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AUGUST, 1890.



T. H. LEE & SON

WILL SHOW THIS MONTH FOR THE FALL TRADE

AMN. MOVEMENTS
 DIAMOND AND OTHER GEM RINGS
 GOLD, SILVER AND FILLED CASES
 SWISS AND AMN. CHRONOGRAPHS
 AND THE LATEST
 JEWELRY NOVELTIES.

SPECIAL ATTENTION TO LETTER ORDERS.

T. H. LEE & SON, - - - 1 WELLINGTON ST. EAST, TORONTO.



P. W. ELLIS & CO.

31 WELLINGTON ST. EAST, TORONTO.

FALL TRADE.

Our Immense Fall Importations have arrived. Jewelers will find in our Stock many new departures.

Goods they have wanted, but not yet seen, and we can supply the universal craving for
NOVELTIES.

The productions from our own Factory will surpass our previous efforts.

It will pay you to examine our Stocks before purchasing elsewhere.

Our Travellers have started for all points in Canada.

Mail orders attended to by a large and practical staff.

Correspondence solicited. Information cheerfully given.



The Goldsmiths' Stock Company of Canada, (LIMITED).



OUR Stock for the Fall Trade is now Complete in every Department, and we ask the careful attention of the Jewelry Trade of the Dominion to the List of the various Lines enumerated on the following pages, showing the extensive character of our assortment.

These goods have been bought for Cash by buyers well acquainted with the requirements of the trade and the sources of supply both in the American and European Markets.

Wait for and carefully inspect our Travellers' Samples, You will find it a pleasant and profitable task.





WATCH DEPARTMENT.

FILLED CASES.

PRICES in these goods we cut close. Our assortment includes all desirable lines. They are fitted with Gold Bows, an essential feature, and our desire is to put in the hands of the Retailer such goods alone as will be satisfactory to the consumer. Do not destroy confidence in a really meritorious article by handling any lines that are not made by thoroughly responsible and reputable manufacturers. We have some Nobby Patterns in Ladies' Goods.



GOLD CASES.

See our Embossed Pattern. This is the Richest and most Artistic Design in the Market. Made in all sizes.

A Large Assortment of Fine Engraved Ladies' Cases, and Heavy Weights in Gents' Presentation Goods.

Prices in these are so low that any dealer can afford to carry a fair stock.



SWISS WATCHES.

Special Value in Silver Chatelaines and Ladies' Hunters, also a few very nice goods for fine trade.

LADIES' AMERICAN GOLD WATCHES.

Several hundred Choice Engraved Goods at a Specially Attractive Price. Write for a few on approval.

MOVEMENTS.

The Regular American Goods with a few desirable lines of Swiss.

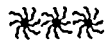
The Goldsmiths' Stock Company of Canada, Limited.



ANSONIA CLOCK DEPARTMENT.

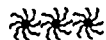
NICKELS.

Prices as favorable as usual.



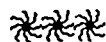
NOVELTIES.

Many New and Saleable Goods.



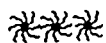
ENAMELLED IRON.

Lower in price, superior in finish, and more artistic in design than any Fancy Mantel Goods in the Market. See the new Patterns in Pillar Designs.



WALNUTS.

One Day and Eight Day Specials, at prices as low as any offered.



PRESENTATION CLOCKS.

Some elegant Silver Finish Goods. The newest and handsomest style of Clock Decoration yet produced; also a few fine things in Oak, with Antique Brass Trimmings.

Remember that Ansonia Clocks for quality of material, beauty of design and mechanical construction are unexcelled. A merchant can work up a more permanent and profitable trade by steadily pushing Ansonia than handling a mixed line of goods.

We are the Canadian Agents.



JEWELRY DEPARTMENT.



ENGLISH GOLD GOODS.

Our importation of Gem Rings is the choicest we have hitherto made ; they are superior to domestic productions in style and finish, and, where fine workmanship is prominent, in value. The assortment was selected from the best manufacturers of Birmingham, and in the highest degree merits your careful inspection.

A very complete range of LADIES' VICTORIAS, BRACELETS, BROOCHES, &c., in the latest designs.



ENGLISH SILVER GOODS.

BROOCHES, DROPS, BAR PINS, BANGLES in endless variety.



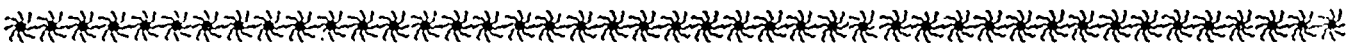
AMERICAN JEWELRY.

We show, we think, without exaggeration, the most extensive assortment in Canada, novelty after novelty in every class of goods. We recognize fully that this is a very important department and have supplied it most liberally with the freshest goods obtainable.

Our 14k MALTESE CROSS ROLL PLATE CHAIN still leads the market in value, and our assortment of one hundred patterns gives the most critical, abundant choice.

We show Three Hundred Designs in BROOCHES, representing thoroughly all grades.

One Hundred Patterns of LADIES' VICTORIAS with the newest and nobbiest Moonstone and Rosaline set charms in heart shapes, etc. Altogether the completeness of this department in every detail has only been accomplished by the closest attention to the growing demand for this class of goods.



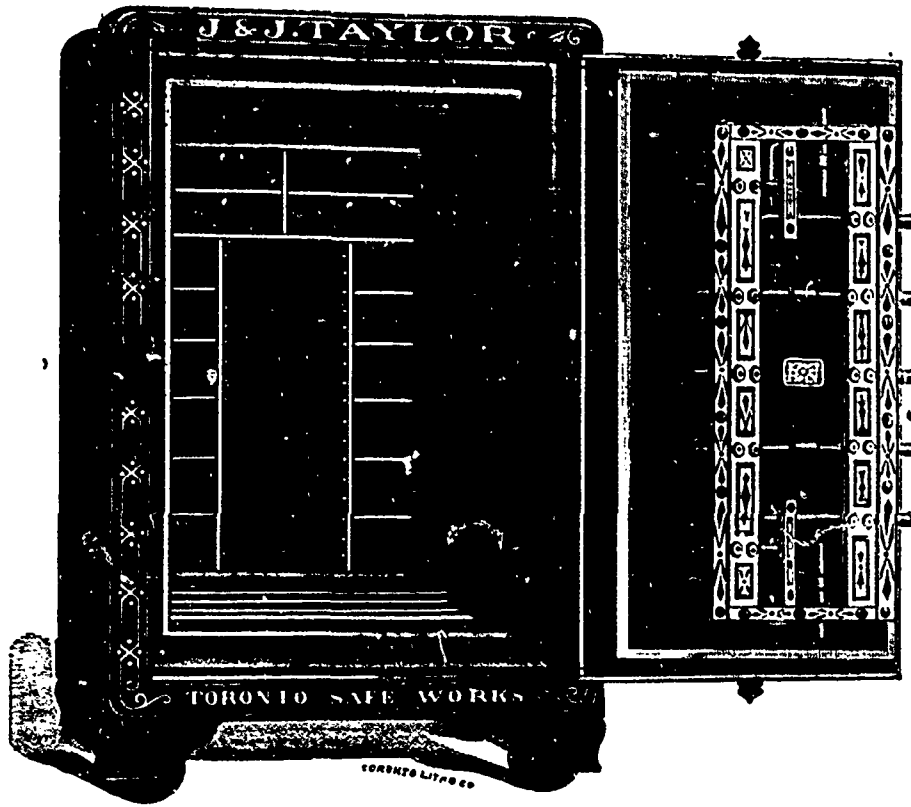
LOOK CAREFULLY THROUGH OUR TRAVELLERS' SAMPLES.

The Goldsmiths' Stock Company of Canada, Limited.



SOMETHING NEW IN JEWELERS' SAFES

J. & J. TAYLOR'S
NEW STYLE
JEWELERS' SAFE,



DOUBLE TONGUE AND GROOVE
FIRE-PROOF DOORS.
WITH

J. & J. TAYLOR, TORONTO SAFE WORKS.

IN ORDER to meet the wishes of the jewelry trade, we have at last succeeded in perfecting a new style of safe for jewelers' use, combining the advantages of first-class

FIRE AND BURGLAR PROOF SECURITY WITH MODERATE COST.

THE above cut represents our new style of Fire and Burglar Proof Safe for Jewelers, which has an entire lining inside of best five ply welded Chrome steel and iron, with heavy Burglar Proof door, made any thickness required, and which is securely attached to the Fire proof door. The Burglar Proof Door is fitted with rubber tube packing to prevent the use of explosives, and is locked with four wheel Combination Lock having our patent Enlarged Centre Lock Spindle and Bolt Handle.

To the above improvements is also added our new patent

DOUBLE TONGUE AND GROOVE FIRE-PROOF DOORS

this being the latest improvement in Fire Proof Safes, and PATENTED BY US JANUARY 14TH, 1886. This door is fitted with a TONGUE made of wrought iron, corresponding with and locking into a GROOVE, made of same material, on the door frame. To both of these is connected a SECOND TONGUE and GROOVE made of thin galvanized steel, which is filled with non conducting material thus making

TWO COMPLETE TONGUES AND TWO GROOVES IN EACH DOOR.

and which we maintain is the best fire-proof safe now made.

CATALOGUES AND PRICES ON APPLICATION.

J. & J. TAYLOR,

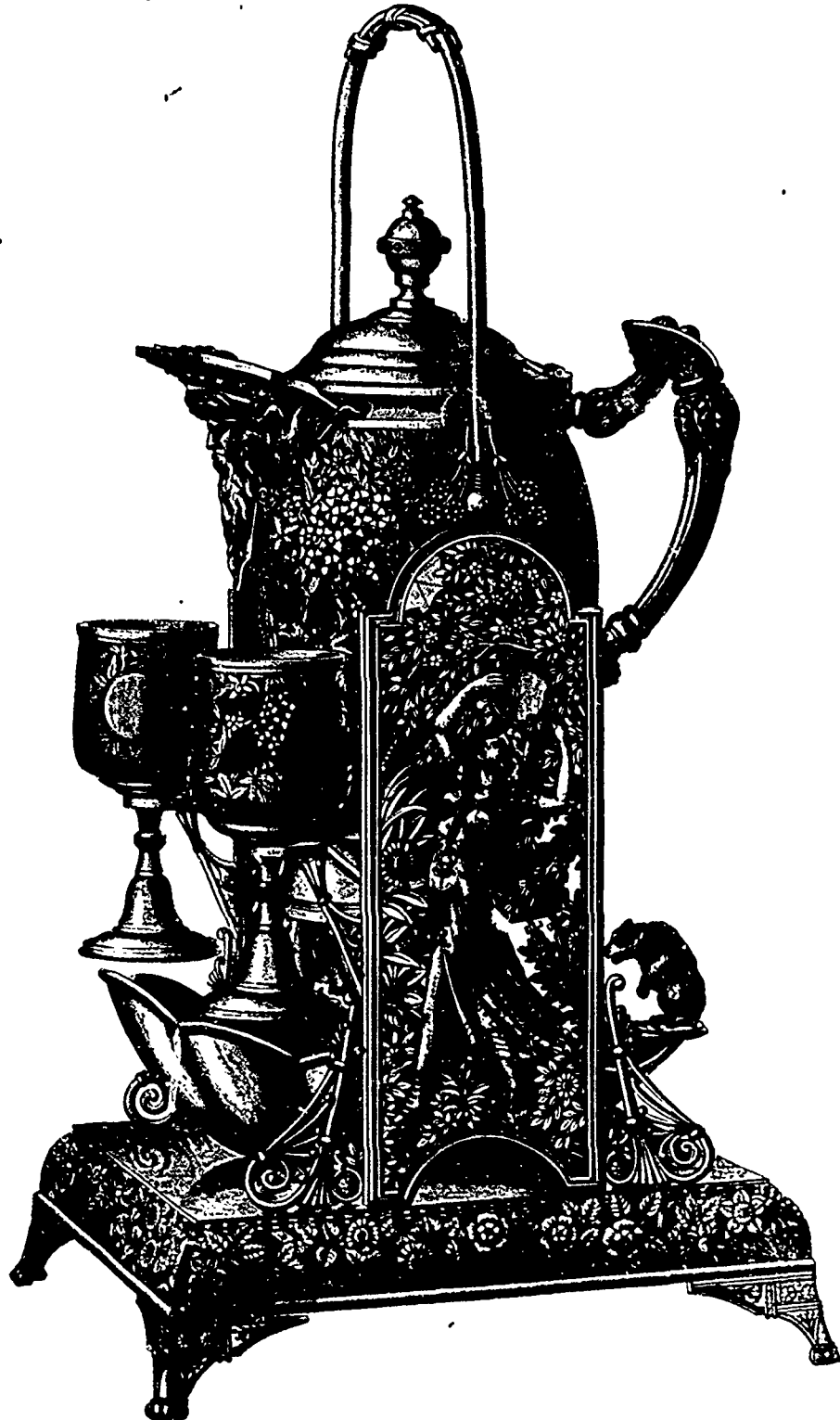
TORONTO SAFE WORKS,

117 and 119 Front St. East, Toronto.



MERIDEN BRITANNIA CO'Y

FINEST QUALITY
ARTISTIC, GOLD & SILVER PLATE.



MARK
For HOLLOW WARE

TRADE MARK

1847, ROGERS' 8805, XI
OR
1847, ROGERS' 8805, XII.

For Genuine Rogers Goods.

NO. 85. BROCADE, EMBOSSED TILTING PITCHER SET, \$75.00.

Manufactories: Meriden, Conn., U. S., and Hamilton, Ont., Canada.



WHERE THE DIFFERENCE COMES IN.



TORONTO, ONT., AUGUST, 1890.

The recognized organ of the Jewelry and kindred Industrial Trades of Canada. Published on the first of every month, and sent free to every dealer in Jewelry, and kindred goods in the Dominion of Canada. Price to all others \$1.00 per annum, payable strictly in advance.

Our rates for advertising will be found very low, and will be made known upon application.

We shall be glad to receive correspondence from all parts, and will publish such letters as will be of interest to the Trade. We do not, however, hold ourselves responsible for the opinions of our correspondents. The name and address must invariably accompany the communication, not necessarily for publication, but as a guarantee.

All business and other communications should be addressed to THE TRADER PUBLISHING CO., 67 ADELAIDE ST. W., TORONTO, ONT.

SPECIAL NOTICE.

To ensure insertion, changes or new advertisements must reach this office not later than the 20th of each month.

EDITORIAL.

THE OUTLOOK.

SO FAR as any one can at present see, the crop prospect for the Dominion of Canada is an extremely favorable one, and taking it on the whole, beyond the average of ordinary years.

The prospects are also that prices, with perhaps the exception of barley, will be somewhat higher than those which have obtained for the past few years, so that if indications are worth anything, our farmers should find themselves in better circumstances than they have for some years past.

The only cloud in the agricultural horizon is the McKinley U. S. tariff bill, and it is yet too soon in the day to predict whether it will prove merely a sign of wind, or drown the poor Canadian farmer out. Whichever way it turns out, our duty as Canadians is to meet it manfully and discount its harmful effects as far as practicable by finding other and less variable markets for the goods that the United States has hitherto taken from us.

So far as we can at present forecast the commercial future of the country, we should say that all the indications point to a good sound trade for the coming year. Good crops and prices mean a revival of business amongst all classes of the community, and if the jewelry trade does not share in the general prosperity, it will be because they have failed to take advantage of the experiences of the past.

THE letter of Mr. W. Wentworth, of Montreal, which will be found elsewhere in this issue, criticising our editorial article on the difference between the English and Canadian methods of taxation, calls for some slight comment, not so much on account of the potency of the arguments advanced, as to show up the inconsistency of a certain class of people, who, while quite willing to accept the high rate of wages which obtains for all classes of labor on this continent, refuse to do so without a grumble that they cannot also have all the advantages enjoyed by the under-paid mechanic of so-called "free trade" England.

Such people should remember that "they cannot both have their cake and eat it," and that if they are enamored of the English free trade system, and want its benefits in the shape of cheap goods, they cannot obtain them without also taking its concomitant disadvantages of low wages and accompanying pauperism.

To show the absurdity of the position referred to, we need only point out that if Canada were to tax herself exactly on the same "free trade" lines as England, two things would certainly happen, (1) That on account of the displacement of domestic manufactures (which Mr. Wentworth says are very much higher here than in Great Britain and Europe) thousands of our best and highest paid Canadian mechanics would be thrown out of employment, and (2) That those who were left would of necessity find their wages reduced to the level of the same class of workmen in England and Europe, for it is evident that the same law would apply to labor and its products that is wrongly applied by Mr. Wentworth to the product of the farmers, which he claims is not protected.

Free traders are continually boasting about the cheapness of goods of all kinds in England, and it is no doubt true that some varieties of goods are cheaper in that country than on this side of the Atlantic, but although this is the case it does not necessarily follow that England is a better place for the workingman than this country. The fact that millions of British people, the very bone and sinew of the country, have left their native land and settled down here in America, is proof positive that although free trade England is well enough in its way for the classes, that the masses prefer a country where wealth is more evenly distributed, and the toiler not only receives a higher reward for his labor, but is enabled to live in a much more comfortable style than he could ever have hoped to do at home.

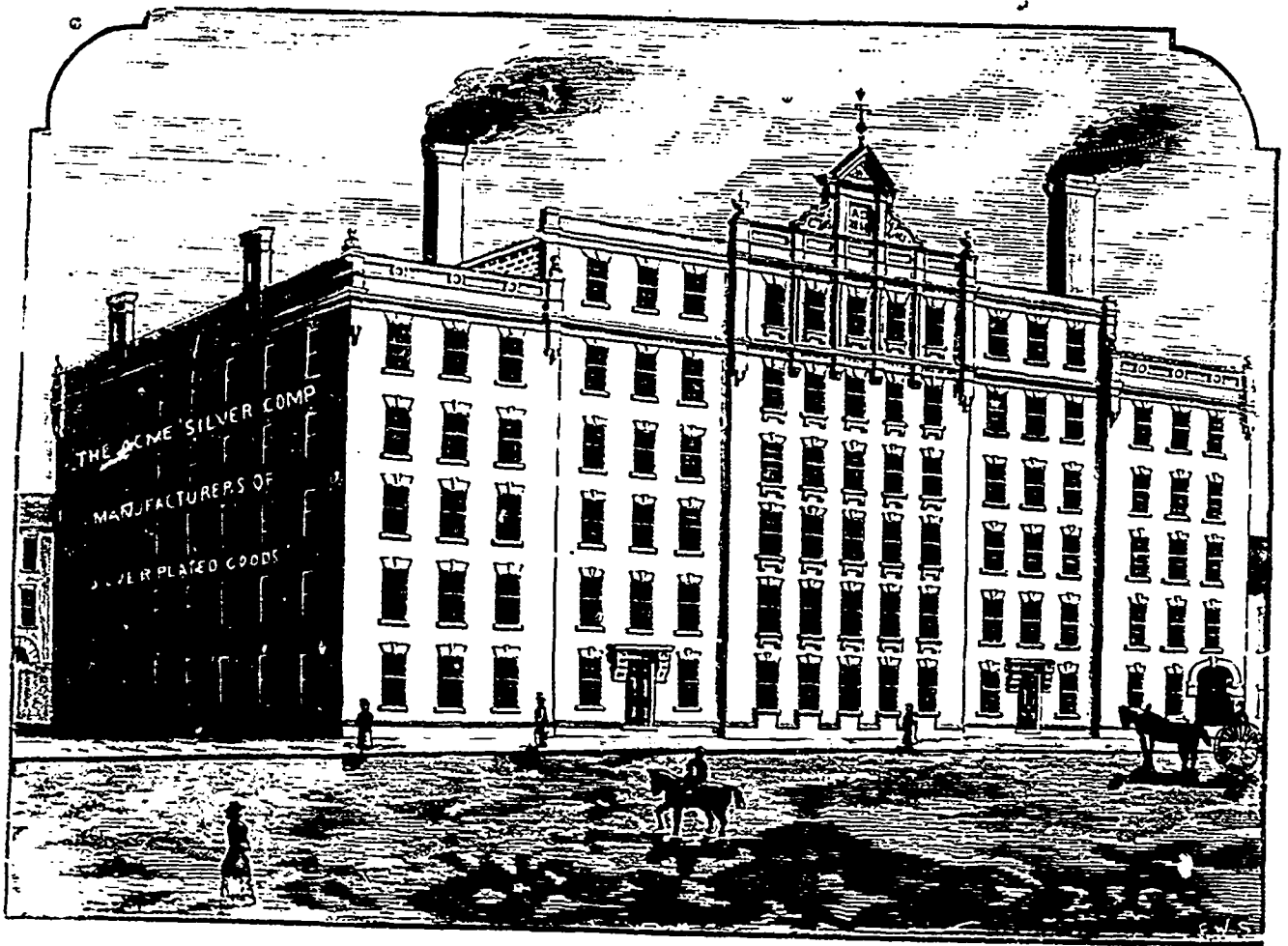
A cheap country to live in does not of necessity mean that it is a good country for the workingman; if so, why do not the advocates of the theory emigrate to such countries as India and China, where living only costs a few cents per day, and the person who is worth a few hundred dollars is considered a wealthy man. An Englishman just returned from Sumatra says that a person can live there on the fat of the land for fifty cents a month, but it is the hardest place to scare up half a dollar that he ever saw.

