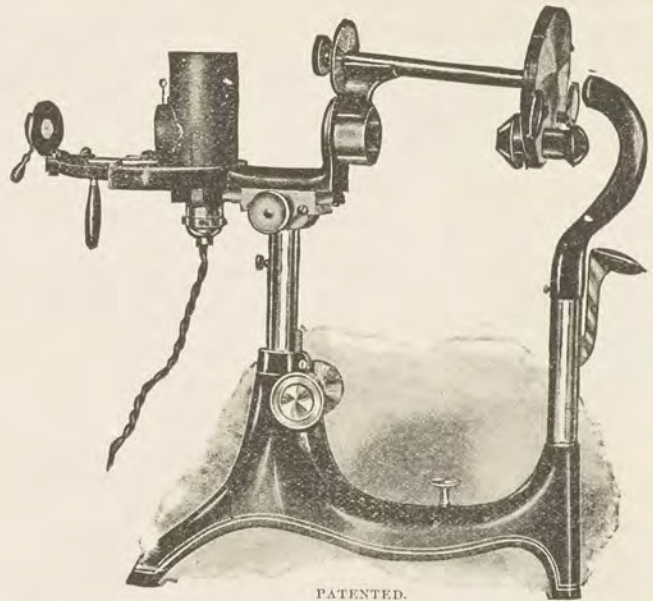
"So then the boss gave us a good talk on the better ways of doing things in the store from now on—better ways of sellin' and keepin' things in shape an' a whole bunch of ideas about improvin' the service. It was a leetle too much for yours truly to take right off the bat, but it was good stuff—for Henry Hayseed said so, and he knows what's what. An' then we hustled home.

"Say, Reddy, just put this down for fair: The boss is all right, an' I'm so stuck up about the store that I've wheels in my head; an' you needn't never come to see me in store hours, for I'm goin' to train for a boss myself. Stop laughin'! an' you wait an' see!"

J. T.



PATENTED.



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The Geneva Ophthalmoscope and Retinoscope

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Note the following letters of commendation.

Letters of Commendation for the Geneva Ophthalmoscope and Retinoscope Combined.

A. S. Haskins, St. Johnsbury, Vt.

"I purchased one of your Ophthalmoscopes and Retinoscopes of the Globe Optical Co., of Boston. To say I am delighted with it would be putting it very mildly. I have used it on blondes, brunettes, old and young, and in every case have had pre-eminently satisfactory results."

Clark & Co., Manila, P. I.

"Regarding the Geneva Combined Ophthalmoscope and Retinoscope, which I brought over here last June, it affords me pleasure to state that the excellent results obtained with the instrument have exceeded my expectations, and I can state concerning the ophthalmoscope attachment that after six months' use upon cases, including Americans, Filipinos and Chinese, in no instance has it failed to furnish a distinct view of the disk and fundus where the media were transparent. The examination of cases was made without pupillary dilation. The instrument as a whole is quick to operate, accurate in its results, and I regard it as an indispensable fixture of my office."

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C. G. Lord, Fort Worth, Tex., April 10, 1903.

"I am very well pleased with your combined instrument and wish to say that it comes fully up to my expectation and has my endorsement."

R. W. Salter, M.D., New Orleans, La., April 25, 1903.

"I have used your combined instrument in my daily practice, and it has proven to be a useful instrument for an oculist's office. I can recommend it."

C. A. Bahn Opt. & Diamond Co., May 16, 1903.

"We have received your Ophthalmo-Retinoscope, and after thoroughly testing same, our optician, Mr. Bahn, unhesitatingly pronounces it the most eminently-satisfactory optical instrument we have in the house."

F. H. Fry, Fort Worth, Tex., April 21, 1903.

"Your Combined Ophthalmoscope and Retinoscope gives entire satisfaction. It does all that is claimed for it, and I can recommend it to any optician needing an instrument of this kind."

W. C. Tyree, M.D., Kansas City, Mo., Jan. 27, 1903.

"Having used your Combined Ophthalmoscope and Retinoscope, I have the pleasure of saying the Ophthalmoscopic attachment is satisfactory; have not thoroughly tested the Retinoscope attachment, therefore cannot offer an opinion."

O. J. Short, M.D., Hot Springs, Ark., Feb. 24, 1903.

"The new instrument arrived O. K. I have nothing to offer for it but praise. The findings are reliable. It has my highest endorsement."

L. T. Waggener, M.D., Jerseyville, Ill., April 14, 1903.

"I have one of your combined instruments and have this to say for it: I have used the Ophthalmoscope attachment very satisfactorily. I have not used the Retinoscope attachment sufficient to offer an opinion."

Arthur A. Everts, by R. A. Terrell, Optician, Dallas, Tex., April 8, 1903.

"We have used your new instrument for about three months and find it does all you claim for it. We are glad to recommend it."

Chas. E. Tieman, California, Mo., May 13, 1903.

"Having used the Geneva Ophthalmoscope and Retinoscope for about four months, I cheerfully recommend it to anyone wishing a good and practical optical instrument."

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Reviews of Current Ophthalmological Literature of the World

Will Certain Occupations in Time Affect the Curvature of the Eyeball?

Any experienced refractionist knows that astigmatism against the rule is observed much more frequently in older persons than in young ones, which would seem to indicate that the curvature of the cornea may change with advancing years. Dr. Paul Guilford, of Chicago, lately has written a little article in the *Ophthalmic Record*, in which he publishes the result of an investigation which was made for the purpose of finding out whether age tends to change the curves of the cornea. He examined the records of 100 consecutive patients over 50 years of age engaged in general pursuits and found that in 47 the axis of the convex cylinder was at or near 180 degrees. In other 47 the axis was at or near 90 degrees, and in six the axis near 90 in one and near 180 degrees in the other eye. In these cases, therefore, the axis of the convex cylinder was equally divided between 90 and 180 degrees. The doctor, however, when examining 22 engineers of the railroads entering Chicago, had found that in 18 men, or 82 per cent., the axis of the cylinder was at or near 180 degrees, and that only 14 per cent. had the axis at or near 90 degrees. The average age of these men was 57, and the average time of service as engineers as much as 27 years. It would seem, therefore, that the locomotive engineers must have a peculiar disposition to the development of astigmatism against the rule. The argument of the doctor is as follows:

An engineer is on active duty in his cab for perhaps ten or fifteen hours a day. He sits with head out of the cab window, with eyes half shut, intently looking ahead and receives straight in the face the full strength of the wind. He is constantly on the watch for signals and to see that the track is clear, and sometimes maintains these conditions of intent watchfulness for hours at a time, his half closed eyes being meanwhile constantly subjected to the full force of the wind. Running at the rate of from thirty to sixty miles an hour the force of the wind must be very great, even on a comparatively quiet day, and this must, of course, be greatly increased in the event of strong head winds.

That this force will, in time, affect the corneal curvature of the eyeball is, I believe, not only possible but probable. The orbicularis palpebrarum or sphincter muscle which surrounds the circumference of the orbit and eyelids, also bears a part in this shaping of the eyeball. In facing a strong wind one instinctively half closes the lids to protect the eyes from the discomfort of the wind and from the danger of small particles of dust that may be in the air. This contraction of the orbicularis muscle in the effort to narrow the palpebral fissure draws the lids more closely against the eyeball and exerts a force, above and below the horizontal diameter of the globe, that tends to flatten the cornea at these two points without affecting

the central exposed portion. This exposed portion, less affected by the combined pressure of the lids and wind, retains more nearly the normal curvature of the eyeball and becomes the axis of corneal curvature.

It would hardly seem probable that this change would take place in a few years, but the engineers examined in this series of cases are over 50 years of age, and have been in active service, on an average, 27 years.

That this time is sufficient to change the rule of the axis of corneal curvature is shown by the fact that among these engineers 82 per cent. showed their astigmatism to be in the horizontal axis, while among men of the same age in general pursuits but 47 per cent. showed the same axis.

If this is true in the case of locomotive engineers, why may it not be true also, to perhaps a lesser extent, in the case of all people engaged in out-of-door occupations, and exposed to the pressure of high winds, such as motormen, farmers, etc.?

The reviewer must say that the number of engineers (22) is too small to admit of accurate deductions, and that in order to understand the cases fully, corneal measurements not only of the present cornea, but also of the same 25 years ago ought to have been made. In spite of the want of these data, however, the conclusion of the doctor looks quite plausible, though it must be reserved for later times to settle the question by accurate ophthalmometric measurements.

The Systematic Use of Cylinders in Making the Shadow Test

Most observers, when employing the shadow test in a case of astigmatism, determine the refraction by means of spherical lenses, finding the proper lens for each main meridian. Dr. Alexander Duane, of New York, however, in the *Ophthalmic Record*, strongly advocates the use of cylindrical lenses for this purpose, and likewise expresses his preference for the concave instead of the plane mirror in his skiascopic work, believing that the concave mirror, particularly in oblique astigmatism, affords more accurate results. The exact method which he employs is best explained in his own words as follows:

Using the concave mirror at one meter I find a movement against the mirror in all meridians. I add convex glasses. When a convex + 2 D. has been added the reflex becomes quite bright and begins to form a rather distinct band running in the meridian of 75° or 80°. I now move my mirror in the direction of this meridian only and keep adding + glasses, until in the meridian of 75° I get the shadow just beginning to move with the mirror. Suppose it takes + 2.75 to do this. No. + 2.75 then is the reversing glass for the meridian of 75°. I now have a quite sharp band of light running in the direction of this meridian.

Leaving the + 2.75 on, I now move the mirror at right angles to the band of light, i. e., in the meridian of 165°, and find that the movement of the shadow is still against the mirror. There being evidently quite a little astigmatism, I take a strong cylinder, say + 2, and place it with its axis at 75° (i. e. in line with the band of light), and then again moving my mirror in the meridian of 165°, see if

reversal of the shadow has yet been secured. If not I replace the + 2 with stronger cylinders. Finally, with a + 3.50 cylinder I find that I just succeed in making the shadow go with the mirror in the meridian of 165°.

If this cylinder of + 3.50 at 75° truly represents the amount and axis of astigmatism, then I should, with my two reversing glasses (+ 2.75 spherical \ominus + 3.50 cylinder), get the following:

(a) At one meter there should be a bright circular reflex uniformly illuminating the whole pupil.

(b) The shadow should move with the mirror in all meridians alike and precisely in the same line as the mirror moves, not swerving from the path of the latter; that is, not making any oblique movement.

(c) When I advance to just within one meter the shadow should begin to move against the mirror in all meridians and for all alike at precisely the same distance from the eye.

If my correction of the astigmatism is wrong in amount, e. g., if the cylinder is + 3.25 instead of + 3.50, then as I approach the patient from a distance of one meter, I shall at a certain distance from him find that in the meridian of 165° the shadow moves with the mirror, while in the meridian of 75° it still moves against it. When this happens I simply change the strength of the cylinder until reversal takes place at just the same distance from the eye for all meridians alike.

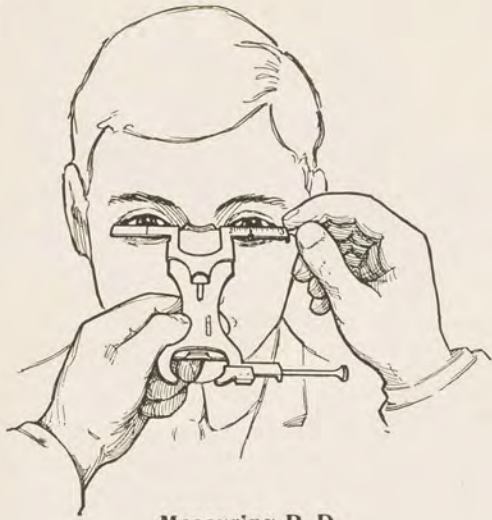
If my cylinder is at the wrong axis, i. e., if it ought to be at 80° instead of 75°, then as I sweep the mirror from side to side, or up or down, I will notice that the shadow, instead of traveling along the same line as that in which I am moving my mirror, makes a skew or oblique movement, sliding off, as it were, to one side or the other. When this happens I shift the axis of my cylinder one way or the other, until this obliquity of movement disappears.

Finally, if my spherical alone is at fault, then reversal takes place evenly indeed in all meridians, but either too close to the eye or too far from it. I then alter the strength of the spherical accordingly, until reversal takes place at just one meter.

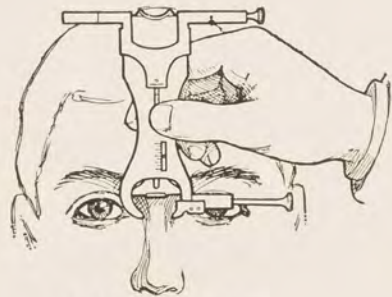
As will be seen by the foregoing description, Dr. Duane constantly varies the distance from the patient—moving his head slightly backward and forward so as to be sometimes just within a meter's distance from the patient, sometimes just beyond it. This forward-and-back movement of the head he regards as a very important part of the shadow test, however conducted, and he does not think it sufficient merely to stand at one meter from the patient and to determine that at this distance we get reversal with a certain glass.

The doctor also employs the same test as a check upon his work in order to ascertain whether the correction found with the trial lenses is probably the best obtainable. He proceeds as follows:

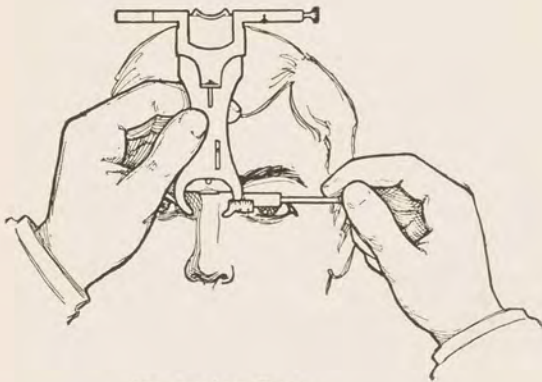
Thus suppose the glass found is + 2.50 \ominus + 1.50 cyl. ax. 90°, I add + 1 to this, making it + 3.50 \ominus + 1.50 cyl. ax. 90°. This should make the patient myopic 1 D. If he really is so, precise reversal will take place with glass for all meridians alike at one meter. If, however, the spherical is of the wrong strength, or the cylinder is incorrect in either strength or axis, I shall discover the error in the way just mentioned and can remedy it in a moment. I have thus, in a number of instances, been able to decide as to the proper glasses, and



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Reviews of Current Ophthalmological Literature of the World

(Continued from page 1979)

particularly as to the proper axis of the cylinder, when the patient's answers were not satisfactory.

No doubt this latter method of checking the work with the trial case by means of skiascopy is nothing new, and has been employed before by many refractionists, but as it is certainly a very excellent method we recommend it here to those of our readers who want to check off the subjective test by an objective one.

Concerning the Lenses of Spectacles

In his inaugural dissertation Dr. Sergejew, of Petersburg, Russia, offers the following theses as the result of his physico-mathematical researches: 1. In the test case sometimes lenses may be found which are not strictly spherical. 2. The optic strength of these test lenses does not always correspond to that given on the glass or handle. 3. The existing types of spherometers are not quite accurate enough. 4. The limits of the visual field have not yet been properly determined. 5. The shape of the spectacle lens ought to be uniform and circular. 6. The distance between the ordinary spherical spectacle lens and the anterior surface of the cornea ought to be 13 mm. as nearly as possible. 7. The diameter of the reading lens should not be less than 15 mm. 8. The emmetrope during reading and writing uses about 30.09 per cent. of his maximal excursion in the horizontal direction, the hypermetrope a little more (30.7 per cent.) and the myope most (34.7 per cent.)

Some New Experiments With the Radium Rays

The new and most interesting element radium, which seems to upset many cherished theories of chemistry and physics, is now being studied by many careful investigators. One of them, Dr. E. L. London, in the *Berliner Klin. Wochenschrift*, reports the results of his experiments with radium as follows: He employed for all of his tests one-half grain of radium bromide which he kept in a rubber and metal box covered with mica. He took twenty-seven mice in glass vessels, three in each, and keeping two vessels with the six mice, for purposes of control, he placed the box with the radium on the cover of these vessels, leaving it there from one to three days. At the end of five days, the control animals were perfectly healthy and lively while the other mice had died in from three to five days. The first symptom noticed in the animals exposed to the action of the radium rays consisted in redness of the ears and congestion of the eyes. This was followed by stupor, weakness, coma, paralysis and other signs of depression of the cerebral nervous system. About nine hours after the appearance of the first symptom of irritation there was a complete arrest of the functions of the cerebro-spinal system. The

most pronounced lesions were found in the skin and the nervous system the exact nature of which will be studied by Dr. London later on. On the human skin the radium rays produced a lesion akin to gangrene which had many forms according to the intensity of the rays. The symptoms and the course of the skin-lesions were so characteristic that the condition may be called *dermatitis radiogenes*. The arterial blood became dark when exposed to these rays. With regard to the effect upon the sight the doctor found that blind persons who still retain a slight light perception, were made to see in a certain sense when the radium rays were applied to their eyes; but only negative results were obtained in cases of absolute blindness. The blind people who still have light perception are able to see the outline of dark objects when these are held against a fluorescent screen illuminated with the radium rays. In this way, two lads, who during early life had lost their sight, were able to recognize such objects as a key and a cross. It would also seem that the radium rays could excite the visual centers in the brain directly without the intermediate action of the eye, for it was found that when the radium was held within a certain distance from the head some of his patients could still tell the presence of the substance.

Did the Ancients Know About the Deterioration of Vision Following the Abuse of Alcohol

According to the excellent history of ophthalmology by Dr. Hirschberg the ancients were well acquainted with amblyopia and amaurosis, but it does not appear from his monograph that the abuse of alcohol was considered a cause of this trouble. It seems, however, that the ancients knew of this, for the poet Martial, who lived from 43 to 104 A. D., points out the dangerous effect of wine in the following epigram:

Pater nobilis, Aule, lumine uno
Luscus Phryx erat, alteroque lippus:
Huic Heros medicus: bibas caveto;
Vinum si biberis, nihil videbis.
Ridens Phryx, oculo, valebis inquit.
Misceri sibi protinus deunces,
Sed crebros jubet: exitum requiris?
Vinum Phryx, oculos bibit venenum.

A free translation of which not long ago appeared in the *New York Medical Journal* as follows:

Phryx, good friend Aulus, of one eye had lost
The use, and in the other was dim sighted.
To him his doctor said, "Count well the cost
Of drinking; if you drink, your vision's blighted."
Phryx, smiling, bade his eye a mock farewell,
And ordered flagons deep, as quick as winking,
One after one. Shall I the sequel tell?
While Phryx the wine, the wine his sight, was
drinking.

Must we Pay so Dearly for Celebrating Our Nation's Birthday

It is a well-known fact that many people in olden times offered human sacrifices to their gods, and that they did so from highly religious motives. With horror we think of those times and gladly look upon our ad-

vanced civilization as forever preventing the return of such occurrences. But is that so? Do we not daily give human lives to our modern gods in the race for gold and honor. Must that be so? Truly, some human lives apparently must be sacrificed, for example, to fulfill our desires of rapid transit. But that many human lives could often be spared is shown for example by our peculiar method of celebrating the nation's birthday. How many people have been sacrificed on that day since 1776 can only be surmised, if we consider that according to reports collected by the *Journal* of the American Medical Association on the last Fourth of July no less than ten persons were made totally blind and ninety-five eyes were lost. And how many persons got hurt otherwise? Truly, we ought to abolish the noisy and dangerous methods now in vogue to show our patriotism.

Colored Sounds

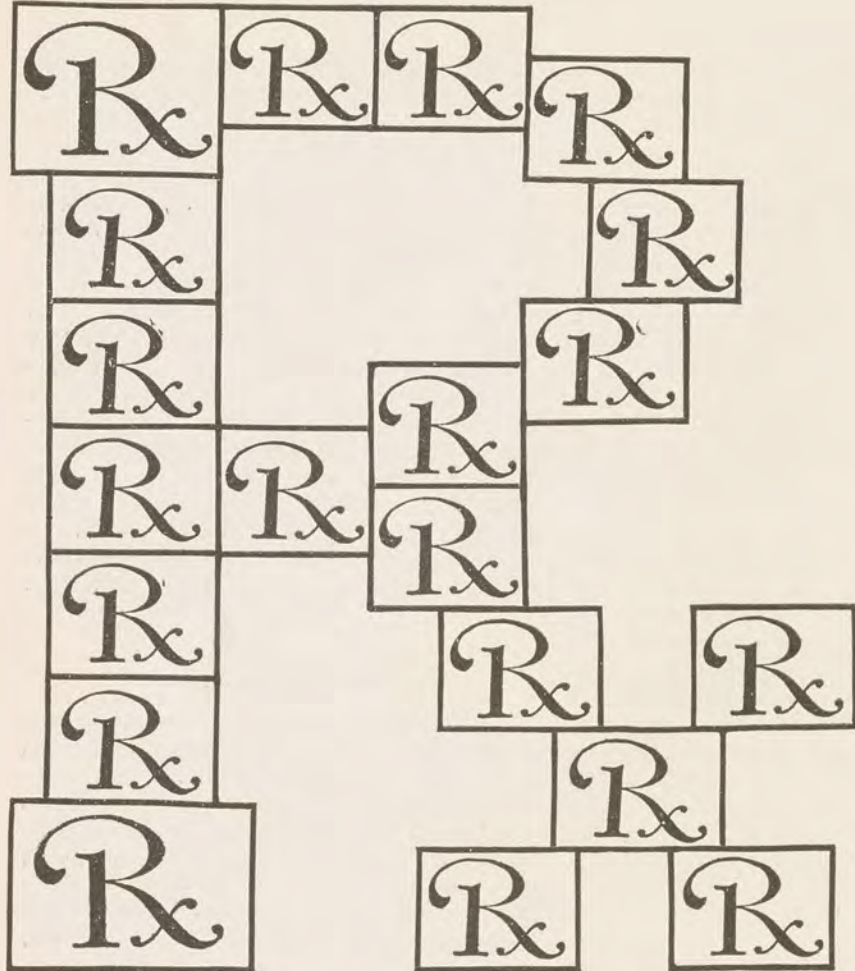
Many of our readers will be astonished at this peculiar mixture of optic and aural impressions. It cannot be doubted, however, that there are persons who see a certain color every time they hear a certain sound. Lately an interesting case of this kind has been reported in *Graefe's Arch. f. Ophth.* by Dr. Helen F. Stelzner, of Berlin, who herself possesses this peculiarity. Ever since she can remember she connects certain color-sensations with certain sounds. Thus the vowel A produces the impression of gray, differing from silver color to lead-gray, according to the manner in which the vowel is pronounced. E gives snow-white, I a bright red, O a brown and U a deep black color. The doctor states that when hearing a certain tone she perceives the color somewhat as if the interior of her skull was lighted up by a diffuse colored light which does not take a definite form and is not projected outward. Not all persons, however, who are affected with these double sensations see the same colors on hearing the same sounds, as is shown by the following table:

	A	E	I	O	U
Case of Levastine,	pink	yellow	blue	brown	green
Case of Raymond,	black	gray	yellow	white	blue
Case of Mirto,	white	green	bright	black	red
Case of Rimbaud,	black	white	red	blue	green
Niece of Author,	red	yellow	white	brown	blue
Sister of Author,	black	gray	red	brown	blue
Author,	gray	white	red	brown	black

The reader will observe that there is a great difference in the colors connected with the same sounds. Furthermore, it must be stated that some persons project their color sensations outward, while Dr. Stelzner only perceives them as occurring in her own body.

In conclusion we will state that lately several cases have been reported in which not only sounds produce these color sensations but also sensations of smell, taste and touch, so that every time these persons smell, taste or touch certain objects certain colors are perceived at the same time.

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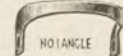
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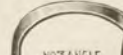
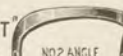
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An Exposition of the Principles of Refraction in the Human Eye Based on the Laws of Conjugate Foci

(Continued. Part IV)

With 17 original illustrations.

By SWAN M. BURNETT, M. D., Ph. D., Professor of Ophthalmology and Otology in the Medical School of the University of Georgetown, Washington, D. C.

