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THE TRADER.

TORONTO, ONT., AUGUST, 1885.

The recognized organ of the Jewelry and kindred Industrial Trades of Canada. Published on the first of every month, and sent free to every Jeweler and Hardware Merchant in the Dominion of Canada.

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. 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..

57 ADELAIDE STREET WEST,

Toronto, Ont

SPECIAL NOTICE.

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

Editorial.

OURSELVES.

Our readers we think will bear out the assertion that we do not often have much to say about ourselves, but at the close of our sixth volume we may be pardoned, we think, if we venture to draw their attention to the progress the journal has made since its inception.

As we write, we have before us No. 1 of Volume 1 of THE TRADER dated September 1st, 1879. This number was in size the same as the present TRADER, but consisted simply of an 8 page paper without any cover. The present issue as our readers will notice is, including the colored cover, 28 pages, or three and a half times its original size. The advertisements in the initial number consist of four. P. W. Ellis & Co., Zimmerman, McNaught & Co., W. Millichamp & Co., and P. Patterson & Sons. In the present number will be found the advertisements of three of these four firms, two of whom P. W. Ellis & Co. and Lowe & Anderson successors to Zimmerman, McNaught & Co. have had advertisements in every number that has since been issued.

Looked at from this standpoint, there can be little doubt that THE TRADER has been a success and that it has in the matter of its growth far exceeded the expectations of its promoters. The publishers have endeavoured as far as in them lay to carry out the promise made by them in their introductory editorial. They then

said, "We propose to discuss all questions involving trade issues, from a purely independent standpoint, and shall give forth no uncertain testimony for the side we consider to be in the right. We shall be glad to receive communications on live trade issues, or trade abuses from our readers, and our columns will always be open for the free discussion of subjects that will tend to advance sound business principles and elevate the standard of commercial morality." We have endeavoured to carry out these principles as fairly and as fully as we could, and the many strong and favorable endorsements we have received from the trade in all parts of the Dominion affords us ample proof that our efforts have been appreciated. For these expressions of approval and appreciation, we thank our many friends and we shall do our utmost in the future to continue to merit their good opinion.

Before leaving this subject, however, we would like to ask the trade, whether they as a body have taken the advantage of this journal that they ought. We have provided them for six years with a trade journal which contains information invaluable to any jeweler, free of charge, and all we have asked in return is that they would read our articles and use our columns for the purpose of discussing live trade issues or the interchange of ideas. With some few notable exceptions, our jewelers have not taken advantage of their opportunities in this respect, and in our opinion have lost very much information thereby. There are hundreds of things that our retail jewelers could discuss in such a manner, that it would pay them to discuss if they only would. Such discussions would no doubt pave the way for better acquaintance and trade organization, a thing that everybody must admit is badly needed amongst the retail trade. We have plenty of jewelers capable of writing first-class articles in connection with trade topics and we invite all such to ventilate their opinions in the only medium that circulates amongst the entire trade of Canada.

In our introductory article before quoted from, referring to our advertisements we said—"As this paper is distributed free of expense to every jeweler in Canada, we do not think that we shall be considered unreasonable if we venture to direct the special attention of our readers, not only to the original and selected matter, but also to the advertise-

ments of the well-known and first-class houses it contains. Although our revenue is derived entirely from our advertisements, we shall in all cases endeavour to direct the attention of the trade to reliable houses who offer reliable goods." In this respect we think we have amply made good our promise. No advertisement has ever appeared in our columns except of first class houses whose standing was beyond dispute and who were always ready to carry out their promises. We propose in the future as in the past to carry out this feature and to make THE TRADER not only a readable paper, but a trustworthy guide to the best markets in the jewelry trade.

OUR VOLUNTEERS.

The past week has been one of enthusiasm and rejoicing throughout Canada on account of the return of our victorious veterans from the North-West. Our citizen soldiers have done their duty nobly. They spring to arms with alacrity at the first call, they endured all the hardships, privations and dangers incident to a campaign with heroic fortitude, and last but not least, they were entirely successful in vanquishing the rebels and in restoring law and order in the North-West. They deserve well of their country.

The magnificent demonstration accorded to the contingent from the vicinity of Toronto on their return to the Queen City of the West, was the finest thing of the kind the Dominion of Canada has ever seen. Toronto looked its best; thousands of banners, streamers, arches, festoons and mottoes of all and sundry kinds, glittered in the sunshine or fluttered in the breeze, and the streets were jammed for miles with thousands upon thousands of gaily dressed citizens who literally cheered themselves hoarse. Everybody was glad, everybody cheered and did various other things that in a colder blooded mood they would never have thought of doing. It was a grand ovation as worthy of Toronto as the men who received it were worthy of such a reception.

Now that the men are home and things are getting settled down people are beginning to realize the scurvy manner in which the Government has treated their claims for compensation; men who fought their country's battles, and by their valor and sacrifices restored law and order to a section of country which the blunders or worse of Government

officials had provoked if not encouraged. The vote to such men of a grant of 320 acres looks like a big thing until you come to examine it, and then one sees that it is a fraud of the most palpable description. Any person who wants to settle can get 100 acres of Government land for nothing and get the other 100 acres for one dollar per acre, so that taken at its best it is but a present of 100 acres of land. But when we find out that in order to avail themselves of this gift, our volunteers have either to settle on the place themselves or put some one else on it within one year, we see how misleading the offer is and of how little value it can be to our brave volunteers, most of whom are city men and have no desire to leave home and their present occupations to get this very liberal reward of their valor. In lieu of this land they can elect to take \$80.00 worth of scrip which will be accepted by our Government in payment for North-West lands only. From this it will be easily seen that the government consider this \$80.00 of scrip is about equivalent to the original offer of lands. This scrip will only bring about 50 cents on the dollar, so when boiled down to hard pan this reward means about \$40 in hard cash. It is liberality with a vengeance. Compare this grant of \$40.00 as a reward to men who have endured incredible hardships and risked their lives for four months, with the extra allowance of \$500 to the members of the Dominion Parliament for attending to their duties during the same period and taking things easy at Ottawa and we have the true inwardness of Canadian politics. It is a disgrace to Canada and certainly no encouragement to citizens to peril their lives for their country when their services are met by such a sourvy recognition.

THE INSOLVENT ACT.

As a great many people prophesied, Sir John Macdonald has again squelched the "Insolvent Act" for another year, at least, by keeping it back until it was too late for the House to consider it this session. This action is a pretty fair specimen of the way politicians in Canada regard the interests of the country as compared with those of party. A new "Insolvent Act" is a measure unanimously demanded by the mercantile community from Halifax to Vancouver; it is one that is essentially just in every

particular, and moreover, in consequence of the want of such an Act, business is unsettled at home, and Canadian credit suffers abroad. These things have been represented to the Premier both in Canada and England a score of times. He has been interviewed by commercial deputations, who pointed out to him the necessity of legislation in this direction, and on every occasion has replied that he was thoroughly in sympathy with the object they had in view and would do his utmost to carry it into effect. How he has carried out those oft-repeated promises, the records of the past three sessions will tell.

The session just closed was the longest one since Confederation; the Government has brought in measures entirely uncalled for, and which were so glaringly partizan in character that they provoked enough discussion to make the session fully double its usual length. A Franchise Bill that cannot possibly come into force until the next general election, a couple of years from now; a Bill to grant a few more millions to the C. P. R. millionaires—those and such like political measures, that are only intended to serve partizan purposes, were rushed through in spite of clamour and protest, whilst such legislation as "The Insolvent Act" was coolly shelved until a more convenient season.

There is altogether too much politics and too little patriotism about our legislators to suit commercial men. If they would consider the interests of Canada just about one-tenth what they do that of their party, the country would be more economically governed and be in a much more prosperous condition. Our rulers apparently do not ask themselves "What is best for the country?" but "What is best for our party?" In their scales and with their weights, party goes down and country up every time.

Although the "Insolvent Act" has been shelved for the time being, it is ultimately bound to carry. If Sir John Macdonald had thought that it would have strengthened his party any it would have been long ago; as matters stand at present it will remain in *statute quo* until he sees that holding it back longer will hurt his chances of re-election. When that time comes his party will suddenly get new light upon the subject, and it will go through with a rush. In the meantime our merchants must agitate the question and let those in power see that they mean business and are bound to have such an Act.

AN ADVANCE IN AMERICAN MOVEMENTS.

Since our last issue the price of nearly all American watch movements has advanced somewhat, an indication, we think, of a revival in trade in the United States. As we pointed out in our last issue, any such advance is sure to be taken advantage of by their Swiss competitors, who will now be able to compete against them more favorably than before. Without any disparagement to the movements made by Swiss manufacturers, it is safe to say that people in Canada prefer American-made goods at anything like the same figures. When, however, the difference becomes too apparent, the sales of Swiss goods increase and they displace American goods to an equal amount. Heretofore American movement manufacturers have made a special export price to Canadian trade in the form of a five per cent. concession, which they now propose to take away and make them pay the same prices as American jobbers. In so doing, we think they are making a mistake. They have almost complete possession of their own and the Canadian market, and in order to keep the latter they are bound to make some concessions in order to bring the price down as near as possible to American prices. Every per cent. they increase in the export trade, they lessen their chance of doing business, and this, we fancy, their Swiss competitors will not be slow to take advantage of. Swiss manufacturers are now working hard to bring their movements up to a standard where they can successfully compete with American movements in quality and undersell them in price. When they get there, as they assuredly shall some day, fancy prices will become a thing of the past, and watch movements will get down to rock bottom prices. At present American manufacturers have a strong lead, and we think if they are wise they will do nothing to lessen it.

We do not anticipate that the slight advance on movements will affect the trade injuriously. The crop reports are excellent, and if the harvest is secured in good condition, the prospects for a large and good-paying fall trade are almost all that could be desired. If the United States is also blessed with an abundant harvest and a return of prosperous times, we are of the opinion, that although prices of low grade movements



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THE AMERICAN LEVER.



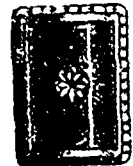
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93/

THE FAULTLESS

Cuff and Collar Button.



21/27



547

Perfectly Simple!



Simply Perfect!



1106



57/



BUTTON OPEN.



BUTTON CLOSED.



94/23



1602

WE BEG to present herewith to the notice of Canadian Trade, Cuts of a few of our most popular styles of Sleeve Buttons.

All goods of our make bear on their post the imprint of our famous Trade Mark, the HORSE SHOE AND CLOVER, and no others are genuine American Levers.

For sale by all leading Jobbers throughout Canada.

HOWARD & SON, MAKERS,

102 Orange Street,

PROVIDENCE, R.I.

Salesroom, 176 Broadway, New York.

