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## THE TRADER.

TORONTO, ONTARIO, JULY, 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.

## DOES IT PAY TO ADVERTISE ?

Does it pay to advertise? We think it does. Advertising is the soul of any properly conducted business, as it is the motive power of nearly every successful one. Without advertising in these go-ahead times, when everyone is trying to get the start of his neighbour, business would hardly pay, and as a rule the successful merchant can be easily picked out from amongst his fellows by the style and ring of his advertisements. While we are strong advocates of advertising we cannot shut our eyes to the fact that a very great deal of the stuff that passes current for advertising matter is so much bosh, and just so much money thrown away. Advertising, while good if properly done, is a farce when carried out in the ordinary stereotyped fashion, and we think we are not far astray when we say that fully one half of the money spent in this way might as well be thrown in the lake for any good result that springs from it. We hold that every merchant ought to advertise his business thoroughly, but to make this outlay a good investment he should see that it is judiciously expended upon something that will afford him return for his money. In order to help our readers who may have come to look upon advertising as a humbug, because it has not paid them, we offer the following suggestions upon the subject, which

may help them somewhat in the future.

1st. *Advertising, to pay at all, requires to be truthful.* First, be sure you have the goods the public want, then fire away and let them know it as soon as possible. Many people spoil good advertisements by promising too much to the public, and thus by creating the impression that they are really giving the goods away, they make them dissatisfied with anything short of such a liberal performance. A merchant, although shewing the best side of his wares, should never under any circumstances allow his imagination to run away with him while wording his advertisements. A lying advertisement is just as bad as a lying salesman, and every merchant knows that when a salesman is once caught in a falsehood his usefulness is gone. "Honesty is the best policy," and in nothing is this more true than in advertising.

2nd. *Don't advertise anything you are not prepared to carry out.* Many merchants make the mistake of advertising bargains and goods they cannot supply except in very limited quantities, the result is that before the public have fairly begun to appreciate the force of the advertisement they are out of these goods and bargains, and not only is the public dissatisfied, but the money thus spent is thrown away. Be sure you have the goods to back up your advertisements. Nothing is more annoying to a customer in search of an advertised bargain or special line of goods than to get the information, "just sold out, but we can give you something else equally good value, that would probably suit you as well." To most people this furnishes the idea that the thing advertised was merely a blind to draw customers there, in order to buy other and more profitable goods. This "just out" style of business reminds us very much of a conversation we overheard at our hotel dinner table lately, between two members of a theatrical troupe. Said one to the other, "the worst hotel I ever struck was the one we stayed at in Montreal (naming a well known hotel in that city, the fact is it is at the top of the profession in the 'just out' business. Everything a fellow asked for at the table was 'just out,' and this got to be so monotonous that I thought I would find out if the run was so gigantic as the waiter represented it to be. Next morning the moment the dining room door was opened I walked in, and was luckily not only the first but the only person in the room.

After inspecting the 'programme' I ordered a mutton chop and an omelette. 'Just out,' says the waiter. 'Just out,' says I, 'when? yesterday?' 'Yes,' says he with a grin, 'we haven't had any for three or four days' Well, to make a long story short, although they had a most elaborate 'programme,' the only thing they really had was 'ham and eggs' and 'beefsteak,' and on these I had to make my breakfast. This I call a swindle, and the next time you catch our troupe staying at that hotel again you will know it." We think the "just out" principle does not work any better in the mercantile than in the hotel business, and therefore say, be sure and have the goods and bargains to back up your advertisements.

3rd. *If advertising is worth doing at all, it is worth doing well.* A great many merchants think that if they advertise at all, it makes little or no difference how it is done. This is a great mistake, as anyone knows, who has ever thought over the matter intelligently, and had any practical experience in it. There were several important considerations that should always be borne in mind by the advertiser.

(a). His matter should be original and attractive. He should, while shunning the sensational, try to make his advertisements as taking to the reader as possible. The more attractive he can make them the more they will be read, and therefore the more he will be benefited by them. We have known merchants whose advertisements were so original and attractive that they were as eagerly looked for by the public as the news of the day. That man's advertising paid him well.

(b). He should take plenty of space. It is a mistake to think that a small space is as good as a large one. As a rule the very small advertisements are lost and the money spent on them thrown away. If you haven't the nerve to pay for sufficient space in which to display your advertisement properly, don't put it in at all. One good striking advertisement will do more good than half a dozen small ones, therefore if you are unwilling to spend so much money, don't put them in so often, but put them in properly when they do go in.

(c). Be careful as to the kind of type that is used in your advertisements. Advertisers should always get a proof copy of their advertisements, so as to

make certain that theirs will show up different from any other in the papers. If others use light faced type you should use heavy, and *vice-versa*; this will always make your matter stand out from the rest on a large page, and the chances are that on account of its different appearance it will be more attractive and therefore more widely read.

(d). *Change your matter with every issue of the paper.* Some merchants seem to think that one form of advertisement a year is about all that is necessary to make their business ay. They write out a new advertisement in the spring and this goes into the papers week in and week out, until probably the Christmas trade forces them to make a splurge. It is then changed for a holiday advertisement, and this is often allowed to run on till the returning spring stirs their *turgid* blood sufficiently to make them think of something new. We have often seen a special sale of Christmas goods advertised in February or March of the next year, and most absurd it looked. Now this was money thrown away, but it is no worse than many of the advertisements that we see from one year's end to the other, and which might as well be left out for any good that they do. Good, live, successful advertisers always change their matter as often and as thoroughly as possible, their reason simply being that if not changed the people get so used to seeing it that they cease to take any interest in it, and therefore it does them no good. If you want your advertisements to pay you back your money, change them often, and make them as different as you possibly can, both in matter and appearance.