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A. IN EMMETROPIA. In this case the effect of an increase in refraction, the retina remaining fixed, is to advance the far point from infinity to a finite distance, that is to convert E. into M. The amount of accommodation then, that is the refractive power added, would be represented by an additional lens which placed at *L* would bring parallel rays *a a*,

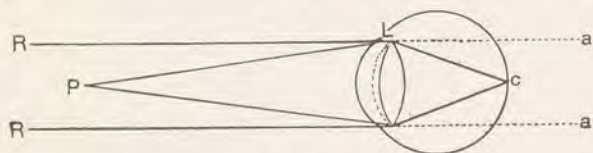


Fig. 6

to a focus at the point of accommodation, *P*. If, for example, the accommodation point *P* is 8 inches (20 cm.) from *L*, the added refraction would be represented by the value of *M*. with its far point at *P*, that is by + 5 D. As this, at the same time, gives the difference between the far point of the emmetropic eye *R* and the accommodation point *P*, the general formula for the amount of accommodation, which is the same in all three categories of refraction, is $A = P - R$; therefore in this special case $A = 5 - \infty = 5$ D.

On the other hand, if we know the amount of *A*., the position of *P* is found by the formula; $P = A + R$; $5 + \infty = 5$ D. = 20 cm. = 8 inches.

A. IN MYOPIA. In this case the far point is already at a finite distance. The act of accommodation can then only bring the conjugate focus nearer to the eye, that is increase the degree of *M*., and the amount of advancement is measured by the difference of the positions of the foci in the two degrees of *M*. Let *R*, Fig. 7, be the far point in a static condition, say, at 50 cm. (20 inches) from *L*, representing 2 D. of *M*., and *P* the accommodation point at 10 inches = 4 D. of *M*., then since $A = P - R$, $4 - 2 = 2$ D.

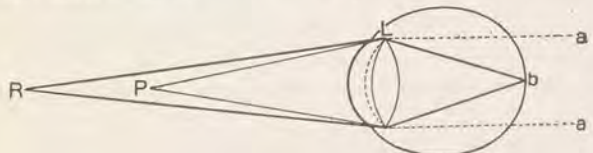


Fig. 7

of *A*. On the other hand, the amount of *A*. and the far point being known, the accommodation point is obtained by the formula $P = A + R$. *A* being 2 D. and *R* 2 D., $P = 2 + 2 = 4$ D. = 10 inches = 25 cm.

A. IN HYPERMETROPIA. This case is somewhat different from the other two categories of static refraction, owing to the fact that *R* has a negative value, being behind the refracting system. In Fig. 8 *R* represents the far point of an eye with *H*. of 4 D., its conjugate focus being 10 inches (25 cm.) behind *L*. If, by an act of accommodation, a refracting power is added, the conjugate focus will be moved back from *R* towards

infinity, let us say, to *r*, 20 inches behind *L*. The amount of *A*. will then be measured by the difference in the positions of the conjugate foci *R* and *r* in accordance with the formula $P - R$. *R* in this case is represented by 4 D. and *r* by 2 D.; *A*., therefore = $4 - 2 = 2$ D. The accommodation point *r* has still, however, a negative value, being behind the refracting system. If *r* be at 40 inches (1 m.) $A = 4 - 1 = 3$ D., the accommodation point yet remaining negative. The usual formula $P = A + R$ also holds here for the determination of the position of the point of accommodation. In the last example $P = + 3 + (- 4) = - 1$ D. and the accommodation point is one meter behind the eye, since *R* is negative and greater than *A*.

When *r* reaches infinity $A = 4 - \infty = 4$ D. the *H*. is abolished and emmetropia will prevail. If *r* be now advanced by a further increase in refraction from infinity to a finite distance on the left, say *P*, the conjugate focus representing the accommodation point becomes positive and a condition of myopia prevails. If this finite distance is at 20 inches (50 cm.) in front of *L*, the difference between *R* and *P* (*R* being negative and *P* positive) is represented by $R + P$. If *P* be 2 D., $A = 4 + 2 = 6$ D., because it has required 4 D. of *A*. to bring *r* to infinity and 2 D. more to bring the conjugate focus to *P*, 20 inches in front of *L*. *P* is obtained by the usual formula, $P = A + R$. Since *R* is negative, $P = A + (- R) = A - R = 6 - 4 = + 2$ D. = 20 inches in front of the eye.

The Conjugate Focus in Ophthalmoscopy

It was through a recognition of the laws of conjugate foci as applied to the illumination of the eye that the genius of Helmholtz was enabled to give us the ophthalmoscope. It had, seemingly, never occurred to anyone before him to take account of the fact that the eye was an optical instrument which acted upon the rays of light coming out of it in the same manner as it did on them when going into it—and hence the failure to obtain a view of the bottom of the eye after it had been illuminated. If the fundus of an eye, through an illumination, became the source of emitted rays, he reasoned that the rays should be refracted by the optical system of the eye in passing out through it, and would then proceed toward the conjugate focus of the object from which they came; at which focus an image of that object would be formed. If the eye of an observer could be so placed in the path of those emergent rays that its retina would be at this conjugate focus, then the object would be seen in all its details. The theory of ophthalmoscopy as he unfolded it for the first time, consists simply in bringing the fundus of the observed eye and the retina of the observing eye into the positions of conjugate foci.

As the far point or conjugate focus of the observed eye differs in each of the three categories of E., M. and H. the means by which this far point is brought to the retina of the observer must also be different for each. Let us now examine these conditions

separately, assuming that the observing eye is emmetropic and in a state of static refraction with its far point at infinity.

OPHTHALMOSCOPY IN E. In this case the rays emerge from the observed eye parallel, $c_1 c_1$ (Figs. 3 and 3a), coming, as they do, from the fundus *e* of the emmetropic eye E. The conjugate focus is therefore at infinity. As the observing eye placed in the path of these rays also has its far point at infinity the two retinae will be at conjugate foci, and a clear image of *e* will be formed on the retina of the observer. It will also be noticed that the far points in both (infinity) correspond, which must follow always when the two retinae are at conjugate foci.

OPHTHALMOSCOPY IN M. Here, the far point being at a finite distance, the rays from the fundus emerge convergently towards the conjugate focus at b_1 (Figs. 3 and 3a). The emmetropic observing eye when placed in the path of these rays cannot focus them on the retina, since it is adapted only for parallel rays. In order that it may so focus them the rays must be made parallel. This can be done by the interposition of a concave lens *L* (Fig. 4) of such strength as shall give the rays emerging convergently towards b_1 a parallel direction, $c_1 c_1$. As b_1 is the negative focus of this lens, its strength also marks the degree of *M*. of the observed eye. By this it will be seen that the ophthalmoscope becomes an optometer for measuring the degree or amount of *M*. Example: If the retinae of the two eyes are brought into the

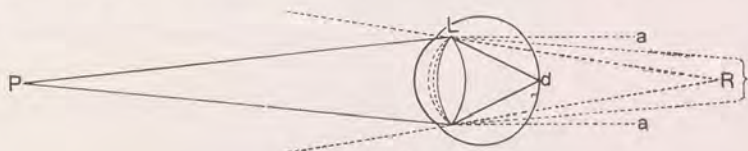


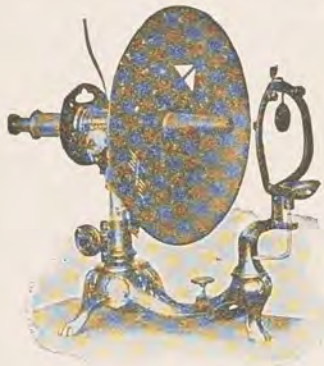
Fig. 8

positions of conjugate foci, as indicated by the formation of a clear image of the fundus of the observed eye on the retina of the observing, by a - 4 D. lens placed close to *e*, behind the ophthalmoscope, we know that this lens has rendered parallel the rays converging towards b_1 , which is the far point of the observed eye, and at the same time is the negative focus of the lens, namely, 10 inches, which is 4 D. This lens of - 4 D., through which the fundus is seen clearly, is therefore the correcting lens of the *M*.

OPHTHALMOSCOPY IN H. In this category where the far point is behind the refracting system at d_1 (Figs. 3 and 3a) the rays from the fundus emerge divergently, $d_2 d_2$. The emmetropic observing eye placed in the path of these divergent rays can focus them on its retina only after they have been rendered parallel. This, however may be accomplished by the interposition of a convex lens *L* (Fig. 5), whose focus for parallel rays, $a a$, is at d_1 . The two retinae are then placed at conjugate foci (infinity) and the details of the fundus of the observed eye are distinctly pictured on the retina of the observing eye. Example: The details of the fundus are clearly seen through a + 2 D. lens. The conjugate focus of the observed eye is then 20 inches in front the lens at d_1 behind its refracting system. Neglecting any difference between the eye and the position of the lens, the far point of the eye will fall at this focus, and the *H*. will be 2 D.

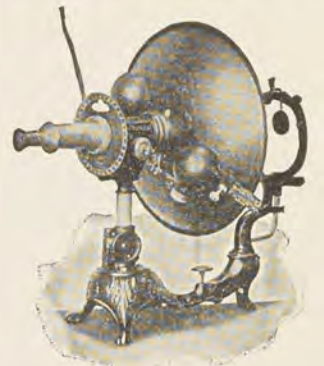
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To enable us to answer questions satisfactorily and give proper advice in the management of cases submitted to us, it is essential that we be furnished with a complete history of each case and accurate information on the following points:

1. Age. (If not possible to give exact age, always approximate).
2. Have glasses been previously worn? How long and what number?
3. Visual acuteness of each eye, and what improvement glasses afford.
4. Range of accommodation (without glasses and with them).
5. Evidence of astigmatism (as shown by radiating lines).
6. Test for muscular insufficiency.

"L."—*First case: Lady, twenty-seven years. Has never worn glasses. For several years has had difficulty to read, sew, etc., especially by lamplight. Has taken considerable drugs for nervous troubles, but looks healthy. Complains of constant headache, more in the back of head. My examination: Eyes clear and bright and free from any sign of congestion. Vision $\frac{20}{20}$ O. U. Maddox rod, 1° exophoria; amplitude normal. By very slow, careful fogging she accepted R. E. + .50 C + .50 cyl. ax. 90°; L. E. + .75 C + .50 cyl. ax. 135° = $\frac{20}{20}$, or scant $\frac{20}{15}$; exophoria remained the same. These she wore for ten days; they reduced the headache some, but, as she said, caused her eyes to burn and blinded her. After repeated trials she returned. I then prescribed the cyl. without the spheres; these were even worse. Then, in my efforts to relax the ciliary, I ordered + .50 sph. O. U. worn constantly, with prism exercise. In three days she returned to declare that she could not see at all with these and they caused the eyes to burn and draw. She said she wanted the first lenses back. I put them in her mountings again and her vision was $\frac{20}{20}$. She decided to continue with these, although not satisfied. What is the trouble?*

In this case there is doubtless some spasm of accommodation occurring in a nervous patient. We are told the amplitude of accommodation is normal, but we would have been able to form a better conception of the case if the position of the near point had been expressed in inches or the amount of accommodation in diopters. We are also told that the Maddox rod shows one degree exophoria; now in hypermetropic cases, such as we presume this to be, we mostly find a condition of esophoria. If the muscular imbalance in this case is really exophoria, then there is some disturbance in the normal relation which should exist between the accommodation and convergence. Another point, if exophoria is present to the extent of one degree at a distance, there is apt to be a much greater amount at the reading point; this should be carefully examined into and may possibly call for correction in glasses to be worn for close use only. This brings up the question whether this lady really needs to wear glasses all the time, or whether glasses for reading and sewing will suffice; or whether possibly a separate pair for each purpose may not be necessary. We have not sufficient data to enable us to decide these questions, and therefore our correspondent must use his own judgment. But whatever glasses are prescribed, the patient should be referred to the family physician for treatment for her nervous condition, as it is sometimes impossible to find any glasses to suit until a nervous sedative has been prescribed.

Case No. 2.—*Lady, twenty-three years. Has never worn glasses. Has headache back of head and all over. Eyes clear; amplitude normal; muscle test normal. Vision, O. U. $\frac{20}{20}$. By fogging and all tests known without atropine I could not find L. H. R. E. + .50 cyl. ax. 150°; L. E. + .50 cyl. ax. 15° = $\frac{20}{15}$; any change from this axis not so clear. After fifteen days' attempt to wear them she gave it up. She says they blind her; they cause everything to look lopsided; they hurt her eyes and discourage her. Now wouldn't it be right to advise her to continue wearing them regardless of the pain, etc.? Should the cylinder be at*

wrong axis would any harm come to the eyes by effort to wear them constantly?

Again in this case we are told the amplitude of accommodation is normal, but we would much have preferred to know the exact amount of accommodation or the exact position of the near point. The acceptance of the cylinders mentioned indicates the existence of astigmatism; if the strength of the cylinder is correct and if the axis is placed at the proper meridian, the patient ought to be able to wear them. They may possibly hurt her eyes at first and they will probably cause things to look lopsided for awhile, but if they are correct the lady should be advised and encouraged to persevere in their use. The location of the axis is the most important point in prescribing cylindrical lenses; they must be correct if relief is to be expected. Of course, there are some cases where an approximate correction will suffice; but, again, there are other cases, and they are perhaps in the majority, where the greatest care must be exercised in the correction and where relief is not possible if the axis of the cylinder is only five degrees from its proper meridian. We have no means of knowing whether the meridians mentioned in connection with these two cylinders are correct or not; but we can only say that the examination must be repeated often enough to determine this matter with certainty. There is evidently some spasm of accommodation present in this case also, and therefore it may be possible that a + .25 D. cyl. may be more comfortable to start with than the + .50 D. prescribed. The fact that vision is better than normal precludes any great degree of astigmatic defect.

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.

"O. B. K."—*Have a customer, vision R. E. = $\frac{10}{10}$; corrected with a - 4 D. vision = $\frac{15}{10}$. L. E. vision = $\frac{10}{10}$; corrected with + 25 cyl. ax. 180°. The above is correct, but being the first glasses, he could not see at all with both eyes and as R. E. - 2 D. and a L. E. + .25 D. ax. 180° seemed all right, I gave him this correction, but he came back and said it made his eyes hurt. What is the best thing for me to do? Party's age is twenty-eight years, a farmer, been that way for ten or twelve years; no sickness.*

This is a case of anisometropia, which should have been attended to in youth. The longer these cases are neglected the greater the difficulty in the way of a satisfactory correction. Where one eye is myopic and the other emmetropic or hypermetropic, the patient falls into the habit of using the former for near vision and the latter for distance; in other words, the vision is monocular, not binocular, because the image is ignored in the eye that is not being used. When such a condition has been present for a number of years it becomes a second nature, and when an effort is made to rectify it trouble is apt to result.

In studying this case we are inclined to believe that - 4 D. does not represent the proper correction for the right eye. If that amount of myopia is present the visual acuity will be much less than $\frac{10}{10}$. We think that this lens is an over-correction, or that there is an astigmatic element in the case; and that in addition the retina of this eye is amblyopic.

Now the first thing to be determined is whether this man's vision is binocular, and this should be determined both for distance and reading by means of a vertical prism. The patient looks at a light twenty feet away and a vertical prism is placed first before one eye and then before the other. If he sees two lights or, in other words, if the prism produces a vertical artificial diplopia, then binocular vision is proven to be present. The test is then repeated at reading distance with a card on which there is a prominent black dot, and if an artificial diplopia is produced by the prism the vision is known to be binocular. In this case the lens for the right eye must be reduced until it is comfortable. In addition the muscular equi-

brum must be very carefully looked into, because in many of these cases heterophoria is present, when the addition of a prism over the defective eye adds greatly to the comfort of the eyes in the maintenance of binocular vision.

If binocular vision is not present and if it is found that right eye is used for reading and left eye for distance, it would scarcely be advisable to attempt to disturb this condition to which the eyes have become accustomed. Under such conditions give the right eye that glass which affords the best reading vision (a weak concave sphere or cylinder), or possibly a plano-lens, and the left eye that lens that affords the best vision at a distance, which may be the + .25 cyl. that is mentioned. Or perhaps the patient may be able to get along just as well or better without any glasses at all. This class of cases are oftentimes unsatisfactory both to optometrist and patient, and some time may be required before the eyes become comfortable. No one can say just exactly how this case should be managed until it has been seen several times and the effect of different lenses noted.

"J. H. A."—*Lady, age thirty-four; music teacher. Eyes large but rather weak. Has worn several pairs of glasses; her last ones are - 1 D. sph., which at first she thought gave her some relief. She came to me lately almost hopeless about ever getting glasses that would relieve her troubles. Under a manifest examination she reads $\frac{20}{20}$ slowly with each eye. External recti weak, 2°. Under atropine, one grain to the ounce instilled night and morning (which, in my judgment, gave not more than one-third or one-half complete paralysis of the accommodation), on examination, R. E. reads $\frac{20}{20}$; with - 1.25 D. cyl. ax. 165° = $\frac{20}{20}$. L. E. reads $\frac{20}{20}$; with + 1 D. cyl. ax. 110° = $\frac{20}{20}$. Both eyes together = $\frac{20}{20}$ and everything looks natural. In my judgment this is the most perplexing and complicated case of refraction that ever came under my observation; at any rate, I never before saw one just its equal. All information I have ever obtained, either from text books or otherwise, when speaking of the direction of the axis of a cylinder leave the inference that they always bear a constant relation to each other, as vertical, horizontal (I mean both axes), inclining to or from the nose to any degree; but there is no such relation in this case, which is a puzzle to me. I am fearful that there is more trouble (astigmatism) yet concealed in the crystalline lens, as the paralysis of the accommodation was slight, and that I should not fit the prescription, which is now ordered, until I have made another test under the influence of a mydriatic fully. Is any part of my judgment correct in this case?*

In studying the history of this case we are impressed with one fact at the outset: that the - 1 D. spherical lenses which were prescribed for her are entirely wrong. It is not possible that an eye with a vision of $\frac{20}{20}$, even though the letters are read slowly, could have a myopia of this amount, and unless myopia is present concave glasses are capable of doing much harm. In regard to astigmatism, in a majority of cases perhaps there is a certain correspondence between the axis of the two cylinders; but there are a great many cases, classed as asymmetric astigmatism, in which there is no relation at all between the positions of the axes of the two cylinders. Such a condition is not uncommon and not necessarily perplexing, and the fact that it exists in this case should not annoy our correspondent.

It is hardly possible that the atropine in this strength solution did produce complete paralysis of the ciliary muscle, although we do not know how the estimation could be made of one-third or one-half relaxation. But, at any rate, the effect of the atropine was sufficient to permit of a satisfactory correction of the astigmatism; in fact, as is well known, the optician is able to correct the majority of his cases of this nature without any recourse to mydriatics. We would be inclined in prescribing the cylinders to make them a little weaker than those indicated by the test under atropine, perhaps not stronger than + .50 D. cylinder; but the strength of the lens and the position of its axis should be verified by several additional examinations.



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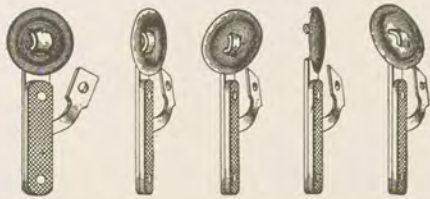
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Extracts from an Address by George M. Gould, A.M., M.D., before the Cleveland Academy of Medicine.

Importance of the Eye

The importance of the organ of vision in every moving animal is shown by the fact that the embryologic force, or, as I prefer, the biologic architect, with the foundation of the organism, at once begins the construction of the eye. It is not a question of days, but of hours, when the making of that all-important organ is begun as a differentiation of a part of the wall of the primary cerebro-spinal rudiment or medullary plate of the embryo. A trout embryo is first seen microscopically by means of the massive pigment-heaping of the eye, that is larger than all the rest of its body. The common barnacle (*Lepas anatifera*) is well outfitted with eyes while it swims about, but when it attaches itself to the rock for the rest of its life the eyes atrophy. The mechanism of the finished vertebrate eye is of incomparable complexity and variability. A hundred evidences are strikingly manifest, all showing that the entire biologic process, so far as it pertains to motile organisms, is dependent upon the function of vision, and every act during the life of those organisms is in fact dependent upon the accuracy of vision, and of its distant relation with every other mechanism of the body. Without such a perception of visual function no animal can get food, preserve itself from enemies, or maintain itself.

Not only his physical existence is thus dependent upon seeing, but the intellect of man, and all resultant civilization is literally a product of vision. The greatest victory of humanity, the one thing that has alone made all other conquests possible, is the alphabet. It took almost numberless generations to construct this great *sine qua non* of civilization, and, as all know, the letters of the alphabet are the conventionalized images of things seen. All thinking is in pictures or representatives of them. The psychic thing, of course, preceded its tools, but without the eye there could never have been vertebrate beings on the globe.

Some Pertinent Illustrations

There is no way so good to picture—again to picture—the essential mechanism of the external organism of sight as to suppose that a blind man should have millions of tiny fingers and that he should hold them up to a scene—again a picture!—like the sensitive plate of a photographer's camera. If a figure, a square, a circle, star, etc., made up of warmed iron rods, should be laid upon those million fingertips, the blind man could tell its shape and size by the warmth he would feel in his fingers. The objects of the external world reflect the warm rays of sunlight from themselves upon the million fingertips of the retinal rods and cones in precisely the same way. And back from each fingertip runs a nerve for transmitting the impulse to the mysterious brain center where nerve-impulse is made into sensation. We must also remember that the crude material out of which the eye creates color and light is nothing but ether-waves slightly varying in length reflected from the different parts of objects to be photographed on the retina; these ether-waves are about one fifty-thousandth of an inch long, and from 412 to 790 millions and millions of them strike the retina every second.

The incomparable delicacy of the process, the almost infinite slowness of the light-and-color stimulus, is also not appreciated. The retinal fingertips must respond to a stimulus lasting less

than a thousandth of a second, and with but a millionth of a millionth of the energy, for instance, of the sound-waves to which the ear responds. Conceive, or, rather, attempt to conceive, the subtlety and fineness of the retinal and entire ocular mechanism which responds to a slight stimulus as that. When one tries to think of it, one gets a hint, and only a hint, why it is that in death from starvation there is no stored nutriment, *i. e.*, no fat in any part of the body except in the orbit of the eye, the blanket of fat about the all-important retina. The higher organ, biologically, that is without an eye is not worth life!

Marvels of the Eye

And not only an eye of some kind, or of any kind, but one whose mechanism is as unerring as the light ray it receives; one in instant connection with every other function of the body, especially of motility; one upon which the safety of the body and life depends a thousand times a day. There is a true passion of accuracy in its nature that is marvelous. The almost unconscious avoidance of objects in the way by horses and other animals, the superb perfection of the eye and organism of a bird thridding through brush or alighting, the precision of the athlete, the juggler, etc.—such things, it is forgotten, are all first, and far more excellencies of eye than of muscle or nerve. I have read somewhere of the astonishing feat of monkeys running over the tops of African forests faster than a horse could run in the open, and looking back at their pursuers, while dashing from tree to tree. The ability of the ocular mechanism to make all that possible fills one with awe of the ocular mechanician.

Let us now carry the thought on from physiology to pathology. Let us remember that in all nature there is no perfect organ or organism. No leaf of the numberless billions in the forests of the world is faultless. No face is symmetric, no finger perfect. And so, speaking absolutely, no eyeball is mathematically or optically perfect. Great physiologists and mathematicians have marveled at the optical imperfections of all eyes, but without any care to correct them. And almost no astronomers or microscopists, profoundly careful as to the perfection of their transits or objectives, have even cared to ask about the optical imperfections of their own eyes. We have at last begun to observe them. The canalizations of the planet Mars, are finally found to be due to optical defects of the astronomer's eyes.

Everybody knows that the success of photographing depends upon definition of the image, the mathematic precision with which the picture images the outlines and the proportions of the fact. This definition is easily disproportioned or blurred. If the photographic camera is only an inch in diameter the securing of accurate definition of all objects in a wide field of view, and situated at all distances, becomes at one time a physical impossibility. And when one sensitive plate has been exposed it has been spoiled. But nature in the normal and emmetropic, so-called emmetropic, human eye has come as near as possible to creating a self-adjusting mechanism which shall secure definition of all scenes, far and near, and has also made the retina a self-resensitizing and single plate, good for all "exposures" at the rate of say a hundred thousand a day.