— WE SELL TO JOBBERS ONLY. —



81/



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603



723



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1426



1509



1427



728

may not advance further, they will not be so plentiful nor so easily obtained as they are to-day. Two years ago times were good and low grade movements were selling at a premium, and we do not think that we would lose anything by returning again to a similar condition of things.

Selected Matter.

ANNALS OF THE FINGER RING.

JOHN W. MILES, IN "JEWELERS' JOURNAL."

As a pledge of betrothal and marriage it is known that the ring has been employed from the most ancient times, but the significations of it are somewhat obscure. That the Egyptians used rings of gold as money is manifest from their monuments, and it is supposed that one of these rings was placed upon the bride's finger, as a token that her husband's possessions had become hers also by the ceremony of marriage. The selection of the left hand was in accordance with the theory that the left hand was inferior to the right, and hence symbolized the subjection of a wife to her husband. Still, again, the finger next the little finger, which has always been the recipient of this emblem, signified not only an affair of the heart, by reason of the anatomical fallacy previously mentioned, but also gave an additional security to the golden hoop, since this finger is the least used of any, and cannot be extended except in the company of another, which, in a measure protects it. All these explanations are very ingenious but extremely difficult of proof.

That the early Jews used the wedding ring is undoubted, although Selden claims that it was after they saw it in use by others. Hebrew marriage rings of the sixteenth century are still extant. These are of large size, and known as "tower" rings. It may readily be supposed that rings of this character were often very fine specimens of art, and even the architectural ornament served as a receptacle for perfumes or souvenirs, a portion of the roof opening upon a hinge and being looked with a key.

With the Romans the ceremony of betrothal before marriage prevailed as at the present day, and rings were passed as earnest in the same manner as at the conclusion of any other bargain. At

the completion of the marriage settlement rings bearing the names of the contracting parties were presented to the guests. Sometimes the *annulus nuptialis sponsalitiis* bore inscriptions like "May you live long," or, if a stone was inserted, it bore an intaglio like a hand pulling the lobe of an ear with the motto, "Remember me,"—a promise of conjugal punishment in case of forgetfulness.

Among the Christians the use of marriage rings prevailed as early as 860. There is a queer legend of a wedding ring which was given by Joseph to the Virgin Mary. It occurs in "Patrick's Devotions of the Roman Church," and though somewhat lengthy, it appears sufficiently interesting to be quoted in full. "It was discovered in the year 996 in this way: Judith, the wife of Hugo, Marquis of Etruria, being a great lover of jewels, employed one Ranerius, a skillful jeweler and lapidary of Clusium, to go to Rome to make purchases for her. There he formed an intimacy with a jeweler from Jerusalem, who, when Ranerius was about to return home, professed great affection, and offered him a ring as a pledge of friendship. Ranerius, looking upon it as of little value, declined it with a slight compliment; but the jeweler from the Holy Land bade him not contain it, for it was the wedding ring of Joseph and the blessed Virgin, and made him take it with a special charge that it should not fall into the hands of a wicked person. Ranerius, still careless of what he said, threw it into a chest with articles of inferior value, where it remained until his forgetfulness cost him dear, for when his son was only ten years old (the number of years that his father disregarded the Virgin's ring) the boy died and was carried to his burial. But, behold, as the hearse went forward, on a sudden the dead child rose from the coffin, ordered the bearers to stop, and calling to his father, told him that by the favor of the blessed Virgin he was come from Heaven to tell him that as he had contemned religion by concealing her most holy ring in a common heap, he must immediately send for it and publicly produce it that it might be openly venerated. The chest being brought and delivered into the son's hand, he presently found the ring although he had never seen it before; then, most reverently kissing it, and showing it to the spectators, they religiously adored it, during the joyful pealing of bells, which rang of

their own accord, whereupon, ordering himself to be carried to the place where he desired to be buried, he delivered the ring to the curate of the parish and then laying himself down in his coffin was interred. This ring wrought many miracles; ivory ones touched with it, worn by women in difficult labor, relieved them; an impression of it in wax, applied to the hip, removed the sciatica; it cured diseases of the eyes, reconciled married people that quarreled, and drove out devils.

"Five centuries afterward, in 1478, the church of Musthiola, where it effected these wonders, becoming ruinous, the ring was deposited with a religious community of Franciscans at Clusium. One of the brethren of the order, named Wintherus, a crafty German, and very wicked, having obtained from the magistrates an appointment to show the ring on a certain occasion, after exhibiting it at the end of his sermon, stooped down as if he were putting it into the place provided for it, but instead of doing so he slipped it up his sleeve, and privily conveyed himself and the ring from the city across the water. All was well so far, but when he got into a neighboring field it suddenly became dark, so that, not knowing which way to go, but well knowing what was the matter, he hung the ring on a tree and falling to the ground penitently confessed his sin to it and promised to return to Clusium if it would dispel the darkness. On taking it down it emitted a great light, which he took advantage of to travel to Perugia, where he sojourned with the Augustin friars till he determined on making another effort to carry it into Germany. He was again hindered by the darkness returning. It infested him and the whole city for twenty days. Still he resolved not to return to Clusium but tell his story in great confidence to his landlord, one Lucas Jordanus, who with great cunning represented to him his danger from the Clusians and the benefits he would receive from the Perusians if he bestowed the ring on that city. Wintherus followed his advice. As soon as the ring was shown to the people the darkness disappeared, and Wintherus was well provided for in the house of the magistrate. Meanwhile, the Bishop of Clusium coming to Perugia, endeavored in vain to obtain the relic. The city of Sena sent an ambassador to resist the claims of the Clusians. He was enter-

In compliance with an increasing demand, we have placed on the market a

NEW PATENT DUST-PROOF

SCREW BEZEL

Silver Open Face Stem Winding Case

embodying many of the excellent qualities of our original Patent Dust Proof Case, though offered at a lower figure.

The back and center of the new case are made of one continuous piece of solid silver, into which an Albata Cup is screwed identical in shape with the back, thus greatly strengthening it and efficiently protecting the Movement against dust.

THE NEW CASE WILL BE CALLED

ALBATA CUP SCREW BEZEL

We shall continue the manufacture of our popular Patent Dust-Proof Case with Screw Crown and Screw Bezel in all the styles as heretofore, plain and inlaid, with Lever and Pendant Setting.

FOR SALE BY ALL JOBBERS.

ROBBINS & APPLETON,

GENERAL AGENTS OF THE

American Waltham Watch Co. of Waltham, Mass.

NEW YORK,

BOSTON,

CHICAGO,

LONDON,

SYDNEY.

tained by the Perusians with great respect, but they informed him that having used no sacrilegious arts to obtain the blessed Virgin's ring, they respected her too much to restore it to the owners; that they received it within their walls with as much respect as they would do the Ark of the Covenant, and would defend their holy prize by force of arms. The bereaved Clusians laid their case before Pope Sixtus IV., and the Perusians did the same. Wintherus was ordered by the Pope, on the importunity of the Clusians, into closer confinement; but as the heat abated, he passed a merry life in Perugia, and at his death the Francescans and the Canons of St. Lawrence disputed for the possession of his body. This honor was, in the end, obtained by the latter, in whose chapel he was buried, before an altar dedicated to St. Joseph and the Virgin, and a monument was erected by the Perusians to the ring stealer's memory, with an inscription which acknowledged that the receivers were as much indebted to him for it as if it had been his own property and he had offered it of his own accord."

Modern learning has demolished the theory of this ring, for, says the Rev. C. W. King, in his Handbook of Engraved Gems: "The highest glory ever attained by the work of the engraver was that of the cameo of the Abbey of St. Germain des pres, which enjoyed for an entire millenium the transcendent (though baseless) fame of adorning the espousal ring of the Virgin Mary, and of preserving the portraits after life of herself and Joseph." But, alas! antiquaries have now remorselessly restored the ownership of gem and portraits to two nobodys (probably *Liberti*, judging from their names), whose votive legend, "Alphous with Aretho," is but too plainly legible in our Greek reading times.

A curious ring used in betrothals during the fourteenth century was the "gemmal" or "jemma" ring. This was either double or triple, and on the occasion of betrothal they were separated, each party retaining one, and reunited again after marriage. In case of the triple ring a friend or witness held the third hoop. These were called gemmal rings and showed two hands clasped when the circles were closed. Sometimes they were made still more complicated, but the triple ring appears to have been the usual refinement. Thus Herck writes:

"Thou sent'st to me a true love-knot, but I
Return a ring of jemmals as imply
Thy love had one knot, mine a triple tye."

Sometimes they were called the "joint" ring, as in Dryden's "Don Sebastian":

"A curious artist wrought 'em
With joints so close as not to be perceived.
Yet are they both each other's counterpart
Her part had Juan inscribed, and his had
Zayda,

(You know these names were theirs), and in the
midst

A heart divided in two halves was placed.
Now if the rivets of those rings enclosed
Fit not each other, I have forged this lye,
But if they join, you must forever part."

That which has been written in these articles bears but a small portion to the vast amount of material at the command of the writer, but unfortunately a late discovery that the subject has already been treated by foreign pens, deprives the review of that zest which only comes from original research, and necessitates a speedy ending of a work which must, perforce, follow in paths already trod. Customs, however, may change; styles may vary, but the ring will still hold its place and rank until that eternity of which it is the emblem.—*Exchange*.

THE NIAGARA GORGE AS A CHRONOMETER.

G. FREDERICK WRIGHT.

In order to understand the recession of the falls of Niagara, it is well to remember that the rock strata which underlies it dips gently (twenty-five feet to the mile) toward the south. The upper or No. 1 stratum consists of compact Niagara limestone about 80 feet in thickness. Underneath it is the comparatively soft Niagara Shale, or No. 2 stratum, of about the same thickness. Nos. 3 and 5 are also strata of hard rock, with a softer rock intervening. The river formerly plunged over the escarpment at Queenston, about seven miles below the present cataract, and when the perpendicular fall must have been upwards of three hundred feet. From that point to the present cataract the river now occupies a narrow gorge from five hundred to twelve hundred feet in width, and from two hundred and fifty to three hundred and fifty feet in depth. The softer rocks rapidly wear away, thus undermining the harder rocks above, and leaving them to project over, and finally to break off in huge fragments, and fall to the bottom, where they would lie to obstruct the channel, were it not for the great momentum of

water constantly pouring upon them, and causing them to grind together until they are pulverized and carried away piecemeal. The continuity of the underlying soft strata insures the continuance of a projecting stratum at the top, and a perpendicular plunge of water passing over it.

Double interest attaches itself to the Niagara gorge, when we consider the evidence of its post-glacial origin, and thus are permitted to regard it as a chronometer of the glacial age.

