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THE TRADER.

TORONTO, ONTARIO, APRIL, 1883.

Sent free to every Jeweler and Hardware Merchant in the Dominion of Canada

Advertising Rates.

Full Page, - - -	\$20 00	each issue
Half Page, - - -	12 00	"
Quarter Page, - - -	8 00	"
Small Advertisements, 8 cents per line.		

A discount of 25 per cent. will be allowed from the above rates for yearly contracts. All advertisements payable monthly.

Business and other communications should be addressed to

THE TRADER PUBLISHING CO.,
13 Adelaide Street East, Toronto

SPECIAL NOTICE.

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

Editorial.

DIVIDE FAIRLY.

In the discussion on Mr. Beaty's bill (now before Parliament) for the equitable distribution of Insolvent assets, some of the speakers seem to have gone out of their way to display their ignorance of commercial affairs. As we understand the matter, Mr. Beaty has two bills before Parliament, one for the discharge of insolvents since the repeal of the last Act, and another for the equitable distribution of Insolvent Estates. There is of necessity no connection whatever between these two bills, and it reflects but little credit upon the astuteness of some of the members of our House of Commons, that they could not discuss the latter bill without dragging in that regarding the discharge of Insolvents, and attempting by such outside issues to lead to its defeat. About the fairness of equitable distribution of Insolvent Estates, there can be no doubt whatever, the principle is sound to the core, and will stand the test of time and investigation. The question of Insolvents discharge is one, however, on which men will differ, and we can respect the opinions of those who differ from us conscientiously; but that of "Rateable distribution of Insolvents' assets" is one that all are agreed upon as being right, and therefore should have nothing thrown in its way to prevent its becoming law. We trust that in spite of any and all such quibblers, that the end

of the present session will see it an accomplished fact, and thus relieve trade from an incubus that is weighing upon it, and at the same time do away with the manifold frauds engendered by the present position of this very important matter.

BEWARE OF SMUGGLERS.

We have several times warned our readers of the danger of buying goods from fictitious jobbers of little or no standing or responsibility. Another illustration of the reality of this danger has recently come to light, owing to the seizure, by the Canadian Customs authorities, of the goods and books of one of these "Cheap John jobbers" that are demoralizing the jewelry trade of this country. In regard to this seizure, a contemporary says:

"How an unscrupulous dealer can dodge the Customs' officials, has been shown of late by the operations of a Buffalo firm, King & Easil. Having rented a room at Fort Erie, the contents of which were one safe, they had a traveller on the road in this country taking orders for jewelry. He represented to the trade that the firm had a large factory in Fort Erie, and sold goods duty paid, whereas the orders were filled in Buffalo and the goods entered at Fort Erie only to a limited extent and at low value. Besides this, watch cases and plain gold rings to the extent of \$8000 or \$4000 came into Canada without entry, the past year, and the amount pocketed by the firm at the expense of the importer and the Government during the three years would be fully \$10,000."

From our personal knowledge of the trade of this country, we have no doubt but that all that our esteemed contemporary says in reference to this case is strictly correct, and if the evil stopped with the frauds of this firm, it would be but a slight matter, but unfortunately it does not, for as every one in the trade well knows, they are only one of the many of such unscrupulous jobbers, who not only cheat the Government, but demoralize all honest trade by their fraudulent practices.

We think we are safe in saying that there are at least half a dozen of such rascals in business not more than 100 miles from Toronto, and that the sooner the Government put a detective on their track the better it will be for the jewelry trade generally.

Some of these fellows are well known, and we understand that the regular whole-

sale jewelry houses of this city are about forming themselves into a league for the purpose of furnishing to the Government detectives information that will lead to the detection and conviction of these commercial pirates.

"Informer" is not a position or title that any one covets, and the dislike of the name and occupation has heretofore kept these gentlemen aloof from aiding any of the Government detectives; now, however, that they find their honest trade so seriously interfered with and themselves gradually being supplanted by a lot of scoundrels, they think it time to fight the devil with fire, and if we mistake not, they will make it hot for some of these "gentlemen."

In this step we think they are to be commended and encouraged, and we think that between them and the staff of detectives that the Government are willing to place at their disposal these commercial freebooters should be cleaned out root and branch.

The time for inaction is past, both wholesale and retail trade alike are menaced by disaster if these harpies are allowed to prey upon the trade of this country.

No retailer is safe who buys such goods, for as everyone knows who has kept himself posted by reading THE TRADER, the Customs officials can step into his store any day and seize any goods that have not paid duty, no matter from whom bought.

Extra cheap goods are thus as dangerous to handle as stolen goods, and it is a well known fact that in all cases where goods are seized under circumstances similar to the above quoted instance, the firm's books are carefully looked into, their customers marked, and the contraband goods seized by the Government, no matter in whose keeping they happen to be. That they are honestly paid by the retailer having them in his possession is just so much the worse for him, because if he still owed for them he could refuse payment, but if the money be already paid, his chance of seeing it is a very poor one.

Retailers have the remedy for this sort of thing in their own hands, and it is to refuse to buy goods from other than recognized wholesale houses of standing and character.

Itinerant jobbers and pedlars selling at or below cost should be left severely alone, for merchants may depend upon it

that in nine cases out of ten their goods are crooked and they are unsafe for them to handle. A word to the wise should be sufficient.

THE DUTY ON JEWELRY.

Every one of our readers will remember the stand that we have always taken in regard to the duty on jewelry, viz., that while the trade is perfectly satisfied to pay the rate levied by the present tariff, if it can be collected alike from all, they consider that the Government should either find means of properly enforcing its collection, or else give the trade fair play by reducing the duty one half and protecting them in that way against smuggling.

It is perfectly absurd for any Government to attempt to collect any such rate of duty as twenty and twenty-five per cent. on goods so expensive and small in bulk as jewelry. It can't be done in any country, let alone such a one as Canada, with only an imaginary border line of nearly two thousand miles separating them from the market from whence the greater part of their supply comes. In plain English, as things at present stand, the Government collect duty from the honest importers, who, by their very honesty in making these payments, are unable to compete against the unscrupulous rivals who are willing to risk an occasional seizure of their goods in preference to paying the duty on the whole.

The Government either do not see this, or are wilfully blind regarding it, for it is a thing that is being brought painfully to the regular importer's notice every day.

Scarcely a day passes but he is confronted with quotations from small one-horse houses (who can't possibly buy as well let alone any better than he does), that are simply his cost, or so near it that there is no fun in it. Do those men sell goods at cost and make a living out of it? Hardly! they know better than that. How is this done then? Any one in the trade will tell you simply by their smuggling the goods into this country, and thus having the duty for their profit.

We have always expressed surprise that the Government should so long have held out a protecting hand to these scalliwags, for it is only by the help of the high duty that they could thrive at all. Take away or even reduce the duty one-half, and their occupation, like Othello's,

would be gone, and they would have to take a very humble back seat in the commercial world.

As things are at present they are the "cocks of the walk," and their "very low" prices are flung in the faces of honest importers by retail dealers, who know as well as those from whom they bought that the goods quoted are dishonest goods, and it is only on this account that they are lower in price.

A most glaring instance of the folly of the present tariff, is the duty on precious stones. Strange to say they have some faint glimmering of reason, for following the the old anti-N. P. tariff, Diamonds unset are placed on the free list; all other unset stones, including rubies, emeralds, sapphires, which mineralogists tell us are really only diamonds of a different color, are rated at twenty per cent. These stones cannot be out in this country to pay. The only lapidary we have imports them himself, because he can do so and pay even the duty now levied, for less than one-quarter of what he could out them for himself. They are raw material to our manufacturing trade, who are thus compelled to pay a profit of twenty per cent. on them to the Government, and which is really placing them at a disadvantage against their foreign competitors by just so much, while the duty levied on the goods into which these stones are wrought, even if it could be collected, is only twenty per cent., but as enough of them are smuggled into this country to break the price, it is equal to no protection at all.