This may be an exaggeration, but it is no doubt true, that although it may cost work people in America more to live than



OUR * NEW * FACTORY

The Largest Silver Plate Factory in Canada and
the Third Largest on this Continent.



We expect to occupy the above Building in July.

THE ACME SILVER COMPANY,
TORONTO.




it does in England, that they live better and are able to save more money than they ever could do in the old land.

Referring to this aspect of the trade and labor question, the Hon. James G. Blaine, Secretary of State for the United States, in an address delivered during the last presidential campaign very pertinently said, "The issue of protection is incalculably stronger and greater than any man, for it concerns the prosperity of present and generations yet to come. Were it possible for every voter of the Republic to see for himself the condition and recompense of labor in Europe, the prty of free trade in the United States would not receive the support of one single wage worker between the two oceans. It may not be directly in our power as philanthropists to elevate the European laborer, but it will be a lasting stigma upon our statesmanship if we permit the American laborer to be forced down to the European level, and in the end the rewards of labor will be advanced if we steadily refuse to lower the standard at home."

In regard to Mr. Wentworth's statement that Canadian consumers are forced by Canadian manufacturers to pay them a similar amount of taxes on every article of domestic manufacture consumed by them that they would have to pay the Government on the imported article, we have simply to say that this statement is not borne out by facts. Mr. Wentworth instances as proof of his assertion that he had to pay \$24.00 for a suit of clothes, while his son could purchase a suit in England for \$14.00, but one such fact, even if it be ever so true, no more proves such a broad assertion than one swallow makes a summer. Now everyone knows that there are a dozen different things about the quality, style and make up of clothing, which will go far towards creating such a difference in price between two suits made by different makers in England itself, let alone in Canada. Without having seen the articles, however, we will venture to say that the Canadian \$24.00 suit, if properly bought, is worth far more money than any \$14.00 English suit, unless the latter has been bought at some bankrupt sale. Our personal experience on both sides of the Atlantic has convinced us that although clothing is cheaper in England than Canada, it is not so well made, and that if you want to buy first class clothing there you have to pay almost as much for it as you would in this country.

If Mr Wentworth will give some facts about staple goods that are the same in both countries, and the values of which can be compared with some certainty, we may have something further to say on this subject, but although such assertions as his are frequently made by free trade writers, and journals opposed to the protective policy of the present government, they will be found generally to have just about as slim a foundation as that upon which Mr Wentworth builds his argument for the abolition of protection to Canadian mechanics and manufacturers.

HONESTY THE BEST POLICY.

UR readers, in common with most Canadian business men, were no doubt surprised to learn from the daily papers last month of the unearthing of a scandal in the cigar trade, by which it appears that a certain wholesale fancy goods and tobacco house, which has hitherto borne a good character for integrity and fair dealing, has been proved

to have been guilty of palming off cigars of Canadian manufacture as "real Havannas."

It appears that in order to effect this the astute wholesale merchant not only paid for the internal revenue stamps, which the government insists shall be put upon all cigars of domestic manufacture, but went to the additional expense of paying for and pasting over them the regular customs stamps, which are supposed to be used exclusively upon foreign cigars imported into this country through the custom house.

Although this paying of duty to the government twice over at first glance looks like a waste of money, it was not so in reality. On the principle that "a pawn is sacrificed in order to take a knight" that honest importer apparently acted, knowing full well that the addition of the customs stamps was to most people ample proof that the cigars thus branded were imported goods of foreign manufacture. In other words the extra duty was paid out simply for the purpose of giving character to the goods, the importer rightly judging that no person would think of suspecting the government of complicity in a fraudulent transaction. Once it was fairly established that the cigars were real imported Havannas, and did not the customs stamp prove it? they were worth on the open market nearly double what they would bring if sold on their own merits as of Canadian manufacture. And so if P. T. Barnum's assertion, that the people like to be gulled, did not receive another demonstration, it at least established the fact that the Canadian public, who have constantly puffed away thousands of these "Canadian Havannas" under the impression that they were putting on style, knows just about as much regarding the quality of the article they were smoking, as the labels on the boxes told them, and were proud to pay double what they were worth in order to display their ignorance.

In writing up this transaction most of the daily papers have discussed it entirely from the standpoint of revenue, and some of them talk as if no harm had been done because the government had not been actually cheated out of any money.

To our mind, the worst feature of the whole affair is that any self-respecting house could so far lower its character as to deliberately plan a fraud upon an unsuspecting public. They well knew that neither the government nor the retail tobaccoists who handled the goods would suffer by the transaction, but that the real losers must be those who smoked the cigars and paid double price for them. That they were willing to be a party to such an imposition does not say much for their ideas of commercial rectitude, and we shall be very much surprised if in the long run they do not find it work materially to their disadvantage from a purely dollar and cent point of view.

That "honesty is the best policy," is an old maxim and a true one, and although a man may sometimes make money by misrepresentation and unfair dealing, it will be generally found that exposure of his dishonest methods comes out in the long run, and that he would have been far better off had he stuck to straight business and let crooked work alone. Although it has almost passed into a truism "that the only real protection of the consumer is the integrity of the manufacturer," in such a case as the one above cited, the manufacturer may have been ever so honest, and given ever so good value for the money he charged for his goods, but his honesty was neutralized by the action of the middle man, who, not content with a fair



GEORGE CHILLAS,

HEADQUARTERS FOR

WALTHAM

WATCHES.



FULL LINES OF ALL GRADES AND SIZES.

*I make a Specialty of Caseing all 3-4 Plate Movements
in Silver, Filled and Gold, thus saving the
Retailer the trouble of fitting.*

Original Designs of Engravings procured from best makers
in the U. S. and engraved on Canadian Gold Cases.

SPECIAL QUOTATIONS ON
CRESCENT GOLD FILLED CASES.

SWISS WATCHES.

Repeaters, Split Seconds and Chronographs, also Silver
and Gold Chatelaine Watches in endless variety.

Special Value in Diamonds and Diamond Rings.

GEORGE CHILLAS, 18 Manning Arcade, TORONTO.



profit, sought to unduly enhance it by misrepresentation and unfair business methods.

While the journalist is sorry to have to record transactions so lowering to the tone of commercial morality in this country, but little pity will, we think, be felt for the perpetrators of any such frauds, and if in the future such people find themselves unletted both in reputation and pocket, they may take time to reflect upon one of the sayings of our forefathers that "The mills of the gods grind slow, but they grind to powder." And so it is with all dishonest transactions whether in or out of business, retribution may be long delayed, but it is sure to get there all right in the long run.

CORRESPONDENCE.

A THOUSAND THANKS.

Editor TRADER—Sir:

I am very sorry to say I must give up business. I thank you a thousand times for the use of your valuable book, THE TRADER. As I am going to work on a farm I shall have no use for it.

Yours truly,

EDWARD EAVES,

June 8th, 1890.

Williamstown, Ont.

WITH PLEASURE.

Editor TRADER—Sir:

PLEASE send TRADER to enclosed address, as I have started in business here within the past few months, and, having been used to reading THE TRADER all along, I miss the monthly visitor very much. Please send and oblige.

Yours, &c.,

Almonte, June 23rd, 1890.

H. M. O'REILLY.

YOU WILL GET IT REGULARLY.

Editor TRADER, Sir:

AS I am entitled to your trade paper, I will kindly ask you to send it to me as I am lost without it.

It has been one of the best advisers to me as a watchmaker I know of, and thanking you for past favors, I remain, yours truly,

W. M. PERVAM, Watchmaker,

July 4th, 1890.

Tilsonburg, Ont

COMPENSATION.

Editor TRADER:—Sir,

In presenting this article to the readers of THE TRADER I act on the supposition that this journal is read, not only by proprietors or master-workmen of watch-repairing establishments, but also—as it should be—by their apprentices and "improvers" I shall therefore endeavor to make its contents intelligible to those of my readers whose education or experience has not carried them

beyond, perhaps, a dim insight into the laws of nature which underlie the principles of compensation, and shall be obliged to ask the indulgence of those who are fortunate enough to enjoy a thorough knowledge of the elements of physics, until the preliminary explanations on this point shall have been passed over.

"Compensation," as the term is used in horology, means providing a time piece with the means of adjusting itself to different degrees of temperature in such a manner that its time-keeping rate is not affected thereby. This article shall treat only on such timepieces the operations of which are controlled by a balance wheel, such as pocket watches, chronometers and small clocks.

In all of these, whatever the particular designation of their escapements may be, the number of vibrations of the balance in a stated period of time—and consequently, their rate of time-keeping—depends on and is determined by the weight of the balance relative to the strength of the balance spring or hair-spring as it is frequently called.

More than this, the same weight may be made more or less effective by placing it farther away from or nearer to the centre of the balance.

Keep the same hairspring in a watch and throw the weight of the balance farther away from the centre, that is, enlarge the rim or increase the diameter, and your watch will at once begin to fall behind in its rate. Bring the weight nearer to the centre, that is, contract the rim or reduce the diameter, the motion of your watch will be accelerated. All this in a certain proportion and according to certain well established rules, the explanation of which we shall not here attempt, but shall take it for granted that such is the case.

If any portion of the rim of a balance wheel be placed further away from or nearer to its centre, while the remainder is left in its original position, the removed parts will cause the same effect as if the whole of the rim were moved, only in a much smaller degree.

Now all metals are expanded by heat and contracted by cold, though not all in a like degree. Thus a watch subjected to heat will have the diameter of its balance wheel enlarged, while cold will have the opposite effect and diminish the diameter.

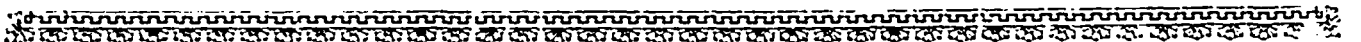
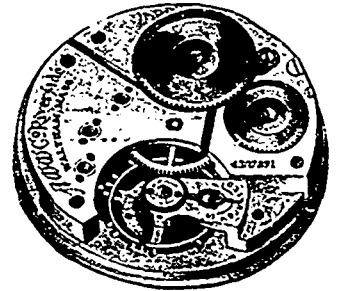
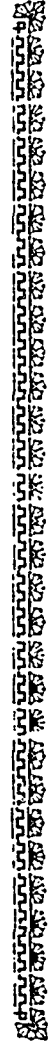
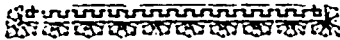
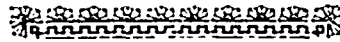
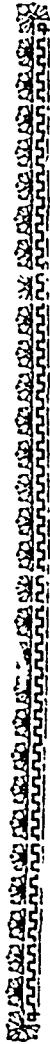
The amount of deviation from the truth in time-keeping, under the influence of different degrees of temperature, is, however, not chargeable to these changes alone. In fact the greater part is chargeable to the altered condition and consequent performance of the hairspring. Nevertheless, these thermal laws, above alluded to, are made use of to overcome not only their own effect, but also that caused by the changes in the hairspring.

How this is done I shall attempt to explain.

Brass, when heated, expands at a much greater rate than steel does, and of course contracts in a proportionate degree when subjected to cold. In Fig. 1, *a* represents a bar of brass heated to a high degree of temperature, and thereby increased in length as shown by the dotted lines; *b* is a bar of steel heated to the same degree, and lengthened as shown. For the sake of illustration the effects are represented in an exaggerated degree. Brass and steel are commonly used in the construction of compensated balances, though in the manufacture of non-



WALTHAM O. F. 16 S. PENDANT SETTING WATCHES.



MANUFACTURED BY THE

AMERICAN WALTHAM WATCH CO.

WALTHAM, - - MASS.

NOTE. For the convenience of the Canadian trade we have established a Branch Office at No. 185 St. James Street. Montreal. The goods will be, as heretofore, sold to Jobbers only.

magnetic watches steel has been discarded. Other metals, not influenced by magnetism, are used instead, but their effect is due to the same physical laws.

In ordinary compensated balances the rims are made of brass and steel in the proportion of two parts of brass to one part of steel. The brass is placed outside—Fig. 2—and is fused or melted to the steel. For experiment we will suppose

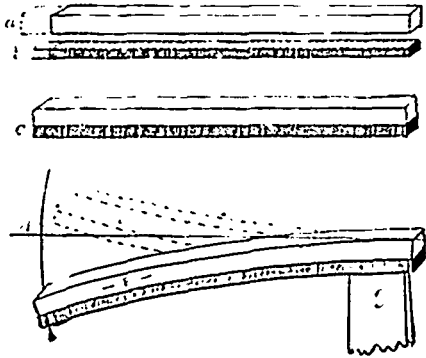


FIG. 1.

the two bars, *a* and *b*, Fig. 1, to be melted together as shown at *c*, and placed in a heated oven. Now, as before, each bar expands in length. If the expansion were the same in both bars the result would be an increase in length, leaving the bar perfectly straight. But since both are fused together and cannot therefore act independently, and since the brass expands in a greater degree than the steel, the result is that the increased volume of brass, when heated, bends the bar towards the steel side, as shown at *F*, Fig. 1, and when subjected to cold the unequal contraction of the two metals causes the bar to bend in the opposite direction as shown by the dotted lines at *E*. The one end of this compound bar being fastened to the arm *g*, of course is kept stationary, while the other is free to move as occasion requires.

In a compensated balance each half of the rim forms such a bar, fastened at one end to the arm of the wheel, while the

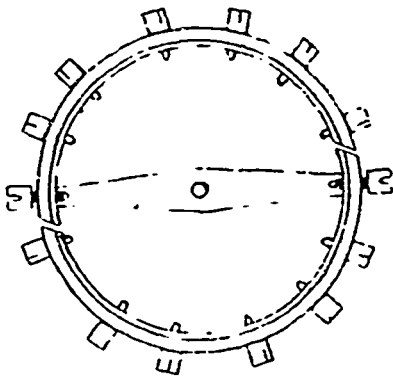


FIG. 2.

other is free, see Fig. 2. If the balance were made of one metal each increase of heat would cause the arms as well as the rim to become larger and the watch would go slower. Each degree of decrease of temperature would cause them to contract and make the watch gain.

In a compensated balance they also expand when heated, but the effect of the enlargement is counteracted by the other

ends of the halves of the rims bending inward as shown in

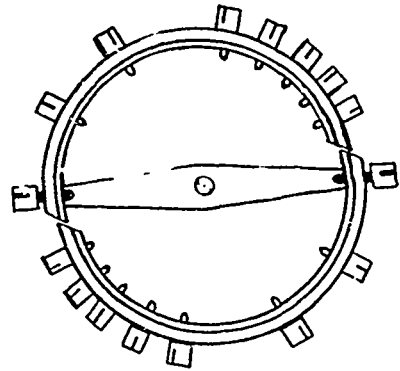


FIG. 3.

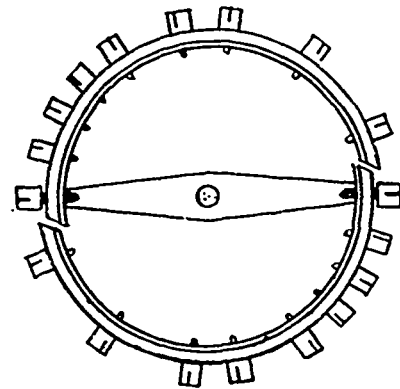


FIG. 4.

Fig. 3 When subjected to cold the arm contracts while the free ends of the rim are thrown outward. Fig. 4. Thus the free ends correct the errors resulting from change of temperature on the metal of the wheel, but as before stated the greater part of the error is chargeable to the hairspring. The correction of this is accomplished by the same means, and the acting capacity of the compound bars is therefore made much greater than would otherwise be necessary. In this way compensation to temperature is effected.

Watch repairers are not supposed to make compensated balance wheels, but if they are supposed to correct the defects which exist in imperfectly made ones, or which may have been brought about by accident or botch work, they should know the principles of compensation, and for this reason I have explained them at such length. I will now try to show how such defects are detected and how remedied. To find out what a watch will do in a certain temperature it is of course necessary that it be kept in that temperature for a stated period. Ice boxes and ovens are used for this purpose and their temperature ranging from 32° to 92° (Fahrenheit) tested by means of a thermometer, maintained throughout that period.

Balances may be either overcompensated or undercompensated, *i. e.*, the effect produced may be either too great or too small. In some watches the compensation is so imperfect as to render them useless. A common balance which would keep perfect time in a certain temperature at least, would be preferable.

To ascertain whether a balance is perfectly compensated, the movement should be placed in a low temperature, say 32°,



ELGIN NATIONAL



NEW ISSUE.



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for a period of 12 or 24 hours, and the effect noted. Next it should be placed in an oven of a high temperature, say 92°, for an equal number of hours.

Suppose it loses 10 seconds in 24 hours when in the cold, and gains 10 when in the oven. Then it is clear that the balance is overcompensated, that is, the effect we have expected from it has been overdone. If the opposite is the case then it is undercompensated. The former condition can be remedied by shifting a portion of the weight (some of the screws) further away from the free ends as shown in Fig. 4, where the majority of the screws are placed near the arms, and the latter by shifting them nearer to the loose ends, as shown in Fig. 3. Thus the weight becomes more or less effective as the radius through which it moves is made greater or less.

American watches as a rule have holes drilled between the screws. By properly changing the position of the screws from one hole to another, compensation can in almost all cases be perfectly effected without changing the weight of the balance as a whole, or disturbing the isochronal conditions of the hairspring. Sometimes balances are compensated by having some of their screws exchanged for heavier or lighter ones. It is almost needless to state that it is necessary that all changes which are made either in the position or in the weight of the screws, must be made alike on both halves of the balance rim, otherwise the poise of the balance will be disturbed.

Other modes of bringing about compensation have been introduced from time to time, but the method above described is the one most widely used. A thorough understanding of the principles, and a little experience and ingenuity in applying them, should enable any watchmaker to give the subject of compensation to heat and cold the attention it deserves.

Perfect compensation can be attained at two points of temperature only. Balances are generally made so that these two points will be the extremes of temperature which the timepiece is expected to encounter. For this reason they do not perfectly compensate at points of temperature between 32° and 92° (Fahrenheit) and what is known as the "middle temperature error" is the result. Various means have been devised for the correction of this. What is known as "auxiliaries" are sometimes employed with more or less success, but as these seldom come under the notice of the ordinary watchmaker, I shall desist from making their description part of this article.

AD REM.

A FREE TRADER'S OBJECTION.

Editor TRADER—SIR:

ALLOW me to express my admiration of your courage and consistency as exhibited in the article in your May issue, entitled, "Where the difference comes in."

You say, "Great Britain is commonly talked of as a Free Trade country, but such is not really the case—the following imports being liable to customs duty, viz.: tea, coffee, cocoa, wine, spirits, snuff, tobacco, dried fruits and a few minor articles. As none of these, with the exception of spirits, are produced in England, it is quite evident the laid down price of these goods to the importer must be

the cost price, plus freight and duty. * * * The amount of duty collected in 1889 being \$100,000,000. * * * In contradistinction to the British mode of taxation, let us bring forward a few facts regarding the way the people of Canada are taxed. * * * The policy of the Canadian Government is a protective one—that is, they aim to levy a high rate of duty on all goods imported into Canada which can compete with home manufactures."

Here then is your own statement of the two systems of taxation, and yet you say Great Britain is not a free trade country—well then, what is it? What has the addition of duty to cost of tobacco, spirits, &c., to do with the question when every item of home manufacture can be imported free of duty?

Of course the answer depends on what is meant by free trade. Your interpretation is doubtless different from some other people, and you may be quite able to prove you are right.

You then quote from the *Canadian Manufacturer* to show that "while England is taxed \$11.65 per cap., we in Canada, are taxed only \$7.24 per cap., and you say it is strange that any * * * can have the assurance to assert that Canadians are the most grievously taxed people on the face of the earth."

Now, in this remark you make no allowance for the immense wealth of England which could buy out poor Canada about once a year with the interest she receives on her foreign investments, which wealth actually pays a large part of the difference in the form of income tax, legacy duties, &c., which fall on wealth only, and you totally ignore the immense tax we pay in the form of extra cost of our home manufactures. For example: I recently paid \$24 for a suit of clothes, and my son, who is just returned from Europe, says he can buy as good in Liverpool for about \$14, and why? Simply because our woollen manufacturers have a protection of something like 50 per cent.—the difference being in the cost of making up.

But this 50 per cent. for protection does not form part of the \$7.24 I am supposed to pay, as it never reaches the Government at all. It is only part of the "protection tax," which I must add to the \$7.24 when I try to count up the tax I do really pay, which protection tax meets me everywhere when I purchase home manufactures. Even a farmer who has to sell his wheat at the best price the Liverpool market will yield him, and who therefore has not one cent of protection on a whole ship load of wheat, is met by the protected miller, who charges him 75c. to \$1.00 extra on a barrel of flour ground out of part of his own wheat. No wonder that a miller, who ten years ago (whom I could name) was said to be worth one hundred thousand dollars, is to-day worth millions.

In contrast with this look at your own quotation of Mr. Goschen's remark, which you put in italics, in which he says: "*He opposes the abolition of the tea duty, because it was the only vehicle whereby a non-smoker and non-drinker could contribute to the revenue.*"

Thus, while the English mechanic almost escapes taxation, the Canadian mechanic finds taxation meet him everywhere, and instead of his actual tax being at the rate of \$7.24 per cap., he has to put on as much more, or perhaps a great deal more than that to cover the exactions of home manufacturers, who exact all they know how.

As for your implied pity for the poor English manufacturer,



FALL, 1890.