That the Niagara river can have occupied its present channel only since the glacial period, was shown by Professor Newberry when he proved that the Cuyahoga river, emptying into Lake Erie at Cleveland, occupied in pre-glacial times a channel about two hundred feet below its present bed, borings in the bed of the Cuyahoga extending that distance in glacial clays before reaching the rock. To receive a tributary at that depth, the level of Lake Erie must of course have been correspondingly depressed; and, as the lake is nowhere much more than two hundred feet in depth, we may confidently say that before the glacial period, such a body as Lake Erie did not exist, but instead a wide valley through which a great stream, corresponding to the present Niagara, found its way to the head of Lake Ontario, through a deep and continuous gorge. Professor Spencer, indeed thinks he can trace the course of this pre-glacial gorge from near the mouth of the Grand River in Canada, northward to Lake Ontario.

We might also infer the relatively late origin of the present channel of the Niagara from the small amount of work which the river has done in its present channel. The Alleghany and Ohio rivers, which lie outside the limit of glaciation, illustrate in a striking degree the extent of pre-glacial erosion. For a distance of more than a thousand miles these streams occupy a continuous eroded trough, averaging about a mile in width and from three hundred to five hundred feet in depth; whereas the gorge in the Niagara river below the falls is only about seven miles in length.

That the Niagara gorge is post-glacial, was also shown as early as 1841, by Prof. James Hall, of the New York survey, who pointed out to Sir Charles Lyell the probable course of a pre-glacial channel, now filled with glacial debris extending from the whirlpool to St.

SIMPSON, HALL, MILLER & CO.,

WALLINGFORD, CONN.

—MANUFACTURERS OF—

Artistic and Useful Hollow Ware,

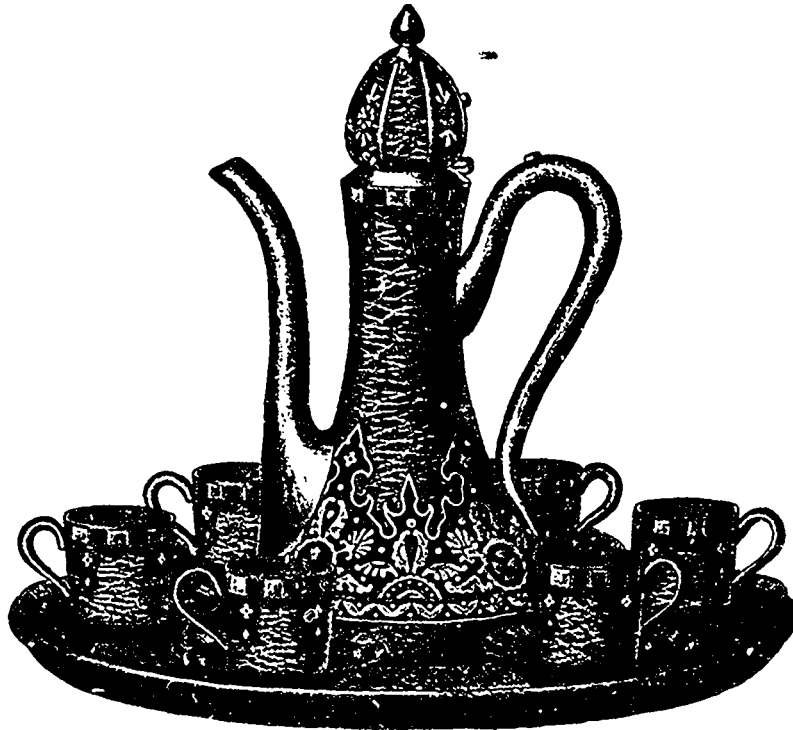
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There is nothing in Designing, Ornamentation or Manufacturing which our artists and workmen cannot produce.

OUR FACILITIES FOR EXECUTING FINE WORK ARE UNEXCELLED

OUR ASSORTMENT IS SUITABLE FOR THE BEST TRADE.

WE CARRY A STOCK OF MANUFACTURED GOODS SUFFICIENT TO MEET THE DEMANDS OF THE LARGEST TRADE.



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.)

WM. ROGERS, - - WALLINGFORD, CONN.

No connection with any concern in Waterbury, Meriden, or Hartford using name of Rogers in any form.

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

David's, where the level of Lake Ontario is reached.

From the falls to Queenston, the perpendicular bank of the gorge, from two hundred and fifty to three hundred feet in height, is continuous upon the east side; but upon the west side, about half way down, occurs a remarkable indentation, known as the "whirlpool." Following this bank around, small streams expose the rock before descending to the whirlpool, and the rocky bank re-appears. The opening of the supposed pre-glacial channel to the north-west is much wider than its entrance at the whirlpool, and the descent of three hundred feet to St. David's is rapid. The broad opening towards St. David's is also filled with gravel rather than with till; and this gravel extends southward over the higher level toward the falls, somewhat like the familiar "lake ridges" of Ohio.

It will be seen that the existence of a pre-glacial channel from the whirlpool to St. David's—a distance of about three miles—is somewhat hypothetical, since for a space of nearly two miles the original features of the country are wholly disguised by the glacial deposit, and no wells have been sunk to a sufficient depth to test the question properly. The well to which Sir Charles Lyell referred was probably about the head of the stream which is really in the gravel outside the escarpment. Still there is little doubt that before the glacial period there was a narrow gorge, about two hundred and fifty feet deep, extending from the whirlpool, and perhaps a little above it, to the Ontario level at St. David's. But it is equally clear that the river which wore this gorge was not the Niagara, since a stream of that size must, during the long pre-glacial period (measured by the eroded channel of the Ohio and Alleghany), have worn a gorge far longer than that between the whirlpool and the present falls. The pre-glacial channel from the whirlpool to St. David's was probably, therefore as Dr. Pohlman suggests, the work of a comparatively small stream, with a drainage basin occupying not more than two or three counties in Western New York.

Considering now the gorge from Queenston to the falls of Niagara as the work done by the stream since the close of the glacial period, and taking that as the dividend, if we can determine the annual rate at which the falls recede, and take that for the divisor our quotient will

represent the time that has elapsed since the glacial period. By comparison a practical calculation may be made as to the amount of recession of the horse-shoe fall in the interval of thirty-four years. This cannot vary much from a hundred feet upon the whole line, being, as the commissioners calculate, two hundred and seventy feet at certain points.

Until this last survey, the attempts to estimate the time required for the cataract to recede from Queenston to its present position have been based upon very insufficient data. Mr. Blakewell, an eminent English geologist, gave personal attention to the problem as early as 1880, and, from everything he could learn at that time, estimated that the falls had receded about one hundred and twenty feet in the forty years preceding. He recurred to the problem again in 1846, 1851, 1856 (*American Journal of Science*, January 1857, pp. 87, 93), and was each time confirmed in the belief that the apex of the horse-shoe fall was receding, on an average, three feet a year. On the other hand, Sir Chas. Lyell, upon his first visit, in 1841, "conceived" (upon what basis he does not tell us) that, at the utmost, the rate could not be more than one foot a year, which would give us thirty-five thousand years as the minimum time. But, as it appears, the result of the recent survey is to confirm the estimate of Mr. Bakewell, thus bringing the period down to about seven thousand years.

Two elements of uncertainty, however, tending to lengthen the estimate, should be noticed. In the first place, the recession may have been somewhat slower while the hard stratum was exposed. In the second place, the deposits of gravel running southward from St. David's, and corresponding to the lake-ridges, indicate that subsequent to the glacial period this whole region was slightly submerged beneath a shallow body of water; in which case the recession of the gorge would have begun only upon the emergence of the land. And we have no means of telling how long an interval may have elapsed between the withdrawal of the ice and the withdrawal of the water.

On the other hand, it is probable that the channel of a pre-glacial stream extended somewhat above the whirlpool, thus reducing amount of work done since glacial time.

The above estimates are confirmed,

also, by the small amount of change that has taken place in the species of animals during this period. The mollusks found in the river above the falls at the present time are identical species with the shells found in the deserted river channel at the top of the escarpment opposite the whirlpool, while nearer the falls the bones of the mastodon have been found in the same deposits; all of which corresponds with a vast amount of other evidence, going to show that the present species are, in the main, identical with those existing at the close of the glacial period. The theory of evolution is relieved from a heavy burden by supposing a recent date for the close of the glacial epoch; for the changes since that epoch have been so slight, that the time allowed by physicists is insufficient for the whole development of organic forms, unless the rate of change is more rapid than must be the case if the glacial period is thrown very far back.

JOHN ARNOLD.

It may be of interest to many readers of your excellent journal to hear something about that great horologist, the late John Arnold, whose fame has gone out from England to all nations and provinces where the English language is spoken. John Arnold was truly a genius of rare ability and attainments, who possessed great mechanical ingenuity combined with indefatigable industry and perseverance. It may not be generally known that when a young man he was engaged in locksmithing, an important industry in the last and beginning of the present century. His trade called him to travel over England and Scotland, from town to town, repairing locks and bottle jacks and also cleaning clocks and watches. While upon one of his tours he actually cleaned a watch on the summit of the spire of the Cathedral at Salisbury. This incident is related about as follows:

From time to time some daring person has climbed this spire to oil the weathercock, a most dangerous feat, as the spire is four hundred and four feet from the ground. It is ascended by ladders for about three-fourths of its height, which are fixed inside the spire. A small door then opens and the adventurer has to climb the rest of the way by a series of iron handles which are fixed in the stone work, and by which he is able to make



TRADE



MARKS.



An Open Letter of Special Interest to the Retail Trade of Canada.

TORONTO, JULY 25th, 1885.

GENTLEMEN,

The manufacture of Fine Gold Watch Cases is one of the most intricate as well as the most exact of mechanical operations. If not properly constructed and fitted in every part, it is practically useless, and certainly far from being "a thing of beauty and a joy forever." In a perfect watch case, three things are absolutely necessary, viz., (1) first-class material, (2) tight jointing and fitting, and (3), a perfect finish. The American Watch Case Company, of Toronto, claim to combine in the Cases of their manufacture all these essentials, and to produce as perfect a Case as any in the world. We have fitted up our new factory with the latest and most improved American machinery, use only pure gold from the U. S. Mint, and employ the most skilled workmen that can be had in the best U. S. factories. This being the case, we have no hesitation in asking the Trade of Canada to purchase our Cases on their merits, feeling satisfied that as far as quality of material and perfection of finish is concerned, they are equal, if not superior to any similar goods imported into this country.