The Eye and Disease

What are the optical defects of human eyes that produce malfunction and diseases local and systemic? The camera eyeball may be too long, or too short to give perfect definition of the image, or the cornea may be abnor-

mally curved, producing distortion and disproportion of the image. If the eyeball is too long there is myopia, and if its fellow has the same degree of over-length, no strain or attempt at strain can be made by the eye to neutralize this, and there are no evil results of a reflex kind. The person so handicapped simply cannot see well at a distance, and in our civilized life no bad results follow if the defect is not increasing, excepting that certain occupations cannot be pursued without glasses. But not one pair of eyes in a thousand has the same degree of myopia in both eyes, and at the same time is without corneal malcurvature (astigmatism), so that some eyestrain, of a low degree at least, exists even in myopic people. But it is inconsiderable in comparison with the pathogenic results of the defects which command constant and morbid innervation of the compensating and accommodation mechanism. The retinal image in myopia, and even in myopic astigmatism may be far worse in definition than that in hyperopic astigmatism, but as no effort can be made to neutralize it, the pain of morbid and excessive effort is usually avoided, and the eye alone is harmed, and the person limited in function.

When the eyeball is too short the image is poorly defined, except when the ciliary muscle can temporarily give better definition. If both eyes have an equal degree of over-shortness then, up to a certain degree, and for a certain length of time the compensatory mechanism can overcome the trouble. But as no one of the schoolboys who have tried it can hold his arm out straight for ten minutes, so no ciliary muscle can compensate for high defects, or for low ones long at a time without resting. But the over-shortness of both eyes is hardly ever alike, and almost never without some astigmatism.

Effects of Astigmatism

Then astigmatism, or malcurvature of the cornea, in the vast majority of cases, exists in some degree in the eyes, and over this defect the compensating mechanism has almost no power, and in a sphincter muscle like the ciliary muscle, two-sided action even of a low power, is, of course, essentially morbid. I have elsewhere described twelve mechanisms by which the same spot of the retina is relieved from a constant stimulus every instant. I should have shown that this accommodation and muscular tiring is a thirteenth, so that even this morbid fatigue seems designed to prevent greater harm by a lesser, and demonstrates the need of the prevention of severe or continuous use even of perfectly normal or emmetropic eyes.

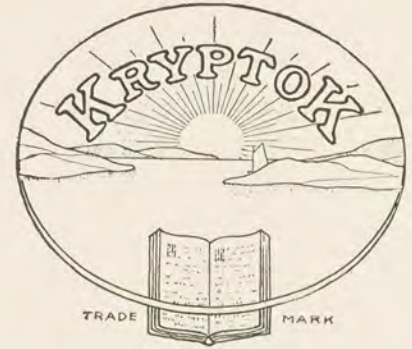
If the incorrectness of measurements of the camera eyeball is as great as $\frac{1}{300}$ of an inch, there is a lack of definition of the retinal image. To overcome this the eyes in hyperopia and astigmatism must struggle ceaselessly. Both retina and muscles are tired by this effort to neutralize; persistent innervation, coupled with abnormal action of muscles, is impossible and harmful, as every physiologist, every schoolboy even well knows. They know it leastwise of other muscles, but they ignore it of ocular muscles. To this complication of defects must also be added the frequent presence of imbalance of the external ocular muscles, twelve of which must act in fine adjustment and harmony to keep the two eyes properly directed upon a given object at any given instant. Another important error is that the evil reflexes, except in the case of the developing criminal, are the worst in the low defects, those that the eye can overcome by intense effort, but only for a short time. A third of a diopter of asymmetric astigmatism is a hundred

(Continued on page 1989)

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Eyestrain and Civilization

(Continued from page 1987)

times worse for the general system than high defects. The high defects produce criminals, or ruin the eye itself; the low defects, unrecognized by bunglers, produce the thousand morbid reflexes.

The Eyes Not Perfect

The chances thus grow more and more certain that no pair of eyes will be optically and muscularly perfect, but these chances are tremendously increased, becoming as thousands to one, when it is remembered that evolutionally the eye was developed under the sole need of seeing distant objects from say three feet to the horizon clearly. But now comes civilization in the last 300 years and demands of the eyes a new work, for which the history of millions of years has made no demand, and for which the eye has been outfitted with no mechanism. Printing, sewing schools and handicrafts cannot be carried on even by normal eyes except through persistent and abnormal functions. These excessive and morbid demands made upon the unfitted mechanisms of the eye, thus tremendously heighten the difficulties pre-existing and constitute the inobviable source of eyestrain with which civilization has henceforth to deal with all the seriousness which disease may command and science can consider.

Beware of officialdom in all its works and ways, and in any walk of life, but especially in medical science. In ophthalmology to-day it will often know nothing of the greatest truth, the most wonderful alleviator of human suffering. The blindness that is blind to it is the most amazing illogicality I know. In nearly every city of the land there are quiet, almost unknown refractionists who are making great practices, who are doing far more good to their fellowmen than the nationally and internationally famed presidents of all the medical societies. It pleases some of these great and famed ones to ignore these quiet men and to belittle their work, but the sin of doing so will some time become clear. There is a perfectly sound reason why the search for success and the attainment of it kills the love of new truth. Even in the few and best instances, fame and presidencies and LL.D. degrees only come as rewards of what has been done. Then the poor recipient of popular favor is interested only in this past truth, plus himself and his connection with it. Patients' lives are sometimes mere pawns in the game for success. But in the vast vajority of cases, as we know, the presidents and LL.D.'s secure the coveted honor after long and careful "still hunts" for it, and the secret plotter unconsciously kills the only thing that makes the reward of any value, *i. e.* honor of self and the spontaneous honor given by others.

Dangers of Eyestrain

The sooner the scoffer is silenced the better, and the sooner the role of eyestrain in civilization is recognized the better for the nation, and the greater its progress. How slow, how amazingly stupid we have all been in the recognizing, is shown by the history of the finding of the pathogenicity of astigmatism. Pick up the programmes of the highest official ophthalmic societies and notice how the whole subject of eyestrain is almost utterly ignored. In the great national and international medical societies it is usually not even mentioned. In our best and latest text-books on general medicine the subject is not recognized, and the conditions which make the diagnosis and cure of these ocular and reflex dis-

eases are not put in practice. The average optician knows nothing about his true business, and the average physician does not care to see to it that he shall know about it. Patients from 40 to 55 years of age are refracted without a mydriatic, or worse-refracted with it, in half the clinics of the world, and the best national medical journal says that anybody can test such eyes with any ophthalmometer. It is precisely the weakening eye during the establishment of presbyopia that needs the most accurate refraction, because it is then that compensation by means of the elasticity of the lens is becoming progressively less and less. There are a hundred neglected requirements of accuracy that condition success. Without the least doubt, and weighing well what I say, I am sure that no discovery of modern medicine, except vaccination and the germ theory of disease, is of so great importance as this of eyestrain. Directly and indirectly this functional disease is the cause of more suffering than all the organic diseases combined.

It is a curious fact, closely inquired into, the knowledge of the relief of the disorders of eyestrain has largely come from the lay world and from patients themselves. But not, as the *Lancet* contends with justice, not from the opticians. While the professional world has been ignoring the facts, publishing its text-books on gastric and nervous diseases, etc., patients have been finding out that their ills are curable by proper spectacles. The few general practitioners and nerve specialists who much longer ignore the fact will find themselves stranded by the superior diagnostic skill of the non-medical. To encourage a greater revolt of the lay world into anti-medicalism is neither good professionalism nor sound policy. We have need to walk heedfully in this dangerous road! For the unexaggerated and brutal fact remains that at least 25 per cent. of modern civilized people are to-day suffering from the ocular and systemic effects of eyestrain. Most all of the headache in the world, and of sick headache, is absolutely due to that cause. A very large part of the neurasthenia and of the hysteria also springs from it, and of "biliousness," anorexia, "nervousness," etc., it is one of the most active of all causes. Every one of a hundred different lethal and organic diseases, which finds foothold through the vague but awfully real fact called denutrition, may and frequently does find that foothold through the eyestrain that almost always lessens vitality and begets denutrition. We are making a wise, a splendid crusade against tuberculosis, but the ground in which the tubercle bacillus finds place and food is one prepared by general denutrition, and of all the modern producers of a general lowering of vitality none is more frequent and persistent than eyestrain.

Diseases that Accompany Eyestrain

Because of the value of the eye to the organism and life, the results of morbid ocular function cannot be borne by the eye itself. So nature has been forced to shunt these results elsewhere, and to obviate ocular injury at the expense of other organs. "Nervousness," whether hyperesthetic or hypoesthetic, is the almost constant symptom of all eyestrain sufferers. Chorea, petit mal, insomnia, are frequent consequences. Being the creator of the intellect and the instrument as well of all mental activity, the mind and disposition are speedily and frequently morbidized by ocular malfunction. I really believe that eyestrain is one of the greatest of all causes of "domestic infelicity." If a woman becomes a scold, a gadabout, or everlastingly ailing, the probability is, of course, that hers is

another case of the very common disease called "new woman," but it may also be one of eyestrain in the "old woman." Even the noble animal, man, may display "incompatibility of temper," go to the saloon or club evenings, or drink too much, from the same reason. It will some time be shown that the abuse of coffee-drinking and tea-tipping is not seldom due to the attempt to whip up a tired or irritated nervous system, and a rebellious digestive system, hurt by the inhibitions and worries of eyestrain. Almost every eyestrain sufferer complains of sleeplessness, and that deadly trouble is at the bottom of a deal of woe in the world. I am sure that the tobacco dealers and trusts should combine against all opticians and oculists, for smoking is frequently encouraged by the desire to allay the cerebral irritation of eyestrain. It is striking that in the progress of civilization the consumption of tobacco and of coffee goes on rapidly increasing, and that those peoples which use the most of one are also the greatest users of the other. The connection is more than accidental, and the cause is not entirely dissociated with the great increase of nervousness, headache, biliousness, etc., among the hand-workers, the readers, the students, etc., of the more civilized nations.

Eyestrain, Drink and Crime

But one of the most frightful facts of our modern life is the growth of the drink habit. A competent authority has calculated that the people of the United States spent last year \$1,172,565,235 for alcoholic drinks. If I should guess that one-tenth or one-thousandth of this worse than waste was caused by an unconscious attempt to undo the evil effects of eyestrain on the nervous system and digestive organs, I would be smiled at as a man over-excited in advertising his hobby. Yet I honestly believe that one-tenth would be a low estimate. In the Bulletin of Iowa Institution for April, 1903, Dr. Applegate finds that of 150 inebriates examined, 63 had serious ocular lesions, muscular, optical or nervous.

As to the production of crime and of criminals there is luckily an important bit of testimony. A large, an amazingly large, number of the young criminals of the State Reformatory at Elmira, N. Y., have such enormous defects of the eyes that as children and youths they could not possibly study, and could not even do handwork without danger to themselves, without botching it, or without such injury to the nervous system as would make truancy and a life of vagabondage inevitable. Eyestrain is a great teacher of crime. Nothing can be more certain than that De Quincey, Darwin and Parkman had intolerable eyestrain, and that as schoolboys they were driven to truancy against every inborn taste and external influence. Their high moral natures kept them morally straight at an expense of suffering that was most tragical. Look out for the eyes of the non-studious school-boy!

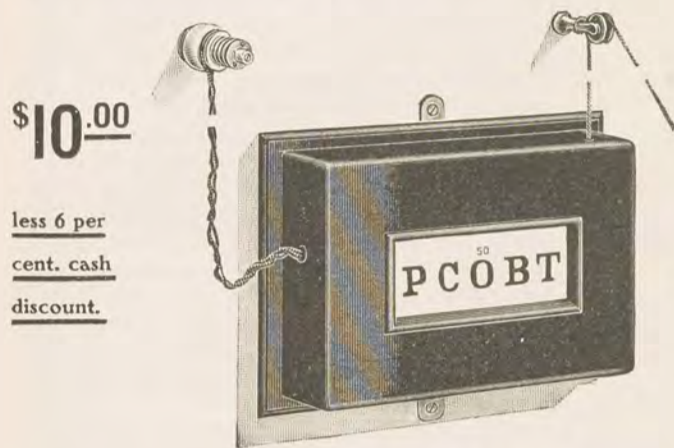
Very nearly 100 per cent. of epileptics have some considerable eyestrain, and of these about 50 per cent. have that otherwise rare and most unbearable variety, unsymmetric astigmatism and anisometropia. A number of cases of cure of epilepsy have been made by competent oculists, but it is probable that even when caused by eyestrain the large majority of patients with the established disease cannot be cured by glasses, because of the deep injury that has been done the nervous system. The same may be said of chorea. Prevention is the great word in medicine, and especially in nervous and mental diseases. The human brain is fundamentally a great storage battery, capable

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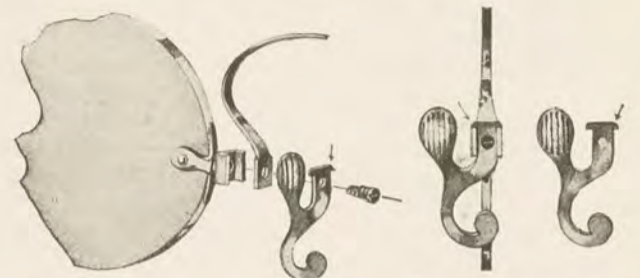
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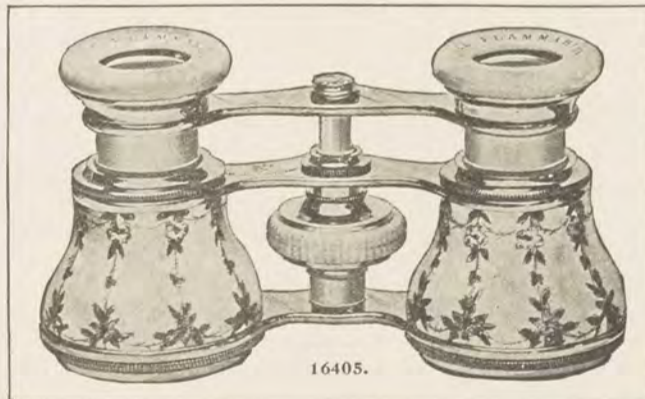
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Eyestrain and Civilization

(Continued from page 1989)

of secreting and then releasing great reserves of force in any way at the direction of the will and circumstance. Epilepsy and chorea and nervousness are the useless, unmotivated and morbid releases of these stored batteries of nerve force. To meet the exigencies of life the storage must continue. The disease is the pathologic release. The cure is preventing the overstorage and the weakening of the sluice-gates, which allows the epileptic, choreic and nervous drowning of the lower valleys with the disastrous flood.

Eyestrain and Insanity

A similar line of reasoning and observance of facts will finally reveal the ocular origin of a portion of the insanity of the world. The eye, again to be noted, is at once the creator, influencer and instrument of mentality. Intellectual action cannot be spoken of or described except in optical terms, images, or representatives of these. A morbidly functioning pair of eyes will almost certainly, therefore, render the dependent intellect morbid. If superposed on a predisposed neurotic or unstable cerebral mechanism, they will almost infallibly end in "queering" or unbalancing the psychic or neural equipoise that constitutes sanity. Here, again, cure will consist largely in prevention. The greater the number of school hours demanded by a nation of the children, the greater is the number of suicides and of child suicides. And especially where, as in Saxony, the correction by glasses of the small optical errors, upon which the chief troubles of eyestrain depend, is scorned.

The reason of the fact that the organism itself must be wrecked rather than the organ of vision, lies in this passion for accuracy of which I have spoken, concerning its physiologic aspect. The longer an organ has been in evolution, the more fundamental its function for the safety of the organism, the more imperiously it persists in struggle for existence and in normality of action. The autogeny repeats the phylogeny. This failure in accuracy of curvature of the cornea by so much as $\frac{1}{300}$ of an inch means the contradiction of the history of the race, means the unsafety every hour and minute of the day, of the individual; means the inheritance of the abnormality and ruin of future organisms. Biology and the preservation of the race hang for perpetuity upon the extinction of that $\frac{1}{300}$ of an inch. Take an instance in organic pathology, as more striking than the functional pathology which the pathologic pathologist affects to scorn. He cares nothing for the astigmatism which is a most profound concern of the god of biology; but he must recognize that a life of morbid function, never for an instant physiologic, usually and hopelessly renders other organs than the eye irreparably morbid, hopelessly incurable. Tie an arm up and it is soon paralyzed and withered. Stop speech for 20 years and the vocal bands renounce their function. But an eye will wait for 50 years for an astigmatic lens, and in an instant it is functioning normally. And for the same 50 years an eye that has never seen a thing, will wait for the removal of the cataract, when in a moment its function is perfect, far more perfect than the mind that still must learn how to judge of what the new-made eye tells it. This everlasting waiting for relief, this preservation of the possibility of normal action, this utter refusal to be turned from its right and healthy activity is absolutely exceptional in the eye, and is most amazing.

Eyestrain in the Schools

This brings me to the mention of the role of eyestrain in our schools. Dr. Johnston, of Washington, D.C., enumerates a very large number of cases of illness and disease, and of physical and mental injury, and in particular to the effect of school life on the eyesight, the frequency of headache and resulting sleeplessness, affecting in some instances from 38 per cent. to 48 per cent. of the children, and he instances the experiences of the Cleveland Public High School, where 25 per cent. of the girls and 18 per cent. of the boys had been compelled to withdraw in one year for various reasons, mostly on account of bad health. It is an absurdly low estimate to place the proportion of the 17,000,000 of American school children, students, etc., whose characters and health are being injured or positively ruined by eyestrain at 10 per cent. Myopia, as all know, increases with each added year of school study—and myopia usually means the eyeball stretching from lack of proper glasses. The "nervous," "backward," "stupid," and unhealthy pupil is usually so from eyestrain. The State has no right to demand that every child should attend school without also stipulating that its eyes shall be made capable of study.* Glance at your arrangements in eye clinics for refraction; this most difficult and skilled of medical work is left to students, and in comparison with operations and inflammatory diseases and ophthalmoscopy, is held to be of so little importance that instruments, lights, etc., are neglected and good results made impossible. And yet eyestrain creates the greater part of the local diseases of the eye. Of course, such refraction cannot have any effect upon systemic and cerebral reflexes except to increase them. No refraction at all is better than inaccurate refraction. The endowment of refraction schools is as necessary as that for any other branch of medical study.

If one looks out over history there is seen to be no condition of human life wherein ametropia did not play a great role, and always one of evil. Eyestrain is the greatest cause of inflammatory diseases of the eye itself, including cataract. The only one of all the great ocular troubles it does not cause is presbyopia—the failure in sharp near vision that comes on at about 40 or 45 years of age, and is completed at about 60. This failure, parenthetically noted, is one of a dozen striking proofs of the tremendous difficulty encountered by the biologic architect in making the eyes. The nourishment of the transparent lens without red blood-corpuscles and nerves is such an almost impossible feat that in a large proportion of cases, if ametropia heightens the difficulty, it is only possible to maintain transparency for the first fifty years of life. But whether or not complicating eyestrain adds to the difficulty, the elasticity of the lens begins to fail at 45.

Genius and Eyestrain

In the creation of the alphabet, millions of bad faulty eyes must have brought tragedies into their owners' lives. In battle and chase, victory and life were often on the side of the perfect seers, and defeat and death on that of the imperfect eyed. A myriad mysteries of history could undoubtedly be cleared up if we but knew all the influences direct and indirect about the defect of the chief of the senses.

Pascal, I think it was, said that man's troubles arise from his inability to sit still in a room. He

* Among a thousand good and blessed charities, among all selfish and wasteful ones, among others that harm instead of help, and that increase instead of lessen the evil, there has never been found one, as much needed as any of the best, which should help the poor to secure proper spectacles. I know of no charity, except that for crippled children, which commands our sympathy more acutely.

meant that lack of reflection and planning plunged men and nations into ill-judged activities. A correlated truth is implicit in the saying, for when one sits still much he or she does not reflect so much, but soon goes to doing something—reads, writes, makes something with the hands, etc. The musician, Wagner, expressed the same thought when he spoke of the "damnable organ of sitting still," and to none did this "organ" bring more suffering than to him. The doing something while sitting means eyestrain in at least 25 per cent. of the doers. Eyestrain means irritation and suffering, only relieved by doing something outside, as all eyestrain sufferers have learned. Hence the frightful avidity in vast numbers of people for war, sports, athletics and wasted activities of a thousand kinds.

The great philosophers, writers, historians, artists, these are the most valuable assets of a nation. How they are treated are the most important of the financial and governmental matters of that people. It is politically, socially and personally due that after-generations shall hold up to view the ancestral carelessness and errors and prevent similar ones from going on. Responsibility for the care of genius is the most solemn responsibility in the world. And yet, "Genius go hang!" is the judgment of the past and still continues to be the judgment of the present. The ancient criminal idiocy is not yet dead of supposing that the physical and emotional sufferings of men of genius were the cause of their genius, and that we should make all such men suffer the most possible in order that the long-eared aftercomers may enjoy the results of their work. It is a diabolic theory, but the long-eared both consciously and unintentionally bring it about that way.

But it is not only and not chiefly its geniuses that concern medicine and a nation, when we consider the total effect of this factor. Civilization has tremendously and suddenly increased the eyestrain by a thousand occupations, which demand "near-work" with the eyes. Printing, schools, and city life, give the matter an entirely new aspect. Sewing women, artisans, artists, machinists, musicians, clerks, typewriters, engineers, pupils, all the professional and business classes—these are the workers, spurred also to a continuousness of labor, such as has never been demanded, upon whom the obligation rests. The nation and the national medical profession that forgets or ignores this, overlooks a highly important element of progress. And this is one that is all the more effective because it conditions the peculiar means whereby modern civilization advances.

Why it was that some stupid and obstinate old architect should have scorned a splendid piece of quarried rock sent to him by his workmen, is one of the most incomprehensible things of history. But better minds and eyes finally came and it was said, as it may now be said, "The stone which the builders refused is become the headstone of the corner."

Praise for Our Optical Department

ED. KEYSTONE:—I wish to express my appreciation of THE KEYSTONE's report of the work of the Minnesota State Optical Association, including the space given to its newly-elected president. The Optical Department of your paper is of great interest, and just now I am pleased to notice that we are to have a series of articles by Dr. Swan M. Burnett, whose work on astigmatism has been so helpful to students of optometry. With best wishes for THE KEYSTONE,

Sincerely yours,

Lake City, Minn.

J. M. CHALMERS.

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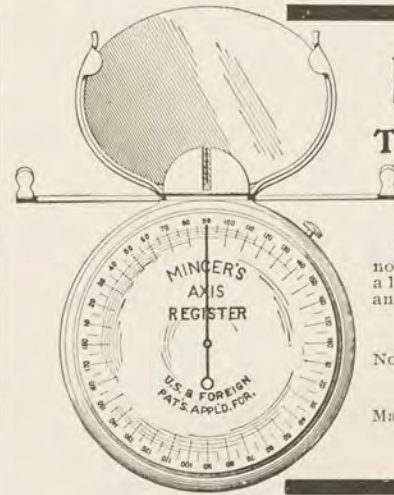
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The Choice of a Camera and Lens

IF there is one request that comes to us more frequently than another, says the *American Amateur Photographer*, it is for advice as to the choice of a camera and lens; and although we have time and again said all that we considered necessary on the subject, the requests continue to come. We therefore once more return to the subject with the intention of being able in future to refer all such questions to this article.

Choice of a Lens

The lens naturally comes first, as although the catch-word of an eminent firm, "It's all in the lens," should be taken with considerable limitation, there are certain of its features that help at least to make or mar pictorial work. And its first and most important is its focal length in relation to the size of plate it is intended to cover. In this connection lenses are divided into two classes, ordinary and wide-angle lenses, and of the latter we have at present little to say, except that they should never be used when the business can be done with one of ordinary or narrow angle.