(e). Last, but not least, advertise in a good live paper that has a good circulation amongst the very people you want to reach. It would be folly for any dealer in a small backwoods village to advertise his business in any city papers, simply because the paper would not be seen by his customers, and the money would be thrown away, as far he was concerned. Our advice to every one of our readers is to find out what papers will suit them the best, by circulating amongst the largest number of their customers, and then spend their money in accordance with the rules we have indicated above.

In conclusion we need say but little as to the necessity of advertising. Every-

one now acknowledges it to be one of the greatest helps that a merchant can have in any business, and we think that the writer in the "old book" must have had something like this in his mind's eye when he wrote: "There is that which scattereth and yet increaseth, and there is, that withholdeth more than is meet, and it tendeth to poverty." If not intended for modern advertising, it is at least true of it. If it is worth doing at all, it is worth doing well.

#### WHAT IS A GOOD SALESMAN ?

In this age of strong competition, every legitimate help to gain and retain customers has to be resorted to. While there are many things in a merchant's business that act as good helps in this direction, we know of none more useful than good salesmen in one's warehouse. The difference between a good and a poor salesman is so marked in the way in which it affects a business, that we wonder that any merchant ever wastes money on poor or incompetent employees. The fact is that a good salesman builds up, while a poor salesman destroys, a business, and though there may be a great difference in the salaries paid to them, we think it will be conceded by all thinking merchants that the real difference in value can hardly be estimated in dollars and cents. A poor or dis-obliging salesman is dear at any price, simply because, although he may perform the duties assigned to him, he does not attract new customers or hold the good will of those already made. The smart, obliging salesman, on the contrary, is invaluable, because he takes a live interest in his employer's business and strives in every way to further its success, well knowing that his employer's success will lead to his own advancement.

A good salesman is always an obliging one; he meets his customers with a good natured smile, and while expressing his pleasure at seeing them, manages to interlard his conversation with business enough to keep his hands busily employed.

A good salesman can invariably call his regular customers by name, a faculty which is always well received and adds much to his popularity. To strangers he is particularly attentive, well-knowing that on the first impressions made very much of their after custom depends. He is always polite, but never offensively so, and generally manages to retain the good

will of his customers without sacrificing the interests of his employer.

A good salesman is always obliging to customers whether rich or poor, and he serves the ten cent customer with as much politeness as he does the fifty dollar one. Rich or poor it apparently makes no difference to him. It is no trouble to him to show goods, in fact he rather seems to like what often seems to be such a disagreeable task to some salesmen. After selling a customer what they ask for, he invariably directs their attention to the new goods that his employer has for sale, well knowing that if not wanted at present, the time may soon come when they will be in demand, and it is well to keep his customer posted in the goods that they have to sell. This easy, imperceptible way of advertising new goods and pressing customers to buy them, although it does not always succeed at the time, is invariably successful in the long run.

A good salesman never loses his temper no matter how difficult a customer is to handle. He has had experience enough about human nature to know that when once a salesman offends a customer he is twice as difficult to sell to, and that the better humor he can keep in the more goods he can sell, and the easier he can sell them. A sullen or bad tempered salesman is a poor help to a good live business.

A good salesman is never idle. If he has any time to spare he devotes it to getting his stock fixed up and ready for coming sales. A good salesman never has any loafing time, he always finds something to turn his hand to, and having found it, he does it with all his might. His employer's interests are his, and he devotes the whole of his energies to further his employer's business. He takes a pride in his employer's prosperity, and guards his employer's honor as if it were his own. When he makes a promise to a customer he does his level best and leaves no stone unturned to see that it is faithfully carried out. He is faithful in small things as in large things, and studies what is best for the business before his own convenience.

A good salesman is always a sober man. If he uses intoxicating liquors at all, it is so moderately as never to interfere with his business. He well knows that liquor drinking is not conducive to good business habits, and that the less he inclines that way the more competent

THE PERFECT BASCINE



DUST PROOF

— THE —

KEYSTONE.

For Sale by all Jobbers.

he we will be for the discharge of his duties, and the higher he will stand in the estimation of his employer.

A good salesman is always to be found at his post, he has no bad habits such as running around the corner "to see a fellow," or wasting his time in idle gossip with idlers who drop in to the store merely to pass away their time. If he has any private business to do, he does it after or before business hours, or if it is impossible to manage it at such times he selects his opportunity more with a view of accommodating the business than himself.

In short the good salesman is a good, square, level headed, gentlemanly fellow, who thoroughly understands his business, and is not ashamed to work at it, and honest enough to try and give his employer full value for the salary he draws. Whatever salary his employer allows him he tries to make himself worthy of, and to do double the amount if necessary. Such a man as we have endeavored to describe (and there are plenty of them in Canada) is a treasure to any employer, and should be encouraged in every possible way.

### Selected Matter.

#### JOHN HARRISON, THE CHRONOMETER MAKER.

*Continued from last month.*

Not satisfied with his two machines, Harrison proceeded to make a third. This was of an improved construction, and occupied still less space, the whole of the machine and its apparatus standing on an area of only four square feet. It was in such forwardness in January, 1741, that it was exhibited before the Royal Society, and twelve of the most prominent members signed a certificate of "its great and excellent use, as well for determining the longitude at sea as for correcting the charts of the coasts." The testimonials concluded: "We do recommend Mr. Harrison to the favor of the Commissioners appointed by Act of Parliament as a person highly deserving of such further encouragement and assistance as they shall judge proper and sufficient to finish his third machine." The Commissioners granted him a further sum of 500*l.* accordingly. Harrison was now reduced to necessitous circumstances by his continuous application to the improvement of the time-

keepers. He had also got into debt, and required further assistance to enable him to proceed with their construction.