We notice that the Tariff Commission appointed by the United States Congress to revise the tariff, recommended amongst other things an advance of duty on precious stones unset from ten to twenty-five per cent. ad valorem. It appears that the Committee recommended this change without consulting the trade, and the result was that as soon as the latter got wind of it they got up a memorial and laid it before the Committee, which so enlightened them that they at once struck out the change and brought the duty back to the former figure of ten per cent.

We, therefore, find that even the United States, protectionist as it is to the core, and the pattern that we have taken for our tariff, admit unset stones at ten per cent., while we charge our manufacturers exactly double that duty. The same arguments exactly that apply to precious

stones unset will apply to them set in gold, or to any other jewelry, and all the sophistry in the world won't change it.

For the benefit of our readers we reprint the memorial sent by the leading jewelers of the United States to the Committee of Ways and Means above referred to, simply remarking that the true state of the case is fairly and honestly put, and that if the word "jewelry" was substituted for the words precious stones all through the document, the logic would be equally true and unanswerable.

The petition runs as follows:

NEW YORK, Jan. 5, 1888.

To the Committee of Ways and Means of the U. S. House of Representatives:

The undersigned are all engaged in business as importers of diamonds and other precious stones.

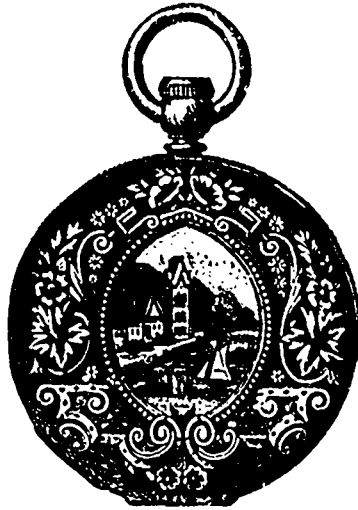
Your petitioners have learned that it is proposed to amend the tariff and to advance the duty on precious stones from ten per cent. ad valorem to twenty-five per cent. ad valorem. We beg to represent to you that such an advance in the customs duty would be a fatal blow dealt to a large and growing business in this country, wherein are employed large amounts of capital and many people. Our objections to the proposed increase of duties may be briefly stated as follows:

1st. Owing to the valuable character of precious stones, their small bulk, and the readiness with which they can be concealed, they offer a great temptation to smugglers. To increase the rewards to be obtained from an illicit traffic, is to increase the volume of that traffic.

2d. Under the present tariff frequent cases of smuggling are reported; but under an increased tariff smuggling would be the rule to such an extent that honest importers could not compete in the markets of the country against goods so smuggled with goods upon which the tariff had been paid. As a consequence, reputable merchants would be driven out of the business of importing precious stones, and unscrupulous and law-defying men would obtain control of the traffic.

3rd. Under the ten per cent. duty, a greater portion of the taxes due the Government on importations of precious stones is collected with little trouble or expense, because the business is mainly in the hands of reputable merchants. Under an advanced tariff the Government would be subjected to greater expense in watching smugglers, and would obtain less revenue than it does now. Rogues would be substituted for honorable merchants in the business of bringing precious stones to this country.

4th. The facilities for intercommunication between the United States and Europe are now so great that many tourists pass to and from every year.



WITHOUT A RIVAL.

THE JAS. BOSS'
Perfected Gold Watch Case

SOLID GOLD BOW.

NEW AND EXCEEDINGLY FINE FULL ENGRAVINGS.

The great success of this NEW case is to be attributed to the fact that to it is applied the same TALENT that is to all the products of the Keystone Factory, and so it is the common saying

“IT BEATS THE WORLD.”

With a high tariff on precious stones, necessitating high prices in this country, and the facilities with which they can be concealed, many tourists would buy goods of this class in Europe, trusting to their adroitness to evade the customs officers on this side of the ocean. In consequence, the traffic in precious stones would be transferred from this country to Europe, and the men and capital now employed here in importing them and preparing them for the market would be left idle.

5th. The jewelry trade in general suffers greatly from the illicit traffic in jewelry carried on along the Canadian border. Should the duty on precious stones be advanced as proposed, this evil would be greatly aggravated, involving the Government in much expense to increase and maintain its customs service on the northern border of the United States.

6th. Under the present duty the temptation for smuggling is not sufficient to defeat the honest purposes of reputable importers and merchants, but we firmly believe that any increase above ten per cent. *ad valorem* would have a tendency to promote smuggling, and to destroy an industry from which the Government now derives a considerable revenue.

THE RAILWAY COMMISSION.

From present appearances it seems doubtful whether in the near future the railways won't control this country, instead of the country controlling its railways. The indications now point with certainty to the fact that ere long the traffic of Canada will be at the mercy of two railway corporations, viz., the "Grand Trunk" and "Canada Pacific," and it depends entirely upon the jealousy of these competitors whether the public are to be fairly served or not. Corporations are said to be soulless, and these are not exceptions to the rule, as any one may judge from the past record, either of the Grand Trunk or the Canada Pacific. They have each bled the public in two ways—one by getting all they could in subsidies, and then by discriminating against them in freight and passenger rates, in favor of United States through freight and passengers, who never contributed one cent to their construction or maintenance.

We have often before pointed out the fact that these railroads are like huge vampires, slowly sucking the life-blood of this country's commerce. They charge to the extreme limit the law allows, and in many cases go beyond it, and the sufferers from their legalized tyranny have no chance of redress. It is absurd that

in this age of perfected railway travel with the cost of construction and maintenance reduced to almost one-half of its former price, that freight and passenger rates should still be kept up to the old-time figures. These railways still charge three cents per mile for carrying passengers, while better companies can carry them at two cents per mile and make it pay. Even this rate is sometimes exceeded where they have the chance to do it. That these rates are exorbitant is proved not only by the fact that other roads, such as the New York Central, can regularly carry passengers at one-third less and make it pay; but that these very roads themselves can and do at times carry passengers for less than one cent per mile and make money out of it.

We also fail to see why if any reduction in rates is to be made, they should not be given to the Canadian taxpayer who helped to build the road, equally with the American citizen across the lines, who simply pays for the services they render him.

There cannot be a shadow of a doubt in any impartial mind that the citizens of Canada are not at present, nor have they in the past, received fair treatment from the railway powers that be. We hail, therefore, with more than ordinary satisfaction, Mr. Dalton McCarthy's bill, at present before the House of Commons, proposing to appoint a Railway Commission composed of three persons, who shall in themselves form a Court of Appeal in all matters of railway abuse, and have the power of enforcing any decision they may arrive at, concerning any complaints brought to their notice. Great Britain has such a commission, which has been found to work well, owing probably to the fact that they have appointed capable and independent men to carry it out. We trust if this bill, now before the House, becomes law, that we shall also secure competent men for the position; if not, and some political trickster is appointed, we may find ourselves in a worse position than we at present occupy. Mr. McCarthy in his speech upon it, referring to the *personelle* of the commission, said, one should be an experienced railway man, another a lawyer, and the third a man of common sense. We trust that they may all have the latter qualification in a large degree, and what is equally important, have independence enough to refuse to truckle to wealthy corporations, because they are able to accord them privileges that cannot be given by the public.

Selected Matter.