Opinions vary as to what is or is not a wide angle, but we are inclined to hold that when any lens is made to cover a plate, the diagonal of which is greater than its focal length, it is being used as a wide-angle lens. Wide-angle lenses, properly so-called, differ in their construction from lenses of ordinary angle; but most modern lenses, and all the anastigmat family cover, and cover perfectly plates much larger than they should be used on for pictorial purposes; so that, as a rule, modern lenses should be used only on plates one size smaller than that for which they are listed, by those wanting their pictorial work to look its best. And there is a good reason for it. Pictorial photographs taken with lenses shorter than the diagonal of the plate, and even those taken with lenses not longer in a less degree, show a perspective that appears altogether wrong, not, as is generally supposed, because of a fault in the lens, but because to get in all that is desired the photographer has to go too near the object, to take a too close point of view; a point so near that distant mountains look like mole hills, while near objects are fearfully exaggerated.

Dimensions of the Lens

For pictorial purposes, then, the lens must not be shorter than the diagonal of the plate and once and a half the length of its longest way will generally give more desirable results; and that applies equally to all forms and qualities of lenses. The next question is as to the kind of lens, single, double, or the more perfect, from an optical point of view, anastigmat. And the answer depends on two things: first, the condition of the purse, or the willingness to pay more than, from a pictorial point of view, is necessary; and, secondly, the kind of work that is proposed to be done. Where "money is no object," and the photographer has pleasure in the possession of perfect things, we advise getting one or other of the anastigmats, just which is beyond our province in this article. It will do all that any other lens will do and very much more than even the best of the older varieties of lenses; and, better still, especially in this time of craze for rapidity, all of them are quicker and some of them very much quicker than any of the older forms.

Where, however, the purse is light or the photographer does not care to spend more than is

actually necessary, he may do quite as well with a lens costing very much less, provided it be suited to the kind of work he intends to do. If it is landscape pure and simple and the photographer does not care for rapidity; a single lens costing only a tithe of an anastigmat of the same focal length will do the work in every respect as well as the most expensive. But the single lens has its limitations and its disadvantages. Its working aperture is rarely greater than f-16, and therefore it is, as times go, slow, four times slower than the doublet at f-8, that in its turn being four times slower than some of the anastigmats. Then, its lines, both vertical and horizontal, are bent from the center with the stop in front and towards it with them behind. The bending or curvature is not much excepting towards the edges, but sufficient to show in an architectural subject.

Doublet and Anastigmat

Next in order is the doublet, known under various names as rectilinear, symmetrical, rectigraphic, etc., all having very much the same qualities and all working at or about f-8, costing four or five times as much as the single lens, and, as the names imply, giving straight lines, the back element correcting the curving of the front. Until the introduction of the anastigmats this was the best all-round lens, and was considered suitable for all kinds of work; and even now, for pictorial purposes unless where extreme rapidity is required, quite equal to the best anastigmat in all essentials. While four times slower than some of the anastigmats, it is fast enough for most purposes with a rapid plate and in good light, and therefore may be said to be the pictorial photographer's mainstay.

Where, however, for scientific work, copying, or other purposes perfect definition to the extreme edges and flatness of field are required, a lens of the anastigmat type must be secured, and while they have all certain qualities in common and are all as near perfection as may be, they vary in certain other qualities to an extent that makes selection with a view to the particular work on hand desirable. While doing everything that can be done by either the single lens or the doublet, they will do much that neither of them can do; and the pleasure derived from the possession of that which is as near perfection as it may be, is, to those who can afford it, a sufficient inducement to invest in the anastigmat.

As for the camera, very little need be said. The essentials are that it shall be light-tight, have a draw, that is a length of bellows, to admit of the focusing of near objects, and, although not absolutely essential, a swing back. All else is simply a matter of taste and a desire for convenience; one having these essentials and costing, say, five dollars, will, so far as pictorial photography is concerned, give in every respect as good pictures as one costing fifty.

Purchasing the Complete Camera

But there is fashion in photographic apparatus as well as in everything else. While confessing to a preference for the older method by which cameras and lenses were selected separately, more often than not from different sources, we know that would-be photographers will generally follow the present fashion of purchasing the camera already fitted with a lens. The prices of lenses increases with the increase in their focal length; one of 6¼ inch costing, say, \$40, while one only three inches longer costs \$55; and as the optician and those who deal in cameras already fitted with lenses care more for covering power than apparently perspec-

tive, many, if not most of the lenses in such cameras are of too short focus. We have said enough, however, to enable any one to know what he should or should not select.

While on this subject we may answer a question that has often been put, but of which we have generally fought shy, not caring to say what might even appear as recommending any particular maker's articles in this column. The question takes the form of what particular camera and lens we generally employ. Our favorite camera, which has been in more or less general use for over thirty years, is of the old-fashioned folding form, square and with square bellows, 7 x 5, with a draw of over 15 inches. It has a rising and horizontal sliding front and double swing back; with a movable partition and spare front board for stereoscopic work. The lens is a plastigmat of 7¼ inches equivalent focus, the front and back elements 13 inches each. The lens is fitted into a volute shutter with the pointer set to "T" most of the time. In the center of the ground glass is a penciled square 5 x 4 inches, and as most of our work for several years has been the making of small negatives for enlargement, we generally use the combination, the complete plastigmat, and always include the whole of the subject desired within the limits of the 4 x 5 square. For 7 x 5 photographs we invariably employ only the back lens, giving an angle of 30 degrees, about the very thing for the highest possible pictorial possibilities, and the most helpful in securing compositions in the beauty of simplicity.

With such an outfit the photographer is fit for anything that comes in his way, and notwithstanding what we have said as to the suitability of the lower order of lenses for pictorial work, no one can look on the image on the ground glass made by the plastigmat, and indeed with the anastigmats generally, without feeling that where perfect definition is an object, the anastigmat is a *sine qua non*.

Move!

We are on the main line, with a crowded track;
We've got to go forward; we can't go back
And run the risk of colliding;
We must make schedule, not now and again,
But always, forever and ever, amen!
Or else switch off on a siding,
If ever we loaf, like a car in the yard,
Doesn't somebody bump us and bump us hard,
I wonder?

You've succeeded in building a pretty fair trade,
But can you sit down in the grateful shade
And kill time cutting up capers?
Or must you hustle and scheme and sweat,
Though the shine be fine or the weather be wet,
And keep your page in the papers?
If ever you fail to keep pulling the strings,
Aren't some of your rivals around doing things,
I wonder?

You're a first-class salesman; you know your line;
Your house is good and your goods are fine,
So you fill your book with orders;
But can you get quit of the ball and chain,
Or are you in jail on a railroad train,
With bluecoated men for warders?
If you sent your samples and cut out the trip,
Wouldn't somebody else be a-lugging your grip,
I wonder?

You are starred on the bills and are chummy with fame;
The man on the corner could tell you your name
At three o'clock in the morning;
But can you depend on the mind of the mob?
Can you tell your press agent to look for a job,
Or give your manager warning?
If you lay down to sleep with your laurels beneath,
Wouldn't somebody else soon be wearing your wreath,
I wonder?

O, I'm willing to work, but I wish I could lag,
Not feeling as if I were "it" for tag,
Or last in follow-my-leader;
There is only one spot, where I haven't a doubt
Nobody will try to be crowding me out,
And that is under the cedar.
And even in that place, will Gabriel's trump
Come nagging along and be making me jump,
I wonder?

—Saturday Evening Post.



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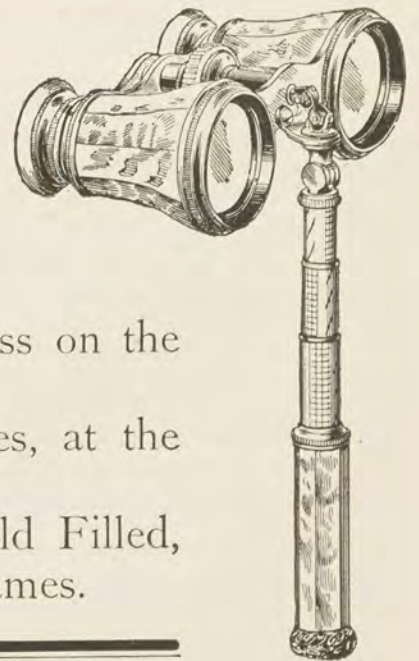
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Optical Organizations

NATIONAL

American Association of Opticians (1898)
JOHN C. EBERHARDT, President, Dayton, Ohio.
E. L. JONES, Secretary, Sandusky, Ohio.
Meets annually. Next meeting to be held at Milwaukee, in 1904.

Worshipful Company of Spectacle Makers (England) (1829)

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)
S. COWAN, F. B. O. A., President.
J. H. SUTCLIFFE, F. R. S. L., F. B. O. A., Secretary, 17 Shaftesbury Avenue, London, W., England.

Canadian Association of Opticians (1896)
SAMUEL S. GRANT, President, Montreal.
ALEX. MOFFAT, Secretary and Treasurer, Brantford.

Scottish Optical Association (1903)
JAMES CHALMERS, President, Springburn, Glasgow.
JOHN LAMONT, Secretary, 514 Victoria Road, Glasgow.

INTERSTATE

New England Association of Opticians (1894)
CLARENCE S. HART, President, Lynn, Mass.
G. A. BARRON, Secretary, 3 Winter St., Boston, Mass.
Meets third Tuesday of each month, except July and August.

Northwestern Optical Association (1901)
J. W. GRAINGER, President, Rochester, Minn.
J. W. ANDERSON, Secretary, Rochester, Minn.
Annual meeting in December, 1903, at Minneapolis.

STATE

Pennsylvania Optical Society (1895)
A. MARTIN, President, Philadelphia, Pa.
C. A. LONGSTRETH, Secretary, 224 Market St., Phila., Pa.

New York State Optical Society (1896)
B. B. CLARK, President, Rochester, N. Y.
P. A. DILWORTH, Secretary, 1032 Third Ave., New York City.

Indiana Optical Society (1896)
C. M. JENKINS, President, Richmond, Ind.
G. S. GRUBB, Secretary, Marion, Ind.
Annual Meeting, January 12 and 13, 1904, at Indianapolis.

Michigan Optical Society (1896)
E. W. E. PATERSON, President, Grand Rapids, Mich.
E. EIMER, Secretary and Treasurer, 105 Western Avenue, Muskegon, Mich.

Iowa Optical Society (1897)
W. B. ANKENY, President, Corning, Iowa.
G. E. BOYCE, Secretary, 202 Syndicate Block, Waterloo, Iowa.

Illinois Optical Society (1898)
W. C. SOMMER, President, Chicago, Ill.
LOREN L. BOYLE, Secretary, 103 State Street, Chicago, Ill.

California State Association of Opticians (1899)
L. KUTTNER, President, San Francisco, Cal.
ALBERT J. SCHOHAY, Sec'y, 308 Hays St., San Francisco, Cal.

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)
GEO. H. BROWN, President, Manchester, N. H.
W. E. BURPEE, Secretary, Manchester, N. H.
Meets third Wednesday of January, March, May, September and November.

Wisconsin State Optical Society (1900)
ALVA SNIDER, President, Beloit, Wis.
I. M. ADDLEMAN, Secretary, Tomah, Wis.

North Carolina Optical Society (1900)
F. W. MAHLER, President, Raleigh, N. C.
SAMUEL RAPPORT, Secretary, Durham, N. C.

Minnesota Optical Association (1900)
J. M. CHALMERS, President, Lake City, Minn.
C. A. SNELL, Sec'y, 608 Nicollet Ave., Minneapolis, Minn.

Maine Association of Opticians (1901)
H. E. MURDOCK, President, Portland, Maine.
ROBERT B. SWIFT, Secretary, Portland, Maine.

Tennessee Optical Society (1901)

A. H. WENNING, President, Nashville, Tenn.
GEO. R. CALHOUN, Secretary, Union and Summer Sts., Nashville, Tenn.

Colorado Optical Association (1901)

R. B. FINCH, President, Denver, Colo.
R. H. BIEGEL, Secretary, 636 Sixteenth St., Denver, Colo.
MISS E. H. CHAPMAN, Cor. Sec'y., 1655 Welton St., Denver, Colo.

Kansas Association of Opticians (1901)

THOMAS GOWENLOCK, President, Clay Center, Kans.
F. W. REED, Secretary and Treasurer, Wichita, Kans.

Missouri Association of Opticians (1901)

LEON BAER, President, Kansas City.
J. W. TALBOT, Secretary and Treasurer, Nevada, Mo.
Annual meeting, May, 1904.

Virginia State Optical Association (1902)

H. L. LANG, President, Staunton, Va.
J. W. BUCHANAN, Secretary, Petersburg, Va.

Ohio Optical Society (1902)

JOHN C. EBERHARDT, President, Dayton, Ohio.
EDWIN L. JONES, Secretary, Sandusky, Ohio.

Kentucky Optical Society (1902)

O. R. KING, President, Lexington, Ky.
J. M. IRMEN, Secretary, 336 Fourth Ave., Louisville, Ky.

North Dakota Optical Association (1903)

E. P. SUNDBERG, President, Fargo, N. Dak.
W. R. BLAKELY, Secretary, Grafton, N. Dak.
Next meeting, January, 1904, at Fargo.

Delaware Optical Society (1903)

R. S. STEPHENS, President, Dover, Del.
ROSCOE C. TAYLOR, Sec'y., 28 Loocherman Street, Dover, Del.
Meets monthly.

New Jersey Optical Society (1903)

F. C. LEAMING, President, Trenton, N. J.
J. J. HARTMAN, Secretary, 16 Howard St., Newark, N. J.

South Dakota Optical Association (1903)

WILLIAM H. FRITZ, President, Sioux Falls, S. Dak.
D. G. GALLET, Secretary, Aberdeen, S. Dak.

Texas Optical Association (1903)

W. W. CHAMBERLAIN, President, Houston, Texas.
F. M. TAYLOR, Secretary, 328 Live Oak St., Dallas, Texas.

Rhode Island Society of Optometry (1903)

WALTER BLAKE, President, Providence, R. I.
FREDERICK LEWIS BLAIR, Secretary, 90 Broad 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.

LOCAL

Central New York Optical Society (1895)

WM. D. OERTEL, President, Syracuse, N. Y.
JAMES HOLDEN, Secretary, Syracuse, N. Y.
Meets second Wednesday of January, March, May, July, September and November.

New York City Optical Society (1897)

F. B. MARCHANT, President.
E. LE ROY RYER, Rec. Sec., 21 Maiden Lane, New York.
Meets second Wednesday of each month, except July and August, at College of the City of New York, 17 Lexington Avenue.

Rochester Optical Club (1897)

W. W. BISSELL, President, Rochester, N. Y.
HARRY M. BESTOR, Secretary, Rochester, N. Y.

Utica Optical Club (1901)

RICHARD PERLEN, President.
C. T. EVANS, Secretary, Utica, N. Y.

Chicago Optical Society (1902)

W. F. NEWCOMB, President, State and Adams Sts., Chicago, Ill.
O. J. HALBE, Secretary, 67 Wabash Avenue, Chicago, Ill.

Niagara District Optical Society (1902)

JONAS HOUSE, President, Welland, Ont.
F. G. DUNLOP, Secretary and Treasurer, St. Catharines, Ont.

Buffalo Optical Society (1903)

ERNEST V. SYRCHER, President.
ROGER F. WILLIAMS, Secretary, 455 Main Street, Buffalo, N. Y.

Seattle Optical Society (1903)

S. R. PECK, President.
LEANDER BUTT, Secretary and Treasurer, 715 First Ave., Seattle, Wash.

Los Angeles Association of Opticians (1903)

FRED. DETMERS, President.
F. LEE FULLER, Secretary, Los Angeles, Cal.

Extension of Optical Organization in 1903

ON the threshold of a new year THE KEYSTONE takes great pleasure in testifying to the satisfactory measure of progress made by the optical profession in 1903. A comparison of our list of State societies with the list of last year shows a substantial increase of six: North Dakota, New Jersey, South Dakota, Texas, Rhode Island and South Carolina. The 1902 list of local societies has been increased by three: Buffalo, Seattle and Los Angeles. These cities are sufficiently far apart to indicate the national character of the movement. The North Dakota society distinguished the first year of its existence by having a law regulating the practice of optometry in the State passed by the Legislature. The only other two States enjoying such legislation so far are Minnesota and California. It is somewhat disappointing that only a trio of States should have secured such legislation, but the increased number and activity of the organizations and the general educational advancement throughout the country, forbode early success in many other States.

We are pleased to note that the opticians continue to make optical education the object-in-chief of their organizations, and the subjects discussed, the papers read, the extemporary debates and general tone of the meetings indicate a progress that is as wonderful as it is admirable. It is also suggestive that the lecturers in many instances are eminent medical men, the fact happily indicating a better understanding between refractionist and oculist. Such, indeed, has been the educational advancement made by the opticians that wide-awake medical men are sounding a note of warning to their brethren. Dr. Gould, the eminent editor of *American Medicine*, and one of the most vitriolic opponents of the refracting optician, said in a recent speech before a medical society, reprinted on pages 1987-1991 of this issue: "In nearly every city of the land there are quiet, almost unknown refractionists who are making great practices, who are doing far more good to their fellow-men than the nationally and internationally famed presidents of medical societies. It pleases some of these great and famed ones to ignore those quiet men and to belittle their work, but the sin of doing so will some time become clear." These words from so eminent a source indicate a great revolution in the feelings of the medical men towards the optician. It was the wont of Dr. Gould and his fellow oculists to fling at them contempt instead of compliments, but the public are a shrewd jury, and even the doctors must recognize and respect their decision.

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The cost is a trifle more expensive than the ordinary form of lens, but the advantages to be derived from their use will more than offset the increase in price.

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Letters from Opticians

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.

Titles: Can Their Use be Controlled?

ED. KEYSTONE:—The title "optometrist," suggested to define the practitioner of optometry, is being quite extensively discussed and will undoubtedly be found a logical and comprehensive name. The several State boards of optometry in their reports of examinations of applicants for license to practice as required by the law of these States, refer to the successful aspirants as "professional optometrists," nearly every technical article which has appeared in our journals the past few months, several of which are from the pens of physicians, repeatedly use this term, and those practitioners who have adopted it find that the general public easily adapt themselves to its use; whereas, the knowledge of its significance as discriminating between optics, a trade, and optometry, a science, proves educational, and it will be but a short time when this very element will naturally turn to the optometrist where their sight needs assistance.

The introduction of a name to define the practice of optometry had various objects in view; first, of course, to give individuality to the practitioner; secondly, to differentiate between the various branches of optics; thirdly, by the active dissemination of the definitions of the terms optometry and optometrist to not only acquaint the public with their significance, but to call attention in the most effective manner that such a science exists, and define its mission.

The question, however, which presented itself to those interested in this effort was, how can we prevent any one and every one, whether he be capable or otherwise, from using this title? Should it not be protected and controlled? This query is reaching the writer from many quarters now, and as it concerns so vital a point, deserves consideration. First comes the question, Can the use of a title be controlled? Experience has proven that it cannot, unless it defines a profession legalized by an act of legislature, and qualified by license issued by examining boards appointed for that purpose. Thus in the several States which have succeeded in obtaining the passage of optometry laws, it will from now on be an offence punishable by law for any one to use the title of optometrist who has not regularly obtained a license of the State examining board; in other words, the sole protection of the optometrist of the future lies in the enactment and enforcement of State laws. In order to obtain laws we must be able to define our profession properly, and to present a name which will designate the practitioners thereof. Beyond this, however, lies something vastly more important; for, to make State examining boards effective, we must provide them with a standard of qualification upon which to build their examinations, so that this license and the right to the use of the accompanying title may only be issued to such as are by virtue of specific knowledge entitled to them. So that the paramount issue with which optometry has to deal is education, and it is for this end that State and national organizations must work. Our optical publications have been of inestimable value to this cause, and every progressive student should be a regular subscriber to all of them. The information and inspiration he will

draw from their columns will have vastly more value than the small amount invested in the subscriptions.

One of the strongest evidences of progress is the enhanced interest being taken in State optical meetings. The programme of the New England Association for the winter gives the subjects for seven monthly meetings, with representative physicians as lecturers. This is a strong object lesson, which other State associations should profit by. Immediately after the holiday season these should arrange for meetings, at which, in addition to technical subjects, the matter of legislation, standard of qualification, affiliation with the American Association, etc., should be taken up. Every State should be represented at the Milwaukee meeting next year, for a strong and effective federation will be of the greatest value to optometry. It would be an excellent plan if the State societies could employ some capable instructor to edit monthly lesson sheets in optometry, anatomy and physiology, to be mailed to the membership and used in conjunction with essential text-books. In this way real work could be done and benefit derived; whereas, it would create organized interest and furnish material for interesting and profitable meetings at given intervals. Those who will take up the study of the correspondence course offered by the University of Chicago, will be richly repaid; for it will broaden the student and better fit him for his analytical work and prove an inspiration for more extended effort, and supply optometry with those votaries who will contribute to the evolution of the science which is destined to rank with the professions and must ultimately be accorded an honored place among the sciences.

Every optometrist must realize that the efforts being made by the American Association of Opticians are of interest and value to his future success, and he should therefore by his membership and participation in these efforts to contribute to the cause to which this association is pledged, identify yourself, if you have not already done so, with the American as well as your own State association, take an active part in its affairs, and the knowledge of having contributed to the history of optometry will be the source of much satisfaction, aside from the actual pleasure that will be experienced.

Communicate at once with secretary, Ed. L. Jones, Sandusky, Ohio, and enter your name on the membership roll.

Yours truly,
JOHN C. EBERHARDT.

Dayton, Ohio.

Color Perception of Railroad Men

ED. KEYSTONE:—The following may be of interest: Dr. John Thompson, examiner for the Queensland Government Railways, in a lecture delivered before the Royal Society in this city on September 19th, informed us that of the last 800 men tested for color perception, eighteen were found to be color blind, being 2.25 per cent. I lately read that Dr. Stilling reckoned that the percentage of Daltonists in Western Europe was 5 per cent., so we compare very favorably. How can the idea of scientists that centuries ago the human eye did not recognize as many colors as it does now, be reconciled with Dr. Swan Burnett's finding, recently published in an optical paper, that the percentage of color blind of 3000 African negroes (tested by him) was 1.75? If you could publish an article some time, simplifying the accepted theory of the reception of color, I think it

would be appreciated by many of us who are not far advanced in this subject. Many opticians understand the composition of light and color vibrations, but would like the act continued from the time the vibrations touch the retina to that in which the man sees the beauties of coloring.

Yours truly,
C. F. FRASER.

Brisbane, Queensland.

[We will endeavor, when space permits, to comply with our correspondent's suggestion. In the meantime it may interest Mr. Fraser to know that one of the most lucid explanations of color perception will be found in the chapter, "The Color Sense," in Tscherning's "Physiologic Optics," translated by Carl Weiland, M. D., and published by THE KEYSTONE.—ED.]

Amber-Colored Glasses

ED. KEYSTONE:—I am interested in amber-colored glasses on page 1563 of the October issue. Can you tell me where I can get this exact shade, as I have written for samples from firms in New York, Boston, Philadelphia, and all are very deep colored.

Yours truly,
FREDERICK GIFFORD.

Pittsfield, Mass.

[The Meyrowitz Mfg. Co., 104 East Twenty-third Street, New York, can furnish yellow glasses (imported glass), and, having succeeded in getting light tints is preparing a color chart, Nos. 1 to 4. Dr. H. H. Seabrook writes: "The artillery, or shooting glasses, which I have seen, had a clear center and ground glass periphery. Many detached reports of the use of the yellow glasses have come to me, but therapeutically, Dr. Pooley's case of an albino patient, who himself found his own proper color, and the use of amber-tinted glasses following cataract operation in a couple of cases some years ago to replace the senile amber yellow lens, seem to about cover the ground."—ED.]

The Proper Name for the Optical Profession

ED. KEYSTONE:—I have observed with interest the ways and methods used by persons connected with the optical business in trying to give a name to the professional optician. To me it seems all wrong; the old name is good enough, and the public know what the name signifies. If we give ourselves a new name as suggested by a few of the members of optical societies, "Optometrist," or something else, it will take years to educate the public up to a point where they will know just what we profess to be, whether we are a new bug just landed in this country, or what kind of looking thing we are.