Although Harrison had promised that the third machine would be ready for trial on August 1, 1748, it was not finished for some years after. In June, 1746, we find him again appearing before the board, asking for further assistance. While proceeding with his work he found it necessary to add a new spring, "having spent much time and thought in tempering them." Another 500*l.* was voted to enable him to pay his debts, to maintain himself and family, and to complete his machine.

Three years later he exhibited his third machine to the Royal Society, when he was awarded the Gold Medal for the year. In presenting it Mr. Folkes, the President, said to Mr. Harrison, "I do here, by the authority and in the name of the Royal Society of London for the improving of natural knowledge, present you with this small but faithful token of their regard and esteem. I do, in their name, congratulate you upon the successes you have already had, and I most sincerely wish that all your future trials may in every way prove answerable to these beginnings, and that the full accomplishment of your great undertaking may at last be crowned with all the reputation and advantage to yourself that your warmest wishes may suggest, and to which so many years so laudably and so diligently spent in the improvement of those talents which God Almighty has bestowed upon you, will so justly entitle your constant and unwearied perseverance."

Mr. Folkes, in his speech, spoke of Mr. Harrison as "one of the most modest persons he had ever known." In speaking of his own performances he has assured me that, from the immense number of diligent and accurate experiments he has made, and from the severe tests to which he has in many ways put his instruments, he expects he shall be able with sufficient certainty, through all the greatest variety of seasons and the most irregular motions of the sea, to keep time constantly, without the variation of so much as *three seconds in a week*, a degree of exactness that is astonishing and even stupendous, considering the immense number of difficulties, and those of very different sorts, which the author of these inven-

tions must have had to encounter and struggle withal."

Although it is common enough now to make first-rate chronometers—sufficient to determine the longitude with almost perfect accuracy in every clime of the world—it was very different then, at the time that Harrison was occupied with his laborious experiments. Although he considered his third machine to be the *ne plus ultra* of scientific mechanism, he nevertheless proceeded to construct a fourth time piece, in the form of a pocket watch about five inches in diameter. He found the principles which he had adopted in his larger machines to apply equally well in the smaller; and the performance of the last surpassed his utmost expectations, but in the meantime, as his *third* timekeeper was, in his opinion, sufficient to supply the requirements of the Board of Longitude as respected the highest reward offered, he applied to the Commissioners for leave to try that instrument on board a royal ship to some port in the West Indies, as directed by the statute of Queen Anne.

It was not until March 12, 1761, that he received orders for his son William to proceed to Portsmouth, and go on board the "Dorsetshire" man-of-war to proceed to Jamaica. But another tedious delay occurred. The ship was ordered elsewhere, and William Harrison, after remaining five months at Portsmouth, returned to London. By this time John Harrison has finished his *fourth* timepiece—the small one—in the form of a watch. At length William Harrison set sail with this timekeeper from Portsmouth for Jamaica in the "Deptford" man-of-war, on November 18, 1761, and returned to England on March 26, 1762. On the arrival of the ship at Port Royal the timekeeper was found to be only five and one-tenth seconds in error, and during the voyage of over four months, on its return to Portsmouth in the "Merlin," it had only erred one minute fifty-four and a half seconds. In the latitude of Portsmouth this only amounted to eighteen geographical miles, whereas the Act requires that it should only come within the distance of thirty miles or minutes of a great circle. One would have thought that Harrison was now clearly entitled to his reward of 20,000*l.*

But the delays interposed by government are long and tedious. Harrison

John Segsworth & Co.,

WHOLESALE AGENTS FOR

AMERICAN WALTHAM WATCHES,

—AMERICAN—

**Gold and Silver Cases,**

*Best Makers and Finest Goods in the Market.*

IMPORTERS OF FINE

English and American Jewellery

Of which we keep constantly on hand one of  
the largest stocks in the country.

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PRICES RIGHT.

TERMS LIBERAL.

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23 Scott Street, Toronto.

had accomplished more than was requisite to obtain the highest reward. It was necessary for him to petition Parliament on the subject. Three reigns had passed: Anne had died; George I. and George II. had reigned and died; and now in the reign of George III. an Act was passed enabling Harrison to obtain the sum of 5,000*l.* immediately as part of the reward. But the Commissioners differed about the tempering of the springs. They required a second trial of the timekeeper. Two more years passed, and Harrison's son again departed with the instrument on board the "Tartar" for Barbadoes on March 28, 1765. He returned in about four months, during which time the instrument enabled the latitude to be ascertained within ten miles, or one-third the required geographical distance.

Harrison memorialized the Board again and again. In the following September they virtually recognized his claims by paying him on account 1,000*l.* In February, 1765, the Board entered a minute on their proceedings that they were "unanimously of opinion that the said (Harrison's) timekeeper has kept its time with sufficient correctness, without losing its longitude in the voyage from Portsmouth to Barbadoes beyond the nearest limit required by the Act of 12th of Queen Anne, but even considerably within the same." They would not give him the necessary certificate, though they were of opinion that he was entitled to be paid the full reward.

Harrison was now becoming old and feeble. He had attained the age of seventy-four. He had spent forty years in working at the Chronometers. He was losing his eyesight and could not afford to wait much longer.