Long experience has enabled me to adjust my Stock to the demands of my Customers, and

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Upon finding my Warehouse stocked with the class of Goods required for this Fall's business.

EDMUND SCHEUER, TORONTO.



THIS SEASON

Finds me thoroughly well supplied with the latest productions of the home and foreign markets, and I offer

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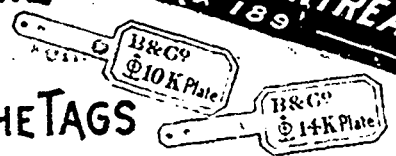
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The Fall season is approaching and we have submitted to the Wholesale Trade a range of samples as large and varied in style as the best U. S. manufacturers, in all Two Hundred and Thirty patterns. We have invited the closest inspection to our factory where they could see and know for themselves that we were giving the quality we represented. This quality we ABSOLUTELY GUARANTEE to you, and we hope that when the representatives of these Houses call upon you you will accord to this Industry which we have laboured so hard to bring to as high a pitch of perfection as possible, your hearty support. Ask them for the "B" Chains, the price, style and finish will speak for itself and no customer of yours will come back and say you have sold them a poor article if you have sold them a Rolled Plate Chain in either 10 or 14 Kt. manufactured by

Yours respectfully,

Aug. 1st, 1890.

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who has no protection, contrasted with our glorious N. P., I would slightly alter one of your sentences so as to say: We—
“who have learned that taxation can be regulated so as to bear, not only on the consumer of foreign goods,” but also on everything not imported as well.


Your obedient servant,

Montreal, May 6, 1890.

W. WENTWORTH.

A NINE HOURS' STROLL THROUGH THE ELGIN WATCH FACTORY.

Editor TRADER—Sir:

 ABOUT two years ago I wrote a descriptive letter to the TRADER of a trip I enjoyed through the Elgin Watch Factory. I did not complete it entirely then owing to my having to leave Elgin sooner than I expected, but I received a further invitation from Mr. Hunter, the Superintendent, and Mr. Corliss the head watch and model maker, to do so on my next visit. I was in Elgin last week and did not forget the invitation, but instead of simply visiting the departments that I previously missed, Mr. Corliss did me the extreme kindness to spend a whole day showing me entirely through the immense institution, pointing out and describing everything of interest as we went along. I take it for granted that every watchmaker must be deeply interested in everything pertaining to the manufacture and construction of watches, and so, with your permission, I will describe, for the benefit of those interested, what I saw in my trip through the factory.

Imagine a building, or a series of buildings rather, all under the one roof, having a floor space of about 200,000 feet, and 3,000 people, engaged in one way or another in the construction of watches, and you will form an idea of the immensity and importance of this watch factory. If I remember rightly, about \$150,000 is paid out in wages every month. A great many of the departments have four rows of benches extending the entire length of the room, and seating between two and three hundred operatives, and I imagine there must be between 75 and 100 miles of belting used to run the different lathes and machines used in the factory.

The construction of the watch begins in the plate room. There the blanks, slightly larger and thicker than the finished plates, are taken in hand; dial and pillar holes punched, plates faced off and made the correct diameter; the different sinks made and the pivot holes drilled, screw holes drilled and tapped, etc. Although not used in the plate room, I might mention here the new automatic pillar machine for making the pillars for 18 size full plate movements. This machine, which was invented and constructed in the factory, is just being perfected in detail, is very complicated and cost an immense sum (several thousands of dollars). Heretofore the pillars have been made by a partially automatic machine as follows. A rod of brass wire is fed through a chuck in head stock spindle of machine, a cutter comes into action and faces off the end of the wire, making it the correct length. The circumference is then turned to the correct size and shape by another cutter, and the two ends finished to size, the one to fit the pillar holes in upper plate and the other to receive the thread by means of which it is attached

to the pillar plate. The operator then feeds a screw-plate, arranged in a tail stock spindle, and cuts the thread, and another cutter comes up to place and cuts off the finished pillar, then the chuck opens automatically allowing the wire to be advanced, and again automatically tightens up and the above operation is again repeated. This new machine does the work complete without the assistance of any workman, and does it very rapidly, and the arrangement of the different cams and devices for bringing the different cutters into and out of action is simply wonderful. In the flat steel room where the regulators, clicks, forks, etc., are ground and polished, the system is much the same as pursued in a repair shop, the different parts are cemented to blocks, perhaps one hundred in a block, and three of these blocks are attached to a revolving vertical spindle, this spindle is attached to an arm of the machine which has a kind of circular motion, therefore the lines are crossed and a perfect polish assured. The grinding is done on planed iron blocks charged with oil stone dust, then the work is thoroughly cleaned and polished in a similar manner on boxwood charged with Vienna lime. In the department where the tram wheels, hands, regulators, etc., are stamped out, there is some very beautiful and expensive machinery. I noticed particularly the wheel stamping machines. The lower die looks exactly like a finished wheel, without the teeth of course. A strip of brass is fed in on top of the die and the upper die which exactly fits the spaces goes through the brass, leaving a perfect wheel blank. The blanks are afterwards put in stacks on an upright holder in a machine and the teeth cut with fly cutters.

THE JEWEL DEPARTMENT.

In this department the hole jewels and end stones are fitted in brass settings, ruby pins made, pallet jewels ground, angled and polished.

The number of jewels carried in stock is enormous. On May 1st the Co. had in stock 5,000,000 jewels valued at \$200,000. They handle from 400,000 to 500,000 per month, and use from \$400 to \$500 worth of diamond dust per month for the different operations of grinding and polishing, opening, etc.

It is very interesting to follow the different operations for finishing pallet jewels. In the first place about one hundred garnet slabs are cemented to a block which is attached to a machine and the slabs are then ground flat and smooth on a diamond lap, which consists of a copper mill charged with diamond dust. After one side is finished, the slabs are reversed and the other side finished. When the four sides are thus finished, the jewels are arranged in a special machine for angling them. About twenty are placed in position in the angling machine and slowly revolve, a diamond lap is placed at the desired angle and revolved against the pallet jewels, and the impulse faces are thus formed. Another lap for polishing, charged with finer diamond dust, is afterwards used. The Company used to open the holes to the uniform desired size in their jewels, but now they buy the jewels selected and sized both as regards diameter and holes, and therefore very little opening requires to be done. This change makes it necessary to carry a much larger stock of jewels, but does away with the services of a good many operatives otherwise necessary. There were several girls opening jewels, which operation is accomplished as follows: The jewel is set up in a lathe and rapidly revolved, a very fine steel wire, made by drawing through a sapphire draw plate, is held in a



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A SEVEN JEWELLED, FOURTEEN SIZE, GILDED MOVEMENT, PENDANT SETTING,

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Will Next Month place upon the market a Movement

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pin vice and being dipped in a paste composed of diamond dust and oil, is inserted in the hole which is thereby gradually enlarged to the desired size.

THE TRAIN ROOM.

In this room the stem wind wheels and pinions, the train wheels and pinions and the lever scape wheels are cut and finished. I noticed particularly the pinion cutting and polishing machines and the scape wheel cutting machine. I will simply repeat my former description of the pinion cutting machines,—“the pinions are cut in complicated looking machines that are marvels of mechanical ingenuity and skill. They are automatic, and include, I think, five frames for holding pinion blanks, arranged in a circle. There are four operations before the pinion is finished. The pinion blank is brought to position under the first cutter, and has the necessary number of slots cut in it with a saw cutter; it then passes to the next cutter, which forms part of the curve, then to the next one and has the curve finished. The fourth is the final finisher, and corrects any little faults should there be any. This last operation is almost superfluous, but the Company take every precaution and spare no expense to have everything perfect. Of course, after the machine is started, while one pivot is undergoing one operation, three others are also, and the fifth frame is for inserting new blanks, so that the machine is always in operation and no time is lost. There are half a dozen of these machines, so that a large number of pinions are finished daily.”

After the pinion leaves are cut, the pinions go to the polishers, who insert them in wig wags, in which they are polished very rapidly by means of oil stone dust and crocus. The plain arbors, pivots and pivot shoulders are polished in these wig-wags also. They have a to-and-fro motion and move very rapidly over the work, one side of the polisher resting on the part to be polished and the other on a jewel in the same plane. The pinion faces are ground and polished by means of a circular revolving hollow disc, while the pinion is revolved in a chuck. The very finest work is finished in the old-fashioned Swiss manner by hand, holding the polisher in one hand, and revolving the pinion by means of the whale bone bow in the other. The machine for cutting the scape wheels is a beauty and cuts a stack at a time. There are three cutters used to complete the operation, the first of steel and the other two of sapphire. The first one does the heavy cutting and the others the finishing.

They have a new machine in this department for making and finishing balance staff conical pivots. It has been christened “McGinty,” not because it went to the bottom of the sea, but because the workmen wish it would, as it does away with the pivoters’ job, which used to be an important one, altogether. Formerly the staff pivots were turned and polished by hand, but now, by means of this wonderful and extremely accurate machine, the pivots are made and polished by revolving laps, one young lady operates the machine, while a workman beside her sets fresh staffs up in wax chucks which she inserts in “McGinty” as fast as he can hand them to her. The pivot is made and polished in a little less than no time, and therefore this one machine takes the place of a good many pivoters. The Company are inventing and using so many new automatic labor-saving machines, that in a comparatively short time they will very largely increase their output without increasing the

number of workmen. They are now making 1,800 movements per day, 300 more than two years ago, with about the same number of hands. They have 230 machinists at work all the time building watch machinery, and even this number is not sufficient, and they are now engaged building more machinists’ lathes, so as to increase their number of machinists.

In the dial room, for instance, several notable improvements have taken place. Dials used to be painted by hand altogether until a process was invented and introduced called the “transfer process,” done by means of electrotypes, from which the letters are transferred to the dials direct. Now they have invented a new machine for sifting the enamel on the copper discs ready for the oven. This machine will prepare 100 dials in twenty seconds. It used to take a man longer than that to do one by spreading the enamel on with a spatula, so it will be perceived that this machine is a wonderful economizer of time and money.

THE GILDING ROOM.

In this room the plates, wheels, etc., are stoned smooth, scratch-brushed and gilded, the nickel movements are also nickel plated, which prevents them from tarnishing. Thirty dwts. of pure gold is used per day for gilding watch parts. The damaskeening machines are located somewhere in the neighborhood of this department and so I will mention them here. I can’t do more than that, because it would be an utter impossibility for me to accurately describe them. The plate to be damaskeened is fastened in the chuck in head stock, and this head stock is capable of an infinite number of different movements, produced by means of cams, ratchets, etc., the plate is smeared with grinding paste, and ivory discs and points revolved against the plate and the different patterns are thus produced. There are half a dozen of these machines and they are very complicated and expensive.

FINISHING ROOMS.

In these rooms the movements are put together, sprung and set running, and timed and adjusted to heat and cold, position and isochronism. In finishing B. room, adjusting is attended to. The movements are put in the oven, which is heated to 95° and run for sixteen hours, and the result noted, when they are removed to the ice box, which is kept at a temperature of about 40°, and again tested for sixteen hours.

Movements Nos. 72 and 91 are adjusted to run within three seconds total variation in 32 hours, B. W. Raymonds and No. 50 to within 6 seconds, and H. H. Taylor and G. M. Wheeler to within eight seconds in 32 hours. The material used in movements Nos. 72 and 91 is exquisite, fine gold wheels hand finished, beautiful ruby jewels set in highly finished gold settings, delicate lever forks beautifully hand finished and highly polished. In fact no skill or expense is spared to make them equal to the finest in the world, and to my own knowledge they rival the celebrated “Jules Jurgenson” Swiss movement, which probably enjoys the reputation for being the finest watch in the world. In finishing B. department, they have a very ingenious and expensive arrangement used in testing and adjusting movements as regards different degrees of motive force. It consists of a series of cords and pulleys, having different sizes of weights attached. A toothed barrel is connected with each drum, and the movement is inserted in position so that the barrel comes into action with the centre pinion and drives the movement,



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The above goods are all made of High Grade Rolled Plate. Ask your Jobber for them and take no others.

S. E. FISHER & CO.,

NEW YORK OFFICE,

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when the desired observations are made. I might go on describing for hours, but as I have already taken up more space than I should, I will not trespass further. I might say before closing, that I had a very pleasant visit to the "Moseley" lathe factory, and with your permission will give a short description of it next month.

ED. BEETON.

PRACTICAL HINTS ON WATCH REPAIRING.

BY EXCELSIOR.

THE DUPLEX ESCAPEMENT.—CONTINUED.

(509) 2nd. The larger the impulse wheel, (and the finger correspondingly shorter), the deeper the intersection of the circles of the impulse tooth and the finger, and consequently the more safe will be the action of the teeth upon the finger. In one case we will take the radius of the wheel from *A* to 1, and the teeth travel in the curve *K, K, K*, while the point of the finger runs in the curve *J, J, J*. In another case the impulse wheel is larger, and the teeth describe the curve *H, H, H*, while the finger gives *G, G, G*. The deeper intersection in the latter case is at once evident. But while securing a safe action, we may go to the other extreme and make the intersection unnecessarily deep, requiring the balance to travel over too large an arc to enable the tooth to clear the finger.

(510) 3rd. The larger the wheel and shorter the finger, the slower will be the angular motion of the tooth as compared with that of the finger. If we suppose the finger to reach from *B* to *C*, and the impulse teeth to be *C* and *F*, giving the impulse wheel a radius from *A* to *C*, equal to the length of the finger *BC*, then while the finger travelled over the arc *CE*, the tooth would pass over an equal arc *CF*, and both would have the same rapidity of revolution. But if the finger reaches only to 3, and passes over the arc 3, *G, 4*, while the tooth moves over the arc 3, 5, 6, 4, the finger has travelled over the same angle as before, while the tooth has not gone more than one-fifth as far in the same time,—therefore the revolution of the balance is five times as fast as that of the wheel. The application of this is in securing a proper vigor and promptness in the action of the tooth upon the finger.

(511) 4th. The larger the wheel and shorter the finger, the greater will be the large lift. Suppose the impulse tooth in one case to be at 1, and in another at 3, the finger being of corresponding length in each case. In the former case, the finger passed over the arc of the angle 1, *B, 2*, and in the latter of 3, *B, 4*, an angle nearly three times as large as the other. As the number of impulse teeth is fixed, the further they are from the centre *A*, (i. e., the larger the wheel), the further they are apart, and the greater the actual distance the point of the finger has to travel between them, besides travelling over a larger angle. If the lift is too great, the balance must move over too large an angle in order to "escape;" while, if the lift is too small, the intersection of the tooth and the finger will be very shallow, and not safe, and the time of contact between them so short as to prevent the giving of the proper impulse to the balance, as explained below.

(512) 5th. As a consequence of the preceding rule, the larger the wheel and shorter the finger, the longer the time

during which the tooth continues to act upon the finger. If the intersection of the tooth and finger begins at 3, they are in contact while the balance moves through the angle 3, *B, 4*; but if the wheel only reaches to 1, the length of contact is diminished to the time of vibrating through the angle 1, *B, 2*. The effect of having a small wheel is that the tooth acts upon the finger through a very small portion of its vibration, and leaves it almost as soon as contact takes place, giving it scarcely any impulse. Besides this, the motion of the wheel, receiving hardly any check from the finger, becomes almost equivalent to a prolonged drop through the whole angle of the large-lift, and the repose tooth brings up against the roller with great violence.

(513) Therefore, if the wheel is small, by enlarging it we shall enlarge the length of contact, increase the large lift, (511), and practically increase the force of impulse of the wheel. But if we take a wheel too large, in consequence of its slower relative motion, (510), the tooth scarcely does more than to overtake the finger, and the amount of impulse given by it is small. We must select a size between these two extremes. An impulse wheel of such size as to give a large lift of 30° to 35° is found by experience to most advantageously harmonize the diverse conditions of this problem, giving the largest vibrations to the balance, with the least amount of lift, and with the drops as harmless as possible. When this arc of large lift does not give an ample vibration of the balance, the fault is either in some other part of the escapement or in a mainspring too weak. The escapement being well proportioned, enlarging the lift will increase the vibrations but slightly, except when the mainspring is too strong or the balance too light. Should both be the case, the result of an increased lift would probably be too large vibrations, with liability to trip.

(514) A large-lift of 30° to 35° requires an impulse wheel of about two-thirds the diameter of the repose wheel. In thin watches, which will take only narrow mainsprings, and the motive force weak, we enlarge the impulse wheel to three-fourths the size of the repose wheel, which, with a correspondingly shortened finger, gives a large lift of about 45°, thus enabling the power to act more advantageously upon the balance. An average size of wheel is two-sevenths the diameter of the repose wheel. This requires the finger to be, from its point to the centre of the balance staff, about three-sixteenths the diameter of the repose wheel. Unless obliged to do so, for some special object, we should not exceed 40° for the large-lift. Experience shows that there is nothing to be gained by it, while there may be a positive loss. This refers to the English duplex making 18,000 beats per hour. In the Chinese duplex, the large-lift is greater, but it occurs only half as often, i. e., after two repose teeth, instead of after each.

(515) The greater the number of vibrations of the balance, the smaller the impulse wheel and the longer the finger should be. After the repose tooth drops from the roller notch, a certain length of time is required before the impulse tooth acquires velocity enough to overtake the finger and press it forward. The larger the impulse wheel, the slower it moves compared with the finger, (510), which is already under full headway, and the greater the number of vibrations, the greater the velocity of the finger and the difficulty of the tooth overtaking it. If the impulse wheel is very large, the tooth will scarcely be able to



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overtake the finger at all, and the impulse drop will be very violent. If the wheel is small, its motion will be faster relatively to that of the finger, the tooth will quickly overtake the finger and communicate its impulse to it, being in return somewhat checked, so that the drop upon the roller will be harmless. Therefore, whatever proportions we decide to be most advantageous for the ordinary watches, with 18,000 beats per hour, we modify slightly in accordance with the above rule, when we adopt 21,600 beats. A quick-beat escapement will also allow of an impulse drop less than 10° , because, owing to the greater velocity of motion, the finger will more rapidly pass in advance of the tooth, without risk of the latter striking it before it is safely within the intersection of the parts. Having ascertained the rules which should guide us in either selecting or making a new wheel, we will now draft this action in conformity therewith.

(516) In drawing the wheel and pallet action, Fig. 33, we mark the line of centres db , and transfer from Fig. 31 the centre distance dc , the curve xx , and the distance ac on said curve, then draw the lines da and dc as before. In delineating this action, we must vary our course in Fig. 31, for the wheel and roller action, and mark o the point of the repose tooth resting on the repose of the roller, at the point a . Therefore the line da will give the front face of this tooth. Draw lines Od , Od , $24'$ each way from da , for the other repose teeth, and lines dp , dp' exactly half way between, to find the point of the impulse teeth P , P . Now, although the points of the teeth must be somewhere in the lines dp , dp' their distance from the centre, d , will depend on the size the impulse wheel is to be, and that in turn is governed by the amount we give to the large lifting, or angle through which the impulse tooth is to carry the finger, as already explained.

(517) We will suppose it to be 35° . Then from the centre e , of the roller, lay off the lines ev , ev' , 35° apart and $17\frac{1}{2}'$ each way from the line of centres, db . The crossing of the lines ev' and dp' at P , is the place for the point of the impulse tooth, and from e to P is the length of the impulse pallet or finger, F . Set the dividers from d to the crossing at P , and draw the circle yy , which will pass through the points of all the teeth, and is the size of the impulse wheel. With the radius eP , draw curve ss , which is the path described by the point of the finger (only the point is drawn), during the vibration of the balance. In practice the finger is made a little shorter than this, to give a safe clearance in passing the tooth on the return vibration. The amount of this clearance should be about the thickness of the points of the repose teeth, when these parts come nearest together. Evidently, in cheap watches it must be more, when the balance pivots are loosely fitted in their jewel holes, to allow for the balance falling towards the side next the wheel; and also for any inequality of the teeth of the impulse wheel. The front faces of the impulse teeth are inclined from the line to the wheel centre, at an angle of 17° , as shown by the line Ps . The shape of the teeth should be triangular and narrow at the bases.

(518) We have now to designate the proper position of the impulse finger with reference to the notch of the roller. Referring back to Fig. 31, we see that the repose tooth, o , pressing against the right lip of the notch, moves the roller through an angle of 30° , from a to c , and then drops out of the notch.

Bearing this in mind, we perceive that the repose tooth, o , Fig. 33, in moving the roller through 30° , itself moves from a to c , as indicated by da and dc . Therefore the distance between those lines on the circle, yy , of the impulse wheel, at 1 and 2, gives the distance that the points of the impulse teeth advance during the small-lift of the repose tooth. Marking this distance (1 to 2), in advance of the teeth P , P , at 3, 3, gives their position at the instant when the repose tooth, o , is about to drop out of the notch. At this moment the finger is to be 10° in advance of the following impulse tooth (506). Measure upon the curve ss , from the centre e , 10° in advance of the point 3, which will come at 4, where the point of the finger must be when the tooth P drops upon it, and from there moves it on to the other point P , where it passes off and the following repose tooth, O , rests upon the roller.

(519) It will be seen by this that the large-lift is not fully 35° , since the 10° of drop between 3 and 4 is included in that angle, and there is a further loss of lift by the tooth passing off the finger before it reaches the line ev' , caused by any deficiency in the length, or rounding off of the corner. There are some other small details which would enter into the theoretical treatment of this escapement, but are unimportant in considering it practically. As the point of the finger was at 4 at the completion of the small-lift of 30° , if we measure 30° backward on the curve ss , to 5, we shall have its position at the commencement of the small-lift.