Yes, optician and optics are names good enough for any of us. To be sure, the name may have been trailing in the dust, but it can be raised on high, cleaned, and made to shine brighter than ever before. How? By legislation, and, above all, by education. By legislation as an incentive to all opticians to study that they may be able to pass such examinations as the State board may think advisable. The future optician will have to be up to a certain standard of education in optics to pass those examinations; this means education.

It is not necessary to antagonize or clash with the oculist or doctor of medicine in any way, nor do we desire it, but there are certain rights that belong to the optician, only when he has reached a standard of knowledge enabling him to obtain a degree, whatever it may be called at a future day.

Now, just a few words in regard to a title or prefix, and whatever I may say I do not wish it to be understood that I am not willing to do anything

(Continued on page 1999)

1998

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Letters from Opticians

(Continued from page 1997)

the majority of the opticians may decide right-fully to do, for the upbuilding of the profession. This question has been uppermost in my mind for many years, and I wish to do what seems for the best interest of all concerned, but I do wish the opticians of the country would do considerable thinking before they finally decide the question.

For my part my business has been conducted for nearly twelve years as a profession; I have my suite of three rooms, work altogether on the same lines and charge for examinations the same fee as an oculist, and it has paid me well; I am progressive yet conservative, always having the advancement of the opticians at heart.

The above facts are given merely to show the opticians not acquainted with me what I am doing. Now what shall our title be? To me, O. D. (doctor of optics, or optometry) is good enough; possibly, doctor of ophthalmology can be added when we are proficient enough to obtain the degree, but not just yet, for we will have to study more to pass this examination. Medicine belongs to the doctor of medicine, and all diseases not due to refraction should be referred to him.

Why doctor of optics or optometry? For the simple reason that the prefix Doctor stands for a certain standard of education—a person well versed in his calling, and should not be used unless he is well worthy of the title. The title Doctor does not necessarily belong to the doctor of medicine any more than of divinity, laws, philosophy and many other branches of learning, but the prefix is supposed to show that the person using the title is proficient in a large degree to whatever branch he may profess to be a master. It may be that some of our optical colleges have sold the title cheaply, but that will right itself in time. These colleges have been a source of good, in that they have inspired the optician and awakened him to the fact that he must study, and he knows more to-day in regard to refraction and the construction of the eye than he did before these colleges came into existence.

Many of the physicians have taken exception to the use of the prefix Doctor, as used by some of the opticians, and they may be right to a certain extent, for they with other branches of learning have worked for many years to make the word doctor what it is, and may well be proud of the title. The physicians made the same objection to the use of this prefix by the dentists, until the dentist reached the proper standard of education, and many of us at the present day think it was right. To be sure, there are persons on both sides that are apt to overstep the line, yet all such questions will settle with time, and are nothing against the word "optician." We must study and fit ourselves that we may be found worthy of the title, or be satisfied to let it alone. It does not belong to us until we have shown to the world that we are worthy, and that can be determined only by the examination; neither does it belong solely to the doctor of medicine.

The better class of physicians and opticians, I think, will look at the question in about the same light as I have shown it. There may be a few narrow-minded physicians who, either from jealousy or some soreness, try to make trouble for the honest, conscientious optician; but all such differences will gradually settle for the best interests of all concerned. Don't cry down the oculist, he is all right in his place, and we should be, in ours.

In order to be proficient we must study and work, make ourselves indispensable to the public and establish a reputation which none can pull down.

A physician will not send you a patient until you have proven yourself and shown that you understand your business, any more than you would send a patient to a physician which you knew nothing of. Now, don't try to get up a new high-sounding name for the professional optician, a name which the public know nothing of, but work for a higher education and for legislation that will make for the advancement and protection of optics as a profession.

Truly yours,
Worcester, Mass. FRANK EDSON ADAMS.

Irish Optician's Views On Glaucoma

ED. KEYSTONE:—Last year you were pleased to insert a letter of mine on the subject of the treatment of glaucoma. You rightly expressed your estimate of the "wide gulf" separating my statement from your own scientific standpoint. I purposely avoid any pretense of that sort, but if you would weigh and consider the statements I am about to make and put them to a practical test, two results would follow, namely, they would soon get a scientific dress, and in practical application thousands would be saved from blindness.

I stated in my first letter that everything done to Dr. Javal's eyes amounted to direct attack on vital function. Let the following illustrate: Last month a lady called on me (as an optician) inquiring if I knew of a good Dublin oculist whom she might consult. She stated that she had already consulted two. The last had dilated one eye, its sight had quite gone and the other eye was now failing. She said that the oculist had confessed his inability to help her further. At the wrong side of that "wide gulf" I could but reason out rudely that this was a case of glaucoma. Now then, how to stimulate the failing organic nerve action. First, the acid bath to stimulate the entire porous action of the body. Second, persistent massage of brow and head so as to stimulate the nervous circulation. Third, moist heat, gently driven into lower part of back of head and neck one hour every night for some months with intervals of rest properly arranged. Fourth, massage of spine. Fifth, stimulate circulation in feet and limbs.

I have received the first letter from her after one month's treatment, from which I quote: "It has quite removed the dimness and cloud from the eye I consulted you about, and I do think the black spot which has been on the other eye for more than two years, is breaking up. I have been able to see large letters with it lately."

Is it not clear that these repeated instances prove that the principle I have put forward is worthy of consideration, i. e., the interchange of force? Moist heat, nerve force, is it not clear that, so rudely expressed, the treatment is scientific, and Dr. Javal's was not? Could you not try it? Not a foolish use of chemical reducers of nerve force, but an appeal to nature's magnificent law, and then the saving of unfortunate humanity from one of its saddest losses.

Yours truly,
Maryborough, Ireland. J. DUNCAN ROWE.

[Undoubtedly the eyes of the patient improved, and it is probable that the treatment of our esteemed correspondent contributed toward this improvement. But how does he know that it was a case of glaucoma? As long as the judgment is not based on objective symptoms the diagnosis has not been established.—ED.]

Pennsylvania State Optical Society

The Pennsylvania Optical Society held a quiz and smoker at 228 Market Street, Philadelphia, on Tuesday evening, November 10, 1903. Many questions had been sent in by the members for solution, and two and a half hours were pleasantly and profitably spent in discussing them, everyone present giving his ideas and experiences. Among the questions propounded were:

1. A customer, aged 48, has been wearing for many years over each eye, —.75 spherical combined with — 2 cyl. ax. 90°; his old frames, No. 716, eye 2 pupil distance 59 mm., were much too small, his pupil distance being 65 mm., but were very comfortable. We fit him with a new pair, with large lenses carefully centered to fit. He cannot wear these with any comfort. What is the reason, and what can we do to obtain satisfactory results?

2. A customer has been wearing on each eye —.50 spherical combined with +.50 cyl. ax. 90°. We substitute its equivalent —.50 cyl. ax. 180°, and he finds these uncomfortable. Why is this?

3. When the distant vision has been accurately corrected, why does it sometimes happen in bifocals that segments are ordered with different powers for the two eyes?

4. How long a time shall we guarantee lenses to suit, or in other words, how long shall we allow our customers to wear their lenses before we charge them for making a change in the power?

5. How would you distinguish a case of progressive myopia? Do you consider it best to correct myopia in full or only partially?

6. In a case where you find comparatively slight errors of refraction and muscular imbalance, i. e., exophoria 3° or 4° and R. hyperphoria 2°, would you correct both these muscular errors with prisms or only one? If only one, which would you consider it advisable to correct in a patient aged 20, with vision normal?

7. Which kind of muscular trouble do you consider the most difficult to overcome by the patient, and consequently which is the most important to correct?

8. In a given case, where you find esophoria of 8° and hyperphoria of 6°, in what position would you place the base of your prisms?

9. How high a degree of muscular imbalance can be corrected by prisms, and in what cases would you advise an operation?

10. Is orthophoria the correct term to use when the Maddox rod shows no exophoria and no esophoria, when at the same time the adduction and the abduction are not in the proper proportion?

Chicago Optical Society

A meeting of the Chicago Optical Society was held in the rooms of the Jewelers' Association on Thursday evening, November 5th. The attendance was large, and the chief feature of the proceedings was the instructive lecture by Dr. Earl J. Brown, the second of his series. C. H. Falch, P. H. Krentz and M. H. Cohen applied for membership, and their applications will be acted upon at the next regular meeting. The lecture by Dr. Brown on December 10th will be on "The Physiology of the Accommodation Compared with the Accommodation of the Lower Animals and Histology and Anatomy of the Retina and its Anomalies."

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Elementary Lesson on the Test Case and Its Contents

The test case is the best-known feature of the optician's outfit. The object of the test case is to enable the person who is examining the eyes, to make up any combination of lenses which may be needed to correct the visual defects of the patient. That is to say, no matter what lenses are needed to correct the error in the patient's vision, those lenses can be represented by a combination of test lenses taken from the test case. The lenses are mounted in rings with handles, in order to facilitate their being taken out of the case, and a trial frame is used which has rings or cells of the proper size to fit the test lenses so that any combination of lenses can be instantly placed in position before the eyes of the patient. This trial frame has various adjustments, by means of which it can be made to assume the proper position, no matter what the size of the patient's face.

The lenses in the trial case are of several different kinds, but the great distinction is that between the convex and the concave lenses. The case is so arranged that it has an equal number of concave and convex lenses of corresponding foci; that is, each convex lens has a corresponding concave lens of the same focus, and vice versa. It is customary to have all the lenses in pairs. We thus have two convex lenses and two concave lenses of the same focus. This is done so that in case of both eyes requiring the same focus lens, we will not be prevented from testing both of them at the same time.

The convex lenses are, for the sake of convenience, usually denominated plus (+), the concave lenses minus (-). These two "sections," as we may call them, plus and minus, are again divided into spherical and cylindrical lenses. That is, they may be + and - spherical lenses and + and - cylindrical lenses.

A spherical lens is one in which the surface forms a part of the surface of a sphere or globe. A convex spherical surface is a part of the outside surface of a sphere. A concave spherical surface is a part of the *inside* surface of a *hollow* sphere. The spherical surface, as will be readily seen, is curved equally in all directions.

A cylindrical lens is one in which the surface forms part of the surface of a cylinder. A convex cylindrical surface is a part of the outside surface of a cylinder. A concave cylindrical surface is a part of the *inside* surface of a *hollow* cylinder.

Now, a moment's reflection will show that on any cylindrical surface there must be a certain direction in which there is no curve. Take, for example, any cylindrical object—a stovepipe will answer—and lay a ruler against the surface of it. There will be one direction in which the edge of the ruler will touch the surface of the pipe throughout its length; in other words, *lengthwise* the surface of the cylinder or pipe has no curvature, but is perfectly flat or "plane." Now, the effect of a lens is dependent on the curvature of its surface. Hence, in a lens whose surface forms part of a cylinder, there will be no effect whatever in the direction in which the lens has no curvature; this direction is called the "axis" of the cylinder. On the other hand, the greatest effect of the lens will be manifested in the direction in which the curvature is the greatest—that is, at right angles to the "axis." It is evident, therefore, that if we have a lens in which the effect in two directions is so entirely different,

there must be some way of ascertaining the direction of the greatest and least effect—that is, we must be able to discover the direction of the axis. Accordingly we find upon the cylindrical lenses in our test case two small scratches on the edge at opposite sides. These mark the direction of the axis, or line of no effect. We also notice a number of lenses that are thicker on one side than on the other. These lenses have a plane surface on both sides. The effect which they produce is due to the angle at which the surfaces are inclined to each other. There are also a few lenses of colored glass and certain disks of black metal perforated in various ways. These are used in certain special cases, which we need not enumerate here.

Let us now recapitulate the contents of the case:

1.	2.	3.	4.
Convex.	Concave.		
Sphericals.	Cylinders.	Sphericals.	Cylinders.
		Prisms.	Disks.

In a future number we will go into this matter at greater length and endeavor to show something of the practical working of the lenses.

North Dakota Board of Optometry

At a meeting of the state board of optometry, held in Fargo on October 24th, ways and means for enabling those opticians in the State who failed to register as members of the State association in compliance with the law, to become members, were discussed. It was finally decided to hold an examination for those who failed to register at Fargo on November 24th. The board in doing this followed the advice of Attorney-General Frich, who in response to an inquiry from the secretary of the board replied in substance that any person who did not file his affidavit in proof of his residence in North Dakota and the fact of his being in the practice of optometry within six months of March 4, 1903, must, under the provisions of the law, submit to the examination. The attorney-general stated further that there were no exceptions to this rule and nothing in the law that required the secretary of the board to furnish blanks on which to make the affidavit required by section 6.

The board decided to comply strictly with the provisions of the law and to follow the advice of the attorney-general in the matter. This is causing a good deal of dissatisfaction on the part of the optometrists who failed to come within the time limit, but as far as the board is able to determine there is no way but to take the examination. One of the dissatisfied, in undertaking to advise his brother opticians, says: "The State board of optometry succeeded in a low, round-about way in barring about two-thirds of the opticians in the State engaged in the practice of optometry at the time of the passage of the optometry act, it seems for no other reason than that of lessening their own competition. Most opticians received no notice at all and some received misleading information from members of the board."

"The law states that six months after the passage of the act all opticians practicing in the State shall file an affidavit with the State board. Now the attorney-general holds that the passage of the act was the time when the governor approved the same and that the time shall be counted from the hour when he put his name to the bill. This opinion he in all probability holds alone and not only in the State but in the world. The dictionary explains the passage of a law as being the time from its introduction till its final acceptance by the legislative body.

"The legislature has only police power. The supreme court has handed down decisions in several States to the effect that no State or local laws can interfere or stop any man of trade or profession, or engaged in other pursuits from continuing to earn his living as he has done so long as there are no privilege or privileges connected with the business or occupation, said privilege to be granted by the State or community.

"There does not seem to be any privilege attached to the fact that a man has acquired a knowledge as an optician or as a physician, or as a farmer or anything else and engages in such pursuit for the purpose of earning a living for himself and his family.

"Supposing the legislature passed an act requiring a farmer to possess a certain amount of knowledge before he could engage in farming, and the governor appointed a State board of farmer examiners. This farmer's board would register themselves and probably notify a few of their friends. The rest, knowing nothing about the deal, would, after the time had expired, receive notice to quit farming or in other words starve to death with their families. This is identically the same as the optometry act is applied, and if the optometry act holds good they could by these means drive out every farmer in the State.

"There seems only one satisfactory way to deal with the State board of optometry, and that is to mandamus the board and the supreme court will order the board to issue the certificates or the law will be declared unconstitutional. Do not go up for examination on November 24th, as that in all probability is intended as a bait in order to disqualify a man on account of his knowledge being insufficient. This would be a weak defense and we do not want to give them anything of the kind."

It would be regrettable if any friction should develop to check the enthusiasm that now prevails in favor of optical legislation. No doubt a satisfactory solution will be found for the North Dakota situation.

Washington State Optical Society

The fourth annual meeting of the Washington State Association of Opticians was held in Tacoma on November 12th. Many opticians from different parts of the State were present. A banquet was served at the Donnoly, after which a business meeting was held at Elks' Hall, where matters of importance and interest were discussed. The officers elected for the ensuing year were as follows: President, H. C. Eversole, of Seattle; vice-president, L. L. Behrens, of Whatcom; secretary, Leander Butt, of Seattle; treasurer, Chas. G. Holcomb, of Seattle; F. D. Eversole, A. A. Schuchard, L. E. Capps, of Seattle, and H. A. Lembke, of Tacoma.

Physiological Branch of the American Association of Opticians

The appended circular, dated November 14th, has been issued by Clarence S. Hart, secretary of the Physiological Branch of the American Association of Opticians:

The following is a list of the names of those whose thesis has been approved by the board of regents during the past month: Willets Corson, Cape May Court House, N. J.; S. L. McKee, Wilmington, Del.; Emma Grace Davis, Cincinnati, Ohio, and Everett A. Flye, Gloucester, Mass.



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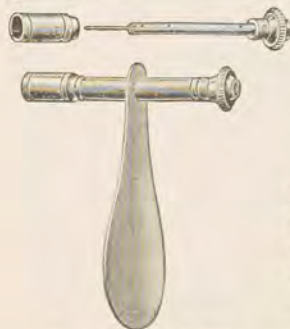
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Rhode Island Society of Optometry

A meeting was held in Providence, R. I., on Monday evening, November 3d, for the purpose of forming an optical society in Rhode Island. H. D. Murray and G. Frederick Beane, of Providence, were elected president and secretary respectively, *pro tem*. In his opening remarks, Mr. Murray said: "You are invited here this evening for the purpose of forming an optical society in this State, and it is quite evident that you are all of the same mind as myself in regard to this matter. Nearly all of the other States have optical societies and there is no reason why Rhode Island should not keep up with the procession. The object of this society would be to promote better feeling among the opticians in the State, to educate ourselves and to raise the standard of our profession to the place where it belongs—with medicine, dentistry and surgery. The science of optics stands second, in my mind, to astronomy, which, without doubt, is the greatest of all sciences. I would now be pleased to hear from you in regard to forming a society."

Remarks were made by a number of opticians present and a permanent organization was formed, to be known as "The Rhode Island Society of Optometry." The chair appointed Messrs. Walter Blake and J. F. Dodge, of Providence, and H. Fellman, of Woonsocket, a committee to draw up a constitution and by-laws.

The first regular meeting of the society was held in Room A, Narragansett Hotel, Providence, November 16th, H. D. Murray, presiding. For the benefit of those who were not present at the preliminary meeting, the chairman explained the objects of the society, after which an invitation was extended to all those desirous of becoming members to make application to the secretary. The minutes of the preliminary meeting were read by G. Frederick Beane, acting secretary, and approved. The committee appointed to draw up the constitution and by-laws reported progress and after a few amendments the code submitted was accepted by the society. The following officers were then nominated and elected for the ensuing year: President, Walter Blake, of Providence; first vice-president, W. J. Davis, of Woonsocket; second vice-president, F. W. Poole, of Newport; third vice-president, J. F. Dodge, of Providence; treasurer, H. Fellman, of Woonsocket; secretary, Frederick Lewis Blair, of Providence. Executive committee: T. H. Tarbox, of Pawtucket; A. MacDonald, of Providence; Fred. S. Neff, of Providence.

Interesting remarks were made by the newly-elected officers, and also by some of the members. Among the prominent speakers of the evening were: Walter Blake, W. J. Davis, F. W. Poole, J. F. Dodge, Frederick Lewis Blair, H. D. Murray, W. T. Wilson, H. Fellman and T. H. Tarbox. Among those to make application for membership in the society were: C. T. Baxter, A. J. Morrison, F. M. Silva, H. M. Goodhue and G. W. Geer, of Providence; A. Wade, of Pawtucket, and H. J. Cartier, of Arctic.

All through the meeting the greatest enthusiasm was manifested, and there was every indication that the association would be a success.

The meetings of the society will be held the first Monday of each month and its object, as explained by the chairman, will be the promotion of good-fellowship and the mutual improvement of its members along scientific, educational and ethical lines. It is expected that many interesting papers will be read before the society by well-known optical authorities. The next meeting will

be held December 7th, when much important business will be transacted.

Walter Blake, president of the recently-organized Rhode Island Society of Optometry, was born in Providence, May, 1848. He is the son of David Brainard Blake, who conducted an ophthalmic business at 55 North Main Street, for over fifty years. He is a member of the firm of Blake Bros., opticians, Providence, and received a liberal education in the schools of his native city. He served



President Walter Blake

his apprenticeship with his father in the old Cheapside Building on North Main Street. He afterwards entered the employ of J. Putney, the well-known optician, and was employed in the various departments of that concern for a period of ten years, after which he entered into the firm of Blake Bros., opticians, 55 Snow Street, with which he is now connected. He has always evinced a deep interest in the development of refractive science and is an earnest believer in education and organization as the dual levers by which the practice of optometry may be elevated to a professional status.

New York City Optical Society

The regular monthly meeting of the Optical Society of the City of New York was held in the Natural History Hall of the College of the City of New York, on Wednesday evening, November 11th. The chair was occupied by President Marchant, and a lecture was delivered by Dr. Walter Bryan, on "Conjunctivitis." This subject was one which had never before been discussed at a meeting of the society, and for this reason and because of the lucid treatment which it met with from Dr. Bryan, it was especially interesting to the members. The speaker gave a number of black-board demonstrations to illustrate his remarks.

The routine business was opened by President Marchant, who read a communication from John C. Eberhardt, president of the American Association of Opticians, commending unity of action by the State societies and a federation of the State bodies through the medium of the national association.

P. A. Dilworth moved that the views expressed in this communication be adopted and this motion was carried unanimously. It was also moved that Mr. Eberhardt be asked to give his views concerning the best methods of attaining the ends set forth in his letter.

Secretary E. Le Roy Ryer moved that the class formed for the study of higher mathematics,

as related to the opticians' and refractionists' business, under the direction and tutelage of Prof. William Fox, should begin its term January 1, 1904. This motion was seconded and the resolution adopted in spite of the fact that a certain element in the society was in favor of the disbanding of the class. Mr. Ryer's argument was that the class had been organized at considerable expense to the society, and that as long as a sufficient number had expressed their willingness to join, and had joined, they should be given an opportunity to obtain the desired instruction.

John E. Meyer, who had been proposed for membership in the society at a previous meeting, was elected a member, and J. A. Caouette, Jersey City, and Otto Offenhauser, Jr., Tarrytown, N. Y., were proposed for membership.

New England Association of Opticians

The regular monthly meeting of the New England Association of Opticians was held at Young's Hotel, Boston, Mass., on Tuesday evening, November 17th. A communication was read from John C. Eberhardt, president of the American Association of Opticians. The membership roll was increased by the admission of the following:

Active Membership—W. L. Bemis, Brockton, Mass.; George A. Clark, Malden, Mass.; Frederick P. Simmons, with the C. E. Davis Optical Co., Boston, Mass.; Charles J. Collins, South Boston, Mass.; Howard C. Doane, with the J. W. Sanborn Co., Boston, Mass.; E. A. Flye, Gloucester, Mass., and W. E. Titus, Brockton, Mass.

Associate Membership—Starr C. Hewitt, Jr., Salem, Mass.; Harry G. Wright, with Daniel Low & Co., Salem, Mass., and D. N. Chadsey, Wakefield, Mass.

The lecture of the evening was delivered by Wm. A. Earle, M. D., of Boston, who spoke on "The Fundus Oculi—Its Physiological Variations." In his opening remarks Dr. Earle said:

Every optician who examines eyes for the purpose of supplying glasses should know whether the eyes are in a healthy condition or not, and this cannot be known without the aid of the ophthalmoscope. The examination of the fundus of the eye, by means of the ophthalmoscope, is not only of the greatest importance in the diagnosis of diseases of the eye, but it further affords most useful information concerning diseases of other organs, such as the brain and kidneys, and enables us to detect the presence of such general affections as syphilis and tubercle. Familiarity with morbid conditions of the fundus is, therefore, hardly less essential to the optician than to the oculist. This is a fact that is being recognized more and more. An essential preliminary to the diagnosis of morbid conditions of the fundus is a thorough knowledge of its normal appearance.

Connected with the association is a clinic, meeting at 33 Pleasant Street, Boston, Mass., on Monday and Thursday afternoons from 3 to 5, to which members are invited to send their patients. Members wishing to attend may learn full particulars from the secretary, George A. Barron, 3 Winter Street, Boston, Mass.

Buffalo, N. Y. Optical Society

A meeting of the Buffalo Optical Society was held Friday, November 6th. The chief feature of the gathering was the interesting paper read by W. H. Hammond, on "Hyperopic Eyestrain Results." The society continues to make gratifying progress and the members show a lively interest in the questions discussed at its meetings.

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Optical Notes

✿ Louis Kuttner, president of the California Optical Society, and formerly with Hirsch & Kaiser, San Francisco, is now in business for himself, at 126 Kearny Street, that city.

✿ Harry W. Grady, optician, of El Paso, Tex., was married on November 13th to Miss Edna Fitzpatrick, an accomplished and popular young lady of that town. THE KEYSTONE extends congratulations.

✿ Leander Butt, secretary of the Seattle (Wash.) Society, announces that he has changed from Frisch Bros.' optical department, 720 First Avenue, and taken charge of the optical department of G. Beninghausen, 715 First Avenue, in that city.