Full little knowest thou, who hast not tried,  
What hell it is in suing long to bide;  
To lose good days that might be better spent;  
To waste long nights in pensive discontent;  
To spend to-day, to be put back to-morrow,  
To feed on hope, to pine with fear and sorrow.

But Harrison had not lost his spirit. On May 30, 1765, he addressed another remonstrance to the Board, containing much stronger language than he had up to this time used. "I cannot help thinking," he said, "but I am extremely ill-used by gentlemen who I might have expected a different treatment from; for if the Act of the 12th of Queen Anne be deficient, why have I so long been encouraged under it, in order to bring my

invention to perfection? And, after the completion, why was my son sent twice to the West Indies? Had it been said to my son, when he received the last instruction, 'There will, in case you succeed, be a new Act on your return, in order to lay you under new restrictions, which were not thought of in the Act of the 12th of Queen Anne'—I say, had this been the case I might have expected some such treatment as I now meet with.

"It must be owned that my case is very hard; but I hope I am the first, and for my country's sake I hope I shall be the last, that suffers by pinning my faith upon an English Act of Parliament. Had I received my just reward—for certainly it may be so called after forty years' close application of the talent which it has pleased God to give me—then my invention would have taken the course which all improvements in this world do; that is, I must have instructed workmen in its principles and execution, which I should have been glad of an opportunity of doing. But how widely this is different from what is now proposed, viz., for me to instruct people that I know nothing of, and such as may know nothing of mechanics; and, if I do not make them understand to their satisfaction, I may then have nothing!

"Hard fate indeed to me, but still harder to the world, which may be deprived of this my invention, which must be the case, except by open and free manner in describing all the principles of it to gentlemen and noblemen who almost at all times have had free recourse to my instruments. And if any of these workmen have been so ingenious as to have got my invention, how far you may please to reward them for their piracy must be left for you to determine; and I must set myself down in old age, and thank God I can be more easy in that I have the conquest, and though I have no reward, than if I had come short of the matter and by some delusion had the reward!"

The Right Honorable the Earl of Egmont was in the chair of the Board of Longitude on the day when this letter was read—June 18, 1765. The Commissioners were somewhat startled by the tone which the inventor had taken. Indeed, they were rather angry. But Mr. Harrison, who was in waiting, was called in. After some rather hot speaking, and after a proposal was made to

Harrison which he said he would decline to accede to "so long as a drop of English blood remained in his body," he left the room. Matters were at length duly arranged. Another Act of Parliament was passed, appointing the payment of the whole reward of 20,000*l.* to the inventor; one moiety upon discovering the principles of the construction of his chronometers and assigning his four chronometers (one of which was styled a watch) to the use of the public, and the remaining moiety on sufficient proof on the correctness of the chronometers.

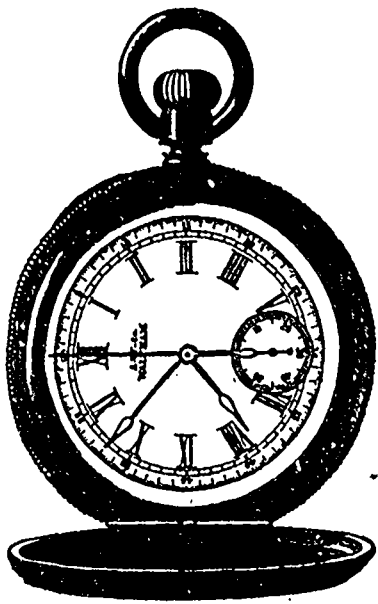
Mr. Harrison, accordingly made over to the Commissioners of Longitude his various timekeepers, and deposited in their hands correct drawings, so that other skilful makers might construct similar chronometers on the same principles. Harrison expressed the greatest readiness to explain his inventions, and to subject them to every required test. Indeed, there was no difficulty in making the chronometers, after the explanations and drawings which Harrison had published. An exact copy of his last watch was made by the ingenious Mr. Kendal, one of Harrison's apprentices. This chronometer was used by Captain Cook during his three years' circumnavigation of the globe, and was found to answer as well as the original. This, as well as Harrison's chronometer, is still to be seen at the Royal Observatory, and both are in good going condition.

Although Harrison did not obtain the remaining moiety of his reward until 1767, two years after the above-mentioned meeting of the Board, his labors were over, his victory was secured, his prize won. Notwithstanding his delicacy of health he lived a few years longer. He died in 1776, at his house in Red Lion Square, in his eighty-third year. It may be said of John Harrison that by the invention of his chronometer he conferred an incalculable benefit on science and navigation, and established his claim to be regarded as one of the greatest benefactors of mankind.

S. SMILES.

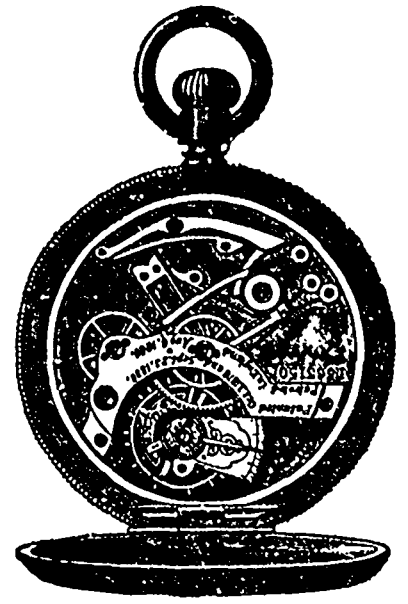
#### ABALONE JEWELRY.