As regards price we claim that our goods can be sold fully twenty per cent. lower than any imported goods of equal quality that are honestly entered through the customs and pay the usual duty demanded by Government. Three-fourths of the value of a gold case is in the material. Importing it as we do in the form of bullion direct from the mint, it comes in free of duty, but if manufactured before it is imported, a duty of twenty-five per cent. is levied upon it by the customs authorities. The Trade will thus see that we offer them Cases equal to any imported, on which this expenditure for duty is saved, and that by handling our goods they will be enabled to sell an equally good Case at a very much lower price than they have been formerly compelled to charge for the imported article. We have laid down the following platform in regard to the manufacture of our goods, and shall not depart from it on any consideration. 1st. We manufacture no goods without our own Trade Marks. 2nd. We stamp no goods of higher quality than they really are. 3rd. We guarantee the quality of every Case we make to be as stamped upon it.

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Dealers and the public can therefore buy Goods bearing this Stamp with the full assurance that they are getting the quality exactly as represented and no other, a great point in these days of stamped up Goods, and one we feel sure that they will not be slow to appreciate. We have just sent out to every Retail Jeweler in Canada a complete list of the Gold and Silver Cases of our manufacture, and the prices and terms at which they can be had from the Jobbing Trade. We sell no Goods direct to the Retail Trade; but they can be procured at our Catalogue Prices from any of the leading Jobbers in Canada. Assuring you of our best desire to give you honest goods at honest prices, we are,

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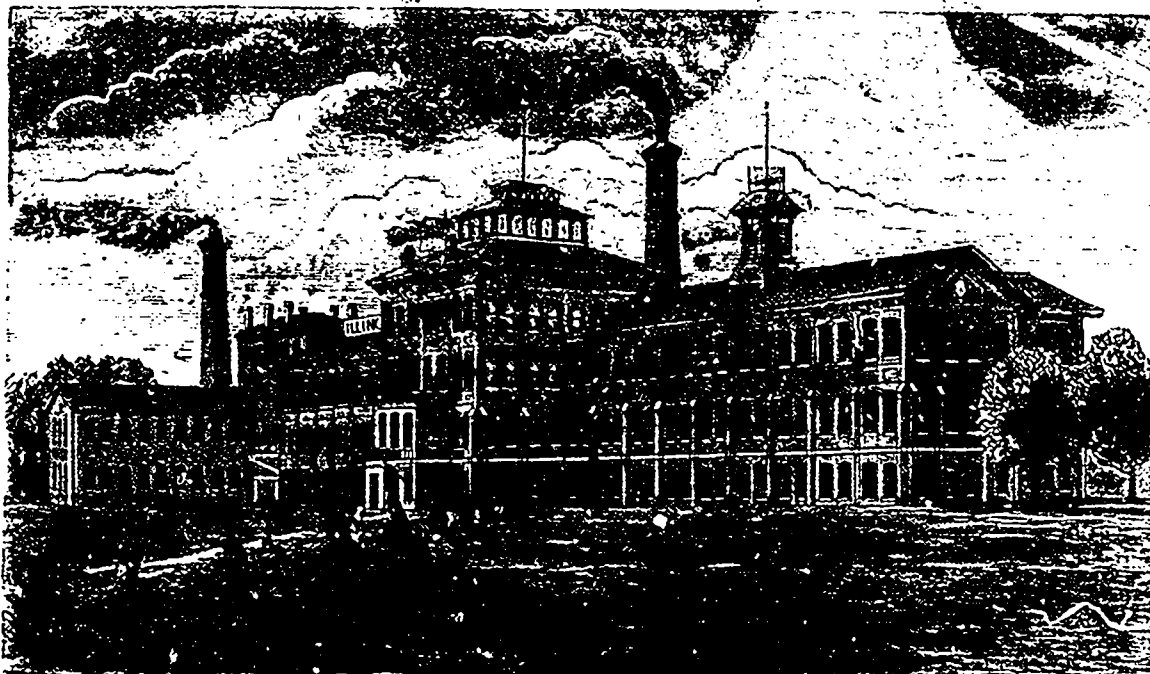
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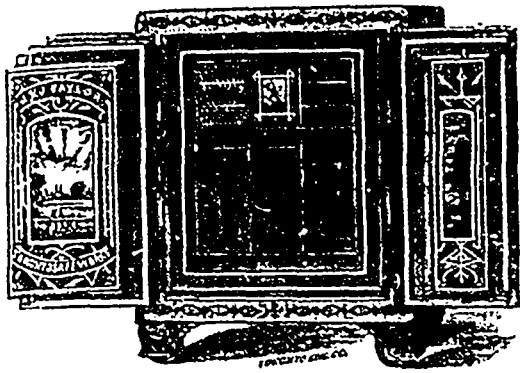
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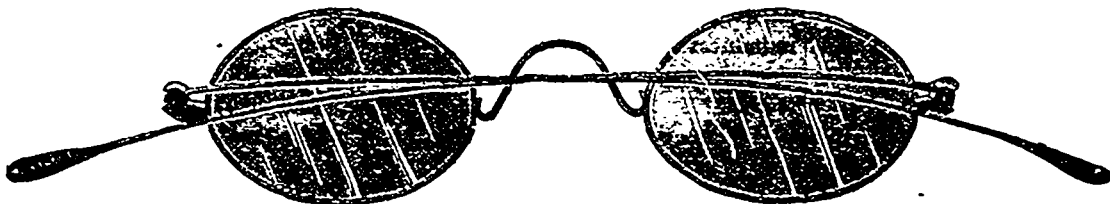
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his way to the top to complete his dizzy work. On one occasion some persons were assembled at the Pheasant in Salisbury, a well-known inn (during the stage coach era of olden times), and they were talking about this feat, when John Arnold, who was present, offered for a small wager to ascend the spire, to take with him his tools and a watch, to take the watch to pieces on the very top of the spire, to clean it properly and to bring it down within one hour. He accordingly climbed the spire, fixed his back against the stem of the weather cock, completed his task and descended within the given time. This feat was performed by John Arnold, who afterward came to London, and on June 4, 1764, presented to George III. a curious lilliputian watch a repeater of his own make, set in a ring. The sides of the article did not exceed that of a silver two penny piece. It contained one hundred and twenty different parts, but altogether weighed not more than five pennyweights eight grains. Space will not allow me to give a minute description of all its parts, but for this delicate and exquisite specimen of art Arnold had to make nearly all the tools that he used in its manufacture. This tiny watch contained the first ruby cylinder ever made. The king was so pleased with this mechanical wonder that he presented the donor of it with five hundred guineas as a recognition of his artistic skill.

Some time afterward the Emperor of Russia, having heard of the king's watch, offered Arnold one thousand guineas if he would make another like it for him. This Arnold refused to do, so that he might not depreciate the value of his gift. The cylinder was made of an oriental ruby, its diameter was the fifty-fourth part of an inch, its length the forty-seventh, and its weight the two hundredth part of a grain. After this John Arnold rapidly rose in his profession, invented the chronometer escapement, the compensation balance and the cylindrical balance spring, and finally obtained the government reward for his improvements in the construction of marine chronometers. Some have said that he pirated the work of Earnshaw, but I much question this, as his great genius has never been surpassed. He established a factory at Chigwell, Essex, on the borders of Epping Forest, where every portion of the chronometer was made on the premises.

There are several specimens of John Arnold's work which were presented to the clockmakers' company by the late Charles Frodsham, in the year 1875. Among them is a fine old specimen of a pocket chronometer, No. 28, in silver gilt case, pivoted detent escapement, with figure S compensation balance, or pieces carrying weights in direct line to centre of balance, re-sprung by Chas. Frodsham, for the purpose of testing the compensation, also specimen of a one-day marine chronometer, No. 14, in an octagon case with enamel dial, epicycloidal escape wheel, adjusting balance spring stud; also a fine specimen of a two-day marine chronometer, No. 13, in octagon case, enamel dial, jeweled to the centre wheel, epicycloidal escape wheel, and a gold balance spring.

John Arnold, the subject of this sketch, died on the last day of the last century, at the early age of fifty-five.—*W. B. Crisp, in the Jewelers' Journal.*

DIET AND FOOD.

1. Foods are scientifically divided into—1. Water. 2. Meaty or albuminous substances. 3. Starches or carbohydrates. 4. Fats. 5. Mineral matters. 6. Accessory foods. All of which have their representatives in the body itself. A human being is so "watery" that the corpse of a man weighing 150 pounds, and carefully dried, would come out a shrivelled mass of 50 pounds in weight. The meaty substances are represented by muscle; the starchy by glycogen found in the liver, and by a sugar (inosite) found in the muscles; fat is present, padding angular parts and giving a roundness to the frame; mineral matters abound, especially in the bones and teeth.

II. The composition of the human body is somewhat as follows:

ADULT MAN.

Bones.....	16 per cent.
Muscles.....	42 "
Organs in the chest and abdomen	9 "
Fat and skin.....	25 "
Brain.....	2 "

Therefore, supposing a person weighed 150 pounds, 63 pounds would be muscle, 37½ pounds would be skin and fat, 24 pounds would be bone, and three pounds would be brain.

III. More than half the weight of the body is bone and muscle.

IV. The amount of water in food is very large. A beefsteak contains 75 per

cent. of water. In buying a pound, only one-fourth of that pound is dry solid meat. Cabbages contain 85 to 90 per cent. of their weight of water, and succulent fruits sometimes more than 90 per cent. Of substances most commonly eaten, rusks or biscuits are the driest, and water-melons the most watery of foods.

V. When water is taken into the system it assists without doubt in the building up of new tissues, in the repair of old. According to this view, it is not merely a dilutant of fluids; it does not simply play an inactive part like a lubricant of machinery, but it is in the truest sense a food.

VI. Life cannot be maintained on pure starch, sugar or fat for a long time; on the other hand a purely meat diet cannot maintain life indefinitely.

VII. Sugar cannot be made the basis of diet, but rice can; so that taking complex foods, rice heads the list. Of the three great foods on which, with very little addition, millions of human beings live—viz., rice, bread and potatoes—rice is nearly all assimilated, fine wheaten bread being almost equal to rice, while with potatoes there is nearly 40 per cent. of waste, or substances which pass away without being utilized. So that in point of economy, and considering the relative price of the three, rice stands first.—*American Grocer.*

THE INVENTOR OF "INTERCHANGEABILITY."