(520) What would be the escapement angle, or angle between a line from e to 5, and one from e through the centre of the notch, depends on many points: the width of the notch, the rounding of the lips, the shape and depth of the repose teeth, etc., but in the majority of cases it would be 20° to 25° . This angle would also vary with every different size of impulse wheel and corresponding length of finger. Some writers have nevertheless undertaken to direct what the escapement angle should invariably be, and workmen generally expect some rule. But it is impossible to give any invariable rule for this angle, as it would only be adapted to a certain schedule of sizes and angles in the escapement. Any change in the lifts, drops or comparative sizes would require a different angle, as will be evident by examining Fig. 31. At the moment that the repose wheel drops from the roller notch, the face of the finger is to be 10° in advance of the impulse tooth. Supposing the small-lift to be 30° , the angle dec will be 15° . When the balance has moved 15° from the point of rest, the repose tooth will be just leaving the notch, and the finger will be 10° in advance of the impulse tooth. Therefore, if the balance had only moved 5° , the face of the finger would be in line with the point of the impulse tooth; or if it had not been moved at all, the finger would be 5° back of the tooth, minus a little over 1° , or the angle ede , for the difference in the positions of the impulse tooth at the end and at the middle of the small-lift.

(521) Now the angle between the line ed and a line from e to 5, or the face of the finger F , will vary according to the position of the tooth: it will be less as the impulse wheel is smaller and the finger correspondingly long, and *vice versa*. So, also, increasing or decreasing the small lift, would change this angle to the same extent. As the finger must be 10° in advance of the tooth after the roller has moved through the small-lift, say of 30° , it must be 30° back of that point (or 20°

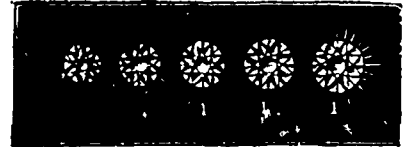
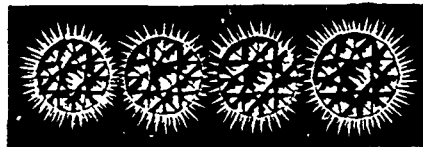
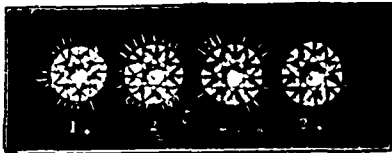


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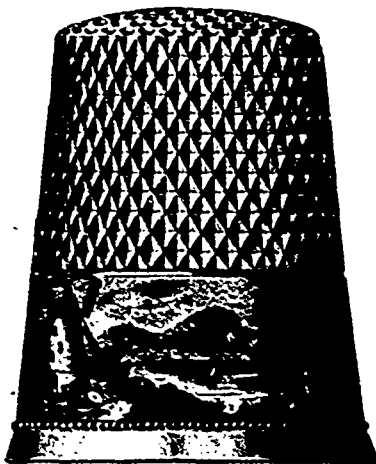


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back of the tooth) at the commencement of the small-lift. If the small lift was 50° , the point at which it commenced would be further from the line of centres, and the finger must be 50° back of that, (or 40° back of the tooth), at its commencement. Or, supposing that the small lift remained 30° , while the impulse wheel is enlarged, and the large-lift increased to 50° , the point at which the acting impulse tooth would stand at the commencement of the small-lift would be, say 10° further from the line of centres than before. As the centre of the notch is on the line of centres each time, the angle between it and the finger would be 10° greater in this case than in the former. The only way is to draw the escapement with the given sizes and lifts, and so find the escapement angle for each case. If this is not convenient, or it is not necessary to know the escapement angle, we may try the escapement either in the watch or depthing-tool, and adjust the position of the finger till we get a safe drop, thus practically attaining nearly the same end.

OPTICAL DEPARTMENT.

Under this head we solicit questions of interest bearing on optics, particularly the eye, the defects of vision, and their correction by glasses. All communications must be addressed to Dr. John S. Owen, 112 West High St., Detroit, Mich., and must be received not later than the 15th of each month in order to insure publication in the following issue of THE TRADER.

A reader sends us the following :—

"DEAR SIR,—I have been in the jewelry business for nearly five years, and during that time have sold a large number of spectacles, but frequently I will have a customer that is hard to please, and will give me considerable trouble. Will you please inform me what is the best book for me to study, in order that I may improve my present knowledge of correcting defective sight."

We have read various books upon this subject, each work containing some particular points in its favor, but, for the optician or jeweler who has gained some knowledge by observation and experience, and also for the student entering upon the study of ocular refraction, we consider the English work entitled "Hartridge on Refraction (Fourth Edition)" the one best adapted to fill his wants.

Another writes as follows :—

"DEAR SIR,—I have a customer, a little boy about ten years of age, who is giving me a great deal of trouble. It appears that he had a severe attack of measles, about a month ago, and since that time he complains of his eyes hurting very much when reading or studying, also that he cannot see to read more than ten minutes, when the print will become blurred and indistinct. After resting his eyes a few minutes he can then resume his studies for about the same length of time, when the reading is again blurred as before. A bright light also hurts his eyes. His eyes have always been strong, and never gave any trouble until now. His sight for the distance is good. I tried each eye with Nos. 60 and 40 convex, and then Nos. 60 and 40 concave, but he can see better without any of them. Will you please inform me what is best to do with such a case, and give any directions that you may think necessary?"

The boy is suffering from the effects of the attack of measles. It is a common occurrence for an attack of measles,

scarlet fever, etc., to leave the system in a very weak and debilitated condition. This debility is manifest in the muscles of the legs when walking, the arms when lifting, and the eye when reading.

It is a well-known fact that when the eye is looking *directly forward* at an object located at *20 feet or further* the muscles of the eye are *completely at rest*, no contraction taking place in any of them. If the object is nearer than 20 feet, the eye will adjust or accommodate the vision for that particular distance by contracting the muscle of accommodation (the CILIARY MUSCLE), by which contraction the *focus* of the light passing into the eye is *retained* on the point of most perfect vision (MACULA LENTEA) of the retina, or the posterior wall of the eye. The nearer the object approaches the eye, and so long as it is clearly visible, the greater is the contraction of the ciliary muscle. If we should gradually move a paper that we are reading, so near to the eye that the print suddenly becomes blurred and indistinct, at that moment we have reached the *limit of contraction* of the ciliary muscle, and, at that moment, the muscle having exerted itself to its utmost, to follow and to gratify our desires, finding its strength incapable, suddenly *relaxes* and relapses to the normal position which it occupies when the eye is adjusted for distant vision.

The boy's system, as the result of the attack of measles, is in a debilitated condition. This condition is manifest by a weakness of the muscle of accommodation, located *in the eye* (ACCOMMODATIVE ASTHENOPIA); the muscle being unable to remain contracted longer than about ten minutes while the boy is reading at the usual distance. After resting a short time it may again be contracted, until through mere lack of strength it suddenly relaxes and vision for near objects (reading) is blurred and indistinct.

A pair of convex spectacles No. 72 or 60 will have a very pleasing and beneficial effect. They will improve vision slightly by their weak magnifying power, and will relieve the ciliary muscle of a portion of its contraction. These glasses the boy should use for reading. He should also wear a pair of medium shade (No. 3 or 4) London smoke or blue spectacles to protect his eyes from the sunlight. The London smoke is to be preferred, because it does not change the color of objects seen through it. These glasses, the convex and the smoke, should be worn until the usual health and strength of the boy is fully restored, which will probably require from two to three months.

SOME ANCIENT CITIES.

Nineveh was 15 miles long, 9 wide, and 40 miles round, with a wall 100 feet high, and thick enough for three chariots abreast. Babylon was 60 miles within the walls, which were 75 feet thick, and 300 feet high, with 100 brazen gates. The temple of Diana at Ephesus, according to Pliny, required 220 years to complete it and was supported by 127 pillars 60 feet high, having been raised by as many kings. The largest of the pyramids is 481 feet high, and 653 on the sides; its base covers 11 acres. The stones are about 30 feet in length, and the layers are 208. It employed 330,000 men in building. Thebes, in Egypt, presents ruins 27 miles round, and had 100 gates. Carthage was 25 miles round. Athens was 25 miles round, and contained 250,000 citizens and 400,000 slaves. The walls of Rome were 13 miles round.—*Ex.*



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SELECTED MATTER.

ANTIQUATED MONEY.

MILLIONS OF DOLLARS THAT HAVE NEVER BEEN REDEEMED.



SAY, mister, are these any good?" inquired a timid-looking youth of Doorkeeper Brady at the Sub-Treasury the other day, as he hauled out a half-dozen pieces of ragged, dirty paper. A close inspection showed that they were pieces of fractional currency, or "shin-plasters," such as played so important a part as a circulating medium before the resumption of specie payments.

The young man was directed to the small-change room, where he again asked the same question of R. C. Haff, who is in charge of that department. Mr Haff took the soiled and crumpled bits of paper in his hands, smoothed them out, and with the hasty touch of an expert singled out one of the pieces and turned around to a block of wood behind him that looked like a butcher's chopping-block. He laid the selected piece of paper on the block and gave it a whack with a steel instrument; then turning to the young man, he said:

"These fives are good, but that one is counterfeit."

As he spoke he handed back the bad token, and across the face was the word "counterfeit," cut clean and clear. The steel instrument with which he had struck the paper was a sharp stencil die that cut the tell-tale word so clearly that the bit of currency never would be current again, and any fool could see that it was worthless.

"Do you want these redeemed?" continued Mr. Haff, as he pointed to the five grimy slips on the counter.

"Yes, sir, if you please," stammered the youth, as he eyed with pained surprise the mutilated piece returned to him. Mr. Haff put two bright silver dollars and a silver quarter on the counter, which the boy picked up in a hurry, as though he were finding them in the street.

LOTS OF MONEY LOST.

"Do you get much of that old fractional currency now?" somebody said to Mr. Haff as the boy went out.

"No," he replied; "we get very little now—not more than \$2,500 a year. The amount coming in for redemption is growing less and less every year. It used to come in here by the bushel basketful. But for many years now we only receive it in driblets. We seldom get as much at a time as that young man just brought in."

"But it has not all been redeemed, has it?"

"No, indeed; and what is more, a very large amount will never be redeemed. There is now outstanding in old fractional currency something like \$15,000,000. And of that it is estimated that not more than \$3,000,000 to \$5,000,000 will ever come in."

"But where is the rest, and why will it not come in for redemption?"

"A great deal of it has been worn out by the wear and tear of twenty-odd years. Any quantity of it has been burned up in the fires that have occurred since the time it was issued, and in numerous other ways it has been lost or destroyed. Then there are some people who hold all they can get to use in sending small amounts by mail, finding it handy. Then, too, the old currency is now so scarce that people keep the occasional pieces that come to hand as curiosities or pocket pieces. A great many coin collectors have crisp, uncirculated specimens of it in their collections. I know one wealthy gentleman in the city who carries in his pocketbook, wrapped up with the greatest care, four clean, bright specimens—a fifty, a twenty-five, a ten and a five-cent piece. He said it was the first money he ever earned. It was paid to him in these identical pieces brand new from the press, and he has kept them ever since for luck. I do not believe you could buy them from him to day for \$1,000 apiece. He calls them his reserve capital, and if he ever loses a million or more, as he is now reported to be worth, he will have his ninety cents reserve to fall back on."

DETECTING COUNTERFEITS.

A good deal of the currency that is brought to the Sub-Treasury for redemption turns out to be counterfeit, and the moment it comes into that place, no matter from whose hands it comes, it is hurried to a block and stamped "counterfeit" with the stencil cutting die. They ask no permission, but just go and do it. The same rule is followed, too, in the rotunda where the bills of larger denominations come in. Sometimes men get very angry when their bills are handed back to them mutilated in such a manner that they cannot be used.

Not long ago the South Ferry Company sent up to the Sub-Treasury a bundle of the fractional currency representing about \$100. It had been discovered back of a partition in the old ferry-house, where it had been either stowed away or misplaced, and was found when the old building was torn down to make room for the new structure.

Mr. Haff shuffled through the pile and not only pronounced it all counterfeit, but discovered that some of it had been brought to the Sub-Treasury at least twenty years ago, as the marks of the old stamps used as long ago as that to mark counterfeit paper money were still plainly visible on them. Each piece was subjected to the cutting process, and will probably not be presented again for redemption.

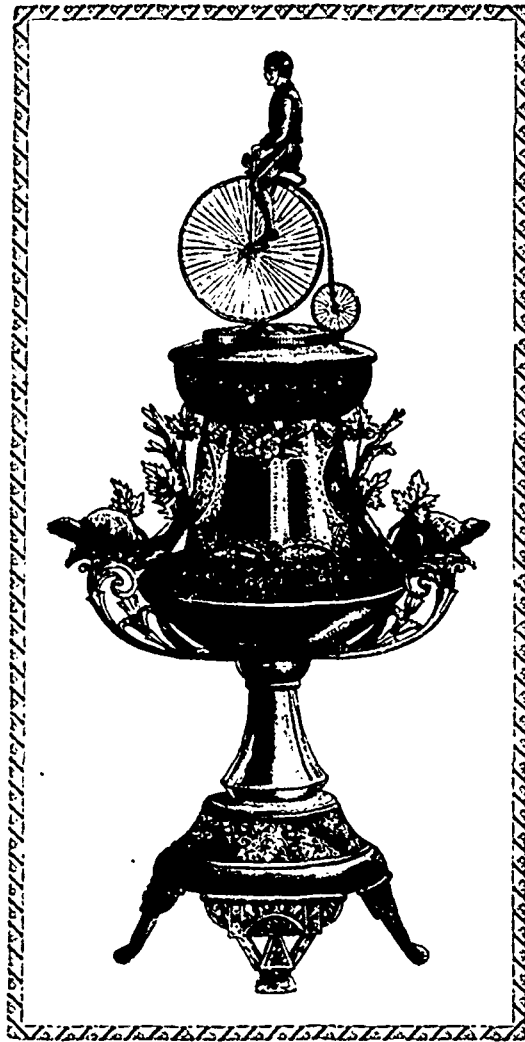
All the fractional paper currency that is redeemed at the Sub-Treasury is sent to the Treasury at Washington, where it is placed in the crematory and burned up, and all that is left of it is a sort of slag, a single pound of which may represent a million. The rest floats off in smoke.—*New York Evening Sun.*

GILDING AND SILVERING ON WOOD.—The wood is to be coated with size. To make this, boil half a pound of parchment shaving in three quarts of water, stirring constantly. This gives a clear solution of gelatine, which must be passed through a sieve. Paint over the wood with this, and, while still moist, apply gold or silver leaf, or Dutch metal. Much manual skill is necessary, and it is well to see the exact details practiced by a glider. Wood may also be gilded by painting it with the mixture of bronze powder and copal varnish. Finally, gold paint may be bought, all ready for use, and this will probably give the most satisfaction.



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HOW GOLD WAS DISCOVERED IN CALIFORNIA.



JAMES Wilson Marshall, the discoverer of gold in California, to whom a magnificent monument has recently been erected at Coloma, Cal., by the people of that state, was born in Hope Township, Hunterdon County, N. J., in 1830. His father was a coach and wagon builder, and he was brought up in the same trade. His eyes were always set westward, however, and when he became a man he followed them and straggled out farther and farther toward the setting sun, until in June, 1845, he reached California, coming to the Sacramento Valley by way of Shasta, and camping on Cache Creek, about forty miles from the

present sight of the city of Sacramento.

Marshall, being a handy man, was soon heard of by Sutter, and engaged by that pioneer in stocking plows, making spinning-wheels, mending wagons and doing such general carpenter work as was required. A quiet life was not of Marshall's kind, however, and when the bear flag was raised he at once joined the insurgents, marched with them on Sonoma, spiked the old Spanish guns at Fort Point, sailed to San Diego with Stockton, marched up to Los Angeles with Fremont, saw General Flores' retreat to Sonora, and there, in March, 1847, was discharged, but not paid off. Working his way back to Sutter's Fort, Marshall induced the General to go into the lumbering business with him, and as a first move started out to explore the foothills for a suitable place for a sawmill. Marshall set out on his quest and followed up the bank of the American river for several days, examining the country all round, but not finding a suitable site. Presently he branched off over the South Fork and at length reached a place called Culloonah by the Indians, and which was afterwards known as Coloma. The river took several bends here and on the South side of a point of land formed by one of these curves the mill site was selected. On Marshall's report to Sutter a partnership was entered into between the two, August 19, 1847, Sutter to furnish the capital and Marshall to give his services. The formal articles of partnership were drawn up by General John Bidwell, who was then acting as a clerk in Sutter's store, and, these arrangements completed, Marshall started back to Coloma with six or seven mill hands and a train of wagons with provisions, etc.

On the morning of that memorable day Marshall went out as usual to superintend the men and, after closing the fore bay gate and thus shutting off the water, walked down the tail race to see what sand and gravel had been removed during the night. This had been customary with him for some time, for he had

previously entertained the idea that there might be minerals in the mountains, and had expressed it to Sutter, who, however, only laughed at him. On this occasion, having strolled to the lower end of the race, he stood examining the mass of debris which had been washed down. At this juncture his eye caught the glitter of something that lay lodged in a crevice some six inches under the water. His first act was to stoop and pick up the substance. It was heavy, of a peculiar color, unlike anything he had seen in the stream before. For a few minutes he stood with it in his hand, reflecting and endeavoring to recall all that he had heard or read concerning the various minerals. After a close examination he became satisfied that what he held in his hand must be one of three substances—mica, sulphurets of copper, or gold. The weight assured him that it was not mica. Could it be sulphurets of copper? He remembered that that metal is brittle and that gold is malleable, and as this thought passed through his mind he turned about, placed the specimen upon a flat stone and proceeded to test it by striking it with another. The substance did not crack or flake off; it simply bent under the blows. This, then, was gold, and in this manner was the first gold found in California.

Marshall neither turned pale nor cried out exactly, probably because he was thoroughly unaware of the importance of the discovery. He showed the nugget to his men, indulged in few conjectures concerning the probable extent of the gold field, and went on with his work. He, however, watched the stream closely, and in the course of a few days had collected several ounces of the precious metal. Putting these in his pocket, he one day mounted his horse and rode down to the fort to show the specimens to Sutter and inquire about some delayed stores. The latter matter having been straightened out, he asked for a few minutes private conversation with Sutter, and the two entered the little room at the back of the store. There Marshall showed him the gold, but Sutter would not believe it was anything so precious until it had been weighed and tested.

The news soon spread, and as it spread the excitement grew. The resident white population of California threw itself into the gold quest with ardor and energy, and then came the great gold fever which revolutionized the country.—*From the Great Divide.*

TINFOIL.

In the manufacture of tinfoil, tin is melted and run into blocks weighing from 200 to 400 pounds each—and in this form the metal is kept for ordinary use. The old method of reducing it to the necessary thinness for foil was by hammering it by hand as the gold-beaters beat gold-leaf; and this process is still in vogue to a limited extent. This, however, is a very laborious process, as the sheet must be constantly beaten without intermission to keep up the heat generated by the continuous stroke of the hammer; and the great drawback to it was that only one surface or face could be produced. The introduction of rolling-machinery has completely revolutionized the trade; so that, in place of importing, we now export. The metal is given a beautiful polish on both sides; it is then cut to order by cutting machines. The great advantage of machine-rolled foil over the hand beaten foil is that, while the latter is full of minute holes not as to be visible to the naked eye, the former is, as a rule, perfectly intact.—*E. A.*



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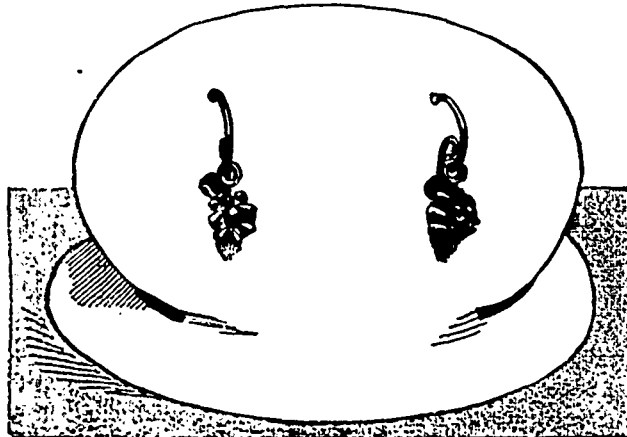
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Send for a sample 100, consisting of 10 of each, of 10 different Patterns. Price for 100 assorted, 75 cts., postage prepaid; 100, all one Pattern, 60 cts.

IN TOOLS, MATERIALS ^{AND} SUPPLIES

We are offering the very best value. Mail orders receive prompt attention and satisfaction guaranteed. We compete with all, and our growing trade proves this fact: That our Goods are of a better grade than those usually offered, and are sold at as low a price.

Remember we have Five Travellers, each with a Material Trunk in his outfit and a big Stock to back them.

P. W. ELLIS & CO., - TORONTO.

Note our Jewelry Department Ad. on Page 2 of Cover.

CLOCK TICKINGS.



THE largest clock bell in the United States is located in the tower of the Androscoggin mill in Lewiston, Mo. Its weight is 10,300 pounds.

It is a curious fact that in the writings of the two greatest old English poets are found the surest data that can be adduced of the early use of clocks and watches in England.