Probably of all the "shell-fish" of the Union, after the oysters, clams, and the scallop, none holds a more important place commercially than the ear-shells, or abalones; and if edible properties are not made the scale of judgment, the n



NEW  
CHRONOGRAPH

STOP WATCHES



MADE TO

START, STOP AND FLY BACK,

WITH OR WITHOUT SPLIT SECONDS,

MANUFACTURED BY THE

AMERICAN WATCH CO'Y,  
WALTHAM, MASS.

By Patented Improvements in Construction, and considerable Diminution of the Parts required, as well as by the application of American Machinery, the AMERICAN WATCH CO. has so simplified the manufacture of Chronograph Watches as to greatly reduce their cost. They can now be obtained at prices which make them the MOST DESIRABLE timepieces for Sporting Purposes, AS WELL AS FOR GENERAL USE. Dealers can depend upon these goods giving satisfaction, as they will not require the constant repairs, nor subject the dealer to the annoyance experienced in most of the foreign watches of this class. In case of accidents, Duplicates of Broken Parts can be furnished by return mail. Cased complete in 16 Size Gold Open Face and Hunting Cases. (Open Face made to wind at figure XII.)

ROBBINS & APPLETON,

General Agents,

NEW YORK.



they hold the first place. The ear-shells belong to conchological genus *Haliotis*, and there are almost a hundred species of them scattered about the world, our own Atlantic shore being almost the only coast where the haliotis is not represented. In many countries the animals are eaten, and everywhere the shells are highly valued. This group of mollusks, therefore, has surely enough interest about it to fill a leisure column.

In Southern California the gathering of haliotis affords employment to a large number of persons, and a considerable commerce has sprung up. There the mollusks are called "abalones"—a word of doubtful Spanish-Indian derivation. The business is chiefly in the hands of the Chinese, and that it should be so is very natural. At home the Chinese were, and yet are, accustomed to dry the flesh of their own haliotis (which is abundant from Malaya to Kamtchatka) as a food luxury. Finding in California practically the same mollusk, they at once began to gather the abalones for the sake of the meat, the surplussage of which they dried in salt, and shipped home to China at a good profit. After a time white men began to pick up the shells thrown away, and to work them over into ornaments and objects of jewelry. Thus apprised of their value, the Chinese also saved all the shells they got, and soon found this half of the catch brought more money than the dried flesh. For three or four years past the business in these shells has been extensive, but fears are felt that the mollusks may soon become exterminated. Late information concerning the abalone fishery has been received by the United States Fish Commission from Messrs. D. S. Jordan and W. N. Lookington, their agents on the Pacific Coast. They tell us that the abalone-producing region extends from San Francisco to Lower California, San Diego being the principal depot outside of the capital, receiving largely from Mexican waters. For a long time Mexico paid no attention to this trespass upon her shores, but now she charges a license duty of sixty dollars a year upon every abalone boat from the United States.

Abalones thrive best among rocky, weed-grown crags and reefs alternately exposed and submerged with every tide, and in a warm climate. They are vegetarians, feeding upon the sea vegetables, of which there is always an abundance

in such places. Their fleshy base or "foot," upon which the convex, ear-shaped shell is carried, concealing and protecting the vital organs, is "very large, rounded at the ends, and fringed with thread-like tentacles, which, when the animal is protruded from the shell below the surface of the water, are gently swayed."

They move very little, and with great moderation of gait. The broad muscular foot is adapted less to locomotion than for adhesion, and so strong is the force with which they cling to the rock— withdrawing their protracted lobes, and squatting flat-down at the least disturbance—that it often is exceedingly difficult to detach them, even with the aid of the trowel or spade which is usually carried by the fishermen. Another method is to pour over them a small quantity of warm water, and then give a sharp push sideways with the foot. The warm douche surprises and disgusts them into relaxation.

The tenacity of life in this mollusk seems equal to its hold upon the rocks. Mr. R. C. Stearns, of San Francisco, writes that he has frequently removed the animal from the shell, by means of a sharp knife, and thrown it back into the water, when "it would at once descend and place itself in its normal position upon a rock, to which it would adhere with apparently as much tenacity as before it was deprived of its shelly covering."

The meat of abalone has long formed an article of food in various parts of the world—the Channel Islands, French coast, and along the Mediterranean (where they beat it to make it tender), Senegal, the South-sea Islands, Malaya, China, Japan, and our Pacific coast. It was described by old Athenæus, centuries ago, as "exceedingly nutritious, but indigestible," and holds its reputation well. Mexico exports it to us under the custom-house heading "dried oysters." In San Francisco and the coast towns it is rarely eaten except by Chinese, who are the only ones who gather it. A simple process of salting and drying is all that is necessary for its preservation, in which shape it is sent to China. In order to get a ton of meat, about six tons of living animals must be collected, but there is no telling how many individuals this represents. After being cured, abalone meat is worth from five to ten cents a pound, and the value of

the crop which reached San Francisco last year approached \$40,000, distributed among some hundreds of men. The coast is now so stripped of the haliotis that the Chinese fishermen are compelled to resort to unfrequented islands, transportation to which is afforded them by American capitalists, who take their pay in shells, while the Chinese retain the meat.

The trade in abalone shells, indeed, is of twice as much importance, financially, as that in the flesh, since it amounted to nearly \$90,000 last year. Some Americans also are engaged in this business, and the finishing off of the shells for market is wholly in their hands.