COMMERCIAL LEGISLATION.

The opening of the Parliamentary session, *minus* the prospect of exceptional special measures in the Ministerial programme, affords ground for hoping that our legislators may be enabled to pass enactments which have long been anxiously expected by the commercial and trading classes of the country. Some of these measures have been before the public for an unconscionably long time, but have not, as yet, had a fair chance of reaching the stage of fruition, for reasons which need not be specially mentioned here. The Queen's Speech, read on Thursday, promises us several Bills, which affect mercantile matters, amongst them being those "for the amendment and consolidation of the laws relating to bankruptcy and patents," for the reform of local and Metropolitan government, for the conservancy of rivers and the prevention of floods. Of these, the most important is unquestionably the Bankruptcy Bill, piloted by Mr. Chamberlain, with the outlines of which the public have already become acquainted. Certain modifications and changes, however, have been introduced since the matter was last before the House of Commons. Assuming that these alterations are in the direction commonly reported, the Bill will, doubtless, command approval, and will, we hope, become law at no distant date. It is understood that a public examination of all bankrupts will be provided for; that an official receiver will be attached to each court to report upon every failure, who will also wind up such estates as the creditors may desire, particularly in suspensions for small amounts; that the discharge of the bankrupt will not be the formality or matter of "arrangement" it now is, but will depend upon the nature of the official receiver's report; that the creditors may themselves deal with the estate if they think fit; that trustees shall not retain the large sums often in their possession, but shall bank them separately and at once; that the accounts of trustees shall be regularly audited, and that their remuneration shall be on a fixed scale; and that all costs shall be duly taxed before the bills are paid. The appointment of trustees will necessarily be a point requiring careful

John Segsworth & Co.,

WHOLESALE AGENTS FOR

AMERICAN WALTHAM WATCHES,

AND IMPORTERS OF

English and American Jewellery.

This being the commencement of a new business year with us, we beg to thank our many customers for their kind and liberal support during the past, and to assure them that we will endeavour by constantly studying their interests to merit a continuance of the favors so generously bestowed upon us.

Our stock for the coming season will be found well assorted with all Staple Goods, and also with the novelties as they are brought into the market.

As usual our prices will be low and terms liberal.

23 SCOTT STREET, TORONTO.

consideration, unless, as we understand, Mr. Chamberlain has already made up his mind that only members of the Institute of Chartered Accountants shall be deemed eligible for that position. The provision is certainly to be commended, inasmuch as its operation would exclude an outside class of men who have proved the bane of the existing system, whilst the chartered accountants are necessarily respectable and responsible persons. The amendment of the Patent Law is a very desirable matter, but it is of secondary importance as compared with the Bankruptcy bill—hence we trust the latter will be pushed forward and passed without delay.—*The Ironmonger.*

WHAT ARE SUN-SPOTS ?

The great atmosphere of the sun, whose breath is flame, is yet, says Mr. Proctor, so cool compared with his intensely glowing surface that it absorbs a large proportion of his light as well as of his heat. But while the general absorptive action of the sun is wonderful, the story is still more wonderful which the spectroscope has to tell about the specific absorptive effects due to its constitution. We find that whereas in our air the vapour of water is present (to condense into water drops and form clouds at certain levels, and to change to ice crystals and form cirrus at high levels), in the sun the atmosphere is laden with the vapours of iron, copper, zinc, sodium, magnesium, and like elements to form clouds of metallic drops, great gatherings of metallic crystals, while the rains that pour down toward the concealed true globe of the sun are mighty showers of molten metal. When a hurricane occurs in the sun, the clouds which form the sun's surface are swept along, or whirled around, not at the rate at which we measure our storms, but with a velocity compared with which their swiftest motion is as rest. The solar tornadoes rage, not over a few hundred square miles, but over regions as large as the whole surface of the earth, over hundreds, even thousands of millions of square miles; and they travel over these enormous regions at a rate not of so many miles per hour or per minute, but of many miles, sometimes more than a hundred miles, in every second of time.

Such storms are in progress now, when we see the spots upon the sun. Such storms tell us of the activity of that

great central engine whose throbs are the life-beats of the solar system. We measure the sun's work, per force, by our own forms of work. We speak of his omission of light and heat as corresponding to what would result from the burning of eleven thousand millions of millions of tons of the finest coal in every second of time. But what mind can conceive the real vitality of that mighty orb which seems so silent and so still in our skies? The throbbing of the great engine which beats out light and life to the whole family of planets can only be seen by the mind's eye, and as yet that eye is no more capable of seeing the sun's work as it really is than is the bodily eye of seeing the distant millions of suns which the great gauging telescopes of the Herschels bring within our ken. Nor can the mental ear hearken to the uproar and tumult with which the work of the great central engine is accomplished, or imagine what would be heard if one could visit that spot which looks like a tiny speck on the sun's surface, and, passing below the limits of the solar air so that sound waves could reach him, could find (as assuredly he would if he could live at a temperature which turns the hardest metal into vapour all forms of noise known to us—the roar of the typhoon, the crash of thunder, even the hideous groaning of the earthquake—surpassed a millionfold by what takes place within every square mile of that disturbed region.—*F.r.*

MINISTERS IN BED.

A Spanish Minister signalized his ascension to power by going straightway to bed and staying there, lest he should be expected to do something. No English Minister ever adopted that ignoble expedient to escape performing his duties, but Walpole relates that William Pitt and the Duke of Newcastle once held counsel together in bed. Pitt had the gout, and, as was his custom when so afflicted, lay under a pile of bed-clothes in a fireless room. The Duke, who was terribly afraid of catching cold, first sat down upon another bed, as the warmest place available, drew his legs into it, as he grew colder, and at length fairly lodged himself under the bed-clothes. Somebody coming in suddenly beheld the "two Ministers in bed at the two ends of the room, while Pitt's long nose and black beard, unshaved for some time, added to the grotesque nature of the scene." The

Great Commoner was abed and asleep when Wyndham and others of his colleagues burst into his room and shook their chief out of his slumbers to tell him there was mutiny in the fleet, that the Admiral was a prisoner on board his own ship and in danger of death. Sitting up in bed, Pitt asked for pen, ink, and paper, and wrote:—"If the Admiral is not released, fire upon the ship from the batteries," turned over on his pillow, and was asleep again before his disturbers were well out of the room. The shadow of death was upon Fox when George Jackson came for instructions before setting out for Germany, and followed so quickly on the heels of the servant announcing him that Mrs. Fox had only time to slip from her husband's side and take refuge in a closet. The interview proved longer than she expected or desired, and finding her signals of distress, in the shape of sundry little coughs all unheeded, the prisoned lady had no resource but to tap on the closet panels and ask if the young gentleman was going, as she was perishing with cold. Looking at him with a smile, Fox bade Jackson farewell forever, and released his shivering wife from her unpleasant situation.—*Chambers' Journal.*

JOHN HARRISON, THE CHRONOMETER MAKER.

At the Royal Observatory, Greenwich, one of the most remarkable instruments is to be seen—the first chronometer, the parent of a numerous progeny of chronometers, used on board of every sea-going ship, to the advantage of navigation, of commerce, as well as of science. As far back as the reign of Queen Anne, in the year 1714, the English Government offered the large prize of £20,000 to the person who should find the method of discovering the longitude at sea, within certain specified limits. The reward was offered to the world, to inventors and scientific men of all countries, without any restriction of nation, or race, or language. To the surprise of every one—it was thought remarkable, and it *was* remarkable—the prize was won by a man who had been brought up as a village carpenter, of no school, or college, or university. But the truth is that the great mechanic, like the poet, is born, not made; and John Harrison, the winner of the famous prize, was a born



New York, February, 1883.