The death of Georges Leschot, the celebrated watchmaker of Geneva, partner in the firm of Vacheron and Constantin, recalls to my mind the account of the origin of "interchangeability" which he gave me a few days before his death, in the following words: "The idea of 'interchangeability' was suggested to me by a slight accident which occurred in 1834. At that time gold-plating by heat or by mercury, better known as fire gilding, was the only process known, and delicate pieces were liable to be more or less injured by the operation. This happened one day to the plate of a repeater that I was gold-plating; it came out of the operation melted nearly to the centre. All the preceding labor I had spent upon it seemed wholly lost, but the idea came to me to make use of the injured plate in such a way as to transfer to another the pieces that were to have



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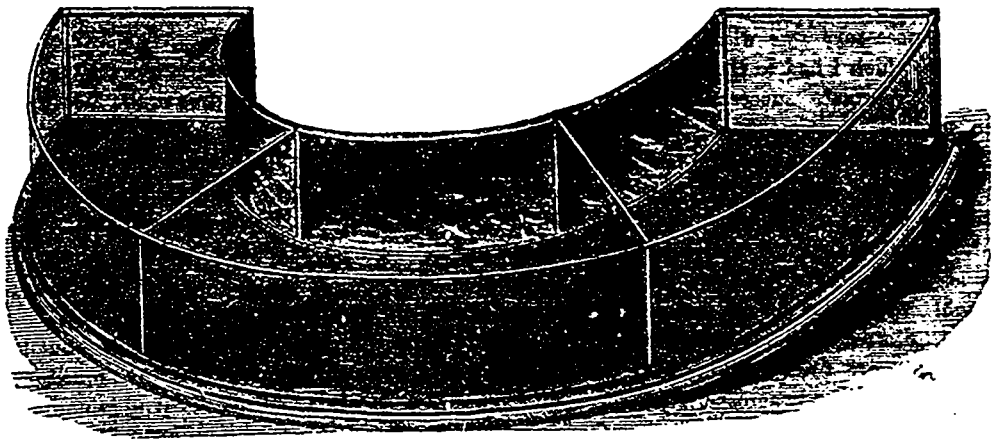
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been fastened upon it. In order to do this I made a strong ring of steel, into which I forced the plate, so that the dis-jointed pieces were again united, then, by means of a pantograph, I marked all its holes, etc., on a plate of metal, on a scale four times as large as in the original plate, with the utmost care, verifying each step of the work over and over again so as to avoid any chance of error. This done, I made a new plate of the same size as the first one, to which I carefully transferred the marks obtained by the pantograph. I made each hole exactly similar to the corresponding hole in the original plate, with the grooves, etc., duplicates of those in the other. When I came to set the plate in position and mount the other pieces upon it, I found that although not perfect, yet it went very satisfactorily. The only alteration I found necessary was with the quarter hammer, which I had to change a trifle. It was a complete success, if you take into account the time I had saved. I became convinced then of the possibility and advantage of tracing a watch upon a certain scale, and of keeping the same scale for other watches, thus developing the idea of interchangeability which I brought to further perfection later." Such are the facts in the inventor's own words in regard to the origin of the process vaunted so highly across the Atlantic, and which has been in use in Geneva for fifty years and more.—*Translated for The Jewelers' Journal.*

THE TEMPLE OF BAALBEC.

The ruins of the ancient city of Baalbec, situated on the plain forty-three miles north-west of Damascus, are the wonder of modern architects.

Everything is colossal. The area is larger than that of the temple of Jerusalem. We may begin with the walls, which are half a mile around, and of such height and depth as are rarely attained in the most tremendous fortress. When from within I climbed to the top, it made me giddy to look over the perilous edge to the depth below; and when from without the walls I looked up at them, they rose high in the air. Some of the stones seem as if they had been reared in place, not by Titans, but by the gods. There are nine stones thirty feet long and ten feet thick, which is larger than the foundation stones of the temple of Jerusalem, dating from the

time of Solomon, or any blocks in the great pyramid.

But even these are pigmies compared with the three giants on the western wall, 62 feet, 68½ feet, 64 feet long. These are said to be the largest stones ever used in any construction. They weigh hundreds of tons, and instead of being merely hewn out of a quarry, which might have been on the site, and left to lie where they were before, they have been lifted nineteen feet from the ground, and there embedded in the wall. Never was there such cyclopean architecture. How such masses could have been moved is a problem with modern engineers.

Sir Charles Wilson, whom I met in Jerusalem is at this moment in Baalbec. Standing in the grounds of the temple, he tells me that in the British Museum there is an ancient tablet which reveals the way such stones were moved. The mechanics were very simple, rollers were put under them, and they were drawn up inclined planes by sheer human muscle, the united strength of great numbers of men. In the rude design on the tablet the whole scene is pictured to the eye. There are battalions of men, hundreds to a single roller, with the taskmasters standing over them, lash in hand, which was freely applied to make them pull together, and the king sitting on high to give the signal for this putting forth of human strength *en masse* as if an army was moving to battle. A battle it was in the waste of human life it caused. These temples of Baalbec must have been a whole generation in building and have consumed the population of a province and the wealth of an empire.—*Henry M. Field, D. D.*

THE CLYNDOGRAPH.

The clyndograph of M. Moessard is a new panoramic photographic apparatus, which by a simple rotation of the objective gives the cylindrical perspective of the earth. A view furnished by the apparatus embraces an angle of 170°, so that a complete turn of the horizon is obtained in two views and a fraction of 20° range. The instrument is based on the principle that a lens or combination of lenses, constituting a photographic objective, may be subjected to any movement whatever without the image it produces on a screen changing its form or position, provided that the movement takes place around the nodal point, behind

which is maintained immovable. This follows from the known property of the nodal point being the point of view of the perspective produced. Suppose, then, there be (1) an objective suspended horizontally and turning round a vertical axis passing by its after nodal point, (2) two vertical shutters fixed behind to right and left of the objective, to limit the field in the horizontal direction and arrest rays too oblique; (3) a screen of cylindrical form vertically centered upon the axis of rotation, and having for radius the distance of the nodal point from the principal focus of the objective, in any position whatever of the objective the lie of the country comprised in the field of the instrument will be projected on the screen. If the objective be put in motion one gets successively for each point of the panorama an immovable image which impresses the eye or sensitive paper while the point remains between the two shutters. In M. Moessard's actual apparatus Telebaat sensitive plates are used to receive the impressions. The instrument is expected to prove useful in preliminary surveying and military operations.—*Exchange.*

FAMOUS BRONZE DOORS.

Among the monumental works in bronze which emanated from Constantinople some of the most remarkable are the bronze doors which decorated several of the Italian churches, more particularly those which are enriched with inlays of silver. The church of San Marco possesses one brought from Constantinople, and which originally adorned the church of Santa Sophia, and like the bronze horses, was brought to Venice as spoils of war in 1204. Other doors worthy of mention are those at Amalfi, in the Duomo, San Salvatore di Bireto, Atrani, the Benedictine Church at Monte Cassino, and the church at Monte Santangelo—the last four examples were all the gift of one family, the Pantaleoni Viaretta in 1807, "pro mercede animee suae et merita S. Sebastiani, martyris." At Amalfi, in the cathedral of San Andrew, it is Pantaleone di Mauro who gave them, in honor of the Apostle, and for the repose of his own soul. At Monte Cassino another member of the same family gave the bronze doors, and these are enriched with silver letters, containing an account of all the possessions of this magnificently endowed Benedictine abbey—the head house of the order. They date from



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MANUFACTURERS OF STANDARD
ELECTRO, SILVER AND GOLD
PLATE.

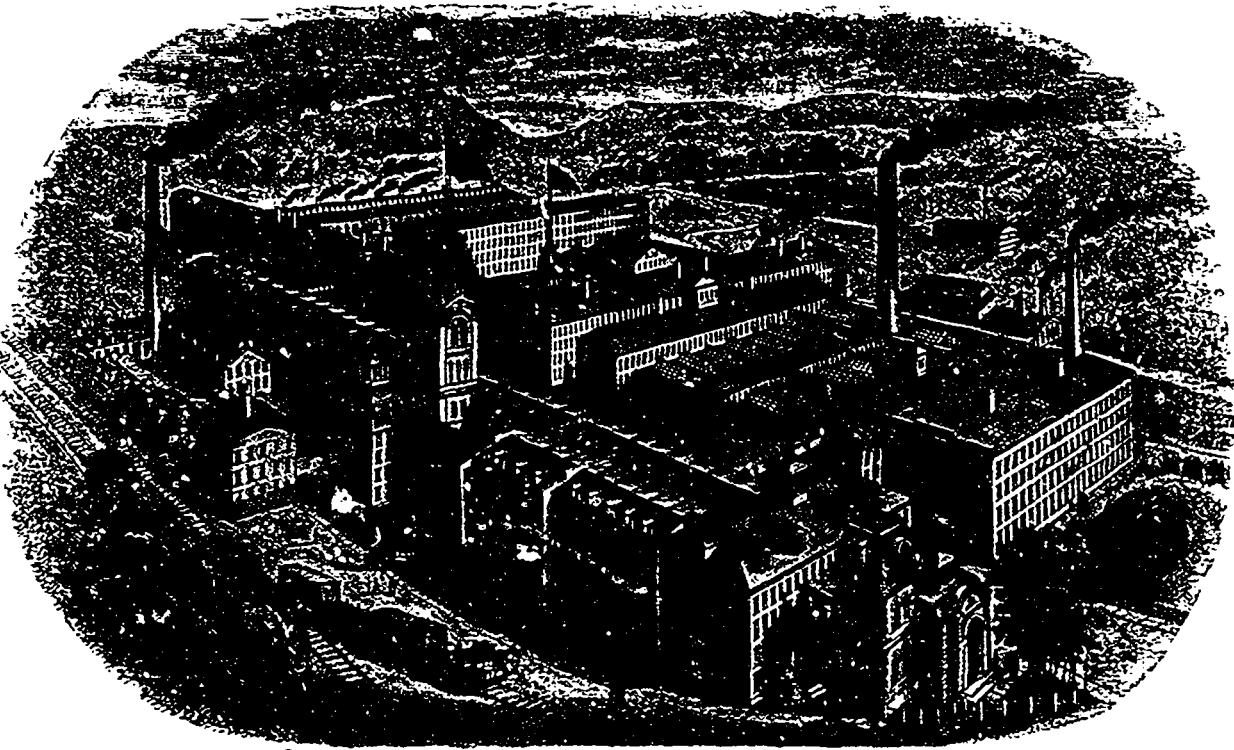
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TRADE

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The Meriden Britannia Company have been awarded the highest premiums wherever exhibited, from the WORLD'S FAIR, 1863, to the PRESENT TIME and the high reputation of our Goods throughout the world has induced other makers to imitate our Trade Marks and name as well as our designs, and as many of our patrons have, through a similarity of names, purchased inferior goods under the impression that they were our manufacture, we are compelled to ask especial attention to our Trade Marks

THE FACT THAT OUR NAME AND TRADE MARKS ARE BEING SO CLOSELY IMITATED SHOULD BE A SUFFICIENT GUARANTEE TO THE PUBLIC THAT OUR WARES ARE THE BEST IN THE WORLD.