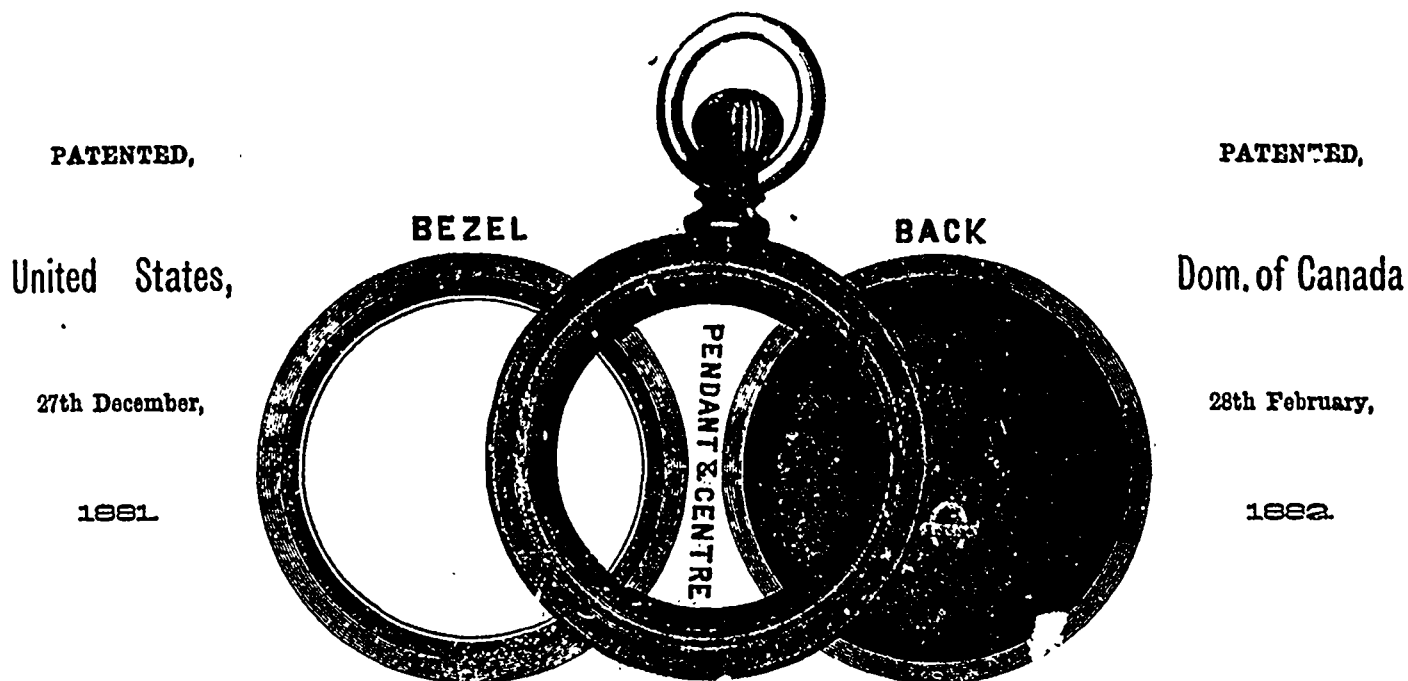
The shell of the haliotis is one of the most brilliantly beautiful in its interior of any known. The lustrous, iridescent curves of the nacre, reflecting ever-varying and prismatic colors in endless profusion delight every eye. In aged specimens the part to which the adductor muscle is attached is raised above the level of the rest of the interior, and presents a roughened or carved surface of irregular shape, often fancifully imitative of some other object. The writer has seen one which thus contained a singularly correct profile or medallion of Napoleon I.

Outside, the shells are usually rough and unattractive, except to the marine zoologist, who finds them supporting a small forest of minute vegetable and animal forms, and harboring microscopic life of great interest. A curious case of a larger parasite is mentioned by Mr. Stearns, where a haliotis had been attacked by another mollusk—a boring bivalve known as *navea*, which had cut its way through the shell. Advised of this enemy, the haliotis had defended itself by adding coating upon coating of nacre as a bulwark between him and his foe, until, as the *navea* progressed, a large knob was built in the interior of the abalone's shell.

The shells are usually sent to San Francisco from the lower counties in the rough, and are the means of considerable speculation among the captains of coasting ventures. The price paid for them by merchants varies greatly; an average last year would be \$50 or \$60 a ton. From San Francisco they are shipped both to China and to the Eastern States. In China they are broken up and used for inlaying in connection with the lacquer work for which the Chinese

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TRADE



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are famous. The mosaics of Europe are often adorned by the same means, and various arts are served by their glittering fragments. It was with pieces of this sort of shell that those wonderfully beautiful inlaid screens from Holland, representing moonlight landscapes, etc., which attracted so much attention at the centennial exhibition, were produced.

Many of our shells are sent to Europe, there to be polished, with the help of acids, until they shall be as lustrous outwardly as inside, and then are re-shipped to the United States to serve as mantel ornaments, soap basins, match boxes, card-cases, receptacles for flowers, etc. The same work is done to some extent in San Francisco, and many are there manufactured into gold-mounted earrings and brooches, shawl pins, and various toilette articles, particularly ladies' high hair-combs of great elegance and costliness.

One dealer also, at San Diego, California, polishes these shells himself, and sells them to tourists for from twenty-five cents to five dollars, or sends them to the East by mail in "nests" of four to six. The young of one sort are cleaned with the aid of hydrochloric acid, but the usual method with aged shells is to grind away the epidermis by hand, by rubbing upon stones. It is too delicate work to trust to machinery, lest holes should be made in the thin pearly underlayers.