The new Price List for complete $\frac{3}{4}$ plate, 8, 14 and 16 size gold watches, issued under date of February 1st, by the American Watch Co., of Waltham, is now ready for distribution. We will forward a copy upon application, accompanied by business card, from any regular dealer in watches.

Jobbers who wish copies sent to their customers will please notify us by sending the names and addresses of the same, but such customers must be regular watch dealers.

We shall take special precaution in the distribution of this list in order to keep it out of the hands of the general public, and we beg to request that the Trade will co-operate with us in this undertaking, it being entirely in their interests.

We also beg to call particular attention to the fact that the cases quoted on this list are entirely of our own manufacture, and that we are directly responsible for the quality of the same. By 18k. or 14k. or 10k. we mean 18k. or 14k. or 10k., and not 16 $\frac{1}{2}$ k. or 12k. or 8k. We offer you honest value for your money.

ROBBINS & APPLETON,

General Agents, 5 Bond Street, NEW YORK.



mechanic. He did not, however, accomplish his object without the exercise of the greatest skill, patience and perseverance. Indeed, his life, so far as we can ascertain the facts of it, is one of the finest examples of difficulties overcome, and of undaunted perseverance eventually crowned by success, in the whole range of biography.

No complete narrative of Harrison's career was ever written. Only a short notice of him appears in the "Biographical Britannica," published in 1706, during his lifetime—the facts of which were obtained from himself. A few notices of him appear in the "Annual Register," also published during his lifetime. But no life of him has since appeared. Had he won battles by land or sea, we should have had biographies of him without end. But he pursued a more peaceful and industrious course. His discovery conferred an incalculable advantage on navigation, and enabled innumerable lives to be saved at sea; it also added to the domains of science by its more and exact measurement of time. But his memory has been allowed to pass silently away, without any record being left for the benefit and advantage of those who have succeeded him. The following memoir includes nearly all that is known of the life and labours of John Harrison.

He was born in Foulby, in the parish of Wragby, near Ponsrtract, Yorkshire, in May, 1693. His father, Henry Harrison, was carpenter and joiner to Sir Rowland Wynn, owner of the Nostel Priory estate. The present house was built by the baronet on the site of the ancient priory. Henry Harrison was a sort of retainer of the family, and he long continued in their service.

Little is known of the boy's education. It was certainly of a very inferior description. Like George Stephenson, Harrison had always a great difficulty in making himself understood, either by speech or writing. Indeed, every board-school boy receives a better education now than John Harrison did a hundred and eighty years ago. But education does not altogether come by reading and writing. The boy was possessed of vigorous natural abilities. He was especially attracted by every machine that moved upon wheels. The boy was thus "father to the man." When six years old, and lying sick of small-pox, a

going watch was placed upon his pillow, which afforded him infinite delight.

When seven years old he was taken by his father to Barrow, near Barton-on-Humber, where Sir Rowland Wynn had another residence and estate. Henry Harrison was still acting as the baronet's carpenter and joiner. In course of time young Harrison joined his father in the workshop, and proved of great use to him. His opportunities for acquiring knowledge were still very few, but he applied his powers of observation and his workmanship to the things that were nearest him. He worked in wood, and to wood he first devoted his attention.

He was still fond of machines going upon wheels. He had enjoyed the sight of the big watch going upon brass wheels when he was a boy; but, now that he was a workman in wood, he proposed to make a time-keeper with wheels of that material. After many difficulties—and nothing can be accomplished without them—he succeeded in making a wooden clock, with wheels of wood. This, however, was only a beginning. He proceeded to make better clocks; and then he found it necessary to introduce metal, as being more lasting. He made pivots of brass, which moved more conveniently in sockets of wood, with the use of oil. He also caused the teeth of his wheels to run against cylindrical rollers of wood, fixed by brass pins, at a proper distance from the axis of the pinions; and thus to a considerable extent he removed the inconvenience of friction.

In the meantime Harrison eagerly improved every incident from which he might derive further information. There was a clergyman who came every Sunday to the village to officiate in the neighborhood; and having heard of the sedulous application of the young carpenter, he lent a manuscript copy of Professor Saunderson's discoveries. The blind professor had prepared several lectures on natural philosophy for the use of his students, but they were never intended for publication. Young Harrison now proceeded to copy them out, together with the diagrams. Sometimes, indeed, he spent the greater part of the night in writing or drawing.

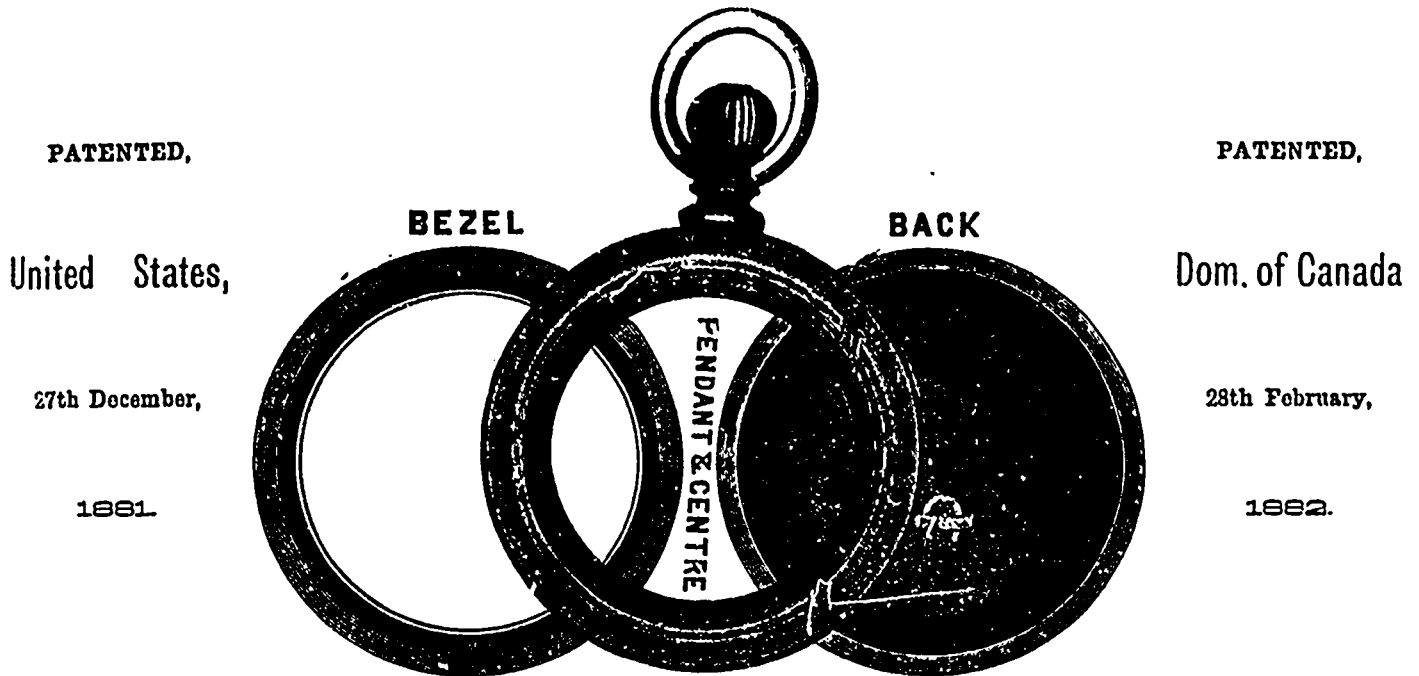
As part of his business, he undertook to survey land, and to repair clocks and watches, besides carrying on his trade of a carpenter. He soon obtained a considerable knowledge of what had been done in clocks and watches, and

was able to do not only what the best professional workers had done, but to strike out entirely new light in the clock and watchmaking business. He found out a method of diminishing friction by adding a joint to the pallets of the pendulum, whereby they were made to work in the nature of rollers of a large radius, without any sliding, as usual, upon the teeth of the wheel. He constructed a clock upon the recoiling principle, which went perfectly and never lost a minute in fourteen years. Sir Edmund B. Denison says that he invented this method in order to save himself the trouble of going so frequently to oil the escapement of a turret clock, of which he had charge; though there were other influences at work besides this.