✿ Fred. L. Swart, the well-known optician, of Auburn, N. Y., who is treasurer of the American Association of Opticians, has recently been elected alderman for the Ninth Ward of Auburn. Mr. Swart received a plurality of 247 votes, being the largest ever given a candidate in that ward.

✿ President Eberhardt, of the American Association of Opticians, has received from Emil Lembke and Charles F. Lembke, Jr., of New York, the following letter which is self-explanatory:

"With sincere thanks and extreme appreciation, the family of Charles Lembke acknowledge the receipt of memorial and resolutions of the American Association of Opticians. It will be handed down the family line as an heirloom, and valued for the honorable association with which his name was connected."

✿ H. O. Jensen has taken over the entire charge of the optical branch of J. S. Jensen & Sons, Salt Lake City, Utah, in his own interest, and now conducts it under his own name. The rumor that a dissolution had taken place in the concern has been denied by its members, who state that the only change made is that mentioned above. The assumption of sole proprietorship of the optical end of the concern by H. O. Jensen was due solely to the continued expansion that had taken place in that branch for some time past.

✿ F. W. Poole, the well-known optician, of Newport, R. I., is one of the most aggressive and accomplished advertisers in the optical ranks. Favored as he is by so fashionable an environment, Mr. Poole shows considerable enterprise in the methods which he employs in turning these advantages to practical account. Barometrical and thermometrical readings are recorded in his office and published in the daily press, as are also the diurnal variations in the sun, moon, wind and tides, for the information of yachtsmen. The advertising value of these records in a recreative resort of such note is readily manifest.

✿ A recent issue of the *Morning Tribune*, East Liverpool, Ohio, contained a eulogistic review of the career of John M. McKinney, the enterprising young optometrist of that place. Mr. McKinney is well-known in East Liverpool, where his father conducts a jewelry store. He is a graduate of one of the Chicago optical colleges and has had an extensive experience in all kinds of optical work. His preparation for a career in the domain of refraction also included courses of study under some of the best-known optical authorities in the country. His business of late has grown to such an extent as to necessitate the services of an assistant.

✿ Robert G. Smith, with C. E. Royce Co., of Jersey City, N. J., recently returned from a three-months' tour of Great Britain. During his sojourn he interviewed many refractionists and took a special interest in the optical methods in vogue on the other side. Mr. Smith's stay abroad was most enjoyable and the source of many pleasant acquaintances.

✿ W. Guilbault, optician, of Biddeford, Maine, has issued a handsome calendar for the year 1904. The pictorial feature represents a youth riding a delivery tricycle, upon which Mr. Guilbault's name and that of his profession are conspicuously printed. The timely issuance and practical utility of this calendar combine to make a good advertisement, and one that will no doubt be preserved by the recipient.

✿ Herman John Davis, optician, 369 Sutter Street, San Francisco, Cal., has been mailing to his patrons a neat little folder, the cover of which serves as its own envelope, its border being perforated so as to open with facility. The interior of this folder consists of two pages only. Besides the name, profession and address of Mr. Davis, little reading matter is used, but it is of a telling quality. He states his purpose thus: "To do the right thing in the right way; to do some things better than they were ever done before; to save my patrons time, trouble and money." This unique folder cannot fail to be productive of good results.

The National College of Optics, of Cedar Rapids, Iowa, has a plan by which you can get their full correspondence course, with diploma, free and make a nice sum of money beside. Write them for particulars. —*Adv.*

Rochester Optical Society

The regular meeting of the Rochester Optical Club was held in the office of B. B. Clark, Triangle Building, Rochester, Tuesday evening, November 17th. President Bissell called the meeting to order, and the minutes of the last meeting were read and approved. Mr. Arrington, who, together with Mr. Bausch, had been appointed a committee to investigate some plan of co-operative advertising, requested an extension of time for another month. He proposed that Mr. Clark's amendment to article 4, of the by-laws, relating to reduction of dues of non-resident members to one dollar, be accepted as read. This was seconded by Mr. Newman and carried. The amended provision now reads:

"The dues of resident members shall be three dollars, and of non-resident members one dollar," etc.

Mr. Arrington also moved that Mr. Bestor's amendment to article 1, of the constitution, be accepted as read. The motion was seconded by Mr. Mielke and carried. This article now reads:

"This society shall be known by the name of the Rochester Optical Society, substituting the name society for club."

For the committee appointed to lay out a course of action for the society, Mr. Bestor reported that said committee suggests: 1. That the president appoint two members for each meeting to prepare and read a paper at that meeting. 2. That the president appoint several members to prepare a report along some line of actual observation in their practice during several months. 3. That the society advertise free clinics, different members to have charge of the different clinics.

To obtain material for these clinics glasses are to be furnished free. 4. That some course of study to cover the winter be taken up.

President Bissell appointed Messrs. Arrington and Morse to prepare a paper for January; Messrs. Bausch and Sweeting, for February; Messrs. Benedict and Mielke, for March; Messrs. Newman and Wideman, for April, and Messrs. Clark and Bestor for the special subjects. Mr. Clark moved that Mr. Bissell prepare a synopsis on "Physical Dioptrics," Dr. Bowen to open discussion of the same. Mr. Bausch seconded, and the motion was carried. Mr. Clark also moved that the secretary be empowered to advertise for material for a free clinic. The motion was seconded by Dr. Bowen and carried. Applications for membership were read from Charles Rickarts, A. Pellow and Ellary A. Handy. The executive committee went into private session and passed the applicants.

Mr. Clark read a letter from Mr. Snell, secretary of the Minnesota Optical Society, in reply to a letter from Mr. Clark, asking a report of the workings of the optometrical law in that State. The letter was very interesting to all concerned with the legalizing of optometry. Dr. Bowen read a very interesting paper on "Ciliary Spasm," which was very heartily applauded.

No further business being before the society, after a general discussion of things optical, the meeting adjourned.

Illinois Optical Society

The regular annual meeting of the above society is announced for January 12th, in Chicago, in room 605 of the Columbus Memorial Building. An afternoon and evening session is planned, with lectures on live optical subjects by experts. The election of officers for the new year will take place, and an interesting and helpful session is anticipated. The meeting is to culminate with the usual annual dinner and banquet at the Palmer House. Full particulars in January issue of THE KEYSTONE.

The American Association of Opticians

ED. KEYSTONE:—Following is a list of the new members of this association since my last report. I received notice the other day that the Texas Optical Society had voted to affiliate with the American Association of Opticians, but have not yet received the list of members. Will send it when received:

Lillian Thompson, Monticello, Ind.	Frank D. Jackson, Newark, N. J.
J. W. Couch, Fowler, Ind.	E. C. Henry-Silas, New York, N. Y.
A. I. Mayer, Burbank, Ind.	Adolph Levy, Brooklyn, N. Y.
C. M. Wilson, Salem, Ohio.	Harry Coville, Bangor, Me.
Henry S. Davis, Galion, Ohio.	Everett A. Flye, Gloucester, Mass.
John F. Velter, Dayton, Ohio.	Jacob C. Hub, Mapleton, Minn.
H. M. Chaney, London, Ohio.	B. Mayer, Baltimore, Md.
George A. Hauver, Massillon, Ohio.	Herbert E. Wilkinson, San Francisco, Cal.
L. M. Swikerath, Phoenix, Arizona.	J. W. Hall, Cazenovia, N. Y.
Alfred N. Fly, Atlantic City, N. J.	Herbert W. Ward, Detroit, Mich.
Joseph S. Pieringer, Bedford, Iowa.	B. L. Marshall, Elizabethtown, Ky.
A. F. Densmore, Waltham, Mass.	Miss M. S. Arnett, Lexington, Ky.
Leopold Stern, Santiago, Chile, S. A.	Geo. W. Plunke, Louisville, Ky.
Chas. H. Huges, Salem, Ore.	J. B. Settle, Elkton, Ky.

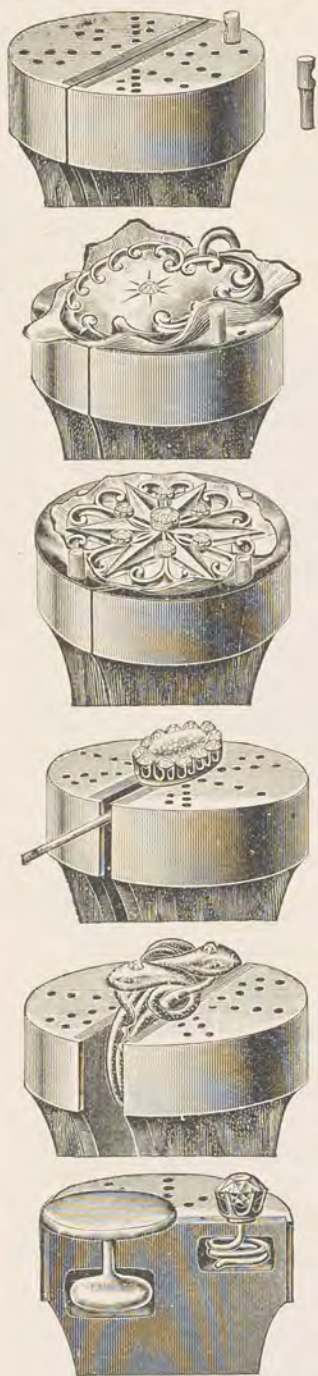
Yours truly,

Edw. L. Jones, Sec'y.

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1. To accomplish the best results, the Holder should be held in the left hand, with the tightening wrench in the right.
2. If the article to be set be shallow (a Brooch or Locket for example) the flat end will be found best adapted for holding it; the concave end is best for holding deeper, thicker articles. In either case, a soft piece of chamois leather, of size sufficient to reach to the pegs, should be placed underneath, to avoid scratching.
3. In adjusting an article in either end of the holder, care should be taken to arrange the pegs in such a manner as to avoid leaving unnecessary space between the two halves of the holder; otherwise a slight difficulty may be found in holding the tool, as it will be rendered unnecessarily bulky.
4. Before setting Locket, it is advisable to remove frame and glass, to avoid possible breakage. When Locket are of such exceptional thinness that denting might occur, the use of a piece of chamois or other leather INSIDE of Locket is advised. This will certainly prevent denting.

Invented by a Diamond Setter, having 15 years' experience. Any and every piece of Jewelry can be readily adjusted and held firmly without the use of Shellac; doing away with boiling out and repolishing. Above illustrations give only a partial idea of the many uses to which this tool can be put. As a time and labor saver it has no equal. A careful trial of this holder will prove beyond a doubt that its use is not only a threefold economy, but also that CLEANER and BETTER results can be obtained.

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Dos and Don'ts

Some Rules to be Followed by Clerks if They Would Succeed—Good Advice Concerning Many Details of Daily Life

DO whatever task is set for you by the boss as though you were doing it for yourself—that is, with intelligence, thoroughness and care. True, you're working for him, but just as true, you're working for yourself, for promotion, for a future.

Don't sneer at "the old man" behind his back. If you can't find anything kind to say, say nothing.

Do your level best always, and you'll feel at peace with yourself and things. The right sort of man is his own severest critic.

Don't be afraid to shoulder a little responsibility. Think deliberately and act quickly.

Do your work well and finish what you are doing. There's infinite satisfaction in the thought that you've wiped the day's slate clean.

Don't be a snob. The good will of the humblest parcel boy is not to be despised.

Do be neat, orderly, systematic. System minimizes difficulties; the want of it multiplies them.

Don't lord it over your fellow clerks. The "bluffer" deceives himself, but seldom others.

Do concentrate your attention on what you're doing. Yawns and vacant stares proclaim the man who was "born tired."

Don't prepare to leave before your time's up. That's cheating the boss of what belongs to him.

Do be cheerful. People meet the cheerful man with outstretched hand, but cross the street when they spy the spoilsport.

Don't blab outside the shop. Where you find a long tongue, it's pounds to pence you'll find a light brain as well.

Do be courteous. Gruffness marks the loafer as unerringly as stripes mark the zebra.

Don't boast. The sorriest spectacle imaginable is the creature who boasts and can't show anything for it.

Do be willing. An ounce of willingness is worth a pound of talent.

Don't touch the slim-stemmed glass. The beaded bubbles at the brim wink at one another and say: "Another easy mark."

Do endeavor to learn something each day. Good looks and winning ways command no price, but there's always a market for brains.

Don't get to the shop late or next door to it. Be there ahead of time and see the boss' grim features light up.

Do be patient with a trying customer. You'll make a friend that'll come in handy when you hang out your shingle by-and-by.

Don't stare at women. Regard them with glances of respectful admiration, bless 'em, but promptly look away when they seem annoyed.

Do something to keep yourself busy between sales. A mind that is not kept employed rusts.

Don't be afraid of work. Plunge into it with zest and you'll grow to like it.

Do keep yourself spick-and-span. It'll give you ease and self-confidence.

Don't watch the clock. The hands never move so slowly as when a furtive eye is upon them.

Do be swift and silent in getting about. Shuffling and rattling won't help your work.

Don't poke fun at customers' eccentricities. Any fool can grin, but it takes a gentleman to keep a straight face when to smile is to hurt.

Do your work briskly. Get a good grip on it at the start and the rest will be easy.

Don't cringe and fawn either to the boss or to a customer. You're as good as they are.

—The Haberdasher.

No Use to Whine

There isn't anything in the world more disagreeable than a whining person. He whines if it is hot. He whines if it is cold. He whines at this, he whines at that, he whines at everything. Whine, whine, whine. It is just a habit he has fallen into. There is nothing the matter with him.

The whiner is generally an idle person or a lazy one. What he needs is to be set to work—at real hard work, mental or physical. Some work that will interest him and engage his whole attention, and he will not have time to whine. We know two women. One of them does her own housework and takes care of her horse besides. She is happy and singing all the day long. The keyboard of her life sounds no whining note. It is a pleasure to be with her, a wholesome tonic to watch her. The other woman is so situated that she does not have to work. Nothing to do but amuse herself. She has no zest in life. She is a bunch of selfishness and whines at everything. She is a drag, a heavy weight on somebody all the time.

Get the whine out of your voice or it will stop the development and growth of your body. It will shrink your mind. It will drive away your friends; it will make you unpopular. Quit your whining.

Hornikel's Engraver's Modern Text Book



Of Monograms, Inscriptions and Alphabets is now completed. It consists of ten folios and contains fifty-one pages, size 11 x 14. Forty-one pages are copper plate prints containing designs of monograms, which are practical and useful on all kinds of silverware, watches, lockets, match and cigarette cases, seal rings, fobs, jewelry, etc. The other ten pages are half-tone prints representing silver-etched inscriptions, figures suitable for prizes and athletic prize cups and trophies, also cigarette cases. If you wish to increase your sales or do advanced, up-to-date lettering, monogramming, inscriptions and etchings, you cannot afford to be without this new engraving book. It is the standard text book and will be so for many years.

Special attention has been given to meet the requirements and tastes of all customers. All specimens are practical and designed for the jewelry trade exclusively by a practical designer and engraver of twenty-five years' workshop and jewelry store experience.

Folio No. 10, just completed, contains six pages showing different styles of monograms especially suitable for watches and watch cap inscriptions. See holiday (November) number of THE KEYSTONE for testimonials.

The text book can be purchased in three sections. First section, consisting of Folios 1, 2, 3, for \$4.50. Second section, consisting of Folios 4, 5, 6, for \$4.50, and section three, consisting of Folios 7, 8, 9 and 10, for \$6.00; or all folios, from 1 to 10, for \$15.00. Order the book from your jobber, or E. F. HORNIKEL, 705 Masonic Temple, Chicago, Ill.

—Adv.

Why Do We Kick?



MANY factors have conspired to make the present and future the millennium of SKILLED watch workers. The increasing value of time, the every-minute necessity of a good timepiece, the rigorous railroad watch inspection, the comfortable circumstances of the people, the incompetency of many watchmakers—all these factors and others have increased the opportunities and salary of THE MAN OF SKILL WHO HAS MASTERED HIS CRAFT.

All employing jewelers know well the one school whose graduates are recognized as master watch-workers. The

Waltham Horological School

has given to the trade hundreds of its most skilled craftsmen; its highest-salaried bench-workers. The competency of its pupils has so spread its fame that every graduate has a responsible position awaiting him—often a choice of positions. If you are thinking of studying horology or perfecting yourself in the art, learn of this school first—of what it has done and what its pupils are doing. Write to-day, begin with the after-holiday session.

Waltham Horological School,
Waltham, Mass.

Established 38 Years.

Watch Case Making, Repairing, Remodeling and Reconstructing.

Old English and Swiss Cases Changed to Fit American Stem-Wind Movements.
Engraving and Engine-Turning. Gold and Silver Plating.
Satin-Finishing and Polishing.

SEND FOR PRICE-LIST.

MINIATURE PORTRAITS.

N. J. FELIX,

12-14-16 John Street, New York City.



BEFORE.



AFTER.

Store to Let and Fixtures for Sale

3-story building in prominent location on principal street. At present occupied by a well-established jewelry house obliged to move into larger quarters. Handsome fixtures, 2 display windows, large safes, etc., in first-class condition. Low rent and long lease. Possession March 1, 1904.

S. KIND & SON,

928 Chestnut St., Philadelphia.

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Jewelry,
Bric-a-Brac,
Objects of Art
and
China.



If you want to reduce your stock, or raise money, or retire from business, write me for terms and date. I am confident I can serve you with advantage to yourself.

Address,

C. A. LINDSEY,

527 Main Street, Johnstown, Pa.

Largest School in Northwest.
Best Instructors.

OWN ALL TOOLS.

All Graduates in Positions.

All instruction on actual work and
all pupils proficient.

Minneapolis School Engraving and Watchmaking,

AMERICA'S PRACTICAL SCHOOL,

Top Floor Commercial Building,

Minneapolis.

We Do Wheel Cutting
for Trade.

STUDENTS EARN MONEY AS
SOON AS THEY ENTER.

Our Price, \$65.00
Complete Course.

Give us a trial order of one or more of our Cuckoo Clocks and be convinced that we manufacture the best on the market, for the least money, every one guaranteed by the

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Successors to

The Philadelphia Cuckoo Clock Co.

FACTORY,
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Write for Catalogue.

OFFICE AND WAREHOUSES,
1027 Columbia Avenue,
Philadelphia, Pa.



3510 K. of C.



3514 Initial.



3510 Photo.

J. Bulova Co.,

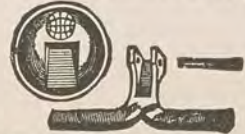
RING MANUFACTURERS,
51 and 53 Maiden Lane, NEW YORK.

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OUR NEW
CATALOGUE

which gives full description and prices of all our rings. The above are only a few of the many we make.



Our patent fastening on all rings.



Globe Lever and Globe Link Lever Button Back. For hard soldering. Can be applied to any button.



NOTICE

We can furnish you with any pattern formerly sold by ODENHEIMER & ZIMMERN or ZIMMERN, REES & CO.

P. E. POPE, the man who is making himself and the business famous. Why? Because he is a square man, doing a square business for square people and no others.

A sale just finished for R. Ashby, of Colorado Springs, Colo., resulted in selling \$9276.06 worth of goods, with a profit on the cost of \$1158.18. *This is the bookkeeper's statement, not mine.*

There are auctioneers and auctioneers. The time has gone by for hiring a man without investigating his record. If you are at all interested, drop me a card and I will send you the names of men and firms I have done business with the last ten years, some of whom I have sold for three and four times.

I carry no trunks and sell nothing but your own goods.

Am now selling on the great W. J. Reid stock of London, Ont., Can.

Have a few spring dates open yet. If you want a sale, write early—write anyway; I will see that you have an answer, and you may learn something.



PERCY E. POPE, Fond du Lac, Wis.

NOTE.—If you have any cheap goods to sell, DON'T send for me.

KING OF AUCTIONEERS

What more can any person ask or get?

His RECORD proves he LEADS them all.

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Established 1886.

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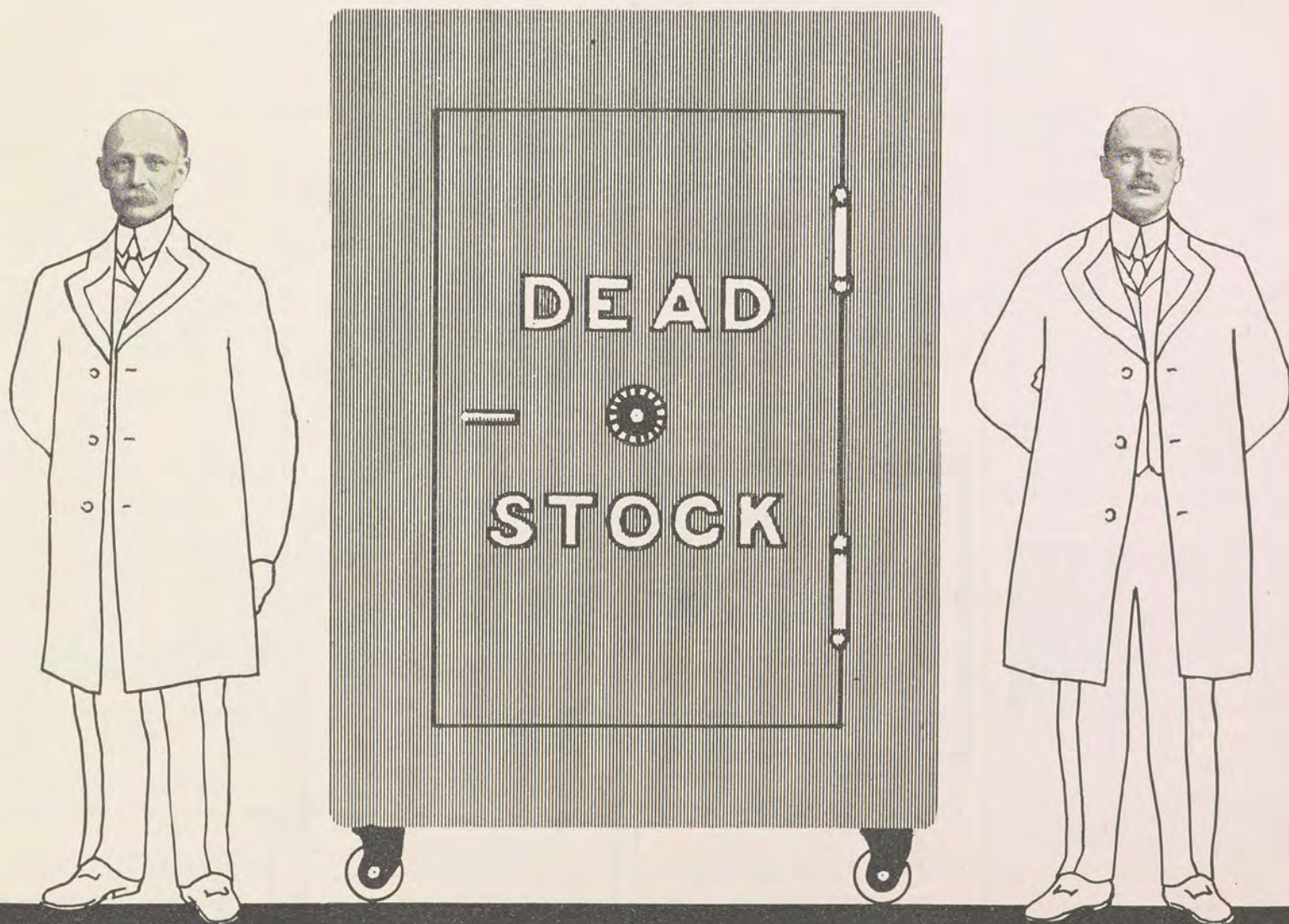
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Thousands of references and daily paper notices given in correspondence. Free. Write for it, a book giving some very valuable information.

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Are Your Profits Locked in This?



WE HAVE *The* RIGHT COMBINATION

Of auctioneering experience and ability to turn your dead or slow-moving stock into cash.

The accumulation of dead stock is the canker worm that has destroyed many a well-established and otherwise profitable business. It ties up capital that might be profitably turned over several times a year, occupies valuable space needed for salable goods, and offsets the most untiring labors of its unfortunate owner.

Why not let us lift this burden from your shoulders? Then you can start in again with added capital, replace the dead stock with up-to-date, salable goods, buy cheaply for cash, and save all discounts.