A peculiarity of haliotus shells is the line of four to ten round holes along the ridge at one side. It is through these apertures that the mollusk gets the fresh water necessary to its breathing when it sits close down upon a rock, and none can flow in under the edges of the tight shell. A similar provision exists in the "key-hole" of the limpet, and in the "notch" in the shelly lip of a large number of whorled shells, like the whelk, conch, etc. Through these holes also the abalone protrudes tiny waving feelers that warn him of the approach of any danger in time to withdraw underneath his shield.

To the Indians of California the haliotus was very valuable. They wore it as an ornament about their necks and in their hair. The tribes of the interior were so attracted by its glitter that they were willing to pay a large price in barter to possess it. A horse was not an infrequent exchange for a fine specimen. I have seen these shells, rudely

polished, dangling in the braids of Indian braves, and around the necks of vain, glorious squaws of every tribe from New Mexico northward to the far upper Missouri plains. The coast tribes also made from it beads and coin of different values and shapes, all formed from the red-backed abalone (*Haliotis rufescens*), which is not the common species of commerce. Mr. Stephen Powers, describing this money, under the name of "uhllo," says:

"The uhllo pieces are of a uniform size on the same string, they do not mix them. The dollar pieces are generally about one and one-quarter inches long, and an inch wide; the smaller about as long, but narrower. The Indians are very ingenious and economical in working up the abalones; wherever there is a broad, flat space, they take out a dollar piece; where the curve is sharp, a smaller one. They especially value the outer edge of the whorl or lip, where the color is brilliant, and these they are obliged to cut into twenty-five-cent pieces. You will see that the uhllo is cut into pieces of different sizes, and even pieces of the same size vary in value according to their brilliancy. \* \* All the money that I have seen was strung on grocery twine, but they often use sinew of various kinds, also the outer bark of a weed called milkweed about here.

"The uhllo necklace has three or four strings of very small glass beads above the shells, forming a band about one quarter of an inch wide, which encircles the neck."

This uhllo was not the only shell-money of the west coast of Indians. The tusk-shell (*Dentalium*) of the northern tribes, and the "colcol" (*Olivella*) and "hawock" (*Pachyderma*) of the southern region, played important parts as a circulating medium of exchange in trade. Altogether, however, I think I am right in asserting that the haliotus is among the most important and best economized of all American mollusks.—*Harper's Weekly.*

#### ON THE USE OF SPECTACLES.

No more mischievous mistake can well be made than the one which is involved in the prevalent idea that the use of spectacles should be put off as long as possible. This becomes evident at a glance as soon as it is understood that the case is one of incapacity of the lens

of the eye to adapt itself to near vision in consequence of loss of accommodating power. The continued effort of the delicate mechanism of the eye to accomplish a task which is beyond the measure of its capacity, must necessarily be attended with an injurious, as well as painful strain. Squinting is one of the evil consequences which are apt to ensue if such fruitless efforts are long persevered in. Mr. Carter remarks upon this point in the following monitory strain: "The effect of accommodation is precisely that of adding a convex lens to the passive eye, and so when accommodation fails, we can supply its place by adding the required lens by art. To do this is the ordinary function of the spectacles which are required by all people, if their eyes were originally natural, as time rolls on. The principles on which such spectacles should be selected is that they should be strong enough to be effectual, and they should be used as soon as they are required. Opticians often supply glasses which are too weak to accomplish what is needed, and which leave the eyes still struggling with an infirmity from which they ought to be entirely relieved, while the public frequently endeavor to postpone what they look upon as an evil day, and do not obtain the help of glasses until they have striven hard and fruitlessly to do without them. These are important practical errors. It cannot be too generally understood that spectacles, instead of being a nuisance, or an incumbrance, or an evidence of bad sight are to the far-sighted a luxury beyond description, clearing outlines which were beginning to be shadowy, brightening colors which were beginning to fade, intensifying the light reflected from objects by permitting them to be brought closer to the eyes, and instantly restoring near vision to a point from which, for ten or a dozen years previously, it had been slowly and imperceptibly, but steadily declining. This return to juvenility of sight is one of the most agreeable experiences of the middle age, and the proper principle, therefore, is to recognize loss of near sight early, and to give optical help liberally, usually commencing with lenses of +1.25 or +1.50, so as to render the muscles of accommodation not only able to perform their task, but able to perform them easily. When, as will happen after a while, in consequence of the steady decline of accommodation, yet more power is required, the glasses may