But his most important invention, at this early period of his life, was his compensation pendulum. Everyone knows that metals expand by heat and contract by cold. The pendulum of the clock therefore expanded in summer and contracted in winter, thereby interfering with the regular going of the clock. Huyghens had by his cylindrical checks removed the great irregularity arising from the unequal lengths of the oscillations; but the pendulum was affected by the tossing of a ship at sea, and was also subject to a variation in weight, depending on the parallel of latitude. Graham, the well-known clockmaker, invented the mercurial compensation pendulum, consisting of a glass or iron jar filled with quicksilver and fixed to the end of the pendulum rod. When the rod was lengthened by heat, the quicksilver and the jar which contained it were simultaneously expanded and elevated, and the centre of oscillation was thus continued at the same distance from the point of suspension.

But the difficulty, to a certain extent, remained unconquered until Harrison took the matter in hand. He observed that all rods of metal do not alter their lengths equally by heat, or, on the contrary, become shorter by cold, but some more sensibly than others. After innumerable experiments, Harrison at length composed a frame somewhat resembling a gridiron, in which the alternate bars were of steel and of brass, and so arranged that those which expanded the most were counteracted by those which expanded the least. By this means the pendulum contained the

The "Excelsior" Patent Dust Proof Case.



This is the first and only case made without one grain of solder. Every piece is cut from the solid metal and pressed into the shape used in the case. This process hardens the gold and silver by the only method known (that is to work it), and is handed to the Trade as hard as is possible to make it, being a great advantage over a case made in the ordinary way, in saving gold and silver by making a case as strong as a much heavier one that has been softened as heat does in soldering on pendant, joints, thumb catches, or joint to swing movement in. Heat not only softens the gold or silver, but warps it out of the shape that the snaps have been fitted to, and it is never perfect after soldering. The Excelsior Patent Dust Proof is never soldered, never heated, is fitted perfectly, and remains perfect. The Excelsior Dust Proof has no joints to wear out or break off. The Excelsior Patent Dust Proof has no spring to break or wear the case. There is no part of the Excelsior Patent Dust Proof that will wear. The Excelsior Patent Dust Proof is the safest case made for protecting the movement—it will never open in the pocket. Put an Excelsior Dust Proof in your pocket, bend forward, backward, put yourself in any position you please and the Excelsior is closed tight. In an ordinary case, with springs, by bending forward the case will often open and when the lock-spring is worn, the case is nearly always open.

The Excelsior Patent Dust Proof Case is the strongest, best fitting and most durable case made. Ask your Jobber for the Excelsior Patent Dust Proof. Every case warranted as stamped, 18 kt., 14 kt., 12 kt., 10 kt., United States Mint Assay or Coin Silver, as may be stamped, and every genuine case bears the Trade Mark. The Excelsior Patent Dust Proof Case may be obtained from any of the jobbing houses in the country.

TRADE MARK.



Instructions to Open the Excelsior Patent Dust Proof Case.

First press the crown as in opening an ordinary Hunting Cased Watch, then to open front, turn bow to the right with thumb and finger; to open the back, turn left. To close, turn case back in same position as when case was closed, and snap same as glass bezel on any watch.

power of equalizing its own action, and the centre of oscillation continued at the same absolute distance from the point of suspension through all the variations of heat and cold during the year.

Thus by the year 1726, when he was only twenty-three years old, Harrison had furnished himself with two compensation clocks, in which all the irregularities to which these machines were subject, were either removed or so happily balanced, one metal against the other, that the two clocks kept time together in different parts of his house, without the variation of more than a single second in a month. One of them, indeed, which he kept by him for his own use, and constantly compared with a fixed star, did not vary so much as one minute during the ten years that he continued in the country after finishing the machine.

Living, as he did, not far from the sea, Harrison next endeavored to arrange his timekeeper for the purposes of navigation. He tried his clock in a vessel belonging to Barton-on-Humber; but his compensation pendulum could there be of comparatively little use; for it was liable to be tossed hither or thither by the sudden motions of the ship. He found it necessary, therefore, to mount a chronometer or portable timekeeper, which might be taken from place to place, and subjected to the violent and irregular motion of a ship at sea, without affecting its rate of going. It was evident to him that the first mover must be changed from a weight and pendulum to a spring wound up and a compensating balance.

He now applied his genius in this direction. After pondering over the subject in his mind, he proceeded to London in 1728, and exhibited his drawings to Dr. Halley, then Astronomer Royal. The Doctor referred him to Mr. George Graham, the distinguished horologist, inventor of the dead-beat escapement. After examining the drawings, and holding some converse with Harrison, Graham perceived him to be a man of uncommon merit and gave every encouragement. He recommended him, however, to make his machine before again applying to the Board of Longitude. He accordingly returned home again to Barrow to complete his task, and many years elapsed before he again appeared in London, to present his chronometer.

The remarkable success which Harrison had achieved in his compensating pendulum could not but urge him on to further experiments. He was no doubt to a certain extent influenced by the reward of £20,000 which the English Government had offered years before for an instrument that should enable the longitude to be more accurately determined by navigators at sea than was then possible; and it was with the object of obtaining pecuniary assistance to assist him in completing his chronometer that Harrison made his first visit to London to exhibit his drawings in 1728.

The Act of Parliament offering this superb reward was passed in 1714, in the twelfth year of the reign of Queen Anne. It was right that England, then rapidly advancing to the first position as a commercial nation, should make every effort to make navigation less hazardous. At that time the ship, when fairly at sea, out of sight of land, and battling with the winds and tides, was in a measure lost. No method existed for accurately ascertaining the longitude. The ship might be out of its course for one or two hundred miles, for anything that the navigator knew; and only the wreck of his ship on some unknown coast told of the mistake which he had made in his reckoning.

(To be continued.)

BUSINESS CHANGES FOR MARCH.

Jackson & McFarlane, hardware, Nelson, Man., assigned; F. E. Hatch, hardware, Exeter, Ont., removed to Waterford and bought out E. H. Jeeves; Doherty & Silvester, hardware, Stouffville, Ont., dissolved, Silvester retiring, Doherty continues alone; H. Davis & Son, jewelers, London, Ont., have sold out the St. Thomas branch of their business; J. W. French, jeweler, Hamilton, assigned; Bullock Manufacturing Co'y, hardware, Otterville, Ont., burned out; J. D. Wetherall, tins, Otterville, burned out; G. H. White & Co., hardware, Orillia, dissolved, E. A. Gilpin retires and G. H. White continues alone; McGregor Bros., hardware, dissolved, W. S. McGregor continues alone; Baird & Luxton, hardware, Ridgetown, dissolved, C. Luxton continues alone.

BUSINESS NOTES.

Mr. S. T. Culp is back again from Europe looking fresher and brighter than ever.

Mr. Henry Smith and wife, of this city, sailed for England last month. We wish them *bon voyage*.