Our high-class auctions have not only set hundreds of jewelers on their feet again, but also netted them handsome profits, advertised their business, and permanently increased their trade.

Tell us your story. We will gladly give you expert advice, and prove all claims by reference to unprejudiced patrons.

Our booklet is worth getting. Sent FREE on request.

MITCHELL & TILLOTSON, 37 Maiden Lane, New York, N. Y.

2012

Pitkin's Anti-Break PEGWOOD

If you try it, you will always use it. It never breaks off in the finest pivot hole.

25 Cents per Box. Discount to jobbers.
O. H. PITKIN, GALION, OHIO, U.S.A.

WILLHELM K. SANDBERG Watchmaker to the Trade

Demagnetizing Watches a Specialty.
I give close, personal attention to repairs sent me. Promptness my motto. Send for my printed Price-List, which is free for the asking.
Room 802 Columbus Memorial Bldg., CHICAGO



ELK TEETH

and CLAWS OF EAGLE, MT. LION, LYNX, Etc.
WHOLESALE.
Sent on selection to reliable manufacturing jewelers.
L. W. SILWELL,
Deadwood, South Dakota.

The Crohn Patent Safety Guard.



For Scarf Pins, Studs and Lace Pins. The most practical and only adjustable one invented. Price, \$1.50 per doz. For sale by all wholesale jewelers and material houses. Sample by mail, 25c; in 10 K. gold, 75c; 14 K., \$1.00
M. CROHN, Mkr. & Invt., 48 & 50 Maiden Lane, N.Y.

JUST OUT! Wells' Perfect Self-Conforming Ring Adjuster, cut from 10 K. gold filled stock. Gold in front twice as thick as on back. Ask your jobber for them, or I will send prepaid at once (only on receipt of price), 1 doz. astd. sizes, gold filled, \$2.00; 1 doz. solid 10 K. gold, astd. sizes, \$3.75; 1 doz. metal, astd. sizes, 85c. For samples, one small and one medium large size gold filled and one metal adjuster, 50c. Address Chester Wells, Jeweler, Meshoppen, Pa.

STEEL DIE & SEAL RING ENGRAVING TO THE TRADE ADAM PIETZ 1504 Sansom St. Philadelphia.

The Sherman Safety Pin Protector



For Scarf Pins, Studs and Lace Pins. The latest and best invented. Can be adjusted to any size pin. Price, \$1.00 per doz. For sale by all leading wholesale jewelry and material houses.

Pat. May 5, 1903. Samples by mail, 10 cents.
O. SHERMAN,
Inventor and Maker,
56 Newark Ave., Jersey City, N. J.

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Anyone sending a sketch and description may quickly ascertain our opinion free whether an invention is probably patentable. Communications strictly confidential. HANDBOOK on Patents sent free. Oldest agency for securing patents. Patents taken through Munn & Co. receive special notice, without charge, in the

Scientific American.
A handsomely illustrated weekly. Largest circulation of any scientific journal. Terms, \$3 a year; four months, \$1. Sold by all newsdealers.
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100,000 American Watches have Abbott's Patent Stem Winding Attachment

A few more KEY-WINDERS are still in use. Send them to us and MAKE A FEW DOLLARS FOR YOURSELF

HENRY ABBOTT, 9 Maiden Lane, New York

LON BARNHART, Springfield, Ohio. Manufacturer of Fine Watch, Spectacle and Ring **SIGNS**

Durable, Elegant and Attractive.
BEST SIGNS ON EARTH.
Send for Catalogue.

Watchmaker to the Trade. A. F. MOELLER,

Est. 20 years,
176 Broadway, New York.
Prompt Attention, Low Prices, Good Work.
Send work by express or mail.

ESTABLISHED 40 YEARS C. L. Hoefler EXPERT WATCHMAKER to the Trade 103 STATE STREET CHICAGO

MEMBER AMERICAN HOROLOGICAL SOCIETY
Chronometers and Complicated Watches
REPAIRED FOR THE TRADE
I teach adjusting in a thoroughly modern way. Write me for particulars and terms.

What School?

We teach Watchmaking, Engraving and Optics. Positions obtained for graduates. Students may enter at any time. Individual instruction. Send for catalog.

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SCHOOL.
Elgin, Ill.

J. J. DONNELLY

Gold and Silver Electro-Plater

73 Nassau St., New York

Send us your card, and we will mail you our price-list. It will pay you to look at our prices before sending your plating elsewhere.

ESTABLISHED 1826.



BUTTONS FOR ALL SOCIETIES.
Solid Gold, \$6.30 per doz.
Rolled-Plate, 3.00 per doz.
Gold Plated, 1.20 per doz.
Chas. K. Winship & Co.,
78 State St., Chicago, Ill.

The woods are full of \$10.00 a week workmen,

and Jewelers are looking everywhere for \$20.00 to \$25.00 per week workmen, and they can't be found. There are not enough good workmen in this country. Better attend our college in January, 1904, and become a thorough, practical Watchmaker, Engraver and Optician; we will then guarantee you a good position. A postal will bring our Prospectus. See ad. on page 1934, this issue.

The Philadelphia College of Horology,
Broad & Somerset Streets.
F. W. SCHULER, Principal. Philadelphia, Pa.

Watch Repairing for the Trade.

REGULATING AND ADJUSTING A SPECIALTY.
Good Work Promptly Done At Fair Prices.
Best Material Used. Reference Given. Estimates Furnished.
Wm. N. Brunner,
711 Sansom Street, Second Floor Front, Philadelphia, Pa.



LOUIS J. MEYER
GOLD AND SILVER PLATER
104 S. Eighth St., Philadelphia.
(Second Floor.) (Established 1802.)
Gold and Silver Electro Plating, Oxidizing, Repairing and Cleaning Silver and Plated Ware.
PLATING and COLORING in any finish of WATCH CASES, BRACELETS, CHAINS, OPERA GLASSES and JEWELRY of every description a specialty.
Prompt attention given to Mail and Express Orders.

"SIMMONS" "STURDY"



AND
The Seamless Wire Mfg. Co.'s
CHAINS

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

L. Witsenhausen
37-39 Maiden Lane, N.Y.
Chicago, 405 Masonic Temple, L. Katlinsky.

Come Here

and learn to be a
HIGH-CLASS
ENGRAVER
and demand a big salary. Hundreds of others have done so; why not YOU?
Only the best of everything connected with this school.
Write for prospectus.

THE REES
ENGRAVING SCHOOL,
Steele Memorial Building,
ELMIRA, N. Y.

Mainspring Satisfaction.

A cheap mainspring is a poor investment. No good watchmaker will use them. When a spring breaks your customer is dissatisfied and you lose the time in replacing it and your reputation for doing good work. You can remedy this by using



TIDD'S RED CROSS SPRINGS,
which are guaranteed against breakage. Out of over 100 gross sold last year we only replaced 27 broken springs. Our price is only \$1.00 per dozen or \$11.00 per gross. Each spring guaranteed. Try a sample dozen.
The Only Collar Button that makes a man happy. Easily adjusted, never cuts the button hole.
The Only Button for the use of celluloid and rubber collars. Made in two qualities.
R. P. Gold and Silver.
All Jobbers handle them. If your Jobber does not, send to us and we will give you the names of those who do.
It is the interest of every Jeweler to send for our proposition.

Tidd & Co.
Columbiana, Ohio.

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

Use Our **FAULTLESS**

Balance Staffs and Balance Jewels.

Grade 1, Balance Staffs, extra finish,	\$1.50 doz.
" 2, " " polished,	1.25 "
" 3, " " gray,	1.00 "
" 1, " Jewels, extra finish,	1.50 "
" 3, " " "	1.00 "
Cap Jewels,	1.00 "

MEYER JEWELRY COMPANY,
"Hurry-up Jewelers for Hurry-up People."
KANSAS CITY, MO.

Miniature Portraits



on Watch Dials, Caps, Porcelain, Etc., Also in Colors. Send five 2-cent stamps for a beautiful sample watch dial and price-list.

CARMAN ART Co.
115 Dearborn St., CHICAGO.

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.

JEWELRY salesman, with 20 years' exp., open for engagement to take charge of exhibit at the exposition next year. A1 ref. Address, "C 521," care Keystone.

WATCHMAKER, jeweler, optician and first-class salesman; young man of good appearance with no bad habits. Own tools, good refs. Texas, the Territories or New Mexico pref. Ad., "Watchmaker," box 399, Sherman, Texas.

TRAVELING jewelry salesman, with 5 years' exp. in Minnesota, North and South Dakota. Will be open for position Jan. 1st. Refs. furnished. "B 686," care Keystone.

BY capable optician in Detroit by Dec. 20th. Will run an optical department with my own accessories and stock, or will accept salary or commission. "C 699," care Keystone.

OPTICIAN would travel for optical manufacturer next year, Southern or Western States; or would take charge optical department in large city. Salary or part profits. Refractionist, age 48. "Rob," care A. Weiler Co., Greenwood, Miss.

AS watchmaker or all-around assistant. "T 710," care Keystone.

JAN. 1st; first-class watchmaker and engraver. Only first-class house need apply. Best refs. "E 703," care Keystone.

EXPERIENCED optical salesman, well acquainted throughout the West, wishes to make a change Jan. 1st. At leisure after Dec. 25th. "M 708," care Keystone.

TRAVELING salesman of many years' exp. in the optical line, well acquainted with jobbers west of New York. "M 707," care Keystone.

I DESIRE a good window location for bench work, or would take position. Have all tools. Ad., George A. Messer, East Alstead, N. H.

GRADUATE optician, speaking English, Spanish and French, good, all-around shop man, wishes position with reliable house. Southern locality pref. "G 704," care Keystone.

BY Jan. 10th to 30th, permanent position by a first-class refractionist, 12 years' exp.; fair watchmaker, jeweler and good salesman. Age 35, married; sober and reliable. Best of ref. Address, "Optician," box 532, Fredonia, Kans.

YOUNG lady, 8 years' exp. as clerk and book-keeper in jewelry store—Jan. 15th. Prefer town not over 5000. Address, Miss L. Roland, Cannelton, Ind.

WATCHMAKER, jeweler and plain engraver, by young man. "B 716," care Keystone.

A1 WATCHMAKER desires position Jan. 1st. Expert on English, Swiss and American watches; railroad work a specialty. 45 years of age. "S 717," care Keystone.

AS assistant with expert watchmaker. Do plain watch work, clock and jewelry repairing, hard and soft soldering. Own tools, good habits, best refs. Ad., Chas. Truempy, Cannelton, Ind.

COMPETENT watchmaker, jeweler and good engraver desires position at once. Sober and reliable. Own tools. Address, "L 718," care Keystone.

SALESMAN, with knowledge of wholesale jobbing and manufacturing business in all lines, recently resigned position with old-established firm, desires position. Honest, upright, sober and industrious; can furnish A1 refs. "K 643," care Keystone.

SITUATIONS WANTED.

BY young man, 22, permanent position by January, with chance to improve on watch work and engraving; 5 years' exp. at jewelry and clock work. Ref., state wages. "H 720," care Keystone.

FIRST-CLASS watchmaker, aged 30, temperate and reliable, position with first-class wholesale house as material man, Jan. 1st. State salary. "O 642," care Keystone.

AS traveling salesman for wholesale jewelry, material or silverware house. Had exp. on road and 6 years at retail business. Best ref. "B 640," care Keystone.

WATCH repairer on complicated work; optician and engraver. Permanent position only—any time for position to March. Have tools, lathe, instruments. West. State salary, requirements, first letter. "Mil. Watchmaker," general delivery, Minneapolis, Minn.

AS watchmaker and plain engraver, used to fine and complicated work; has knowledge of the finer adjustments; experienced in handling customers. 5 years in charge of department in very large city house. Strictly A1 refs. "C 662," care Keystone.

AS watchmaker, plain engraver or salesman; thoroughly experienced. Position as salesman, or to take charge of repair department pref. First-class city refs. "C 663," care Keystone.

JAN. 1st, first-class watchmaker, 20 years' exp.; familiar with all grades work, railroad inspection; rapid, thorough. \$25 per week to start. "B 721," care Keystone.

WATCHMAKER, jewelry repairer, engraver, optician. Own bench and tools. "D 722," care Keystone.

BY Jan. 1st, by first-class watchmaker and fair engraver. Would like position in Western State. Have full set of tools. "P 723," care Keystone.

WATCHMAKER and expert refractionist and frame fitter; good salesman; do hard soldering and jewelry jobbing. Own tools, etc.; can come at once. "F 724," care Keystone.

EXPERIENCED graduate refractionist wants position, Pacific coast or slope, by expert frame fitter and edge grinder. Address, E. E. Heilbron, 2021 Magnolia Avenue, Chicago.

BY Jan. 1st, a good position by a first-class watchmaker, jeweler and optician, with fine bench and tools. Ad., "B 653," care Keystone.

HELP WANTED.

UNDER THIS HEADING THREE CENTS PER WORD.

WATCHMAKER, jeweler, etc.; \$12 week. Good town; good, steady job in New York State. "B 725," care Keystone.

COMPETENT material and jewelry traveler for Wisconsin and adjacent States. No application of beginners considered. F. W. H. Schmidt, 103 State Street, Chicago, Ill.

BY Jan. 1st, an optical salesman on salary and commission for new territory. Traveling expenses paid. Steady position for the right man. Apply, B. Mayer, 550 North Gay Street, Baltimore, Md.

BY Jan. 1st, an all-around optical workman. Start salary \$12 per week, with increasing wages; steady position. Apply, B. Mayer, 550 N. Gay Street, Baltimore, Md.

A FIRST-CLASS watchmaker, jewelry repairer, plain engraver and good salesman, with some knowledge in optics. Good salary and steady position for the right man with first-class Chicago retail house. Address, "B. L. 42," room 601 Columbus Memorial Bldg., Chicago.

WATCHMAKER, jeweler and plain engraver. One who could buy an interest in business after becoming satisfied. J. D. Hathaway, Elizabeth City, N. C.

ENGRAVER and jewelry repairer; permanent position and good wages. Rothstein & Lippman Bros., 529 Main Street, Johnstown, Pa.

JAN. 1, 1904, watchmaker, jeweler and salesman, permanent position to right man. Must understand repairing railroad watches. State age, refs. and salary expected in first letter. Ralph Wickliffe, Arkansas City, Kans.

AT once, watchmaker who can do engraving, assist on trade and be of help all around. Must be of good habits with gilt-edge ref. Permanent position to right party. George H. Huizinga, Holland, Mich.

AT once, fair watchmaker, jeweler, engraver; \$20-\$25 week. Answer with sample engraving. G. H. McKelvey, 615 Felix Street, St. Joseph, Mo.

IMMEDIATELY, watchmaker and plain engraver, salesman and some knowledge of optics. Must be good man. I have lathe, foot-wheel, engraving block, benches and large tools. Address, "J. E.," Lyndonville, Vt.

(Continued on page 2014)

New and Second-Hand MOVEMENTS

BARGAINS!
Bought from stocks. New as from factories. Send for catalogue.

Watch Material and Jewelry Supplies. Best American-made Jewels, 50 cts. a dozen. Watches Repaired for the Trade. All American Staffs fitted at 50 cents.

PHILIP KATZ,
14 Maiden Lane, New York.

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.

Send for sample sheet of Illustrations for Newspaper Advertisements, Circulars, Letterheads, Envelopes, etc. Specially prepared for jewelers and opticians.

THE KEYSTONE,
19th and Brown Sts., Philadelphia, Pa., U.S.A.

F. C. KLEIN. EMIL KLEIN.

F. C. KLEIN & BRO.
126 State Street, CHICAGO.

Steam Rapidity.

DIAMOND CUTTING.

Importers of Precious and Jobbing Stones.

The Brilliant GAS LAMP

should be in every village store, home and farmhouse in America. They don't cost much to start with, are better than kerosene, electricity or gas, and can be run for less than one-quarter the expense.

Gives 100 Candle Power at Less than 15 cts. a Month.

Safe as a candle. Can be used anywhere by any one. Over 100,000 in daily use during the last 5 years. ALL GOOD. Write for catalogue.

Brilliant Gas Lamp Co.,
42 State St., Chicago, Ill.

Engraved Souvenir Spoons.
Buildings engraved in bowls, \$4.00 per dozen.

FRED. A. HASKELL,
206 Weybosset St., Providence, R. I.

WATCH REPAIRING for the Trade.

You can't afford to neglect the watch work during the busy season. Send it to us.

W. H. Craft,
210 Pearl St., Buffalo, N. Y.

TO JEWELRY DEALERS AND THEIR CLERKS.
\$50.00 Premiums in Gold to be paid for the New St. Louis Designs in Tortoise Shell Combs.

The Providence Shell Works wishes to present to the world in 1904, New and Elegant Patterns in Genuine Tortoise Shell Work, surpassing anything yet produced. Patterns—not only artistic but practicable and graceful in design. They therefore invite Jewelry Dealers and their Clerks and those acquainted with the needs of the trade, to compete for the above \$50.00, which will be passed upon by representative Jewelers of the East. Design Paper Furnished Free.

PROVIDENCE SHELL WORKS, Providence, R. I.

HELP WANTED.

(Continued from page 2013)

AT once, experienced watchmaker, all-around man. Good habits; give ref.; permanent position, good salary; German prof. S. C. Nofzinger, Archbold, Ohio.

YOUNG man with exp. in clock repairing and to assist in watch work. Apply, R. P. Thorn & Sons, Albany, N. Y.

ARE you A1 watchmaker, good jeweler and engraver; want steady position? Nice town, New York State. The place will please you. Address, "B 719," care Keystone.

RESPONSIBILITY. Wanted, a young man who can take charge of repairing department from watches to soft soldering. A good engraver and salesman. In New York State. A permanent job, with chance to advance. "S 698," care Keystone.

FIRST-CLASS diamond-setter. Must come highly recommended. State terms and exp. Steady position. The Gustave Fox Company, Cincinnati, Ohio.

TRAVELING salesman to sell silver-plated hollowware as a side line. Address, giving refs. and territory, "S 705," care Keystone.

\$15 WEEK paid for good watchmaker, jeweler, engraver, etc. Nice town, New York State. Steady job that will please you. "B 714," care Keystone.

JAN. 1st, watchmaker to take charge of repair department and assist in waiting on trade. One with drug exp. pref. J. B. Hampton, Colby, Kans.

AT once, watchmaker, jewelry repairer, and what do you know about optics or engraving, if any? Will pay a man that suits \$15 to \$20 to start. Married man pref. Refs. must be A1, also by last employer, and what salary earned for last 5 years—by whom. No notice taken of applications without all of above is enclosed. H. E. Thomas, Wilmington, Del.

EXPERIENCED salesman. One well acquainted with optical line, to travel for representative house. "K 647," care Keystone.

JAN. 1, 1904, watchmaker, jewelry repairer and salesman. Must furnish A1 ref.; position permanent. C. C. Breese, McMinnville, Tenn.

IMMEDIATELY, first-class watchmaker and engraver in a retail store. Permanent position for a good, right man. Chas. F. Miller, Cairo, Ill.

AT once, good watchmaker, permanent position. Send photo. State qualifications, age, salary. Clark Bros., St. Cloud, Minn.

\$15 PER week, watchmaker, jeweler and optician. Eastern New York. Address, "C 728," care Keystone.

BY Jan. 1, 1904, watchmaker, engraver and jeweler. One that can do plain watch work, plain engraving and fair jeweler. Permanent position to right party. Single man pref. Louis Selig, leading jeweler, Elizabeth City, N. C.

WATCHMAKER, jeweler and engraver, wanted about Jan. 15th. All-around man for good town in Southwest. Salary \$20 to \$25 per week. Must have good refs. and own tools. "B 726," care Keystone.

AN experienced optician and refractionist, who can pass the Minnesota State examination. Must be a good salesman, of good address and appearance, one who has had a general optical experience and store knowledge pref. State salary and refs. in first letter and send photo, if possible. Address, C. A. Hoffman, wholesale optician, 424 Nicollet Ave., Minneapolis, Minn.

JAN. 1st, watchmaker, jeweler, engraver, salesman—all-around man. Temperate and industrious. Steady position. Geo. A. Hawver, Massillon, Ohio.

MANUFACTURING jeweler and stone setter at once. Permanent position for right party. Atlanta Jewelry Manufacturing Company, Atlanta, Ga.

YOUNG man, good habits, first-class watchmaker, optician, fair engraver, to take one-half interest in business 20 years established. But little cash required. Cause of change, poor health. C. H. Phelps, Bismarck, N. Dak.

WATCHMAKER with tools. Sober and reliable. State salary and experience in first letter. M. F. Conley, Louisa, Ky.

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 sweepstake of gold and silver (established 1870), 727 Sanson St., Philadelphia.

LOT second-hand Elgin and Waltham and other makes and kinds of new and second-hand watches. Mrs. N. H. Allen, box 273, Tecumseh, Okla. Ter.

WANTED.

FOR Webster-Whitcomb slide rest, Hardinge pivot polisher, face plate. John Denniston, Ball Building, Cleveland, Ohio.

SECOND-HAND 3-slide slide rest for Webster-Whitcomb lathe. Must be in good condition and cheap. F. L. Clawson, West Branch, Mich.

BY first-class watchmaker, store space for work bench. Kindly state rent and details. "A 702," care Keystone.

WANTED, a line of gold rings for Chicago and vicinity on commission. Address, "Manufacturer's Agent," room 601 Columbus Memorial Building, Chicago.

FOR SALE.

UNDER THIS HEADING THREE CENTS PER WORD.

STORES, STOCKS AND BUSINESSES.

RARE opportunity to buy. A watch, diamond and jewelry business to sell. After 30 years of a most successful business career at the same location in the above business, I am now ready to retire if I succeed in obtaining a cash buyer. I don't believe a cleaner stock can be found anywhere for the time I have been in business. Stock and fixtures guaranteed to inventory \$8000 to \$9000. A liberal reduction will be made to one that means business. The good-will of such an old-established business should command several thousand dollars if demanded. This will be given gratis. The first party appearing with the cash will be the purchaser. Store lease would be transferred also. Pop. of town 13,691 at last census. Address, A. Hartenstein, Pottstown, Pa.

WANTED, good watch, clock and jewelry repairer to buy well-established workshop; low figure. Good reasons for selling. Mean business. Correspondence invited. "W 650," care Keystone.

AT once, \$5000 jewelry stock and fixtures in a city of 8000 in Central Georgia. Pays \$3000 profits per year; can reduce stock. Good reasons for selling. Address, Box 238, Griffin, Ga.

JEWELRY business. Best iron mining and logging town in Minnesota. Small capital required; don't have to buy stock. Must be sold by Jan. 15th. For particulars address, 620 Hammond Avenue, Superior, Wis.

ESTABLISHED optical business in growing town of Wyoming. Fine office and living rooms up to date; all furnished. Exceptional opportunity for any one with pulmonary trouble. Lady or married man. "S 685," care Keystone.

STOCK and fixtures in first-class town in Southern Wisconsin. Rich dairy country. Will invoice about \$2000. Other business. "S 684," care Keystone.

IN one of the most prosperous and growing towns in Northern Minnesota, a jewelry business of excellent reputation; large railroad business, with watch inspection. Best location in town. Stock and fixtures about \$2000; can reduce to suit purchaser. Especially good for Scandinavian. Best reasons for selling; investigate. "H 603," care Keystone.

\$1700 JEWELRY stock, fixtures, safe, engraving machine. Town 1400, no opposition; clean stock. Must sell by Jan. 10th. Poor health. Monroe Ewing, Ridgefarm, Ill.

GOOD-PAYING jewelry business in live, growing manufacturing town of about 3000 pop., 12 miles from Chicago. Fine, clean, up-to-date stock and fixtures, low rent. Invoice about \$2200; will take \$2000. Good reasons for selling. "K 701," care Keystone.

SPLENDID opportunity. \$1000 buys jewelry stock and fixtures in Minnesota town of 700 in thickly settled, thriving farming country. Expenses small. Will reduce stock if necessary. A. Sweningsen, Moorhead, Minn.