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1066. At Monte Santogelo the Pantaleoni are again the generous donors of the bronze doors there. In the Duomo at Salerno are fine bronze doors, once containing silver inlays, given by Landolpho Butromile and his wife, 1090. The design consists of crosses and figures of six of the Apostles. The similarity of the five examples all point to a common origin; the same stiff Byzantine treatment of the figures and heads, which are shown by incising lines into the bronze and filling them with silver. These were evidently done to order at Constantinople, and are ascribed to a Greek workman, Staurachios—Romanized into Starontius—who flourished about 1050-1072.—*Exchange.*

THE BOY TRADER.

"Where are you going with the puppies, my little man?" asked a gentleman of a small boy whom he met with three pups in a basket.

"Goin' to drown them," was the reply.

"I want a pup for my little boy to play with. What do you say to letting me take one of them?"

"I'll sell you one," spoke up the kid, with American enterprise. "I'll sell you this yaller one for 50 cents, the black one for 75 cents, and the spotted one is worth \$1 of any man's money."

"I think my little boy would like the spotted one best, but you ask too much for it. You had intended drowning all of them, but I'll give you 25 cents and save you the trouble of drowning the spotted one."

"Twenty-five cents for the spotted pup!" exclaimed the boy. "I can't stand it; taxes is high; rent is high. It costs good money to get into the roller rink. Oh, no; I can't take less than \$1."

"But you intend to drown—"

"Take the black one at 75 cents."

"My little boy wouldn't like the black one."

"Take the yaller one at half a dollar. He's dirt cheap."

"My little boy wouldn't like his color."

"Well, then, you better tell your little boy to play with his toes," and he continued towards the river. "No party can deadbeat his way on me these hard times."

—*Baltimore Times.*

There are times in a man's life when the whole sky seems rose colored, and this old, dull world a paradise. One of these is when he has discovered a quarter in the lining of his last summer's vest.

THE ORIGIN OF EAR-RINGS.

According to the Moslem creed the reason why every Mohammedan lady considers it her duty to wear ear-rings is attributed to the following curious legend: Sarah, tradition tells us, was so jealous of the preference shown by Abraham for Hagar that she took a solemn vow that she would give herself no rest until she had mutilated the fair face of her hated rival and bondmaid.

Abraham, who had knowledge of his wife's intention, did his utmost to pacify his embittered spouse, but long in vain. At length, however, she relented and decided to forego her plan of revenge. But how was she to fulfil the terms of the vow she had entered into? After mature reflection she saw her way out of the difficulty.

Instead of disfiguring the lovely features of her bondmaid, she contented herself with boring a hole in each of the rosy lobes of her ears. The legend does not inform us whether Abraham afterward felt it incumbent upon him to mitigate the smart of these little wounds by the gift of a costly pair of ear-rings, or whether Hagar procured the trinkets for herself. The fact remains, however, that the Turkish women, all of whom wear ear-rings from their seventh year, derive the use of these jewels from Hagar, who is held in veneration as the mother of Ishmael, the founder of their race.—*Deutsche Roman-Bibliothek.*

THE BASE BALL MANUFACTURE.

It is estimated that 10,000,000 base balls are made and sold in this country every year. Perhaps very few persons know the process by which these balls are manufactured or the nature of the stuffs used in constructing a standard ball. The most expert workmen are employed. First there is a little hard rubber ball, and around that the wrapper winds a strong, blue, coarse yarn. When this reaches a prescribed size, it is firmly wrapped with white Venetian yarn.

The balls are then placed in an oven and baked until all the moisture is taken out of them and they are reduced in size. This makes them solid. After this they are coated with cement. This causes the balls to retain their shape, and they cannot be knocked crooked. Then comes some fine blue yarn, and around the whole is placed some fine white gilling twine.

The balls are weighed, for each must be of certain weight, and are now ready for the covers. These latter are made of the best quality of horse hide. The cover consists of two pieces, each cut in the shape of the figure "8." By bending one section one way and the other in an opposite direction, a complete cover is obtained.

For years balls were covered with four pieces of leather, and at one time two covers were placed upon a ball; that is, the ball was half made before it was covered, and then another ball constructed over it. But even that did not prevent its being knocked out of shape. They cannot disturb the ball as now made, because the cement holds it.

A little machine owned by a Philadelphia firm is used for winding the balls. It wraps 2½ ounces of the American Association balls in a minute, and the rest is finished by hand. This apparatus is a little wonder. It does its work as neatly as if it had brains, but is capable, say its owners, of a good deal of improvement.

—*Ex.*

NEW USE FOR COPPER.

New uses for copper are coming to the front daily, says a Michigan paper. The last channel found is in the manufacture of white bronze, which is composed of equal parts of copper and ferro-manganese, which produce a metal of such tenacity that it surpasses the best steel armour plates. The melted mixture is cast in block, and is perfectly malleable. To obtain a white metal that can be rolled out in sheets the above alloy is melted again, and twenty or twenty-five per cent. of zinc and white metal added, which imparts to it the desired quality. A plate of the first named alloy two inches thick was found by experiment to offer more resistance to a cannon ball than a steel armour plate of the same thickness. This new kind of "white bronze" is not to be confounded with the alloy used in this country under the same name for monuments. The latter consists principally of zinc.—*Exchange.*

Three 110-ton guns have been ordered by the English Government. The first will be delivered in October next, the others in the following January and April. Each gun will cost £19,500; the weight of projectile will be 1,800 lbs., and the weight of powder charge 900 lbs.

GOLDIE & McCULLOCH,

(ESTABLISHED 41 YEARS AGO.)

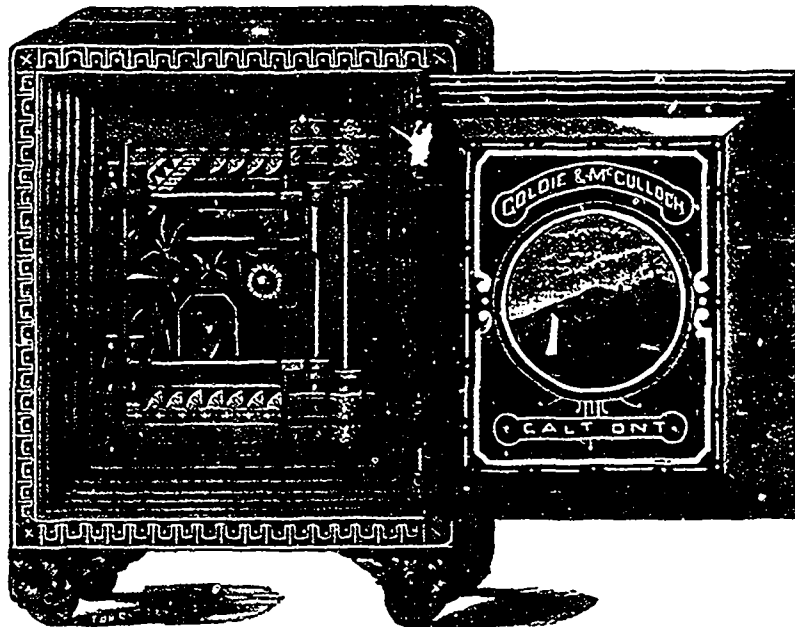
MANUFACTURERS OF
**FIRE AND BURGLAR-PROOF SAFES; STEEL
 VAULTS, especially adapted for Bankers and Jew-
 ellers; FIRE-PROOF and BURGLAR-PROOF
 VAULT DOORS and all kinds of
 FIRE AND BURGLAR-
 PROOF SECURITIES.**

SOLE AGENTS FOR

Sargent & Greenleaf's World-Renowned Combination Locks.

All our Safes, Vaults, &c., are constructed on SCIENTIFIC PRINCIPLES, and only the VERY BEST MATERIALS are used. Estimates given and orders filled promptly.

2 Gold Medals,
 3 Silver Medals,
 4 Bronze Medals,
 2 Diplomas,
 Awarded to our Fire
 and Burglar-Proof
 Securities during
 the last 4 years.
 A Splendid Tri-
 bute to Merit.



No First Prizes
 have been awarded
 to any other exhib-
 itors during these
 last 4 years.

NEW STYLE OF JEWELLER'S FIRE AND BURGLAR-PROOF SAFE.

SPECIAL DESIGNS AND STYLES TO SUIT THE REQUIREMENTS OF JEWELLERS.

Intending purchasers should, before purchasing elsewhere, see the large variety to choose from at our Toronto Warerooms, on King Street, next door to The Mail Building.

Terms are as easy and prices as low as those of inferior makers.

A large number of Second-hand Safes, by other makers, on hand, including several fitted for jewellers. These Safes have been taken in exchange and replaced by others of our own make.

WAREROOMS—NO. 56 KING STREET WEST, TORONTO.

GEO. F. BOSTWICK,
 REPRESENTATIVE.

SPECIAL NOTICE.

Jewelers throughout Canada will oblige the Editor by sending in to 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.

BUSINESS NOTES.

It is reported that telephonic communication between Toronto, Ottawa, and Montreal will shortly be established.

THE KEYSTONE & BOSS CASE traveller was in Canada last week making things lively as usual in the Watch Case trade. The Company report demand good for the season of year.

GEORGE WALKER, jeweler, of Paris, has sold out his business to Pequegnat Bros. of Berlin. One of the brothers will run the Paris business, and if their previous record in other places is any criterion, this new addition is bound to be a success.

MR. SCHOFIELD, General Agent in New York of the Elgin Nat. Watch Co., paid us a visit last month. Mr. Schofield is a genial gentleman with an eye to business, and his visit to Canada will, no doubt, tell in the interests of the Elgin Watch.

P. W. ELLIS & Co., Wholesale Jewelers, expect in a few days to remove their factory, sales-rooms and offices to Samuel Stern's old building on Wellington St. East. We hope to be able to pay a visit to their new and enlarged factory as soon as opened and give it an extended notice in our next issue.

We are asked by Messrs. Rothschild & Co., to state that the Mr. Herwich who bought the stock in trade of S. P. Kleiser, jeweler, of Toronto, was not a member of their firm or having any connection with them. The gentleman who purchased this estate was formerly a merchant on Queen Street West.

MR. JOHN CAMPBELL, traveller for Rothschild & Co., wholesale jewelers of Toronto, has just returned from New York, where he has been purchasing jewelry for the firm's fall trade. He reports a large assortment of elegant goods and fair prospects of a large fall trade in the U. S. and Canada.

THE WHOLESALE JEWELERS OF TORONTO were well to the front in the matter of decoration during the volunteers reception. The principal were those of P. W. Ellis & Co. and Smith & Fudger, and in our opinion no two buildings in the city looked better or gave a more hearty welcome than these.