A famous clock can still be seen in the Torre del Orologio, erected by Petrus Lombardus in Venice, in 1466. It was a blue and gold dial, and in many respects is a remarkable piece of mechanism.

In 1325 a clock was put up in Wells Cathedral, England, and mention is also made of a clock, apparently of some new construction, invented by Robert Wallingford, abbot of St. Albans, in 1326. This clock was still running in the time of Henry VIII.

Clocks have been made to go a year without winding, such as that which is preserved at Hampton Court, England; but they have generally proved unsatisfactory, the extreme delicacy of their adjustment making them susceptible to the slightest extraneous disturbance.

The regular manufacture of public clocks appears to have been introduced in the reign of Edward III., that considered monarch, in the year 1368, having invited three Dutch horologists from Delft for the express purpose of benefiting his subjects by a knowledge of the art.

The largest clock with an illuminated dial in the United States is that on the Communipaw ferry building of the Central Railroad of New Jersey. The diameter of the dial is fourteen and a half feet, and the figures can be easily read from the New York shore. The dial is lighted with eighteen incandescent lamps.

It is recorded that in the fourteenth century an artist named James Condi constructed a clock for the city of Padua which was long considered the wonder of that period. Besides indicating the hours it presented the motion of the sun, moon and planets, and pointed out the different festivals of the year.

The weight of the movements of American tower clocks ranges from 300 to 5,500 pounds, according to size; the pressure from the weights required to drive them ranges from "time trains" (the simple movement) from 125 to 300 pounds, and the pressure required to drive the "striking train" ranges from 250 to 800 pounds, according to the size of the bell from which a full tone is desired.

The first complete clock moved by weights of which there is positive record was constructed early in the thirteenth century. It was the work of a Saracen mechanic, who received about £2,000 for the fruit of his ingenuity. This clock is said to have kept time very accurately, and was afterward presented to Frederick II. by the Sultan of Egypt, under whose directions it was made.

About the time Dr. Franklin was studying upon his horological problem—or not many years later—Eli Terry began

making wooden clocks in Connecticut, his implements being simply a saw and jack-knife. After building up quite a business, he sold out (in 1810) to Seth Thomas and Silas Hoadley, and from this small beginning the great industry of American clock-making took its rise.

De Wyck's clock, made by Henry de Wyck in 1379, for Charles V. of France, is celebrated. It has been styled by clockmakers the "parent of modern timekeepers." According to the description given of this clock, it differed in nothing—except in having a horizontal balance instead of a pendulum, and one instead of two hands—from many old church clocks still in existence in England; for instance, that of St. Margaret's, Westminster.—*Boston Transcript*.

A DRUMMER'S DESPATCH.

A drummer set out on his trip one day;
His heart was light and he felt quite gay,
As he thought of the orders, more large than small,
He expected to get from his customers all.

An experienced drummer, a veteran he,
Selling goods thro' the South from mountain to sea;
His house was the oldest, his goods were the best,
His friends every ready to look and invest.

He had tips and he'd letters from every State;
Some wrote they'd buy early, some said they'd buy late:
For he was a drummer of no little renown,
From *New York City*, not *Providence Town*.

The first place he made, he did very well,
Tho' he didn't brag much he'd expected to sell;
On this trip last spring, many thousands he'd sold,
That he'd beat it this year he felt very bold.

But alas! at the next town a telegram came!
His spirit went down; he grew awfully tame!
No mortal on earth could have felt more sore,
His luck was now worse than ever before.

How different now from the drummer just out,
With his samples complete and his heart stout,
The salesman who started with spirits so light
Was now, indeed, in the sorriest plight.

He looked at his message and read it once more,
And he read it full forty times o'er and o'er;
Each time he read it, he felt worse and worse,
He barely could sigh—he was too weak to curse.

With never a word and scarcely a look,
Sadly he folded his thin order book;
Homeward he turned with samples and grip,
To see he was "rattled" you needed no "tip."

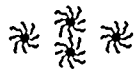
Now here was the cause of his sorrow and woe,
And this was the message that wounded him so;
This cut was the deepest, these words most unkind:
"Return samples at once—your house has assigned."

He went out like a "tourist," he returned like a tramp,
As a scout on the back track sneaks back to his camp;
Like a half-drowned rat or a bob-tailed mouse
Is a drummer recalled by a "busted" house.

G. T. P. in *Haberdasher*.



THE BEST FILLED CASE IN THE WORLD



FOR THE MONEY.



FILLED
where filled will
wear equal
to gold.





SOLID
gold everywhere
else.
See Cut.

THE AMERICAN WATCH CASE CO. OF TORONTO,

ASK THE ATTENTION OF THE CANADIAN JEWELRY TRADE TO THE LINE OF

HUNTING GOLD FILLED CASES

They have lately put upon the market. These cases are made in 14k. and 10k. quality, the 10k. being stamped "Fortune,"  and the 14k. "Cashier," 

Every one of these Cases have Solid Gold Bow, Crown, Thumb-pieces, Joints and Bearings, and is guaranteed to be the Best Case in the World for the money.

THEY ARE EQUAL TO SOLID GOLD CASES

in workmanship and finish, and are fully guaranteed by the American Watch Case Co., no matter by whom sold.

 IT WILL PAY YOU TO HANDLE THESE THOROUGHLY RELIABLE CASES.

AMERICAN WATCH CASE CO.,
67 ADELAIDE STREET WEST, . . . **TORONTO.**



Louis Davis & Company.

MONTREAL.

WHOLESALE JEWELLERS & DEALERS IN
PRECIOUS STONES.

NOVELTIES ARE OUR **GREAT SPECIALTY**
IN EVERY LINE OF GOLD & SILVER JEWELRY.

THIS WE MAKE *The Feature* OF OUR BUSINESS.

Sole Agents in the Dominion of Canada for the Celebrated Window Fronts
and Shop Fixtures of **F. SAGE & CO. of LONDON, ENG.**

CATALOGUES AND ALL INFORMATION IN CONNECTION WITH SHOP BUILDING &
WINDOW FITTING SUPPLIED BY MAIL UPON APPLICATION.





A COMMON ERROR.



IN times like the present, when the keenness of competition renders liberal advertising an absolute necessity to the rising man of business, the question of the most advantageous medium wherein to bring his specialties before the class of customers for whom he caters, becomes one of great importance. His commercial instincts prompt him to secure the best possible value for his money; but at the same time he fully recognizes

the fact that a good article must be paid for, and that cheap advertising, like cheap goods, usually turns out a poor investment in the long run. The true question before him, then, is to decide upon the respective value for advertising purposes of the principal mediums offered to him by the press, irrespective of their cost, and, did he display the same acumen and knowledge in answering this question correctly that he does in conducting his business, we should hear fewer complaints that the returns from advertising do not come up to expectations.

Unfortunately, the average advertiser bases his estimate of a paper's value as a medium for bringing his wares under the notice of his prospective customers principally upon the volume of its circulation. The larger the volume of circulation, he argues, and the greater number of readers it will have, and consequently the wider the diffusion of the advertisement will be. So far, so good; but when he goes on to add that the wider the diffusion of the advertisement and the greater the advantage he will derive from its insertion, he at once falls into error. It must be remembered that in the great majority of cases the paper having the largest circulation is that which appeals most directly to the sympathies, and panders to the tastes of the lowest classes of the city in which it circulates. This class take a paper for the purpose of keeping posted on the subject of murders, prize fights, police reports and sensational stories. Their minds run in channels which educated people abhor, and consequently they choose a paper which caters to their prurient tastes. As this class in every large city outnumber the middle and better classes, it follows that the paper they prefer soon secures the largest circulation, and simply on the basis of that fact proclaims itself the best and largest advertising medium of its locality.

Of course, for a business man desirous of reaching the lower classes, such a paper would naturally be the best medium. But the average merchant does not. He expects to find his customers principally among the middle and better classes, and consequently an advertisement in a journal of only one-quarter as large a circulation, going among these classes, would prove far more advantageous to him in the long run. In fact, so far as he is concerned, the amount of circulation is simply valueless. Out of the whole subscription list of the "popular" paper not one-tenth may belong to the class he wishes to reach; and the percentage of readers likely to form customers for his wares may be five times as large in a paper of only one-fifth of its total circulation. The first question, then, that should be

asked is not "how large is your circulation?" but "of what class are your readers composed?" For in the long run he will find that he will meet with greater success in business by patronizing those papers which have good trade connections than those which cater to larger circulations of the vulgar order, and most of whose sales are on the street or among the residents of the lower localities.

It is to this common error of estimating the value of an advertising medium solely by the volume of its circulation that most of the complaints of the inadequate results accruing from lavish advertising are really due. A merchant will complain that he advertised freely in all the largest daily papers without increasing his sales a thousand dollars a year, and therefore will give it as his experience that the value of advertising is largely overestimated; when the real truth is that he has not advertised in the true sense at all. He has only contributed to the coffers of a widely circulated paper which his customers read solely for news and then fling aside without troubling themselves to scan its advertising columns. Had he expended a similar sum in the columns of his trade journal, where the advertisements may be said to form part of the reading matter and are equally carefully perused, his opinion of the value of advertising would have been a very different one.—*Canadian Journal of Commerce.*

A LIFE FOR A DIAMOND.

"There's the most beautiful diamond I have ever seen during an experience of thirty years with the sparkling gems," said a veteran diamond merchant, as he held up a stone that seemed to live in fire, to a reporter of the *Philadelphia Inquirer*. From every facet radiated brilliant colors, and the hue of the stone was that steely blue which delights every connoisseur of the precious gems. The diamond did not weigh six carats, but was easily worth \$5,000.

"That stone has a tragic history," continued the man of jewels, as he laid the diamond to rest amid a nest of snowy cotton. "It comes from the De Beer's mines, in South Africa, and was discovered by a coolie employed by the company. His practised eye saw that the gem was a marvellous one for beauty of color, and a desire to steal it overcame him. Well, he did steal it, and to conceal the diamond about his person—for the coolies work almost naked in the diamond mines—cut a hole in his flesh, under the arm. But the wound did not heal, and the observant eye of the foreman saw what was the matter. A few days after he charged the coolie with having stolen a diamond, but the negro denied it.

"When Jack, the foreman, reached for his sore arm, the thief made a dash and ran toward the outskirts of the camp like a deer. The foreman followed him, but the fleet-footed negro outstripped him. He knew that a severe punishment awaited him if captured, and centred all his efforts to getting away with the stone, whose value would have made him rich for life. But Jack was equal to the emergency, and, drawing his pistol, shot the coolie through the back just as he was taking to the hills. His dead body was dragged back into camp, his arm cut open, and this beautiful gem in the rough was taken from the insertion. It's a tragic story, but true as gospel, and only a sample of what has happened more than a hundred times in the diamond mines of South Africa.



A TELEPHONE CONVERSATION WITH THE TRADE.



A. W. C. Co.—Hello, Central!

Central.—Yes, who do you want?

A. W. C. Co.—Give us the Retail Jewelers of Canada.

Retail Jewelers.—Hello, who is it that wants to speak to us.

A. W. C. Co.—THE AMERICAN WATCH CASE COMPANY, of 67 Adelaide Street West, Toronto, is speaking, and they just want to inform you that they absolutely refuse to accept any responsibility for any Gold, Silver or Gold Filled Watch Case unless it bears one of their Registered Trade Marks.

Retail Jewelers.—That's all right, but just tell us what are your registered trade marks?

A. W. C. Co.—Our trade mark on all Gold and Silver Cases is a "**Maltese Cross,**" (☒) and on all Filled Cases a "**Winged Wheel,**" (☞) and when you are buying Cases always look for these stamps. If they are stamped with one (☞) of them our Company will guarantee the quality and workmanship of the Case, no matter who sells it to you.

Retail Jewelers.—That's first-class as far as it goes, but why don't you name your Filled Cases so that we can order exactly what we want from our jobber?

A. W. C. Co.—We have done so. In 14 K. Filled we make two different kinds of O. F. Screw Cases, the "**Premier**" and the "**Cashier,**" and one Hunting Case called the "**Cashier.**" In 10 K. Filled we make the "**Fortune**" in Open Face and Hunting. Every one of our Filled Cases has one of these names stamped in it in plain letters right above our trade mark of the Winged Wheel, so that you can't make any mistake about them.

Retail Jewelers.—Thanks! We will certainly bear these things in mind when next we buy cases. In the meantime let your Company keep right straight along as you have heretofore done and give us first-class goods that we can swear by. We want to sell honest goods that we can conscientiously recommend.

A. W. C. Co.—Thank you, gentlemen, your advice is first-class, and we will always try and deserve your confidence. Good-bye.

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WATCHES FOR WATCHMAKERS.

We call your attention to our new movements : 18 Size Hunting and Open Face
"SPECIAL RAILWAY." "JOHN G. DUEBER," "DUEBER," "DUEBER WATCH CO."

Please examine and compare them with the class of Movements the Trust asks you to buy, at about the same prices, and in some instances, 25 per cent. in advance.

You will see after an impartial examination of these Movements how little chance there is to sell Combine goods, as soon as our Movements are shown to the entire trade.

Why they wanted a Combine must be plain to you by this time.

"They cannot compete with the class of goods we make."

We hope in conducting your business you do not run it on the plan of a benevolent institution, buying goods for charity's sake, holding up a Combination of Manufacturers, who cannot and dare not sell their goods in open competition, on their merits.

THE DUEBER WATCH CASE MANUFACTURING CO.

Dueber-Hampden Adjusted Watches are put up in Silverine Skeleton Cases.

Dueber-Hampden Watches do not have any of the Pendant Setting
humbug attachments.

Dueber-Hampden Watches, 18 Size, will in future for Canadian trade
have 24 Hour Dials.

Dueber-Hampden Watches may now be had either "named" or "nameless."

Dueber-Hampden Watches on top for Correct Time.

Dueber-Hampden Watches on top for Intrinsic Value.

Dueber-Hampden Watches on top for square dealing and an honest
profit for all those who handle them.

To prevent dissapointment and delay, dealers who have not already placed their orders for Fall delivery should do so now.

Address all communications to

WILLIAM ALLEN YOUNG,

Bank of Commerce Building,

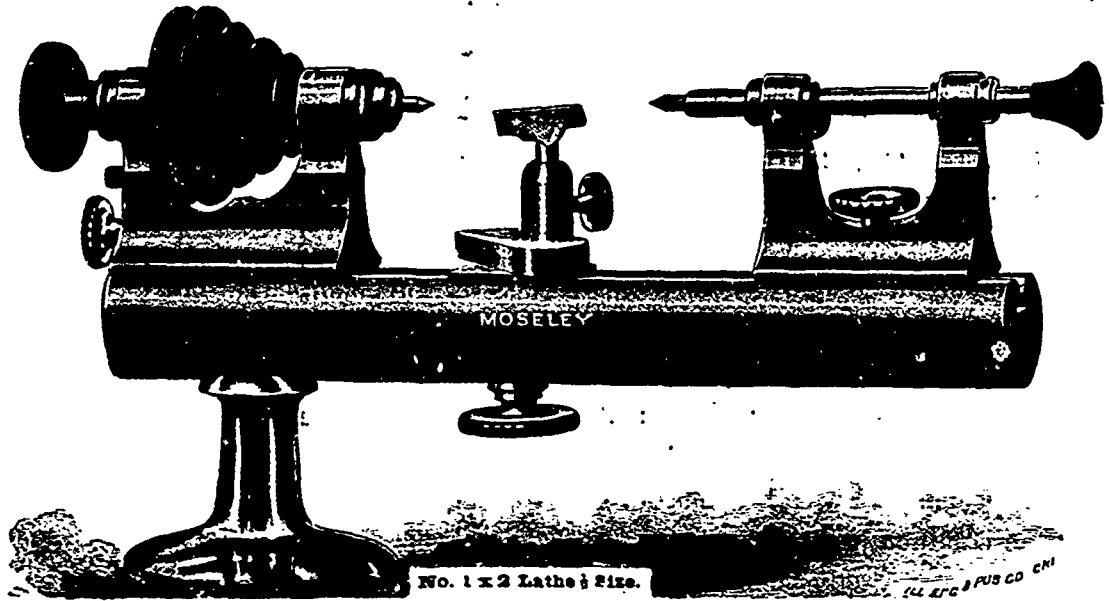
LONDON, ONT.

Sole Canadian Wholesale Agent for the Sale of

HAMPDEN WATCHES.



**QUALITY IS THE STANDARD OF VALUE.
WE COMPETE FOR QUALITY, NOT QUANTITY.**



No. 1 x 2 Lathe & Size.

No. 1 X 2 WIRE CHUCK

All our Chucks are stamped "Moseley" on the face and warranted.
Cut of Chucks Full Size.

Note.—The larger capacity of our Wire Chucks many times makes up for the difference in price, should there be any.

ALBERT KLEISER,
NO. 14 KING STREET EAST,

MARTIN'S GENEVA MAINSPRING

This is the finest Spring ever offered to the Trade in Canada. Send for sample doz. and be convinced.

Per Doz.
Martin's Springs for Waltham and Elgin Watches, 18 Size. - \$1 25
" " for Swiss Watches, all sizes, - - - - - 1 00

For Sale only by A. KLEISER, Wholesale Dealer in Watch Materials of all kinds.

Sole Agent for the Dominion for the Moseley Lathe, -
- - Wholesale Dealer in Watch Materials of all Kinds,
- TORONTO, ONT.

**The HOLMES ELECTRIC PROTECTION CO. OF TORONTO,
LIMITED.**

8 Wellington Street East, TORONTO.

BANK VAULTS, JEWELERS' SAFES, STORES of all kinds WATCHED, GUARDED and PROTECTED by our Central Office System, Cheaper, more satisfactorily, and more securely than it can be done in any other way. We protect your property by surrounding your vault completely inside or out with our Electric Lining which cannot be penetrated, when in operation, without an alarm at our Central Office. Thus we have an eye on your valuables every moment of the year.

Absolute Security when applied to Safes or Vaults.

**The HOLMES ELECTRIC PROTECTION COMPANY OF TORONTO, Limited,
8 WELLINGTON ST. EAST.**



FROM OUR UNITED STATES EXCHANGES.

A. E. Bentley, general manager of the Illinois watch factory, is quite ill at his home, having been overcome by the heat.—*Catalogue.*

Marcus W. Morton, secretary of the Manufacturing Jewelers' Board of Trade, has been appointed by the Governor of Massachusetts as Commissioner of Massachusetts in Rhode Island.—*Weekly.*

A Michigan jeweler says that the recent storms have kept repairers busy, the large amount of uncontrolled electricity causing many mainsprings to break. He put in eighteen new springs in one day.—*Review.*

Last Friday the suit of the Crescent Watch Case Company against the city of Brooklyn, to recover \$29,969.97, for damages to its factory from the overflow of a sewer, was decided in the Company's favor, judgment for \$17,000 being awarded.—*Weekly.*

The Boston *Globe* offers a sword, furnished by Tiffany & Co., and costing \$1,000, as a gift to the most popular Grand Army man in the country. Anybody may vote on the coupons printed in the *Globe*. The voting began on July 3rd, and will continue until about the middle of August.—*Review.*

The gymnasium erected for the use of the employees of the Elgin National Watch Company is completed and ready for occupancy. The appliances are of the most improved character, and the rooms are attractively furnished. Instructors have been provided, and the athletic exercises of the employees will be methodically conducted.—*Weekly.*

George Morris, a Brooklyn optician, well known in this city, is rejoicing over the receipt of a cablegram informing him that his uncle, a Mr. Phillips, has died in Plymouth, England, leaving him property valued at \$60,000. Mr. Phillips is said to have been a prominent diamond cutter, owning extensive works which are left to his nephew.—*Weekly.*

As Gustavus H. Stern, a saloon passenger on the steamship *Fulda*, was leaving the vessel he was stopped by two custom house inspectors who found in his pockets a diamond brooch, two garnet brooches, two diamond scarf pins, two diamond bracelets, garnet earrings and a garnet necklace. The articles were seized for duty.—*Weekly.*

A downtown jeweler, says a New York paper, received a day or two ago, from a stove and furnace maker, an order unlike anything he had ever received before. This was nothing less important than a set of hot air registers made to set in the floor. They were made primarily in solid brass from designs by the architect, and his orders were to plate them heavily in pure gold. When finished they are to submit to being walked upon in the country house of Mr. Rockefeller.—*Review.*

Aaron Cahn, a jeweler of 609 Third Avenue, New York, was sued, last week, by a customer for damages resulting from the loss of a brooch and a pair of earrings left with him for repairs. Mr. Cahn admitted receiving the articles, which he alleged were turned over to a repairer on Nassau Street. The latter testified to having sent the articles by mail to Mr. Cahn. The package never reached the jeweler, however, and is supposed to have been lost in transit. Civil Justice Lachman,

before whom the suit was tried, dismissed the complaint. Sol. & Benj. Oppenheimer appeared for the defendant. A number of jewelers were present at the trial.—*Review.*

The factory and plant of the Aurora Watch Company are ordered to be sold at auction before July 30. The employees, except eight or ten who have not appeared to claim their money, have received the entire balances of wages due them. Trask & Plain have purchased another lot of Aurora movements from one of the banks. Two of the banks have sold their movements at 50 per cent., and all the movements are now on the market. It is reported that the judge of the County Court states that Assignee Evans has not executed his orders as they were intended. The alleged variation from the order consisting in failing to pay some of the employees one half of their wages in cash.—*Catalogue.*

One of the boldest robberies ever perpetrated in Bradford, Pa., was committed on July 3rd at noon at the establishment of W. Schopperle in the Roberts block on Main Street. While the proprietor was at lunch, thieves entered the store through the transom and secured forty dollars in money, and gold and silver watches and a number of rings to the value of \$600. From the manner in which an entrance was effected there is no doubt in Chief of Police Framley's mind that more than one man is implicated in the robbery. At 11 30 o'clock two strangers were noticed in the vicinity, who, by their suspicious movements, excited the attention of passers. Two arrests were made later, and it is believed that the men arrested are members of a gang of five who have been operating in the adjoining houses for the past two weeks. The thieves secured eighteen ladies' gold watches and a tray of diamond rings, the value of one alone being \$125.—*Review.*

W. L. Gilbert, aged eighty four, died near Toronto, Can., Sunday, whither he went several weeks since on business. He has been fifty years president of the Gilbert Clock Company of Winsted. He was very prominently identified with many large factory interests in Winsted and with the railroad interests of Connecticut, as well as the banking interests of the State. His fortune is estimated at \$3,000,000. He built and endowed the Gilbert Home of Winsted a few years since, at the expense of \$500,000. He was also the promoter of a project to tunnel the mountain so as to connect the waters of Crystal Lake with Mad River, with a view of giving increased power to about twenty Winsted factories. His promised donation to the project was \$50,000, and it is thought some provision has been made in his will so that the project may be consummated. Mr. Gilbert was extensively known from Maine to California.—*Mfg. Jeweler.*

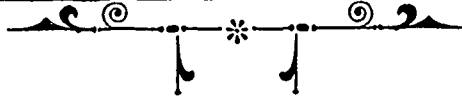
NOTES OF ENGLISH TRADE.