AFTER Jan. 1, 1904, in the best town in the Northwest—distributing point of the inland empire. A well-equipped retail and jobbing, manufacturing and repair shop. Good-paying mail order business. Steady work for 2 men. Established 10 years. Will sell at actual worth of tools and invoice. Estimated \$2200. J. M. Arant, 428 Sprague Avenue, Spokane, Wash.

\$1000 BUYS jewelry stock in Iowa town of 1200. Clean stock. Box 404, Elma, Iowa.

AT once, for cash, one of the very best paying jewelry stores in the State of Kansas. This is a great opportunity for the right man. Stock will invoice about \$8000; can reduce. Best reasons for selling. M. F. Wilms, care Bonaventure Hotel, Kansas City, Mo.

JEWELRY store in best town in the Southwest. Railroad watch inspector, no opposition; pop. 2000; 2 railroads and river; good school. Invoice \$2500—fine fixtures; good reason for selling. Write at once or you will miss a gold mine. "D 709," care Keystone.

HALF or whole interest in established optical office. Buyer takes complete charge. Pop. 280,000; rent \$20. Opportunity of a lifetime. Reasons. "P 712," care Keystone.

FOR SALE.

STORES, STOCKS AND BUSINESSES.

JEWELRY store in Southwestern Minnesota; invoice \$300. Must sell by Jan. 15th. Nearest competition 16 miles. A. A. Burns, Hills, Minn.

ABOUT \$1800, jewelry and optical business in a good Wisconsin town, 1400 pop., situated on C. & N. W. railway. Going West. Get busy and buy so to get the holiday trade. "K 711," care Keystone.

WELL-ESTABLISHED jewelry store for sale in one of the best agricultural towns in South Texas. No opposition. Thickly settled country with prosperous farmers. Plenty of bench work and cheap rent. Stock between \$2000 and \$3000. If wanted, will sell with fine residence. Will quit business on account bad health. Write to A. V. Schvab, Shiner, Texas.

FINEST jewelry store between St. Louis and Little Rock, in live town of 4500. Bench work run \$200 month. Stock and fixtures will invoice about \$5000. Reason for selling, ill health. Address, Lock box 254, Newport, Ark.

JEWELRY and music business, invoice \$2500; can reduce. Only one other jeweler and no other music dealer in town of 8000. Plenty of work; have been in same room for 18 years. Good reasons. Box 195, New Brighton, Pa.

ON account of sickness, one of the best little jewelry stores in Brooklyn, N. Y. Stock and fixtures invoiced about \$2000. Address, Clara C. Tyler, 178 Seventh Ave., Brooklyn, N. Y.

COMPLETE stock of jewelry, watches, clocks, etc., in town of 2500 inhabitants. Price very reasonable. Address, Frank Kennedy, Carlisle, Ky.

CORNER jewelry store, fine location. Bench work \$5000 per year. Wish to retire. Apple, the jeweler, corner Third and Pennsylvania Avenue, S. E., Washington, D. C.

JEWELRY stock and fixtures; only good store in a city of 10,000—surrounding country good; large summer-souvenir trade. Repairing \$1500. Sales will run over \$13,000. Stock and fixtures inventory \$10,000. If interested, write Jno. A. Cox, 131 Wabash Ave., Chicago, Ill.

\$1800 CASH buys fine-paying jewelry, china and music business in Western Indiana; fine country. An opportunity for good jeweler. Have other business. Address, "R. E.," lock box 7, Dana, Ind.

\$75 OPTICAL stock consisting of gold filled alumino and nickel frames, large stock of lenses, \$55 Audemare trial set, Geneva lens measure and Loring ophthalmoscope. All new and never been used. This is a bargain and will be sold for \$100. M. King, box 234, Stamford, Conn.

JEWELRY, china and art store, good location as any in the Central States. Fixtures \$800, and as much stock as you want. No competition; inhabitants 4000. "P 725," care Keystone.

THE leading jewelry store of Southwest Oregon; county seat; growing and prosperous city. No blizzards or cyclones; mild, healthy climate. Business well established and paying. Reasons for selling, given on application. Don't answer unless you mean business and have a little ready cash. Enclose stamp for answer. Box 97, Coquille, Oregon.

\$200 BUYS nice, clean business and fine repair trade. Owner must take up other interest at once. W. H. White, Lewes, Del.

JEWELRY business in thriving town in the heart of the Red River Valley. Leading store of the two; established since 1880. Can reduce stock to \$1500, with fixtures, by Jan. 1, 1904. Good trade, also good run of watch work. One of the best locations and as well established business in the State. Don't apply unless you mean business and have the cash. Ill health, the reason for selling. "L 694," care Keystone.

FOR good and sufficient reasons the proprietor of the leading jewelry and optical store in the Philippine Islands, located at one of the most prominent business locations in Manila, and doing a large business, offers it for sale. Its trade is well established and profitable, with a bright future ahead. Stock and fixtures will invoice at \$60,900 to \$65,000, with a bonus of \$10,000 for good-will of the business. This is a good opening for a party in a growing city. For particulars address, "W 727," care Keystone.

\$2900 BUYS good-paying jewelry business in growing Massachusetts town of 4000. Average net profit last 3 years \$1775. Good reason for selling. "H 731," care Keystone.

FOR SALE.

UNDER THIS HEADING THREE CENTS PER WORD.

MISCELLANEOUS MERCHANDISE AND EQUIPMENT.

THREE sets jeweler's rollers, flat, wire and ring, enameling and melting furnace, wire draw bench, 75-pound drop hammer, 1 iron frame and grindstone, etc. Inquire L. W. Mueller, 691 Brush, Detroit, Mich.

FOR SALE.

MISCELLANEOUS MERCHANDISE AND EQUIPMENT.

GOOD set watchmaker's hand tools. Address, Aubrey Dunn, Coleman, Texas.

PLATED ware. Wishing to drop the line manufacturer offers molds, chucks, molds, etc., at low price. Ad., "S 706," care Keystone.

CROSS retinoscope practically new. Guaranteed in good condition, price \$25. "B 696," care Keystone.

BARGAIN—Mewrowitz new model lens-cutting machine, \$40; in perfect working order; cost new \$65. Address, "W 692," care Keystone.

HAMBERS, Inskoop ophthalmometer, new. Gaskill's jewelry store, Rochester, Minn.

ONE Hardy ophthalmometer in good condition; used only a few months. Make an offer. "W 691," care Keystone.

FINE violin, Strad. model, 75 years old, excellent condition, good case and bow, \$25 cash. Milo G. Pray, Muskegon, Mich.

REISNER'S lens measure, latest model, for \$4. Charles Hueg, Easton, Pa.

GENEVA retinoscope, first-class condition, 2 illuminating outfits and a stool, \$25. All letters answered. R. E. Chappell, Paw Paw, Mich.

\$50 FOR sale, about one-third its value, a 56-hour chronometer by Fosler, good size, modern dial, with indicator and flat glass. Has just been put in thorough order by one of the leading chronometer makers and manufacturers to the U. S. Government. For rating and full particulars address, Wm. Bond & Son, 152 State St., Boston, Mass.

ONE \$30 Oliver roll, flat, used less than year, to highest bidder. "J 697," care Keystone.

CLARINET, cost \$20, sell for \$10; perfect condition. A. Sweningsen, Moorhead, Minn.

CHEAP, 1 Francis engraving machine, with 9 sets of types and several attachments, in first-class order, \$35; 1 electro-plating dynamo, with gear attachment, Gray's make, for gold, silver, copper and nickel-plating, with 4 different tanks and solutions, direction book and all belongings, \$25; it will pay for itself first month; 1 polishing lathe complete, with brushes, buffs, etc., brand new, \$5. A. V. Schvab, Shiner, Texas.

ONE De Zeng's latest improved refractometer, \$35; 1 Loring's improved ophthalmoscope, \$3; 1 adjustable bracket for electricity, \$4; 1 Geneva trial case, in use 1 year, cost me \$55, my price, \$40. All above as good as new. T. McKinney, Hutchinson, Kans.

DE ZENG'S refractometer, in first-class condition, new, \$35 cash. Gale Burlingame, 442 Prospect Ave., Buffalo, N. Y.

GENEVA ophthalmoscope and retinoscope, combined, used 2 months; electric and oil attachments; perfect condition. \$60, delivered. "E 729," care Keystone.

6-FOOT wall case, large mirror in center; 2 6-foot show cases and counters; 2 partitions and door, with word diamonds engraved on glass; bench, buffing lathe; all walnut, plate glass, \$150. "S 730," care Keystone.

FINE jeweler's regulator, same as new. Ad., Mrs. Ida Sharp, 1808 Clay, St. Joseph, Mo.

BOLEY lathe, 10-chuck combination, and Sams' blowpipe complete. First draft for \$22. W. B. Bellamy, Warsaw, Mo.

FOR SALE OR EXCHANGE.

UNDER THIS HEADING THREE CENTS PER WORD.

9 Brunswick alleys, F. O. B., Boone, Iowa. Write quick. Box 514, Abingdon, Ill.

PARROT cage, solid brass, large, almost new; double-barrel shotgun; gasoline lamp, 100-candle power. F. Collingwood, Norwalk, Ohio.

\$125 WORTH watch tools and materials. Want optical appliances. Box 209, Grafton, W. Va.

I WILL exchange a new model Franklin typewriter for a good trial case, etc. "F 700," care Keystone.

FOUR years of KEYSTONE; best offer. "B 690," care Keystone.

COLUMBIA nickel-in-slot graphophone, exchange for New Century engraving machine or watches. "B 687," care Keystone.

STAKING tool, Howard regulator. Want watches. "B 688," care Keystone.

SWISS lathe, 35 chucks, countershaft and foot wheel. Cash or watches. "B 689," care Keystone.

COLUMBIA graphophone, with slot attachment for nickels, cased in oval glass cabinet; also 30 records. Oscar Nelson, Petersburg, Ill.

FOR SALE OR EXCHANGE.

COMPLETE KEYSTONES, 1895 to 1902 inclusive, for *Ophthalmologist*, 1900 and 1901. Or what have you to offer? C. H. Nerbovig, Mankato, Minnesota.

\$550 MOSLER jeweler's safe, 2 years old; good as new. Will exchange for second-hand automobile, diamonds, optical goods or tools. Alonzo Scott, Marietta, Ohio.

QUARTER section fine farming land in Assiniboia, Canada, no better land anywhere, for small stock jewelry. Or what have you? P. A. Martin, Albion, Nebr.

FIRST-CLASS grandfather calendar clock; cheap. Jno. M. Fleming, Raleigh, N. C.

80 POUND drop hammer and screw press; nearly new. F. Schlaupp, Des Moines, Iowa.

\$100 ASSORTED plated jewelry; prefer diamond. Oscar Homan, Des Moines, Iowa.

24 8-DAY time clock movements, 1 Acme countershaft, 1 shelf clock, wood movement, 75 years old; Crosby's jewelry tool, Ide's demagnetizer. What have you got? W. F. Winslow, Winsted, Conn.

HAVE rare inducements to jewelers desiring to change their location. Will pay to investigate; will sell outright. Best of reasons and refs. given. Best and rarest stand in line, South Missouri town. Would also exchange show cases and fixtures, if agreeable, to avoid risk in shipping. Prefer California, Indiana, Texas or Western States; others solicited. Must be good business stand, good town, etc. State particulars. Address, "C 680," care Keystone.

SPECIAL NOTICES.

UNDER THIS HEADING THREE CENTS PER WORD.

WATCHMAKERS—For \$1 I will send you 3 dozen assorted watch jewels for repairing purposes. A. F. Freeland, watch, clock and chronometer jewel maker, 376 Washington St., Boston. Jobbing a specialty.

OPTICIANS' opportunity. Will rent our optical department for \$10 per week and guarantee you more; or rent free and divide profits. Established 1889. H. E. Thomas, Wilmington, Del. Too busy to attend to same, and a paid man will not do as well as someone with an interest. Best location, second to none. 100,000 pop. That's all; that's enough. What more could you ask? Your refs. must be A1.

A LIFE scholarship in our college, including diploma and highest degree, for only \$7.50. See our advertisement, page 2000 and write for our new prospectus. South Bend College of Optics.

WE want every jeweler and optician, who has an hour each evening to spare, to write us for our new plan of making money. We have a winner and can give you good wages. The National College of Optics, Cedar Rapids, Iowa.

DESK room, or part of office to let. Room 41, 51 Maiden Lane, New York.

BUSINESS NOTICES.

UNDER THIS HEADING THREE CENTS PER WORD.

AMERICAN 18 size, key movements, \$1.50 each; good condition; best makers. Jus. Broadbent, 4 S. Forty-second St., W. Philadelphia.

WHY not send me your watch cases that need repairing? Can replace any part of a case. G. F. Wadsworth, Silversmiths' Bldg., Chicago, Ill.

YOU are looking for a good, reliable firm to do your watch work. Here is the place. W. K. Sandberg, watchmaker to the trade, 802 Columbus Memorial Building, Chicago.

GOLD and silver-plating, satin finish, engraving, engine-turning, everything in the line of watch case repairing. G. F. Wadsworth, Silversmiths' Building, Chicago.

WHERE to receive the highest cash price for every kind of gold and silver. Refiner of sweeps, filings, brushings, polishings, everything containing gold and silver. Fine gold, silver, copper for sale. J. L. Clark (established 1870), 727 Sansom Street, Philadelphia, Pa. Send by mail or express; prompt attention given.

HAVE you an old English watch case you want changed into American stem-wind? If so, send it to me, and I will guarantee satisfaction. G. F. Wadsworth, Silversmiths' Bldg., Chicago, Ill.

THE Omaha Watch Repairing, Engraving and Optical Institute gives more practice to students than any larger school can. We furnish practical work from start to finish and instruct you rapidly and thoroughly. Each of our courses fit young men for high-salaried positions. Technically-trained workmen are always in great demand. We prepare students to fill advanced positions. Our methods of instructing our students are recognized by business men throughout the country, being very practical. Our instructions are thorough and up to date. Ambitious young men, who are not satisfied with their income or situation, write for full particulars. Send for prospectus. Tarbox & Gordon.

FOR SALE.

STORES, STOCKS AND BUSINESSES.

JEWELRY business at a bargain, if sold before Jan. 10th. Repair work \$150 per month; sales about \$6000 per year. About \$1000 will buy it Jan. 10th. G. W. Stong, Ouray, Colo.

\$20,000 WILL buy a well-established jewelry business in large Western city; healthy climate. One of the best locations in city, doing a business of \$2000 per month. Stock clean and staple. Address, "H 733," care Keystone.

\$2500 PROFIT first year. Exclusive optical parlors, prosperous Eastern city. Proprietor sick. First \$1500 cash takes it with entire stock and most modern outfit. Act quickly. "B 732," care Keystone.

FINE location and stock of goods; invoice about \$750. No opposition; town of 700; 18 miles from any other jeweler. Other business, reason for selling. Address, Cooper & Cooper, White City, Kansas.

FOR SALE.

MISCELLANEOUS MERCHANDISE AND EQUIPMENT.

FULL set of watchmaker's tools and material cheap. Also Johnson's trial case, nearly new. Write for price. Address, William F. Davis, jeweler, box 384, Saginaw, Mich.

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.,
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where you can have an immediate Cash Offer.
Established 1880

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The best-selling technical book in 1903 was the well-known treatise, **The Art of Engraving.**
The reason is manifest. Every critic, every reader, every one qualified to judge, pronounced it an ideal treatise—complete, clear, practical—teacher and text-book all in one. It contains over 200 original illustrations, each conveying a practical lesson.
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To receive the best instructions in watchwork one must attend the school which has the best instructors. For your own benefit compare our school with others.
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Swartchild & Co.	1922
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Tidd & Co.	2012
Tilton Optical Co.	1986
Trenton Watch Co.	1948
Trout & Co., Chas. L.	1903
Twambley & Son, S. G.	2002
Underwood Typewriter Co.	1870
U. S. Electro-Chemical Co.	1908
U. S. Temple	1982
Wadsworth, G. F.	2013
Waltham Clock Company	1916
Waltham Horological School	2008
Warner & Swasey Co., The	2002
Wayne Jewelry Co.	1932
Wells, Chester	2012
Wendell & Co.	1873, 1874, 1875, 1952, 1976
Wheeler & Co., Hayden W.	1900
White & Co., N. H.	1898
Wightman & Hough Co.	1870
Willson & Co., T. A.	1877
Winship & Co., Chas. K.	2012
Winslow, L. E.	2015
Winter Lumber Company, M.	1958
Witsenhausen, L.	1962, 2006, 2012
Wood & Sons, J. R.	2016
Wright Pen Co.	1972
Young & Co., Otto	1964, 1994
Young & Co., O. W.	2012
Zimmern & Co., Henry	1878

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from Cutter to
Retail Dealer
direct.

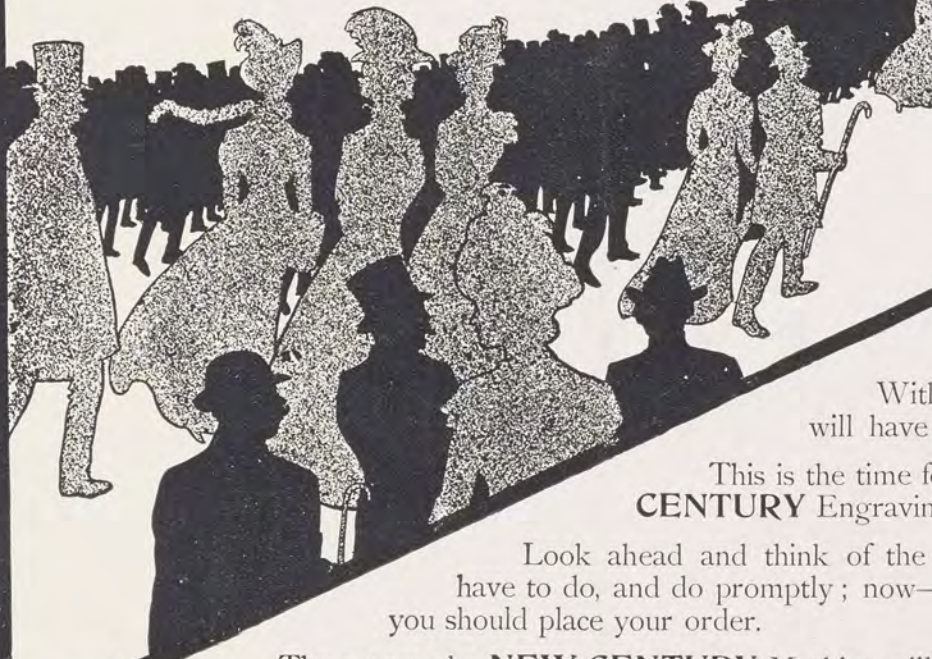
J. R. Wood & Sons,
DIAMOND CUTTERS,
2 Maiden Lane, **New York.**

Cutting Works:
1327-1329 Atlantic Ave., Brooklyn.

You may walk this street in absolute safety day or night.

We guarantee you against overcharging or misrepresentation here. You can be sure, if you purchase, you are getting just what you think you are buying.

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With the increase of trade you will have more calls for engraving.

This is the time for you to order your **NEW CENTURY** Engraving Machine.

Look ahead and think of the stack of engraving you will have to do, and do promptly; now—to-day—before it is too late, you should place your order.

The money the **NEW CENTURY** Machine will make for you in the engraving you can do on it and in the sales it will clinch, will pay for it in the next six weeks.

Our **NEW CENTURY** is good all the year round, but at this season, of all others, you need it most.

You needn't pay cash if you don't want to (though we make liberal discounts to the cash man)—**payments** of \$5.00 or \$10.00 per month if you prefer.

Our machines are shipped assembled, with fully illustrated book of directions for using, and are furnished complete with type and everything necessary for handling your Holiday Engraving.

At this time we can ship promptly.

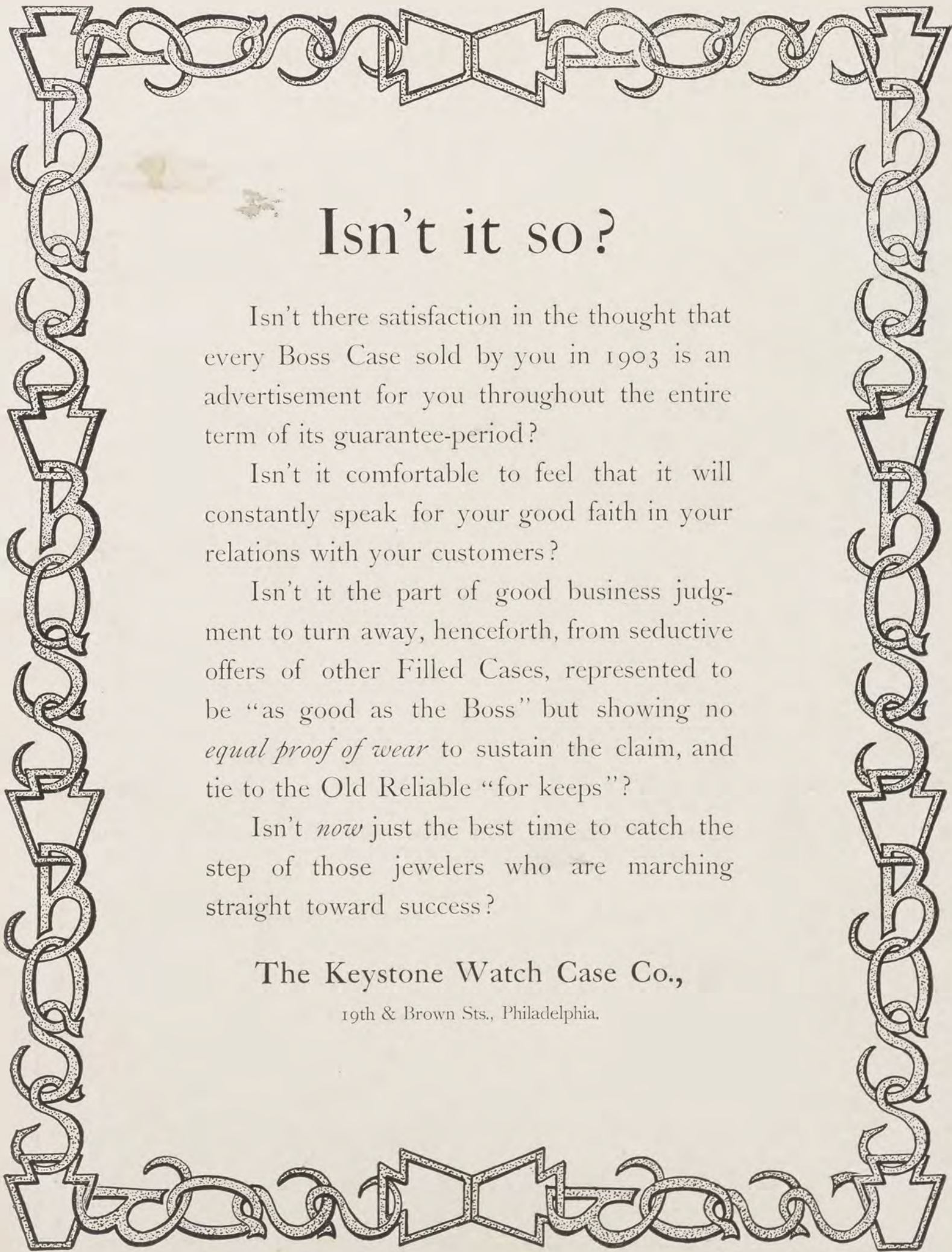
Don't delay and run the risk of late delivery. Write or telegraph, but "get busy" and do it to-day.

Remember this is **DECEMBER**.

**The Eaton & Glover
Company,**

87 Nassau Street,
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Isn't it so?

Isn't there satisfaction in the thought that every Boss Case sold by you in 1903 is an advertisement for you throughout the entire term of its guarantee-period?

Isn't it comfortable to feel that it will constantly speak for your good faith in your relations with your customers?

Isn't it the part of good business judgment to turn away, henceforth, from seductive offers of other Filled Cases, represented to be "as good as the Boss" but showing no *equal proof of wear* to sustain the claim, and tie to the Old Reliable "for keeps"?

Isn't *now* just the best time to catch the step of those jewelers who are marching straight toward success?

The Keystone Watch Case Co.,

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