Mr. Frank Laidlaw, formerly traveller for Smith & Fudger, is now performing a like engagement with C. & J. Allen of this city.

The latest thing they say in gentleman's jewelry is the "Freddy Gebhart" scarf pin. It is in the form of a golden donkey with brass cheeks. Next.

We regret to learn that Mr. L. Davis, the well-known jeweler of Montreal, lately lost his wife after a short illness. Mr. Davis has the sympathy of the trade in his sad bereavement.

It is not generally known that Canada's champion skater, Mr. Robinson, is a jeweler doing business on Yonge Street, of this city. Such is the fact, however, and we are glad to be able to say that Mr. Robinson is not only Canada's champion skater, but one of the best and most skillful workmen in this city. We wish him success.

Messrs. J & J Taylor, the well-known safe manufacturers of Toronto, are hard at work rebuilding their factory. It will be the largest and most complete of its kind in Canada, and double its former capacity. People wanting safes should send in their orders as soon as possible.

We are in receipt of a letter from Mr. D. Manson, dated from the "Eternal City," in which he describes his tour through England, Ireland, Scotland, France, Germany, Austria, Belgium and Italy. He purposes visiting Egypt, Palestine and India before going to Australia.

REMOVAL.—We are glad to notice that Messrs. T. White & Son, lapidaries, of this city, have, on account of their growing trade, been forced to remove to larger and more commodious premises. The trade seem to appreciate the advantage of having a firm of practical lapidaries in this country, and we trust that their business will be better than ever in the new quarters.

MALICIOUS REPORT.—We understand that reports are being circulated to the effect that the firm of A. C. Anderson & Co., of Hamilton, have been mixed up in some way with the recent Customs seizures made in that city. We are pleased to say, we have the best authority for stating that they were in no way implicated in them, and the reports are entirely false. We understand that Messrs. Anderson & Co. have entered proceedings against the parties by whom the reports were circulated.

HAGSTOZ & THORPE are out with a very good advertising puzzle in the shape of a keystone and letter C made up of over eighty small letters. After considerable puzzling we managed to "solute" it. It runs as follows:

"A case to last
Should be of proper make,
Who wants the best one,
Should the Keystone take."

As the boys say, give us a hard one next time.

In spite of the abundant sleighing, the winter trade of our jewelers has scarcely been up to the mark it was expected to reach. In fine colored gold goods has this especially been the case. It is to be hoped however, that the spring trade will more than make up for the deficiency of the winter trade, and that our friends throughout may be able to "level up," if not more so before the year closes. The prospects ahead are good.

SAYS as an exchange, "Ever since the

SIMPSON, HALL, MILLER & CO.,

WALLINGFORD, CONN.

—MANUFACTURERS OF—

Artistic and Useful Hollow Ware,

ELECTRO PLATED UPON FINE HARD WHITE METAL.

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 Nicke

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 1873.)

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.

Sidney and Melbourne Exhibitions, the American Watch Company has been doing ago's trade with the Australian Colonies, and it has now attained such large proportions as to necessitate the opening of a branch establishment at Melbourne. The Melbourne branch will no doubt be carried on with the same energy and spirit which so rapidly developed the business in this country: in fact, as far as we are concerned, we feel quite sure of it, as the manager selected for the new establishment is Mr. D. Manson, who so ably represented the Company at the Australian Exhibitions.

In the case of Zimmerman, McNaught & Lowe v The Canada Sterling Co. (Mrs. A. J. Parker,) Judge Burnham gave a verdict in favor of the plaintiffs for \$136 and costs. This case arose out of a balance of account due the plaintiffs from the defendant on account of defective goods of their manufacture being returned to them. This balance the defendant admitted, and promised to settle for at the time it was made, but was afterwards repudiated, hence the action.

Mr. John W. Campbell formerly bookkeeper for Zimmerman, McNaught & Lowe, the well known wholesale jewelers of this city, has gone on the road for that firm, and will take the towns situated on the Northern Wellington Grey & Bruce and Grand Trunk (west) Railroads. The trade will find Mr. Campbell an honest, courteous and obliging salesman, and we predict for him a good business and a successful career in his new sphere.

Messrs. W. A. Fowler & Co., of Winnipeg jewelers have lately assigned under very questionable circumstances. We understand that some of their Ontario creditors intend pushing the case as far as the law will allow, and that some interesting developments may be expected. We refrain from saying any more about this case until the result of present investigations are known, and if the facts are such as we suspect we shall have no hesitation in ventilating the matter thoroughly.

Says an exchange, "A deputation lately waited on the Hon. L. S. Tilley, Minister of Finance, to ask that the Excise duty on tobacco be reduced from 20 cents to 10 cents per pound in order to prevent smuggling." We don't know what answer this deputation got, but if there is any force in the above contention as regards a bulky article like tobacco, it applies with a hundred times more force to small and valuable goods like jewelry. A man can just as easily smuggle \$1,000 worth of jewelry, on which the government lose \$200 of duty, as he could one pound of tobacco, the value of which is no more than \$1, and the loss of revenue to the government at most 25 cents. This fact is patent to every one but Government officials, who still wonder at the crime of smuggling.

We are often asked by readers about the quality of the Swiss imitation American movements with which the country is being flooded. Our observation leads us to conclude that they are a very poor substitute for the goods they imitate, or even for the ordinary Swiss detached lever now so well-known to the trade. A good

detached lever is a good watch, and will give the buyer satisfaction, and be value for his money, but the abortion of a movement that is at present being sent into this country by Swiss manufacturers under American names are a humbug of the most transparent kind. These movements, especially of the cheaper grades, are roughly finished, in many cases what jewels there are are only on the top plate, and only temporarily fastened in, and although some of these may go for weeks they will very soon cost the owner more to keep them going than would buy a good Swiss lever or a real American watch. They may do well enough for a peddling trade, but we would not recommend any local jeweler who values either his reputation or ultimate peace of mind to sell them without giving the purchaser a written guarantee that they are an imitation article, and warranted to cost him more than their original cost every year for repairs. Having thus delivered ourselves, our readers may do as they like about selling them.

It is absolutely necessary for the safety of his stock that every jeweler should have a first-class safe placed in a part of his store where it can be always seen from the street, and that at night a strong light be left burning close to it. The want of such precautions has often ended in jewelers getting their stock thoroughly cleaned out some night by "the enterprising burglar," and then after his property is all gone setting to work to secure their treasures in thoroughly burglar-proof safes. In reference to this state of things an exchange says: "Burglar-proof safes are becoming more and more serviceable as adjuncts of office ornamentation. They are not an unqualified success, however, for any other purpose, noticeably the purpose for which they are supposed to be constructed. J. C. Ratoll, of Springfield, is in a position to witness to the above. His safe was lately relieved of 400 gold watches. Owners of safes would do well to copy the example of some merchants who invariably make it a practice to leave nothing in the safe and its doors wide open, or of others who carefully write out the combination and hang it in a conspicuous place with the request to burglars, 'Please use the combination.' In this way they would save their valuables and their safe." We differ with our contemporary, because we fancy that if Mr. Ratoll had owned one of J. & J. Taylor's burglar-proof safes he might have gone to bed and snapped his fingers at their efforts to rob him. We know of Canadian jewelers who don't own a safe at all, and we think the sooner they invest in one the better for themselves.