Electricity has now been applied as a means of separating gold and other precious metals from the ore. This is done in connection with mercury, and it is said to do its work most effectually, and at a less cost than any other process now known. This invention has been patented in England by a Mr. Molloy, a member of Parliament.—*Ex.*

HOW ENGLISHMEN REGARD IT. The progress of the Tariff Bill, now all but passed by the Legislature of the United



THANK YOU



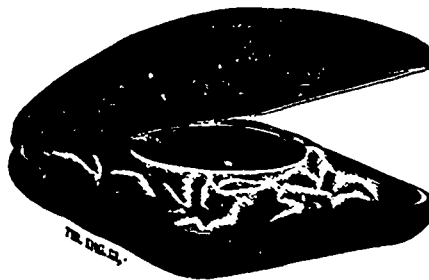
WE have all along felt that in bringing out anything new we are not working for an unappreciative trade. It is with more than ordinary pleasure that we take this opportunity of thanking so many of our customers for their kind words of encouragement and congratulations spoken and written during the last month to ourselves and our travellers on our latest achievement in

SILK VELVET CASES.



WE have aimed at turning out a handsome and durable case of exactly the correct shape and size, for a small sum of money, and as a result are offering our New Velvet Line at prices one third lower than good Plush Cases. The accompanying cut will shew the style (for full line see July TRADER), and below will be found our prices, which are subject to the usual cash discounts.

Watch, No. 141.....	\$12	Doz.
Sett, 142.....	12	"
Brooch, 143.....	7	"
Small Earring, 144.....	6	"
Large " 145.....	7	"
Lacepin, 146.....	8	"



Links, No. 147.....	\$8	Doz.
Cuff Buttons, 148.....	7	"
Ring, 149.....	6	"
Scarf Pin, 150.....	8	"
Bracelet, 151.....	13	"
Single Stud, 152.....	6	"

ON SAMPLE LINES WE WILL PREPAY CHARGES.

THE HEMMING BROS. CO., LTD.,

76 YORK STREET,

TORONTO.



States, is watched here with keen anxiety. In spite of the present all but prohibitive tariff, there are dozens of Sheffield firms whose trade is almost exclusively American. How these will fare should the Bill ultimately pass into law is the question of the hour. The very best qualities of Sheffield cutlery will probably always sell in the States, whatever the price may be; but to the more ordinary sorts the United States will probably be a closed market. This is a most serious matter for the town at large, and the feeling against the Yankees is most intense. Retaliation is not only talked about, but strenuously advocated by a large section of the community. Never were the principles of Sheffield Free Traders put to so severe a test as they are at present.—*Silversmith.*

GRANT TO THE BIRMINGHAM JEWELERS' TECHNICAL SCHOOLS.—A deputation from the Birmingham Jewelers' and Silversmiths' Association waited upon the Committee of the Guardians of Wrought Plate at the Assay Office on the 20th ult., for the purpose of presenting a memorial signed by over 200 of the leading firms of the trade, praying the Guardians to make a grant out of the funds of the Assay Office in aid of the equipment of the Technical School now being established in connection with the Branch School of Art in Vittoria Street. Mr. C. Green introduced the deputation and presented the memorial, briefly explaining the objects of the school and its necessity as the complement to the art education now being given to the youth of the trade, and urged the pressing need of money to enable the association to effectively start it in its useful career. Mr. J. M. Banks and Mr. J. W. Tonks strongly supported the prayer of the memorial. Mr. Buckley, in reply, expressed the great pleasure it had afforded himself and his colleagues to meet the deputation, and said their object had his fullest sympathy in the present and best wishes for the future. He thereupon handed the chairman of the association a cheque for £500.—*Silversmith.*

PLATE LICENSES.—At the Hull Police Court, on the 26th ult., Frederick Steele, watchmaker, of 17 Russell Street, Birmingham, was summoned by the Inland Revenue for selling silver plate without a license. Mr. Worthington, supervisor of Inland Revenue, appeared in support of the information. The evidence given by Mr. Herbert B. Ward, Inland Revenue Officer, showed that on the 1st of the previous month he was passing the defendant's shop, when he saw several small articles of silver-plate in the window. He entered the shop and purchased a bracelet for 15s., defendant stating in reply to his question that the article was silver. There were several other articles of silver plate exposed for sale, as also a watch. The defendant pleaded guilty, and said he had some justification. The bracelet and other articles mentioned belonged to his wife, for whom he was selling them. He did it principally to advertise his business. Mr. Worthington stated that it was in consequence of complaints that these proceedings had been taken. Defendant was a watchmaker, and therefore he must have known that a license to sell plate was required in his business. The stipendary magistrate said he observed from the section under which these proceedings were taken that the penalty was £50, but he had power to mitigate it for a first offence. The Legislature considered it a serious matter, and he felt it his duty to impose a fine of £5 and costs.—*Silversmith.*

EDITORIAL NOTES

SPECIAL NOTICE.

Jewelers throughout Canada will oblige the Editor by sending into this office for insertion in these notes any items of news pertaining to the Jewelry business that they think would be of interest to the Trade generally.

IN DIFFICULTIES.—Mr. R. F. Davey, the well-known Port Hope jeweler, has placed his affairs in the hands of R. E. Gunther, pending instructions from the assignees.

BERTON & PLAYTNER, of Toronto, are dissolving partnership. It has not yet been decided who will conduct the Horological Institute recently started by the firm.

MR. PARK MONTGOMERY, late of Chico, Cal., has become a member of the firm of H. Park & Co., jewelers, of Hamilton, Ont. The style of the firm will hereafter be Park & Montgomery.

THE TORONTO SILVER PLATE COMPANY are very busy getting out new designs for this fall's trade, and expect to show our jewelers the most complete line of goods this year that they ever had.

A PROTESTING JEWELER—Mr. D. F. Ferguson, retail jeweler of Rat Portage, has entered a protest in the courts against the return of Mr. James Conmee as member of the Local Legislature of Ontario.

A BAD MAN.—Thomas Ryan, while under the influence of liquor, assaulted Mr. Schreck, jeweler, of St. Thomas, in his own store, for which offence he was assessed \$4 and costs by the police magistrate.

A SNEAK THIEF'S WORK.—A sneak thief entered Alt. Doherty's jewelry shop, 614 Yonge street, last month, while Mr. Doherty was at tea, and stole three valuable gold watches. No clue has yet been discovered.

HAMILTON JEWELERS are sensible enough to take some enjoyment out of life as they jog along, and have agreed for the summer months to close their places of business every Wednesday afternoon. Their heads are level.

SIMPSON, HALL, MILLER & Co. have just about ready for distribution amongst the retail jewelry trade, a new illustrated catalogue of silverware, which will be one of the best of its kind ever distributed in the Dominion.

MR. L. H. DOLL, jeweler, of Calgary, N. W. T., was in the city last month on a buying expedition, and looked in to see *THE TRADER*. He has a high opinion of the North-West Territory and its prospects, and predicts a big trade up there this fall.

MR. J. H. HOUGHTON, formerly with P. W. Ellis & Co., and latterly with Mr. Harry Ellis of this city, has made an engagement with the retail firm of J. E. Ellis & Co., and will hereafter be found in that establishment every lawful working day.

THE AMERICAN WATCH CASE COMPANY of Toronto expect to have a full line of their new six size filled cases on the market during the present month. They will be first-class in every respect, and fully equal to the best made in the United States.

FAILED—The largest failure in the New Brunswick jewelry trade that has occurred for some time is that of L. T. Joudry, of Moncton. The firm's liabilities are estimated at about \$15,000, pretty well distributed amongst the wholesale trade all over the Dominion.

MR. HARRY J. JOSEPH, of the firm of Louis Davis & Co., of Montreal, was in the city last month on a business trip, and dropped in to see us. His firm have made preparations for a big fall business, and will show the trade some very choice lines in English and European jewelry.

SYDNEY LEE ILL.—We are sorry to learn that Mr. Sydney Lee, of the firm of Thos. H. Lee & Son, of this city, is down with typhoid fever. At last report he was progressing as favorably as could be expected, and we trust that he will soon be around again as usual.

THE SHERIFF IS IN.—Mrs. Edward Culverhouse, in whose name a jewelry trade was carried on in Thorold, is in business trouble, and the sheriff is in possession of her store. It is understood that Harry Ellis, of Wellington street west, is one of the chief creditors, but his loss will not be very large, if any.



NEW GOODS.

LEVY BROS., HAMILTON, ONT.

For the coming Fall Trade we have made extra exertions to secure some

NEW AND TASTY GOODS

and for that purpose ENGLAND, FRANCE, GERMANY and the UNITED STATES have been visited, and we have been successful.

OUR FALL STOCK HAS ARRIVED

and when our Travellers call on you they will show you grand value for your money, and goods that will sell at sight. Do not buy until you see what we have to offer.

IN AMERICAN AND SWISS WATCHES

©... WE LEAD. ...©

A complete line of Association Movements, Filled and Silver Cases as low as the lowest. Gold Cases all sizes and designs.

WE HAVE SPECIALTIES---TRY THEM.

"Albo" Silver Goods, Registered, (we are sole agents for Canada) "white as silver and guaranteed to wear white throughout."

"L. B. Silveride," O.F., Key Case. The best Case in the world. 5,000 just received.

"L. Bros." & "L. B. H." Standard Rolled Plate Chains.

A1 Spectacles, Registered. The cheapest and best spectacle in the market.

The choicest stock of French Marble and Mexican Onyx Clocks ever imported into Canada, and our usual complete line of American Clocks.



HYMENEAL.—Mr. E. E. Skinner, the popular traveler for Messrs. M. S. Brown & Co., of Halifax, N. S., was last month married to Miss Laura Weatherbee of that city. **THE TRADER**, in common with his many friends in the jewelry trade, takes the opportunity of wishing him long life and happiness.

LEFT THE BUSINESS.—Mr. George J. Bray, the well-known jewelry traveler, has apparently gone back on the business of which he has so long been one of the brightest ornaments, and has made an engagement with Messrs. Hees, Anderson & Co., to represent their line of window blinds, &c., on the road.

EDMUND SCHEUER, while in New York last month, succeeded in effecting a purchase of a large line of clocks which will prove a temptation to close buyers in Canada this fall. His assortment is very complete, and jewelers visiting the city will find it to their advantage to call at his warehouse and make a personal inspection of his stock.

EARLY CLOSING?—The retail jewelers of Halifax, N. S., have adopted the practice of early closing and will hereafter shut their shops every evening at eight o'clock, Saturdays excepted. We would suggest to them the advisability of getting it down gradually to six o'clock instead of eight, and they will find they will do just as much business.

WE REGRET TO LEARN that Mr. A. W. Crump, Canadian agent of the Waterbury Watch Co., lost his mother about the middle of July, after an illness of about three weeks. Mrs. Crump's remains were taken to New York for interment in the family burying plot there. Mr. Crump has the sympathy of his many friends in the trade in his affliction.

IN QUOD.—A tramp named Henry Lawrence was last month arrested in Hamilton, Ont., for stealing a watch from T. Lee and a clock from S. B. Roos, both retail jewelers of that city. The Police Magistrate sentenced him to eighteen months in the Central Prison, which will probably furnish him ample time for reflection upon the error of his ways.

GEORGE E. HUNTER, Assistant Superintendent of the Elgin National Watch Company, paid Toronto a flying visit last week on the business of his company. He says they are very busy at the factory, turning out from 1800 to 1900 watch movements per day, and have not got near up to their orders. They are looking for a big year's business in the States this fall.

NEW HOWARD MOVEMENT.—The new low priced movement just placed upon the market by the E. Howard Watch and Clock Co., is bound to become very popular amongst those who want a very fine time keeper at a reasonable price. The reputation of the makers stands deservedly high and is a guarantee that these movements are first-class in every respect.

A. C. ANDERSON & Co. are getting ready to move into their new quarters, which will be immediately in rear of those occupied by them for the past few years. They will be in the same building, but their entrance will hereafter be by the large hall door in the centre of the building. The new premises will be both light and airy and admirably adapted for the needs of the firms constantly increasing business.

AN HONEST SINNER.—The custom house officers of St. Catharines last month imposed a fine of \$50 on E. J. Leavenworth, editor of the *Gazette* of that city, for smuggling a number of plated butter knives over the line, which he was disposing of as premiums with his weekly paper. Mr. Leavenworth acknowledged the breach of the law in an open letter, in which he gives it as his opinion that smuggling is the least of sins.

A RISE IN SILVER CASES.—Owing to the great increase in the price of silver bullion it is understood that the case manufacturers of Canada and the United States will be compelled to advance the price of silver cases of all kinds. Retail jewelers who can afford it would be well advised to lay in at once all the stock of these goods that they can reasonably afford to carry, while they can get them at anything like old prices.

DUEBER WATCHES.—W. A. Young, the general agent of the Dueber-Hampden Watch Company for the Dominion of Canada, has just returned from a buying expedition to the U. S., and reports something new in his special line of watches. Hereafter the Canadian jewelry

trade will be able to get 24 hour dials on all goods of 18 size Dueber-Hampden Watches without any extra charge, a concession which will, no doubt, be fully appreciated by them.

MR. GEORGE CHILLAS, the wholesale jeweler, who, for the past year has had his quarters in the Manning Arcade on King St. west, has taken a lease of the warehouse next door east of that occupied by P. W. Ellis & Co., and will move into it just as soon as the necessary alterations can be effected. The move is a good one for Mr. Chillas, as he will be right in the jewelry swim instead of being away off by himself, as formerly.

A GO AHEAD COMPANY.—The Hemming Bros. Company, of this city, have recently placed a line of jewelers' boxes and cases on the market, which, for finish and value, far surpass any goods which have been imported into this country for years past. The jeweler who cannot find something amongst the samples of this Company's travellers wherewith to beautify and show off his goods, must of a verity be hard to please.

FORGING AHEAD.—Messrs. P. W. Ellis & Co., of this city, have just completed the purchase of the large double warehouse, the greater part of which has been for some years past used by them in carrying on their business. Now that the extensive alterations at which they have been working for the past two months are completed, they own what is probably the largest and finest exclusively jewelry warehouse in America.

AN INTERESTING DECISION.—At the London, Ont., Division Court, Judge Elliott presiding, an action of the Acme Silver Co., Toronto, against A. W. Smith, of Nissouri, came up for decision. The case arose out of a bailiff's seizure, the goods being afterwards claimed by W. Heughan, of Thorndale, and Mr. Moore, of the same vicinity. A verdict was given for the plaintiff, and President Parker is therefore correspondingly happy.

CANADIAN TOWER CLOCKS.—Messrs. J. E. Ellis & Co., of this city, have commenced the manufacture of tower clocks of all kinds, and it is probable that hereafter most of the clocks of this kind erected by them will be made in their own factory in Toronto. The workmanship of these clocks is said by those who have examined them to be of extra quality, and that they are bound to perform well as timekeepers. Score one more for the N. A.

A BIG PURCHASE.—The largest purchase of sterling silver bullion ever made by any firm in Canada was effected last month by the American Watch Case Company, of Toronto, through their New York brokers. The indications are that silver will go up to a higher point than it has reached for ten years past, therefore manufacturers with capital are putting themselves in shape to discount the effects of the expected advance.

A LUCKY JEWELER.—Amongst the recent appointments gazetted by the Ontario Government we notice that of A. W. Thompson, jeweler of Port Arthur, as Sheriff of Thunder Bay District. A. W. is a good fellow and thoroughly deserves the position, and **THE TRADER** not only wishes him long life to enjoy the good things of his lucrative and responsible office, but trusts that if any of his old fellow-craftsmen ever get into his clutches, he will deal tenderly with them.

MR. BENJ. ALLEN, one of the largest and best known and most genial of Chicago's wholesale jewelers, was in Toronto last month, and of course dropped in to see **THE TRADER**. He had been accompanying his wife down to the sea coast, and was on his way home to look after the opening of the fall campaign. Although trade in Chicago has been somewhat flat so far this year, Mr. Allen looks forward to a big fall trade, and we trust he will not be disappointed.

BAD READING FOR CANADIAN PESSIMISTS.—The financial statement for the year just closed shews that the revenue of Canada during the financial year ending the 30th ult., amounted to \$38,843,000 and the expenditure to \$30,939,000, leaving a surplus of nearly \$8,000,000. This will be indeed bad news for Commercial Unionists and persons of that ilk, who have for years been contrasting our deficits or small surplusses with those of the U. S., very much to our disadvantage.

P. W. ELLIS & Co. have just finished a large order for "Union Jacks" for the use of the Sons of England Society of this country. They are about three-quarters of an inch long and the colors are



Canadian Horological Institute,

133 KING STREET EAST,

OPPOSITE ST. JAMES CATHEDRAL,

TORONTO, - - - ONTARIO.

PRACTICAL AND THEORETICAL INSTRUCTION IN WATCHMAKING AND
REPAIRING GIVEN IN ALL ITS BRANCHES.

Our system of operation is arranged so as to give Students the greatest possible amount of practical instruction in the shortest space of time.

If you feel that you would like to understand Escapements a little better, take a month of instruction in our School, where you will have every facility for improvement.

If you don't understand trains and depthing thoroughly, take a month of instruction in our School.

If you want to learn how to run the American Lathe and do turning, jewellery, etc, take one or two month's instruction in our School.

If you want to generally perfect yourself in your business, take a course of from six months to a year in our School.

If you want to learn your trade entirely, come with us for from one to two years, and if you have average mechanical ability and a desire to progress, we will turn you out a First-Class Watchmaker, and procure you a good situation.

Send for Prospectus, giving full information, terms, etc.

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For Time, Appearance and General Satisfaction,

THE

WATERBURY WATCH

Is **UNEQUALLED** by any other low-priced Watch
IN THE WORLD.

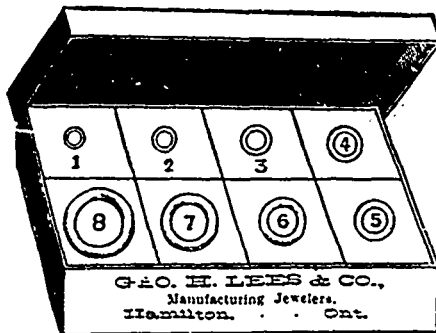
THERE is a larger percentage of profit in the sale of WATERBURY WATCHES than ANY Watch in the market. Think of this, and then ask yourself why you handle cheap Swiss watches, when every one you sell will prove a boomerang. Give your customer good value for his money and you make a friend of him or her, do otherwise and you lose a customer. Send for our Catalogue showing different Dials and Fancy Cases.

NO ENTERPRISING JEWELER SHOULD BE WITHOUT OUR GOODS IN STOCK.

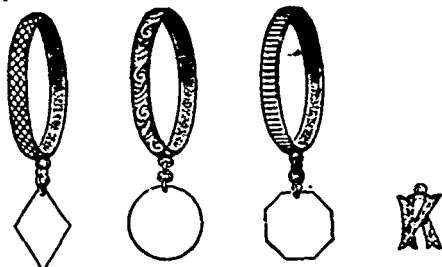
THE WATERBURY WATCH CO.,

81 KING STREET EAST, . . . TORONTO, ONT.

WATERBURY



ROLLED PLATE and SILVER JUMP RINGS conveniently done up in boxes holding one gross each, assorted in eight useful sizes.
R.P. \$1.25 per gross.
Silver 1.50
Order a box of each to start with, and afterwards order by number any quantity you may want. You will find this a very good system. Sent by mail on receipt of price.