THE MERIDEN BRITANNIA Co. should be almost tired of taking diplomas and medals for their manufactures. Their latest achievement in this line was at the New Orleans World's Exposition, where they were awarded four medals of the first-class respectively for "Spoons and Forks," "Hollow-ware?" "Sectional Plating," and "Best General Collection of Silver-ware."

MR. GEORGE CHILLAS, of the firm of Lee & Chillas, Secretary of the Canadian Jobbers'

Association in American Watches visited New York last week in connection with the business of the Association. The prospects of the Association are good and the trade seems generally to regard its organization as one of the best things that the jobbers have done for many a long day.

MR. M. SCHWOB of the firm of Schwob Bros., Montreal, and President of the Canadian Jobbers' Association in American Watches, sailed for Europe last month. Mr. Schwob's trip is one of business and pleasure combined, and we trust he will mix them so judiciously as to make it pay and at the same time improve his health. THE TRADER wishes him a pleasant journey and safe return.

CORPORAL SMITH, Q. O. R., son of Mr. Henry Smith, of the firm of Smith & Fudger, was one of the many heroes who tramped down Yonge street last Thursday. Although brown as a gipsy and considerably heavier than when he went away, the campaign in the North-West seems to have agreed with him, and the probability is that when he gets back into the harness again, he will make things hump on the road. Welcome home.

"ANOTHER HERO."—Mr. John Marshall, one of the employees of the American Watch Case Co., of Toronto, went along with his company of the 10th Royal Grenadiers to aid in putting down the late rebellion in the North-West Territory. On his return to the factory his fellow-employees presented him with a purse of money and a complimentary address for his plucky behaviour at the front. Mr. Marshall is the kind of stuff they make heroes out of.

WE ARE pleased to learn that Mr. R. Russell, formerly with A. C. Anderson & Co., of Hamilton, will remain with the new firm of Lowe & Anderson, and travel for them through Eastern Ontario, Quebec and the Maritime Provinces. Mr. Russell has by integrity and ability earned the reputation of being one of the best salesmen on the road, and we have no doubt that with his increased opportunities to make big sales, he will boom things on his route. We wish him success.

OUR MAX.—That the jewelry trade of Toronto was pretty well represented in the North-West during the recent rebellion is evident from the fact that five of the volunteers serving there were from this City. Amongst others we should mention Max Stern, second son of Mr. Samuel Stern, who served in the Governor General's Body Guard (Cavalry) under Lieut. Col. Denison, all through the campaign. Max looks stronger and healthier in every way than before the rebellion, and is every inch a soldier.

MR. MATTHEWS, jeweler, of Winnipeg one of the now celebrated 90th Battalion of that city, was in the city a few days ago. Our readers will remember that Mr. Matthews was wounded at the battle of Fish Creek and it was reported that his arm had to be amputated. We are glad to learn, however, that the doctors have been able to save his arm and that in a few months it will probably be as well as it ever was. Mr. Matthews should have some substantial recognition from the Government on account of

the loss of business his wound will entail.

THE MERCHANT.—We have just had laid on our table the copy of a new trade paper THE MERCHANT, which has been started in Toronto. Although not attempting to open out any new field in journalistic literature, THE MERCHANT bids fair to be a formidable rival to the financial and trade journals already in existence. It is neatly printed on toned paper, its editorial and specially contributed articles are ably written, and it is highly creditable to the publishers. It looks as if it had come to stay and we wish it success.

ALMOST A FATAL ACCIDENT.—Mr. John Donaldson, Accountant, formerly with John Zimmerman & Co., of Toronto, met with what might have been a fatal accident a few days ago. The gas jet inside of the vault in his office leaked, and on Mr. Donaldson trying to light it, the gas, which filled the whole vault, exploded, knocking him down and burning him very severely about the face and hands. We are glad to state that he is now almost recovered, and beyond the marks of a big singeing, looks kind of natural again.

OUR "CARRIAGE"—We are glad to know that our young, ambitious and enterprising friend Charlie Ellis has got so far advanced in family matters as to set up a carriage. Charlie's carriage (although only a baby one) is a stunner, and knocks the spots off all the other baby carriages in Toronto. It is satin lined, silver mounted, double geared, patent springs, quick train, safety pinion, in fact combines all the latest improvements in the line, but from what the proprietor says it is none too good for the little cherubs that occupy it. And talking of these same cherubs, reminds us that in our notice of their arrival we credited Charlie with "a pair of twins." This their respected parent informs us is not correct, that strictly speaking we should have said "twins." We may consider ourselves sat on.

A BIG THING IN SAPES.—Messrs P. W. Ellis & Co. the well-known manufacturing jewelers of this city are not only alive to the importance of having their valuables amply protected, but of having it so securely done that they will not lose any sleep over it. The attempts lately made to burglarize jewelry establishments throughout the Province has determined this firm to get the most thorough protection that they possibly could for the very valuable stock they carry at all times. The precaution adopted is in the form of an immense steel vault built by Goldie & McCulloch. This vault is designed for perfect burglar-proof protection, and has been constructed of alternate layers of plate iron and welded chrome steel and iron $\frac{1}{2}$ inches thick throughout the whole structure. This arrangement is designed to give the greatest possible resistance to any attack that may be made upon it. The structure weighs ten tons, and was a few days ago taken from the railway to its destination on Wellington Street East on a large truck brought here for this special purpose, drawn by four magnificent black horses. It is the first of its kind that has been placed in a Toronto jewelry establishment and its perfect ability to resist every effort to obtain its contents unlawfully will doubtless contribute largely to the ease of mind of the members of the firm.

THE BATES & BACON WATCH CASES,

Stamped B. & B.,

ARE SUPERIOR IN QUALITY AND PERFECT IN FINISH AND DESIGN.



24

Our Patent Snap Bezel
Dust Proof Cases in Filled
and Solid Gold, also a Full
Assortment of Regular Line
of Filled Cases,

FIT ALL AMERICAN MOVEMENTS.



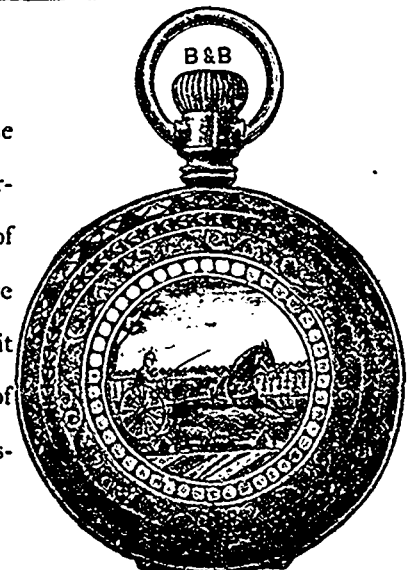
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SOLD BY ALL JOBBERS



Front Sectional View of
PATENT SNAP BEZEL CASE.

This Patent Snap Bezel Case
is desirable for Railroad Pur-
poses, or wherever a Dust Proof
Case is needed. And there
being no Springs or Cap, it
enables us to make a Case of
Better Proportions than is pos-
sible in a Regular Case.



22
Back View of
PATENT SNAP BEZEL CASE.

WORKSHOP NOTES.

For a quick filter The Druggists' Circular recommends the employment of chamois skin, freed from thin pieces, cut to the desired size, washed in a weak solution of sal soda or any alkali to remove any grease, and thoroughly rinsed in cold water. By means of it tinctures, olixirs, syrups, and even mucillages are said to be filtered rapidly. If it is washed well after each time it is used this filter will last a long time.

REMOVAL OF OIL SPOTS FROM MARBLE.—Oil spots, if not too old, are easily removed from marble by repeatedly covering them with a cream of calcined magnesia and benzine, and brushing off the former after the dissipation of the latter. Another recipe reads as follows: Slaked lime is mixed with a strong soap solution, to the consistency of cream; this is placed upon the oil spot and repeated till the oil spot has disappeared. In place of this mixture another one may be used consisting of an ox gall, 125 grams of soap-makers waste lye, and 62.5 grams oil of turpentine, with pipe clay to the consistency of dough.

FUSIBLE CEMENT.—According to the *Journal Suisse d'horlogerie*, a good, easily fusible cement for fastening glass and porcelain upon metallic surfaces can be prepared as follows: Brass powder in form of a sediment, which has been prepared by laying zinc in a solution of sulphate of copper, is placed into an iron or enameled mortar, and mixed with concentrated sulphuric acid of 1.85 To this paste add 70 parts quick-silver to 20 to 30 or 36 parts brass, according to the hardness desired. When the mixture has been well united, it is carefully rinsed in warm water, in order to expel every trace of acid from it, after which it is left to cool. After a few hours the ready cement will be so hard that tin can be scratched with it. For use it must previously be warmed so that it can be worked in the mortar, whereby it becomes as soft as wax. In this state it is spread out upon the metallic surface, and the object to be fastened (glass or porcelain) is pressed upon it. When the cement has become sufficiently cold it retains with great intensity.

GOLD FILINGS.—The following process is very useful for working up filings and scraps of gold, gold-plated jewelry, etc. It does not, of course, refine the gold as in the usual process of quartation, but merely destroys the filings of copper, silver, German silver, brass and other metals acted upon by the acid. It will "eat" the solder or brass out of hard-soldered or plated goods, leaving the thin shell of gold. The iron filings are thoroughly separated from the mass by the repeated use of the magnet. All pieces of soft solder and lead should be picked out, and if there is much soft solder in any of the plated articles, it should be melted out, and the residue then placed in a shallow glass or china vessel and rather more than covered with good nitric acid. When the bubbles cease to agitate it, the acid should be poured into another cup, and if there is any base metal left, more acid should be added, and the mass stirred occasionally with a strip of glass. When no bubbles appear on adding new acid, that may also be poured off, and the filings washed two or three times, or until perfectly clean, letting them stand a minute or two to settle before pouring off the water. They are then dried and melted. The filings and scraps

treated in this manner seldom require more than one melting to make them easily worked and fit for jobbing. There is no skill required, only considerable care in the handling. The silver remaining in the acid may be precipitated in the ordinary manner with common salt. The chloride obtained may be melted into a button, and being pure silver, used as an alloy for other gold.