THE AUSTRALIANS are thinking over the pros and cons of confederation. The proximate cause of the movement in that direction was the Egyptian war. The war, and other wars perhaps to arise out of it, may not be prolonged so as to overtax the powers of England, but then again they may; and a chivalrous spirit has infused itself into the Australians—a willingness to assume the expense of her own naval defences in case England may find it a burden—and to this end, a confederation. The manifest advantages of Confederation, however, have always been seen by the Australians, and Union is sure in the end to come. The agitation has

commenced in Victoria. Mr. Munro, of North Melbourne, has moved in the Assembly for a conference of the representatives of the different Governments of all the Australian Colonies to discuss the propriety of securing a federal union of the colonies. Taking Canada as his example, he pointed out all the advantages that have accrued to us from Confederation, and predicted the same for the Australian Colonies. It was objected that the movement was premature, that Victoria would be left in a minority on the tariff question. Many others spoke, most of them favouring the original motion, and the debate was then adjourned, but only for a week. Now that the people have become fully permeated with the spirit of Confederation, the difficulties that look large will probably be smoothed away, and the *non-possumus* argument disposed of.

WORKSHOP NOTES.

Another mixture for wax patterns, is composed of 2 parts of yellow wax and 1 of resin.

A mastic for filling small holes in wooden patterns is composed of 50 parts resin, 40 whitening, 7 tallow, and 3 yellow wax.

Water is not the only substance which expands in solidifying. tin, zinc, bismuth, antimony, iron and copper exhibit the same property. With lead and cadmium the results are indecisive.

If very undercut plaster patterns are covered with very strongly rammed sand in metallic cases, they may be easily destroyed by calcining the whole to the point when the plaster will fall into powder.

A good rivet, cold, should bend double without breaking. The head should flatten out, when hammered hot, to $\frac{1}{2}$ inch thick, without fraying at the edge or breaking. Boiler plates should be calked with a convex tool.

A German paper says that a roof can be made fire-proof by covering it with a mixture of lime, salt and wood ashes, adding a little lamp-black to give a dark color. This not only guards against fire, it is claimed, but also in a measure prevents decay.

A new method of tempering steel has been published by M. Clemandot. The metals are heated to a cherry red and then compressed strongly until they are cool. The result is great hardness and an exceedingly fine grain. Steel thus treated makes excellent permanent magnets.

Soldering cast iron, says the *Engineer*, is generally considered to be very difficult, but it seems to be only a question of thoroughly making bright the surface to be soldered, and using good solder and a clean swab with muriatic acid. Sodium amalgam might be usefully employed for the purpose.

To RECUR FILES AND RASPS.—To recut by a chemical process dissolve 4 ounces salutaris to one quart of water, sufficient to cover the files, and boil them in it for half an hour; then take out, wash and dry them; then stand them in a jar, fill it up with rain water and sulphuric acid in the proportion of 1 quart water and 4 ounces acid.

To keep machinery from rusting take one-half ounce of camphor, dissolve in one pound of

Highest Honors Awarded at the Toronto Exhibition, 1882,
TWO SILVER MEDALS AND A GOLD MEDAL!



Meriden Britannia Co.

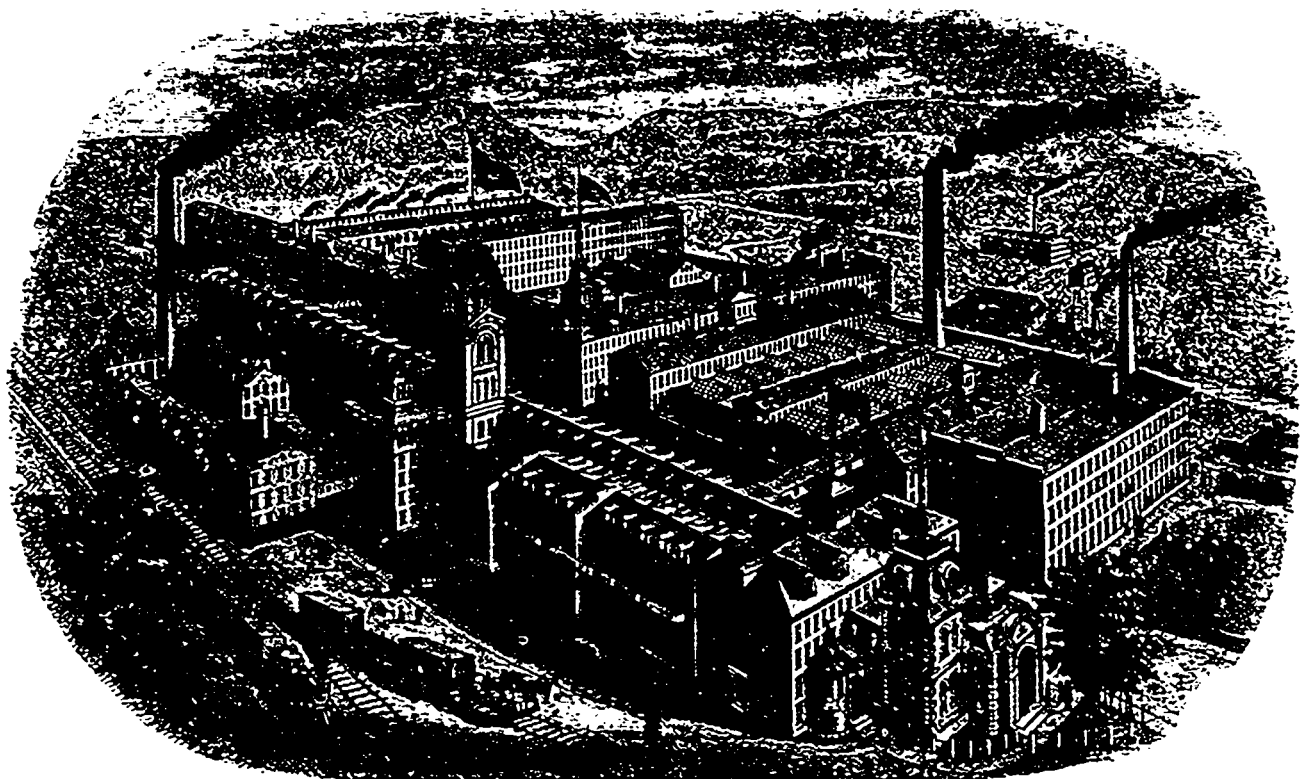
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**ELECTRO, SILVER AND GOLD
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OBSERVE

this Trade Mark is stamped on all Hollow
 Ware of our manufacture.

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**1847, Rogers Bros., A I,
 OR
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 Knives, Forks, Spoons and
 other flat ware of our manu-
 facture.

The A I Goods are Standard Heavy Plate, and XII signifies that in addition the articles have an extra quantity of Silver on all the parts most exposed to wear.

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.

WE RE-PLATE OLD WORK AND MAKE IT EQUAL TO NEW.

melted lard; take of the soum and mix it with as much fine blacklead as will give it an iron color. Clean the machinery and smear with this mixture. After twenty-four hours rub clean with a so't linen cloth. It will keep clean for months under ordinary circumstances.

Galvanized iron is iron covered with zinc in a zinc bath. Formerly it was covered by the aid of electricity, created by a galvanic battery, but lately is covered with zinc in the same manner that tinned iron is made, still keeping its old name. Zinc will corrode underneath paint, and form zinc oxide, a white powder, which loosens the zinc and it drops off.

Re heating and rolling down or forging down wrought iron bars reduces their elongation and increases their tensile strength. The skin of wrought iron is not the strongest portion. Cold rolling increases the strength of wrought iron. Tensile strength of wrought iron averages ten per cent. more with the fiber than across it. Compressing melted steel with a pressure of about six tons per square inch increases its strength.