FRIENDSHIP RINGS.—Taking well and becoming very popular. Made in three patterns, Milled, Chased and Diamond.
Silver, with Round, Octagon or Lozenge Bangles \$2.40 per doz.
" " Initial Bangles 3.00 "
Gold, with slightly smaller Bangles and Initials 7.80 "
We are still selling lots of the BANGLE BRACELETS. Solid Silver, 1 dozen \$2.10, 3 dozen \$4.10, 3 dozen, \$6.00. Assorted patterns. Sent by mail on receipt of price.

G. H. LEES & CO.,
Manufacturing Jewelers, Watchmakers & Engravers, Hamilton, Ont

T. WHITE & SON,
MANUFACTURING JEWELERS,
LAPIDARIES & DIAMOND SETTERS,
RICHMOND CHAMBERS, RICHMOND ST. WEST, TORONTO.

Canadian and Foreign Stones, Rubies, Sapphires, etc., Polished and Mounted for the Trade.
N.B.—A variety of Stones and Imitations of all kinds in Stock.

C. W. COLEMAN,

10 KING ST. WEST, (up Stairs) . . . TORONTO.

WATCHMAKER TO THE TRADE.

Importer and Dealer in GRANDFATHER CLOCKS,
QUARTER TING-TANG AND CHIMES.
ESTIMATES FURNISHED FOR TOWER CLOCKS.

W. COATES & BRO.,

JOBBERS IN

JEWELRY AND WATCHES,

BROCKVILLE, ONT.



The Montreal Optical & Jewelry Co., Ltd.

Warehouse and Factory, 1685 Notre Dame St. Montreal.

P. O. BOX 1054.

ONLY MANUFACTURING OPTICIANS IN CANADA.

We are now offering to the Trade exceptional prices and the finest lines of all kinds of

OPTICAL GOODS

Ever Shown in the Dominion.

Andemair's celebrated Opera Glasses, Field Glasses, Telescopes, Spectacles
AND EYE GLASSES OF ALL KINDS, TRIAL LENS SETS, ETC.

Special care given to Prescription Trade and Customers' Repairs.

N.B.—Our Travellers are now on the road. Reserve your Orders for these Goods. It will pay you.

Montreal Optical and Jewelry Company, Limited.

The Best Line of Rolled Plate Chains.

IN THE MARKET FOR THE MONEY.

STYLES
 ORIGINAL
 DURABILITY
 GUARANTEED.



J.G.C. & CO.

FINISH ALL
 THAT
 COULD BE
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Send for Illustrated Sheet of Specialties for this Season. For Jobbers only.

J. G. CHEEVER & COMPANY,

NORTH ATTLEBOROUGH, MASS., U.S.A.

GEO. P. WAGNER.

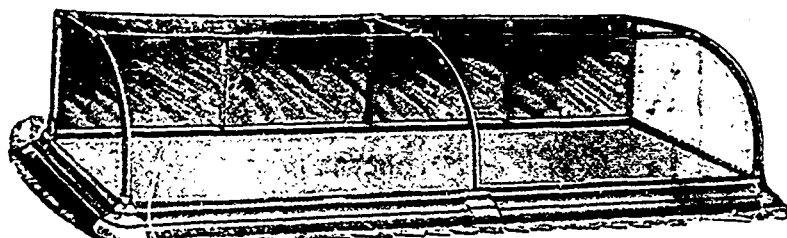
CARL ZEIDLER.

D. C. WAGNER

DOMINION SHOW CASE WORKS, WAGNER, ZEIDLER & CO.

(FORMERLY DOMINION SHOW CASE CO.)

HIGHEST AWARDS RECEIVED WHEREVER EXHIBITED.



Manufacturers of

Show Cases of every description in Nickel, Silver
 Walnut, Ebonized, etc.

Hardwood Store Fittings, Metal Sash Bars, etc.

Send for Catalogue and Price List.

Show Rooms, Head Office and Factory: West Toronto Junction, Ont.



beautifully brought out by enamel work. They ought to be extensively handled by every jeweler in Canada, for we do not know of a neater or more appropriate badge for any true and loyal Canadian than the dear old Union Jack. As a piece of jewelry it is both pretty and unique, and what is more it can be sold by the retailer at a good profit. Every patriotic Canadian should wear one.

W. T. PARSONS, of Dundalk, Ont., one of the oldest retail jewelers in Canada, paid THE TRADER a visit last week, just as he said in order "to thank us for the great free treat we had been supplying him with for years past through the medium of THE TRADER." He said, "if it don't come to hand by the 5th of the month, I begin to feel as if I had lost something, and then of course you hear from me to know what is keeping back my paper." In this respect Mr. Parsons is but a fair sample of hundreds of the most enterprising and wide-a-woke jewelers in all parts of the Dominion.

A BIG ADVANCE.—The United States mine owners having been successful in getting their Silver Bill through Congress, the effect has now become visible in the price of silver bullion which has advanced nearly seventeen per cent. within the past eight months. This means a large advance in the cost of all goods into the manufacture of which silver enters largely. Amongst other things it is probable that sterling silver flat and hollow ware, watch cases, and electro-plated ware of all kinds must take a step upward in price if silver is going to maintain its present high value.

CANADIAN JEWELERS IN THE U. S.—During the past month nearly every Canadian wholesale jewelry house has had a representative over in the United States on a "stil hunt" for novelties in American jewelry, and no doubt the fruits of their researches will be made manifest when their respective travelers take the road. So far as the THE TRADER has been able to learn, novelties in American jewelry, while not so plentiful as in former years, have yet been sufficiently numerous to amply repay the search of buyers who were bound to get them. Some of the new designs are said to be very taking.

PEOPLE WHO LIVE IN GLASS HOUSES.—Now that *The Guide* has satisfied itself that THE TRADER is a thoroughly independent journal, and made its half-hearted apology for the false charge it brought against us, it might take time to explain to the retail jewelers of Canada just what connection it has with the Charles Stark Co., who manufacture watch cases under the name of the Toronto Watch Case Co., and who, if the trade might judge by its advertisements in *The Guide*, furnished the inspiration for the charges made by that journal against THE TRADER and the American Watch Case Company.

LOOK OUT FOR THEM.—A telegram from Elmira, Ont., says that several well-dressed, smooth-tongued rascals have been "doing" the townships of Woolwich and Peel, and have succeeded in swindling a good many of our farmers. Their specialty is gold watches, which they claim they have been obliged to take on a bad debt. Their story was so well rendered that many of our farmers fell victims to their snares, and paid from \$10 to \$18 for watches which are worth less than \$3 each. The local jewelers should lend their assistance towards getting these scoundrels under lock and key.

A PLEASURABLE VISIT.—On account of his close application to business Mr Edward Beeton, the well-known jeweler of this city, was recently threatened with loss of his eye-sight and recommended by his physician to take two or three weeks complete rest and change of scene. He accordingly took ship for Chicago, Ill., and spent the most of his time on the water. While at Chicago he ran out to Elgin and spent a whole day in the Elgin Watch Company's works, and what he saw there will be found chronicled in a very interesting letter from him in this issue of THE TRADER. Be sure and read it.

A DEERED HONOR.—Mr. Matthew Gage, formerly engaged in the retail jewelry business in Kingston, but who on his removal to Riverside Cal a few years ago, succeeded in reclaiming a large tract of almost barren land by artificial irrigation, passed through Toronto last month on his way to Europe, where he proposes spending several months. Before leaving Riverside, Mr. Gage was tendered a complimentary banquet by the people of that place as a mark of their appreciation of his services to the community. We trust that Mr. Gage

may have a pleasant trip and thoroughly enjoy the fortune he has amassed by his foresight and business ability.

ANOTHER BURGLARY.—About 3 o'clock on the morning of July 3rd burglars entered the store of James Stark, of Ayr, and blew open his safe. The work was evidently done by professionals. A hole was bored on top of the safe just inside the door, powder poured in and a fuse put down through the hole. The door was blown completely off and partly through a partition. Watson's night watchman, Rutherford, heard the report, and went towards Stark's. The robbers fired three shots at him and hurried off north. There was only about \$20.00. Surely such repeated warnings as this should make jewelers alive to the necessity of having adequate protection for their valuable stock.

REMOVAL.—The Acme Silver Company have removed from their former premises on Wellington Street East, to the factory they purchased some months ago on Hayter Street. If any of our readers have the idea that moving the contents of a factory is a nice job, they can get their minds disabused by a few minutes conversation with President Parker of the 'Acme' Co. The new premises of the Acme Silver Company are not only very extensive, but have been fitted up with all the latest appliances for the manufacture of artistic and staple flat and hollow silverware. The Company are making preparations for a largely increased fall trade, and if it don't come they will want to know the reason why.

STRAWS SHOW HOW THE WIND SETS.—A recent cablegram from England says that at Sheffield the mayor of that city presided over a meeting attended by 12,000 persons called to protest against the McKinley tariff bill as seriously affecting Sheffield's manufacturing interests. A master cutler proposed, and the president of the chamber of commerce seconded a resolution calling upon the Government to take protective measures against the McKinley tariff bill, which it was stated threatened to become the means of destroying Sheffield's trade with America. The resolution was carried by acclamation. If England is a free-trade country it is evident that her people are not unanimous on the policy.

A NOVEL INVENTION.—Mr. Steve Willcock, well known to the Canadian jewelry trade, having for years carried on one of the largest wholesale jewelry businesses of the period, has just completed and patented a cheap and simple method of attaching Westminster Chimes to American clocks of any kind. As the cost will not exceed a couple of dollars at the most, it is evident that Mr. Willcock has thought out an invention which should be extensively used by clock manufacturers. From the sample of the invention submitted to the inspection of THE TRADER, we should say that it is a first-class thing and one which every buyer of a clock would desire if furnished at a reasonable price.

BAD FOR NED HANLAN.—Edward Hanlan, for many years the undisputed champion oarsman of the world, was greatly excited one day last week when he discovered that some thief had robbed him of his nobly earned and highly prized gold medal which Lord Dufferin had presented to him in honor of his victory over Courtney at Lachine, in 1878. The medal, with a number of other trophies, was on exhibition in a glass case at Hotel Hanlan at the Island, and must have been stolen during the night. The wonder is that the thief did not steal the other valuables. Mr. Hanlan reported his loss to the city detectives, who are making every effort to recover the treasure. If any jeweler gets his eye on this valuable trophy he will do Mr. Hanlan a favor by holding on to it until he can be heard from.

TORONTO POST OFFICE.—The use a people make of their postal facilities is generally accepted as a pretty good indication of their intellectual and business activity. Measured by this standard, Toronto shows up very well as the following official report will show:—The increase in postage stamps sold in this city during the first half year of 1890 amounts in money value to \$13,197, the figures being \$159,442 for the first half of 1889 and \$172,639 for the corresponding period of 1890. The growth in all branches of the business done at the Toronto post-office is proportionate. The sale of stamps only partially represents the volume of outgoing postal matter, as hundreds of remittances are every day made from country parts to the metropolis by postage stamps, which, of course, find their way into use.



DO NOT BE DECEIVED

By the loud talk and profuse use of printers' ink concerning "Plated Seamless Wire."

Wire made with gold solder presents a

PERFECT GOLD SURFACE

And is practically Seamless.

THE IMPORTANT THING IS QUALITY.

WHAT IS THE THICKNESS OF GOLD USED?

THAT IS WHAT CONCERNS THE CONSUMER.

QUALITY ASSURED, TROUBLE AVOIDED

If you use the

R. F. S. & CO.

ROLLED GOLD PLATED CHAINS.



HUGH J WOODSIDE, of Portage la Prairie, Man., well-known to the jewelry trade of Canada as one of the brightest men in the craft, paid Toronto a friendly visit of exploration during the carnival week. He dropped in to see *THE TRADER* a couple of times, and we were delighted to have an opportunity of welcoming in person one from whom we had so often heard through the medium of the post office. Mr. Woodside has left the jewelry business and is now editing the *Manitoba Liberal*, which under his able management is fast taking rank as one of the most widely circulated and influential journals in the North-West. He expressed himself as not only surprised but charmed with Toronto, and thinks that next to the Portage it is the best city in Canada. He predicts splendid crops and a rushing trade for his Province this year.

THEY GOT HIM.—A man by the name of John M. Williams was arrested last month by the Toronto detectives on a charge of bringing stolen jewelry into Canada. Several watches and other jewelry was found in his possession which he claimed was purchased in the ordinary way in St. Louis, Mo., U. S., and he was remanded by the magistrate until our police could communicate with the St. Louis authorities and learn if his claim was true. The information which came substantiated what he said, and he was accordingly honorably discharged. The customs authorities talked at one time during his detention of seizing his goods for smuggling, but as it appeared that he came across the border at Windsor carrying his valise in his hand without any attempt whatever on his part to evade the authorities, they finally decided to let him slide. He slid accordingly.

OUR OPTICAL DEPARTMENT.—For the benefit of our many readers who are engaged in the optical business in addition to their regular jewelry trade, we have opened an Optical Department in *THE TRADER* under the efficient management of Dr. John S. Owen, eye and ear specialist of Detroit, Mich., U. S. Mr. Owen is one of the ablest writers on this subject in the United States, and it is his purpose to touch from time to time upon general optics and its application to the opera, field, and marine glass, telescopes, microscopes, as well as the subject of ocular refraction, in order that retail jewelers dealing in such goods may obtain an intelligent knowledge of the whole subject. Our readers interested in such things will do well to look carefully through this department every month, as it will be found not only interesting but instructive.

THEY HAD A JAG ON.—Dominion Day in Tilsonburg appears to have been celebrated by one of the old time celebrations, if we may judge by the account of the day's doings in the *Observer*. Amongst other features it says, "The neighborhood of H. Connolly's jewelry store was thronged by a great crowd which found great enjoyment in watching the arrival and unloading of the "biggest loads" which were competing for the special prize offered by Mr. Connolly. The prize was awarded to Mr. G. W. Renson, of Middleton, who brought in forty-eight visitors on a single wagon. The load, was photographed in front of Pollard's gallery and made a trip up the street cheering and waving flags. It is said that a load started from Langton which numbered over one hundred people, including a brass band. The load was being drawn by seven teams, but met with a mishap which prevented its putting in an appearance.

THE WATCH CASE SITUATION has become embarrassing, so says the *Guide*, and being in the confidence of the great catalogue watch and gun house it ought to speak as one having authority. As the chosen organ of the Charles Stark Co., who, while selling watches to the public at the retail jeweler's cost, are desirous of disposing of their surplus product of watch cases to these same jewelers under the name of The Toronto Watch Case Company, the *Guide* is certainly in a position to know just how embarrassing the situation really has become. If a reduction in the price of watch cases, such as will enable the retail jewelers to compete on anything like fair terms with the catalogue watch and gun company which seeks to monopolize the business is embarrassing to the trade, we must confess to be considerably astray in our diagnosis of the case. From what we can learn from our many retail correspondents in various sections of Canada, it is not the retail jewelers who are doing the squealing just now.

THE RIGHT RING.—The following extract from a recent editorial utterance of *Le Monde* is so well timed and to the point that we com-

mend it to the notice of every one of our readers. In refuting the idea that our French-Canadian brethren are disloyal to Canadian sentiment and nationality, it says: "Of course our provincial institutions are dear to us all, and the solemnity of St. Jean Baptiste is for French-Canadians a glorious occasion to perpetuate the memories of the past, but we must not forget that to-day the flag of our country waves from the Atlantic to the Pacific, and is venerated with enthusiasm from the American frontier to the North Pole. If the standard of Canada floats to-day over a country sufficiently vast to contain 100,000,000 souls, and able to grant liberty to them all, it is to the fathers of the Confederation that we owe it all. Let us continue therefore to celebrate each in our own way, our particular anniversaries with all the old time enthusiasm. This fires the heart, animates our courage, and creates a healthy emulation amongst the different races of Canada, but on July 1 all who live on Canadian soil should unite in one national sentiment, and fervently ask God to continue the favors that have been unceasingly accorded to the citizens of our beloved Canada. 'Vive la Canada!'"

IS THIS PROFESSIONAL?—Finding that its editorial attacks on *THE TRADER* and its editor were likely to prove a boomerang, the *Guide* has broken out in a fresh place and in its last issue prints a two page advertisement of the Charles Stark Co., doing business under the name of The Toronto Watch Case Co., full of personal abuse of the editor of this journal and the American Watch Case Co. of Toronto. If the Charles Stark Co. think that by any such silly twaddle they can hoodwink the retail jewelers of Canada, we can tell them right here that they have mistaken the men. Above the signature of the *Guide's* editor and manager, in every issue we find this announcement: "No advertisements but those of a reputable character will be inserted." If such advertisements as the one mentioned above are reputable, we would respectfully ask the mercantile purist who edits the *Guide*, how much billingsgate an advertisement must contain before it will be classed by him as disreputable. Surely the gentleman whose high sense of morality and honor compelled him to attack the veracity of an ordinary business advertisement in a contemporary, but who could admit such a disreputable effusion into the columns of his own journal, would furnish a very good example of the man who would "strain at a gnat, but swallow a camel?" when it paid him to do so.

A COOL PIECE OF BUSINESS.—One of the most audacious attempts at personation that we have ever been called upon to record took place last month at Springhill, Nova Scotia. It appears that Mr. Geo. L. Moss, jeweler, of Springhill, having purchased the stock of Messrs. Warmunde, at Amherst, N. S., decided to sell out his interest in the former place and made arrangements with Levy & Michaels, of Halifax, to that effect, and the latter firm were to send a Mr. Anderson to fix the transfer. Harry E. Anderson, of Sackville, N. B., by some means heard of this and presented himself to Mr. Moss as the genuine Anderson, when he was at once given possession of the store, and proceeded to take stock of the goods. Anderson then modestly intimated that he was about to be married, but an expected check had not come to hand, and asked Mr. Moss to oblige him with money. As Levy & Michaels had written that their Anderson was perfectly reliable and that they would be responsible for all debts contracted by him, Mr. Moss gave him the money he required, and also got him the necessary outfit for the ceremony. Anderson was to marry Miss Dobson of Sackville, whose friends had repeatedly warned her of his character, but in spite of all remonstrance, they drove to Amherst and were married, returning that night. Moss had written Levy & Michaels of the arrival of Anderson, and when he reached Springhill, found a telegram advising him that there was some mistake as their Mr. Anderson was still in Halifax. Mr. Moss immediately had the bogus man placed under arrest and on the day following his wedding, he was lodged in Amherst jail on the charge of obtaining money under false pretenses. Besides the money obtained, Mr. Moss says that he has lost several valuable pieces of jewelry.

A MEAN COMPETITOR.—The jewelry trade in the United States is highly excited over the action of the *New York World*, which newspaper, in order to boom itself and its circulation, has conceived and put into execution the brilliant idea of selling American watches to the public at the actual cost price that the retail jewelry trade of the U. S. has to



NEW GOODS JUST ARRIVED.



Latest

Novelties in

American Jewelry
and Solid Gold Rings

Beautiful Designs and Large Variety.

Ingraham Walnut Clocks

NICKEL ALARMS. CLOSE PRICES.

Waltham and Standard
Watch Movements.

Canadian Gold-Filled
Silver Cases,

Watch
Materials

etc.

A.C. ANDERSON & CO

WHOLESALE JEWELLERS

16 WELLINGTON ST. EAST TORONTO.



pay for them. The worst feature of this most contemptible piece of business is the fact that the *World* uses its columns to show up the exact cost of every grade of American watch to the jewelry trade, and plainly states that if any person can get the local jeweler where he resides to be fool enough to sell him goods at cost, their prices can be met, but if they don't want to give the retail jeweler any profit they had better order from the *World* direct. Now, everybody who has any idea of right can plainly see that the *World* is only enabled to sell watches at cost because it makes a living profit out of its own legitimate business, viz., that of printing and publishing a newspaper. If, like the retail jewelers, it had to sell watches for a living it could not afford to sell them at any less profit than the jeweler does. So far as we are aware the retail jeweler, either in the U. S. or Canada, does not make an exorbitant profit on the watches he sells. There is no combination amongst them, nor have they a monopoly of the business in any way. On the contrary, the crowded state of the trade, and the competition from the large catalogue houses who seek by quoting very close prices to take away the small retailers trade and centre it in their own establishment, has cut the profit on watches down to a very close margin indeed. That this is so, may be inferred from the fact that there has never been any complaint from the public about the price they have been paying for their watches to the jewelers. Under these circumstances the action of the *World* in trying to take the bread out of the mouths of 20,000 retail jewelers of the U. S. for a purely selfish motive, is a particularly contemptible piece of business, and we do not wonder that the trade in that country are up in arms about it. Their action is not a good business move, for it will antagonize at least 20,000 jewelers and their friends, who will work tooth and nail against it, and it certainly does not have any savor of the "live and let live" principle which should animate those who try to hold themselves up as the moulders of public opinion. The matter has now resolved itself into a straight fight between the *World* on the one hand and the watch manufacturers and jobbing and retail jewelers on the other. The leading manufacturers have notified the wholesale trade that anyone detected in selling the *World* watch movements or cases shall be promptly cut off by them and refused their goods hereafter. This action will probably bring the matter to a focus, for it is evident that if their source of supply is really cut off, the *World* people will find it difficult to carry out the promises they have been making. We look in the near future to see the *World* back gracefully down from its present position, or else if it is bound to pursue its new calling, to start up a watch movement and case factory of its own. We have heard of such things having been done before, and history sometimes repeats itself.