STRENGTHENING THE EYESIGHT.—To a query in the columns of *Deutsche Uhrm Ztg.*, in which the interrogator complains of weak eyesight, and also for advice from his fellow craftsmen, a number of answers are given, from which we select the following "A professor lately deceased, recommended me in 1867 to use bi-concave No. 30, feebly blue spectacles, and at the same time bathe forehead and temples with a mixture of Ol. balsam 8.0, spir. lavender 120.0. I have used this remedy diligently, and my eyes have become so strong thereby that I have dispensed with the use of spectacles since 1873, therefore over ten years. Repeated tests of my eyesight with the optometer have resulted in 'No spectacles necessary'" The next answer recommends spirits of fennel seed, mixed with distilled water, as an excellent lotion for the eyes. "I suffered with weakness of sight about thirty years ago, since which time I still employ it up to to-day with excellent results. There was a certain patent medicine which really possessed excellent curative powers. It was analyzed some time ago, and the result published in a certain paper as follows: Fill a good sized bottle three-fourths full with absolute alcohol, put into it enough of fennel seed to fairly fill the bottle, cork it, and let it stand for several days in moderate heat, until the alcohol has colored green; now decant the clear fluid and mix with a little ethereal oil of fennel from the drug store. For use, employ a second bottle, in which pour to one part of this essence five parts of distilled water or filtered river water, and shake the mixture well, by which it changes into a milky fluid. With it moisten a linen cloth and dab the parts around the eyes morning, noon and night. It does not hurt if a little enters the corners of the eye. For continued use it may be taken a little stronger; if it should bite in the commencement, dilute it a little more.

OTHER NOTES.

As a rule, the Old Testament revisers have performed their work well. But they were not particularly happy in rephrasing "vanity and vexation of spirit." They have made it "vanity and a striving after wind" This, it must be admitted, is somewhat colicky.

THE HYDRAULIC CLOCK IN THE GARDEN OF THE TUILLERIES.—The visitors of the garden of the Tuilleries lately pause before a timepiece of extraordinary dimensions, which has been erected upon a terrace at the water's edge. It consists of four columns, painted green, about 8½ yards high, while the dial, glittering in the tints of the "Grande Republic," surmounts the columns. The large hand, about 2 meters long, points out the date, while the small hand indicates the day of the week. Beside this the clock contains a smaller dial with hour and minute hands; the striking work tells the hour on a bronze bell. The action of this "chronometric turbine" is as follows: At the

foot is located a metallic drum through which runs a streamlet of water. The drum contains two small turbine wheels which are actuated by the running of the stream. The axes of the turbines, prolonged upward, and in endless screws by which the wheel work, provided with a fly, is propelled. It is obvious that the reservoir from which this stream of water is obtained must always stand at the same level, otherwise the hydraulic pressure would change.

C. W. COLEMAN, WATCHMAKER TO THE TRADE

AND DEALER IN

Watch Material, Tools, Spectacles, Watch Cases, &c.

Complicated Watches repaired, adjusted and cleaned. Broken or imperfect parts in every grade of Watch replaced by new.

Also Jewelry Jobbing, and manufacturing of Special Designs, Engraving, &c.

Spectacles at 75 cts., \$1.25, and \$3.25 per Dozen.

Samples of above three lines sent prepaid for 50 cts.

Orders to receive prompt attention must be accompanied with city reference or the cash

C. W. COLEMAN,
10 KING ST. WEST, (up stairs)
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T. WHITE & SON, MANUFACTURING JEWELERS,

Lapidaries & Diamond Setters.

39 KING ST. WEST, TORONTO.

Canadian & Foreign Stones Polished and Mounted

—FOR THE TRADE.—

N.B.—A variety of Stones and Imitations of all kinds in Stock.

E. & A. GUNTHER, 18 JORDAN STREET, - - TORONTO,

IMPORTERS OF

WATCH-GLASSES.

SPECTACLES.

TOOLS & MATERIALS,

PRECIOUS STONES.

WATCHES,

JEWELLERY.

CLOCKS

In every variety constantly on hand. Large importations in all the latest novelties coming in for FALL TRADE.

SATISFACTION GUARANTEED.

THE AWARD OF THE JUDGES

AT THE NEW ORLEANS EXPOSITION OF MEDALS OF THE FIRST CLASS TO THE MANUFACTURERS BOSS, KEYSTONE & LEADER WATCH CASES

is one more solid block of testimony added to the already overwhelming evidence of the superiority of the Watch Cases manufactured at the Keystone Factories. But notwithstanding this fact, the makers of these Cases do not propose to rest upon their laurels.

PROGRESS

is the motto of the Keystone Factories ; and it is but natural that the announcement is now made that a full and exceptionally elegant line of Boss, Keystone and Leader Cases, engraved from entirely new and special designs, is in course of construction for the fall trade.

FINEST AND BEST WORKMANSHIP.

As heretofore, every case will be made exactly in accordance with a strictly defined design insuring honest material, perfect fit, unsurpassed finish, the most thorough engraving, and unequalled durability.

Keystone Watch Case Factories,

19th and Brown Streets,

PHILADELPHIA, PA.,

U. S. A.

LOWE & ANDERSON,

16 WELLINGTON STREET EAST,
TORONTO.

WHOLESALE DEALERS IN

**HAMPDEN, WALTHAM,
ELGIN, ILLINOIS AND
SPECIAL MOVEMENTS.**

GOLD CASES, Quality Guaranteed.

BOSS, B. & B. & DUEBER FILLED CASES.



SILVER CASES OF KEYSTONE, AMERICAN WATCH CASE CO. AND DUEBER MAKE. SILVERINE CASES. SWISS WATCHES in GOLD and SILVER. GOLD CHAINS SILVER CHAINS, GOLD JEWELRY OF ENGLISH AND AMERICAN MANUFACTURE. NEWEST DESIGNS IN

SILVER JEWELRY. LATEST NOVELTIES in ROLLED PLATE JEWELRY. BLACK AND RED GARNET AND JET JEWELRY.



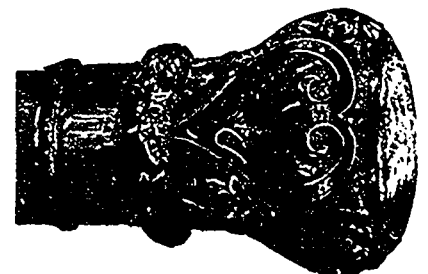
Marble Clocks, Watch Materials, Jewelers' Findings, Fine Gold, Gold-Filled and Silver-Headed Canes.



SHEFFIELD STERLING FLAT WARE.

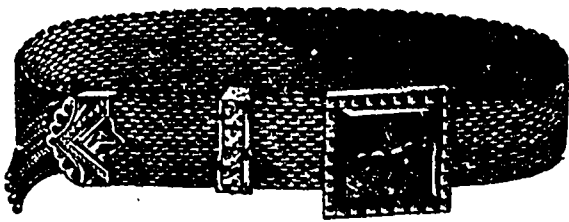
ELECTRO-PLATED WARE.

SOLID SILVER SPOONS.

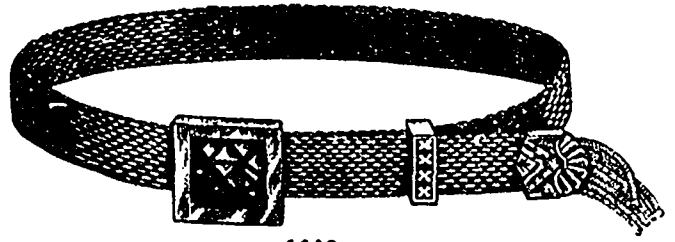


LOWE & ANDERSON.

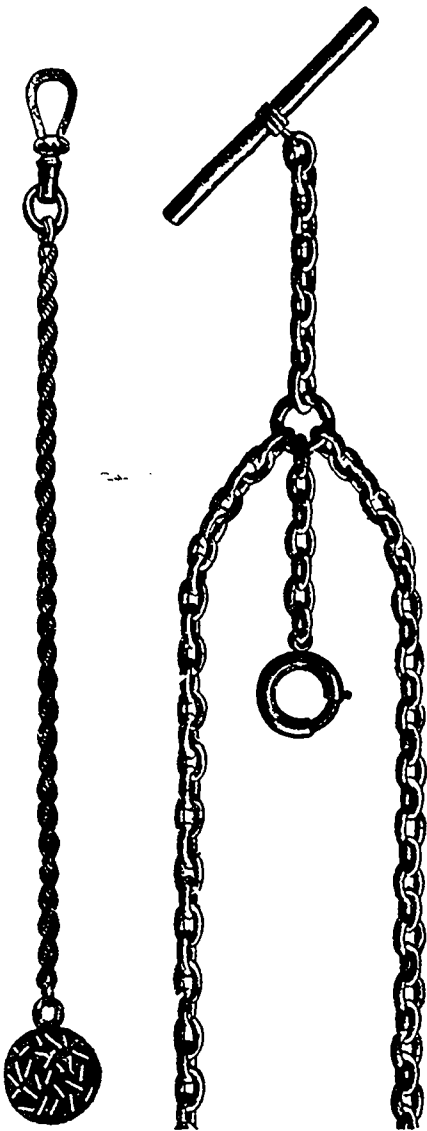
The "R. F. S. & Co." Rolled Plate Chain & Chain Bracelets.



1333.



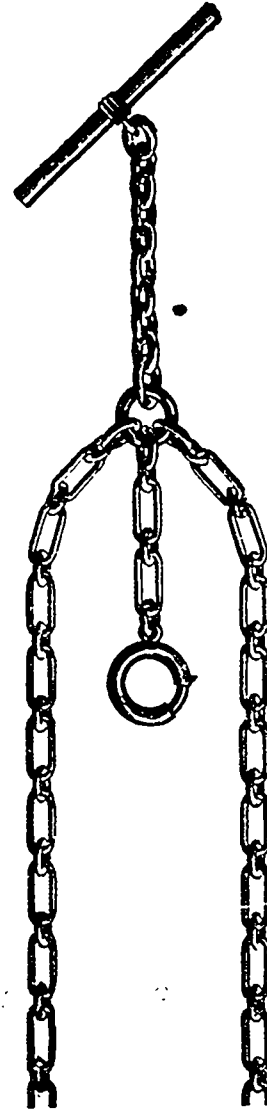
1449



988.



1086.



97.



The Queen.
Latest Style for the
Ladies.
Platinum and Gold.
No. 1444.

The Queen
Sterling Silver,
Elegant and
Durable.
No. 129.

REMEMBER EVERY ARTICLE OF THIS MAKE IS WARRANTED.

FOR SALE BY ALL CANADIAN JOBBERS.

THE ACME SILVER CO'Y,

MANUFACTURERS OF THE
FINEST QUALITY OF
- Quadruple-Plated Ware. -

FACTORY & SALESROOM:
NOS. 9 and 11 CHURCH STREET, TORONTO, ONT.



NO. 1061. TEA SET. CHASED. GILT. \$68.00. LIST.

NO. 134. WAITER. 25 INCH. CHASED. \$60.00. LIST.