Every boiler should be protected from the weather. It often occurs that boilers have no other protection than simply a loose board roof, which in ordinary rain storms leaks at every point. If the boilers were always under steam, the bad consequences would be comparatively light, but the great mischief occurs when the boilers are cold. Whenever rust appears on the surface of a boiler it means loss of iron and strength, and consequently is less able to withstand high pressure.

It is said that those who wish to do any painting on or about their mills, will find the following an excellent and cheap recipe, which will last much longer than any ordinary whitewash: Three hundred parts washed and sifted white sand, forty parts precipitated chalk, fifty parts of resin and four parts linseed oil are mixed and boiled in an iron kettle, and then one part of oxide of copper and one part of sulphuric acid are added. This mass is applied with an ordinary paint brush while warm. If it is too thick, it is diluted with linseed oil. This paint dries very rapidly and gets very hard, but protects the wood excellently.

SCIENCE NOTES.

On the 1st of next August an International electric exhibition will be opened at Vienna, and a fine display is anticipated.

An apparatus for recording the exact speed of a train during its entire run, including stoppages and startings, has been invented by M. Pouzet.

In the united states last year the Bessemer steel ingot product reached 1,696,450 tons, or an increase of 10 per cent. over the year immediately preceding.

The Italian Government have begun to substitute bronze for the steel guns now used for field artillery, mainly because bronze can be more easily worked.

A CONTEMPORARY advocates the use of wind engines in new countries where prospecting operations are necessary before deciding where to sink the permanent shaft.

It is said that steam and air-tight rubber

packing may be made by brushing it over with a solution of powdered resin in ten times its weight of water. The packing is ready in about four weeks.

In Great Britain the large sum of \$40,000,000.00 is invested in railways. Some of the engines weigh 45 tons, and take a load of 90 tons at a speed of from 40 to 50 miles an hour.

BONDEAUX red is a new colouring matter for wine. It appears to be a naphthaline dye. Its presence in wine can be very easily detected. Silk is turned by it to a granite red, and the addition of a little ammonia makes the doctored wine brown.

A strong infusion of sassafras root is recommended by Dr Hinton as a powerful remedy for poisoning by *Rus toxicodendron*. When it is cool cloths are wet in it and applied frequently to the patient. A day's treatment will effect a cure usually.

THE REPORT from England of the discovery of a cheap method of extracting aluminium may be the precursor of a violent change in many established trades. Aluminium is one of the metals most abundant in nature. Common clay has for its basis alumina or oxide of aluminium. Nothing but the costliness of its manufacture has prevented this metal from displacing silver for many purposes. Aluminium is not affected in any way by exposure to air. It is lighter than silver, harder, can be rolled to a wonderful degree of thinness, or drawn into the finest of wire. It combines readily with copper, iron or silver, forming alloys of great hardness and durability. As a metal of coinage purposes in the lower denominations aluminium possesses many advantages over silver, nickel, copper, bronze, or any combination. The manufacturing world will wait with interest for further particulars of this discovery. It is likely that a great field for cheap aluminium would be found among the stove-founders. The tarnishing of the nickel ornaments now used in such great quantities is a serious trouble to the housewife, who would hail with delight the introduction of some stove decorations which would want less attention.

The Watchmaker, Jeweller and Silversmith,

A Monthly Illustrated Journal. Published in London.

The Representative Organ of the Watch, Jewellery and Kindred Trades in the United Kingdom.

It is full of original information and thorough practical instruction contributed by the leading writers on the various subjects connected with the above trades. The text is well illustrated by wood-cuts, and two supplements of artistic designs for jewellery, etc. accompany each number.

This important Trade Organ, now in its seventh year of publication is in the hands of every British Watchmaker, Jeweller and Silversmith, and is therefore a most valuable medium for manufacturers requiring publicity in Great Britain.

Our list of permanent contributors includes such names as: J. U. Poole, Richard Whitaker, Henry Gannev, Montz Grassmann, J. Hermann, E. J. Watherston, W. H. Singer, an ample guarantee for the sterling value of the journal. Subscription 5s. per annum.

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Is the official Journal of the
Watchmakers and Jewellers,
of the North west,
CONTAINING 66 PAGES OF
Illustrations and Reading Matter.

Whose columns are replete with choice articles upon Horology, Watch-making and repairing, written for this Journal by practical and scientific men; also a large amount of general information of vital importance to the trade; also continued articles, or lessons in letter engraving, written by a celebrated engraver of this city. Subscription price, \$1.50 per year. Single copy, 15 cents.

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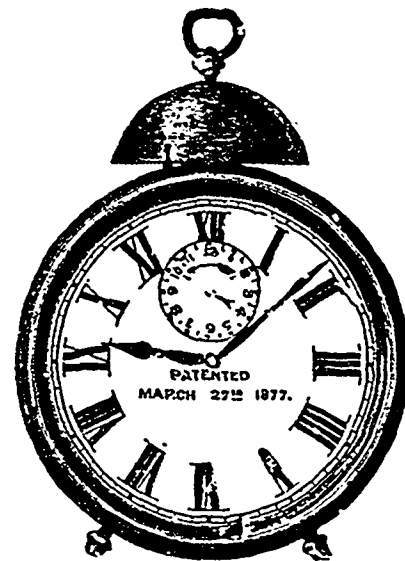
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THE LARGEST

Clock House

IN CANADA.



I hope the Trade are convinced by this time that the above clock house has got the best assortment and better value than any other house in the Dominion.

I thank my many friends for their kind patronage in the past, and solicit a continuance of the same.

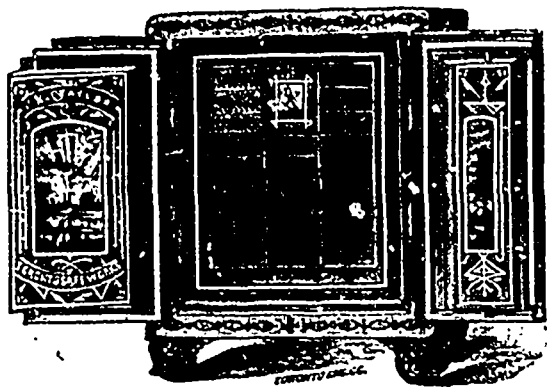
I have just returned from the eastern States and have imported a large stock of Walnut and Nickel Clocks, which I will sell at prices that defy competition. Also receiving daily Jewelry of all kinds. Roll Plate Chains a specialty. Large stock of Swiss Watches in Gold, Silver and Nickel Cases, key and stem winders. The best value in Whitby Jet Goods, such as Bracelets, Necklets, Sets Earrings, etc., which I will cut low prices to the Trade only.

Orders by mail promptly attended to.

SAMUEL STERN,

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31 Wellington, 40 Front St. E., Toronto.



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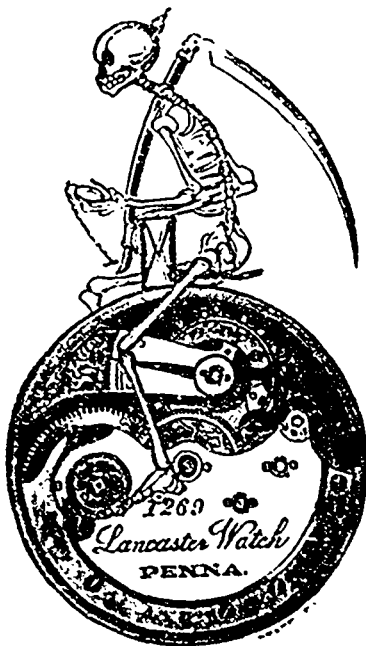
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