PREPARING FOR BUSINESS.—During a visit to the Goldsmith's Stock Co.'s warehouse last week, we were surprised to observe the large quantities of rolled plate, silver and gold jewelry that was being marked off by Manager Barr and his assistants. In answer to our enquiry, Mr. Barr stated that their buyers had thoroughly ransacked the markets of Europe and America this season for goods, and that their Company had never before had so many novelties for the trade to select from. They had made big preparations for the fall trade, and fully expected it to show a large increase over that of last year. In anticipation of a rise in all kinds of silver goods they had laid in a large stock of staple and fancy articles, and were prepared to place them with the trade on reasonable terms.

WORKSHOP NOTES.

TO TAKE SPOTS FROM GILDING.—Boil common alum in soft pure water, and immerse the article in the solution, or rub the spot with it, and dry with sawdust.

POLISHING AGENT.—Crocus, dried and powdered, when applied with chamois leather to nickel-plated goods, will restore their brilliancy without injuring their surface.

TO PART LEAD FROM GOLD.—A correspondent desires to know how to part lead from gold. As lead melts at 617° F., and gold at 2,000° F., melting the lead and recovering the gold would be about the most convenient and quickest method.

TO REMOVE GOLD.—Gold is taken from the surface of silver by

spreading over it a paste consisting of pulverized sal-ammoniac with aquafortis, and heating till the matter smokes and is nearly dry. The gold may then be separated by rubbing with a scratch brush.

TO CLEAN GILT SURFACES.—Gilt metallic surfaces are best cleaned with a solution of 30 grams (19 dwts., 7 grains) borax, 1 kilogram (35 ounces avoirdupois weight) water; rub the surface gently with this, rinse in cold water, and dry with a soft linen rag. Picture frames only bear cold water.

BLUE GOLD.—Blue gold is difficult to repair at all times. It has, however, a very pleasing effect, when used in conjunction with other shades of colored gold in the formation of artistic work. Blue gold is a mixture of iron and gold. The formula for 18 karat is as follows: Gold fine, 15 dwts.; iron, charcoal 5 dwts.

OUR HELP COLUMN.

THE TRADER aims to be of practical value to the Retail Jewelry Trade. NO CHARGE is therefore made for advertising in this column, but the subject-matter should not exceed five type lines, or about 60 words.

FOR SALE—A full set of watchmakers' tools and Felt's Portable bench, all in good order and will be sold cheap either in lots or all together. Address, J. BALL, Hanover, Ont.

FIRST-CLASS WATCHMAKER open for engagement with a firm who is willing to pay A 1 wages for first-class work. Address "PIVOT," Box 796, care of TRADER PUB. Co., Toronto.

SAFES.—Second hand, good as new, very cheap. Fire-proof, 42 in high, 33½ wide, 27 deep, price \$70. Burglar and fire-proof, 47 x 33½ x 30, price \$225. Burglar and fire-proof, 61 x 50 x 35½, price \$500. 10% for cash. All with the latest improvements. A. C. ANDERSON & Co., Toronto.

SITUATION WANTED.—Watchmaker with five years' experience in a first-class city shop desires situation. Has a complete kit of tools, including an American lathe and attachments. Address, B. I. Z., care of TRADER PUB. Co., Toronto.

SITUATION WANTED by young man 21 years of age, to work under instructions in good shop. Good salesman and book-keeper. Address, Lock Box 303, Creemore, Ont.

WANTED a job with a good jewelry house to travel on the road. Twenty-five years' experience in the jewelry business. Western part of Canada preferred. Address, N. S., care of TRADER PUB. Co., Toronto, Ont.

WANTED TO PURCHASE good paying jewelry business in growing town. Correspondence strictly confidential. Apply JEWELRY, care of TRADER, Toronto, Ont.

WANTED A SITUATION with chance to improve by young man 20 years of age, can do all ordinary clock, also some watch and jewelry repairing. Can furnish the best of references. H. J. McNAUGHTON, Brussels, Ont.

WATCHMAKER wants a situation, 11 years' experience. A 1 References. Good kit of tools, and of good habits. Address, "WATCHMAKER," care of White Lime Co., Guelph, Ont.

WATCHMAKER, 8 years' experience, 23 years old, speaking French and English, and able to attend customers, wants situation. First-class references. EUGENE MARCHAND, Box 124, St. Jerome, Que.

WORKING JEWELER wanted for British Columbia. Steady job to reliable man. Apply F. CRAKE, New Westminster, B. C., or A. C. ANDERSON & Co., Toronto.

WANTED A SITUATION as watchmaker by a first-man, capable of doing first-class work, (married). Apply stating salary to A. T. CHARLEMAN, 362 Main St., Buffalo, N. Y., U. S.

WANTED a position to take charge of optical department with some good house, can fit all cases and am a graduate of Chicago Ophthalmic College. Address Box 652, Thorold, Ont.

WANTED a young man to repair clocks and serve in the store. One willing to make himself useful required. Box 1553, Montreal.

WANTED SITUATION as watchmaker, has good set of tools and have good experience at bench and counter. Address, WATCHMAKER, 238 Euclid Avenue, Toronto.

WATCHMAKER can secure first-class chance to learn the wholesale jewelry business. Give all particulars as to salary, references, etc. XYZ TRADER.



A. M. BROCK,

IMPORTER OF

WATCHMAKERS' ———

AND

JEWELERS'

————— **MATERIALS.**

KINGSTON, - - - ONT.

JEWELERS WANTED,

TO SEND THEIR ENGRAVING TO

J. S. MURRAY & CO.

GENERAL AND ORNAMENTAL

ENGRAVERS,

ROOM 58,

YONGE STREET ARCADE, - TORONTO.

**DETROIT
OPTICAL INSTITUTE.**

A PRIVATE SCHOOL OF PRACTICE.

Instruction on the Eye.

Visual defects and their correction.

Manipulation of Trial Lenses, Ophthalmoscope, etc., etc.

Students continue practice until confidence and ability assured.

FOR PARTICULARS ADDRESS

JOHN S. OWEN, M.D.,
142 West High St., - DETROIT, MICH.

LOOK AT THESE PRICES FOR

WATCH REPAIRING FOR THE TRADE.

BALANCE STAFFS,	\$1.00
CYLINDERS,	1.00
HOLE JEWELS, ordinary,50
LEVERS,	1.00
LEVERS, straight line,	1.50
DIALS, plain,	1.00
DIALS, with seconds,	1.25
PALLETS, Swiss or English,	1.00
PINIONS, ordinary,	1.00
PIVOTS, where piece permits,50
HAIR SPRINGS, flat,75
HAIR SPRINGS, Breguet,	1.50

10% discount when cash accompanies order, and I will prepay return postage. Save time by sending your work to

BILLINGS, the Watchmaker,

208 Dundas Street, - - - LONDON, ONT.



WISE AND OTHERWISE.

JAMES—Is Miss Knowitall a graduate of Vassar? William—She is. "I thought she was. I heard her ask if the muzzle of a gun was to prevent it going off."

MISS HONEYCOMB—"I have made a vow that I will never kiss a man that has the taste of whisky upon his lips." Peggy McQuiskie—"Then, my hinny, ye'll miss a trate."

A SIGHT for Gods and Men.—Judge—And so he called you a bar? Prisoner—He did, sor. Judge—And did you attempt to defend yourself? Prisoner—Did I, you ought to see Duffy.

MR DASHLEY—"Here's an advertisement of 'Novelties in Pocketbooks.' I wonder what they are like?" Mrs. Dashley—"A pleasing novelty in my pocketbook would be a \$20.00 bill."

MUSICAL. HOSTESS—Would you not like a gavotte now, Mr. Wildwest? Mr. Wildwest—Thank you, no. I don't care much for those foreign dishes. A plain ham sandwich is good enough for me.

A MAN'S capacity for endurance in some respects changes after marriage. The lover that never grumbled at holding a 130 pound girl for hours' grumbles if he has to hold a ten pound baby two minutes.

HOUSTON (of Texas)—"I've finally settled that \$500 I've owed Hank Jones for so long." Mrs. Houston—"I'm so glad. But where did you get the money?" Mr. Houston—"Didn't have no money. I just shot Jones."

A WOMAN is never so badly in love that she does not try to find out the cost of her engagement ring.

TEACHER—Bobby, what does lazy mean? Bobby—Lazy means always to want your little sister to get it for you.

MAN with watch (handing it over)—"It hasn't been three weeks since you cleaned and overhauled this watch, and its out of order again. It won't go." Watchmaker (examining it, winding it up and handing it back)—"That is all it needed." Man with watch goes away in a towering rage and watchmaker has lost a customer.

SHE—It will be a pleasure for me to share your troubles and anxieties. He—But I haven't any. She—Oh, you will have when we are married.

YEAST—I understand Miss Makeup made her debut the other evening? Crimsonbeak—Yes; I attended the theatre that night. Yeast—Was it a finished performance? Crimsonbeak—Ycs, as far as Miss Makeup was concerned. It finished her.

CLERK—How did that moth mixture go that I sold you the other day, sir? Customer—Like hot cakes. The moths won't eat anything else.

POLICE JUSTICE (to tramp)—"Take off your hat in court." Tramp—"What's the use in being ceremonious, judge? We have both been here before many a time."

MARKS of Civilization—Telegraph poles are getting to be so close together in cities that there is no longer much excuse for a drunken man falling down.

BENEVOLENT Party—My man, don't you think fishing is cruel sport? Fisherman—Cruel? Well, I should say so. I have sat here six hours and have not had a bite, been nearly eaten up with mosquitoes, and the sun has parboiled the back of my neck.

FIRST burglar—"I've got a scheme." Second burglar—"What is it?" "We'll form an unlimited burglin' Company an' get a charter from the state of Louisiana." "But we can't offer \$1,250,000 for the privilege." "We couldn't pay it cash down, of course, but we might offer to let the state go halves."

HOSTESS (to young Spriggins, M.D.)—"Dr. Spriggins, will you have some of the tongue?" Dr. Spriggins (absent-mindedly) — "Oh-er—let me look at it please."

IN July the sun is about 94,000,000 miles away from the earth. There have been times during the week when New Yorkers have thought it was about two blocks off.

MRS. Noorich goes into Art. —"Is this Mr. Mize?" "Yes, madam." "The painter of miniatures?" "Yes, madam." "What'll you charge to paint a life-size miniature of my daughter?"

A DEADLOCK.—"Hay fever," said the moderator at the influenza convention, "may be likened to a tie vote." "Hear, hear!" cried the audience. "The eyes and nose both appear to have it."

OVERHEARD by the Errand-boy.—Mistress (recently "elevated")—Oh, Marie! Maid—Yes, ma'am. Mistress—Don't forget to order in some pink afternoon tea from the grocer's. I hear its all the rage in high society!

CONCISE History of Louisiana—Ceded to Spain in 1762, ceded back to France in 1803, sold to the United States in 1803, admitted to the Union in 1812, and purchased by the Louisiana Lottery Company in 1890.

STANLEY was married Saturday. That is the end of his bachelor roamings. The next time he goes exploring in Africa he will have to carry a trunk.

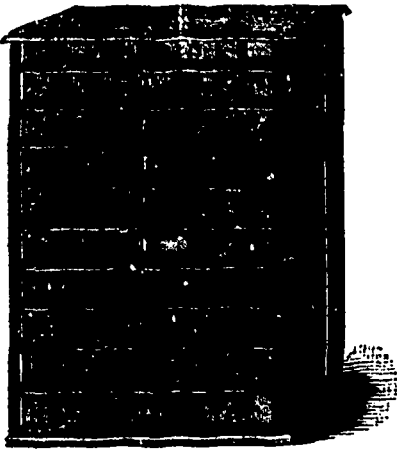
HE DIDN'T WANT THAT KIND.



ONE OF THE FINEST.—(To pennyweighter who has just a ked to see some bracelets): "Here's a pair, sir; the finest made and warranted to fit you." *Jeweler's Weekly.*

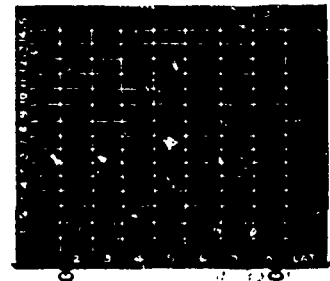


WATCH GLASS CABINETS.



FRONT VIEW.

GLASSES STAND ON EDGE.



DRAWER SHOWING DIVISIONS.

NOW is the season to assort your WATCH GLASSES and make out your order for us. Remember we have every size and carry a full stock of

LUNETTE,

GENEVA 16th,

MICONCAVE,

THIN FLAT,

and PATENT GENEVA GLASSES.

OUR STOCK OF CLOCKS

and other merchandise for fall trade is daily coming to hand and is more complete than ever.

E. & A. GUNTHER,
TORONTO.



SIMPSON, HALL, MILLER & CO.,

—MANUFACTURERS OF—

Artistic and Useful Hollow Ware.

Our Hollow Ware is heavily Electro-Plated upon Fine Hard White Metal, and there is nothing in Designing, Ornamentation or Manufacturing which our artists and workmen cannot produce.

OUR FACILITIES FOR EXECUTING FINE WORK ARE UNEXCELLED.

OUR ASSORTMENT IS SUITABLE FOR THE BEST TRADE.



Every Piece is Stamped Thus.

TRADE MARK FOR



HOLLOW WARE.

All our Flat-Ware bears this TradeMark

TRADE MARK FOR



KNIVES, FORKS, SPOONS.
And is Fully Guaranteed.

OUR SPOONS, FORKS, ETC., PLATED UPON THE FINEST NICKEL SILVER IN
EXTRA, DOUBLE, TRIPLE AND SECTIONAL PLATE.

Full lines of over FORTY STAPLE AND FANCY PIECES in each pattern in Geneva, St. James, Countess, Windsor, Oval Thread, etc. Made under the supervision, and quality guaranteed and controlled by WM. ROGERS, formerly of Hartford and Meriden. (Wm. Rogers, Sr., died 1883.)

FACTORIES: WALLINGFORD, CONN., U.S., AND MONTREAL, CANADA.



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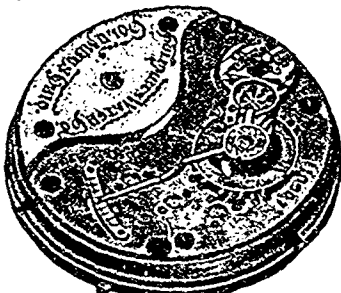
18 Size, Gilt.—No. 90, Hunting, or No. 90, Open Face, pendant set, 7 jewels, tempered hair spring, sunk seconds dial.



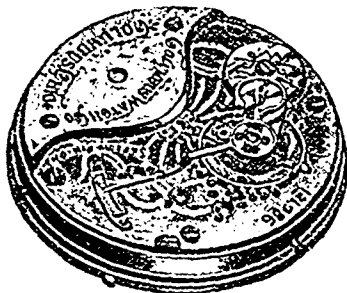
18 Size, Gilt.—No. 21, Hunting, or No. 91, Open Face, pendant set, 11 jewels, upper holes jewelled, tempered hair spring, sunk seconds dial.



18 Size, Nickel.—No. 22, Hunting, or No. 92, Open Face, pendant set, 11 jewels, upper holes jewelled, tempered hair spring, patent regulator, sunk seconds dial.



18 Size Gilt. No. 32, Hunting, or No. 93, Open Face, pendant set, 15 jewels in settings, Breguet hair spring, patent regulator, sunk seconds dial.



18 Size, Nickel.—No. 31, Hunting, or No. 94, Open Face, pendant set, 15 jewels in settings, Breguet hair spring, patent regulator, sunk seconds dial.



16 Size, Gilt.—No. 41, Hunting, or No. 81, Open Face, pendant set, 11 jewels, upper holes jewelled, tempered hair spring, sunk seconds dial.



16 Size, Nickel.—No. 43, Hunting, or No. 83, Open Face, pendant set, 11 jewels, upper holes jewelled, tempered hair spring, patent regulator, sunk seconds dial.



16 Size, Nickel.—No. 46, Hunting, or No. 86, Open Face, pendant set, 15 jewels, adjusted, Breguet hair spring, patent regulator, double sunk dial, jewels in red gold settings.



6 Size, Gilt.—No. 51, 11 jewels, 4 upper holes jewelled, tempered hair spring, sunk seconds dial.



6 Size, Nickel.—No. 55, 15 jewels, adjusted, jewels set in red gold settings, tempered hair spring, sunk seconds dial.

Also No. 50, 6 Size, 7 jewels, tempered hair spring, sunk seconds dial.



18 Size, Nickel.—No. 34, Hunting, or No. 95, Open Face, pendant set, 15 jewels, adjusted, jewels set in gold, Breguet hair spring, sunk seconds dial.



18 Size, Nickel.—No. 27, Hunting, or No. 97, Open Face, pendant set, 16 jewels, adjusted, extra centre jewels, Breguet hair spring, patent regulator, double sunk dial, jewels set in red gold settings.

Also

18 Size Nickel.—No. 28, Hunting, or No. 98, Open Face, pendant set, 16 jewels, adjusted, jewels set in red gold settings, extra centre jewels, Breguet hair spring, double sunk dial, patent regulator, damaskeened in gold and nickel.



18 Size, Nickel. No. 18, Hunting, or No. 99, Open Face, pendant set, 16 jewels, adjusted to position, isochronism and temperature, finest rubies set in raised gold settings, extra large ruby centre jewel, Breguet hair spring, double sunk dial, patent regulator, damaskeened in gold and nickel.



16 Size, Nickel.—No. 47, Hunting, or No. 87, Open Face, pendant set, 16 jewels, adjusted, extra centre jewel, Breguet hair spring, patent regulator and sunk dial, jewels in gold settings.

FOR SALE BY
H. ELLIS,
 14 WELLINGTON ST. W., TORONTO,
 IMPORTER OF
WATCHES, JEWELRY
 WATCH & CLOCK MATERIALS, TOOLS, &c.

A FULL STOCK OF COLUMBUS MOVEMENTS
 CONSTANTLY ON HAND.

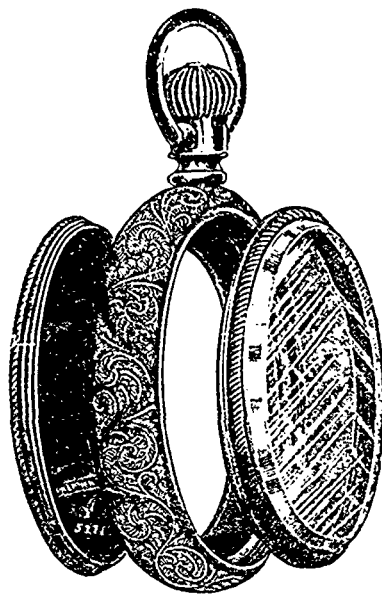


A CASE YOU CAN SWEAR BY



THE great Showman, PHINEAS T. BARNUM, says that "the public like to be humbugged." Whether this be correct or not, it is undoubtedly true that there is a great deal of humbug during the present age, and that in no branch of business is it more apparent than in the manufacture of GOLD FILLED WATCH CASES.

It is a notorious fact that cheap so called filled Cases are being sold by unscrupulous manufacturers, and guaranteed to wear from 15 to 20 years, that have hardly gold enough on them to swear by. The retail trade purchase them in good faith, and sell them with the idea that the warranty means just what it says, and will be lived up to by the manufacturers. Such goods cannot possibly wear as guaranteed, and are bound in the end to bring loss of both money and reputation to every person handling them.



The Patent Screw Dust-Proof Case Manufactured by the American Watch Case Company of Toronto, has been upon the Canadian Market for nearly two years. No Case ever received a heartier reception, and the fact that its sales are larger to-day than they ever were before, is proof positive that it has filled "a long long felt want," viz., a first-class case, honest in every particular, at a low price.

Hitherto their Screw Dust-Proof Case has been made only in Gold, Silver and Silveroid, but in response to the generally expressed request of the trade in all parts of the Dominion, the Company have placed upon the market a 14 K. Gold Filled Case of this kind.

It is almost needless to say that in placing a Gold Filled Case upon the market, the American Watch Case Company have taken pains to make sure that it is not only perfect in design and finish, but especially that it should be thoroughly reliable as regards its wearing qualities.

Their 14 K. Gold Filled Screw Case has a Solid Gold Bow, extra thickness of gold plate, and comes up to this standard in every particular. Each Case is stamped with the word "PREMIER," and bears the Company's registered trade mark of a "WINGED WHEEL." A guarantee for 21 years accompanies every Case, a fac simile of which is given above, and this warranty the Company proposes fully to maintain, no matter by whom the goods are sold.

The American Watch Case Company's Patent Screw Dust-Proof Case can now be had from all the leading Jobbers, in Gold, Gold Filled, Silver, Silver Filled, and Silveroid. They are the best and cheapest Cases in the market, and as you can make more money out of them than any other, you will find it to your advantage to handle them. Sell only cases you can "swear by."



THE GOLDSMITHS' STOCK COMPANY OF CANADA,

(LIMITED)

48 YONGE STREET,

- - - -

TORONTO, ONT.

ANSONIA CLOCKS.



**GOLD AND SILVER HEAD CANES AND UMBRELLAS.
GOLD PENCILS AND PENS.
SILVER AND GOLD THIMBLES.**



WATCHES.



**ENGLISH GOLD AND SILVER JEWELRY.
AMERICAN ROLL PLATE JEWELRY.
DOMESTIC GOLD AND SILVER GOODS.**



Close Prices and Short Credits.



Prompt and intelligent attention given to Mail orders.