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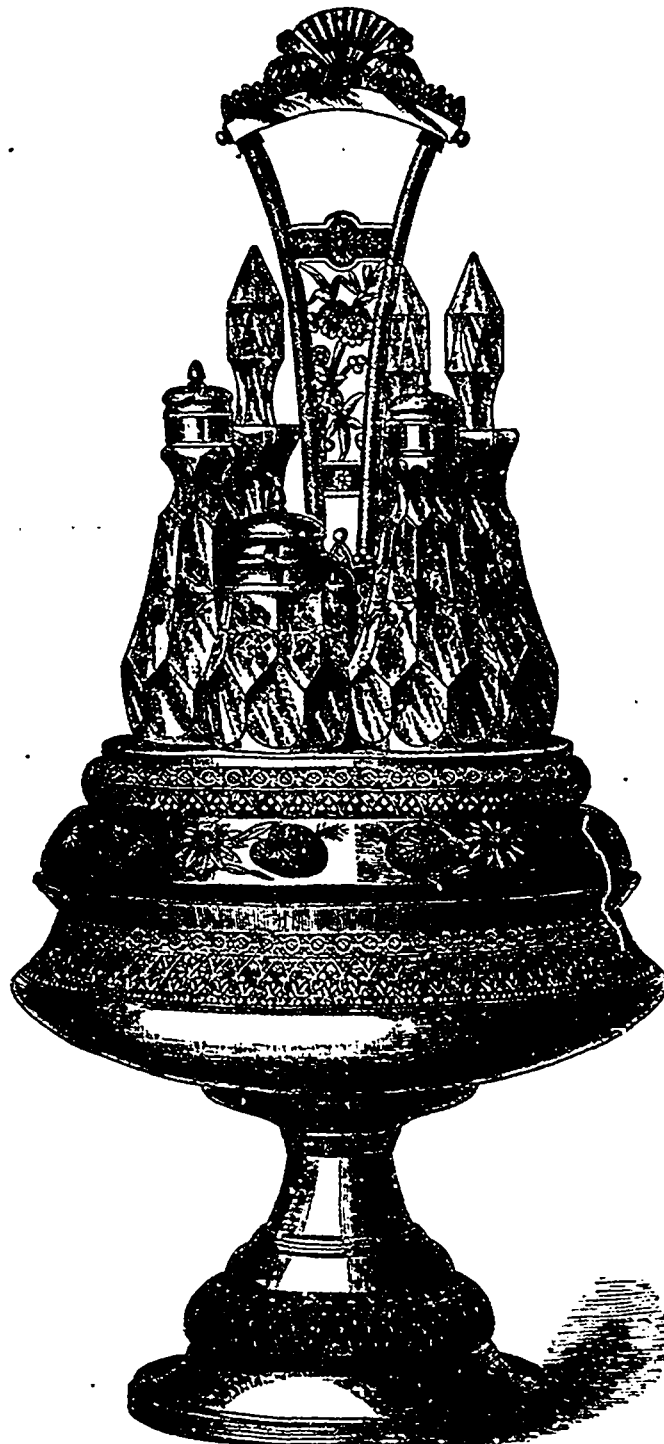
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be strengthened from half a dioptic to a dioptic at a time, and the stronger glasses should at first be taken into use only by artificial light, the original pair, as long as they are found sufficient for this purpose, being still worn in the day-time." The common prejudice against using spectacles as soon as the impairment of the sight begins to be observed with advancing age, appears to have unfortunately arisen from the fact that there is a serious disorder of the eye, known as glaucoma, which is attended with obscure vision, resembling that of old sight, but which is nevertheless altogether different in its essential condition. The mischief in glaucoma usually proceeds with an accelerated pace. Stronger and stronger glasses are used on account of the assistance which each fresh accession of strength at first gives. But the sufferer in the end becomes hopelessly blind, and the result is then erroneously attributed to the influence of the glasses which have been employed, although as a matter of fact this had nothing whatever to do with the issue of the case. The injury to the sight in such instances is really due to an over-tense state of the eye-ball having been set up, and to the destruction, in consequence of abnormal pressure, of the delicate nerve-structures within. Mr. Carter unhesitatingly affirms that the habitual use of strong magnifying glasses is not injurious to ordinary eyes, and he supports his opinion in this particular by referring to the circumstance that watchmakers, who commonly employ magnifying glasses in their work, in reality enjoy a very enviable immunity from diseases of the eye. It appears that it is quite an unusual thing to find a working watchmaker among the patients of an ophthalmic hospital. Mr. Carter holds that the habitual exercise of the eye upon fine work, such as these men are engaged in, tends to the development and preservation of the powers of vision, rather than to their injury.—*Edinburgh Review.*

#### BUSINESS CHANGES FOR JUNE.

E. Sawtell, Orangeville, hardware stock, advertised for sale by sheriff. S. J. Cohn jeweler, Winnipeg, assigned in trust. J. B. Laming Granton, watches, away. James Bonton, Lindsay, watches, moved to Peterboro'. W. H. Calder, Stirling, jeweler, burned out. James Milne & Co., hardware, Stirling, burned out. Wm. Smith, Stirling, watches, burned out. Mrs. M. A. Ashall, Toronto,

jeweler, sold out to son, Wm. Ashall. Thos. Botterill, Winnipeg, hardware, removing to Medicine Hat. N. G. main & Co., Winnipeg, hardware, assigned in trust. J. J. Radford, Winnipeg, jeweler, sold out by auction. Stiraky & Mylins, Winnipeg, jewelers, sheriff in possession. Larier Bros., Toronto, Tins, &c., assigned in trust. James Chalmers, Strathroy, Tins, &c., assigned, H. G. Lovetus, Montreal, wholesale jewelry, assigned in trust. Lovetus, Wright & Co., Winnipeg, wholesale jewelers, dissolved and closing out business.

#### BUSINESS NOTES.

WE see our old friend, R. Haddon, Picton, has admitted Mr. Rorabeck into partnership. We wish the new firm every success.

ONE of the oldest furniture dealers in this city, T. H. Lockington, has failed. He had a similar experience some years ago, and has never made much headway since.

AS was to be expected the opening of the Brooklyn bridge has very sensibly affected the receipts of the ferry-boat companies. The Union Ferry company has already reduced its toll.

J. B. LAFLANNE, haberdasher, Montreal, has assigned, finding opposition too keen. He compromised in the spring at 60 cents, but this does not seem to have afforded the desired relief. He owes about \$4,000, and assets are reported at \$3,000.

THE announcement is made that Mr. W. A. Douglas, for many years accountant in the Froehold Loan Company has been appointed assistant manager of that institution. Those who are familiar with that gentleman's abilities will agree with us in the opinion that the promotion is well deserved.

MR. ERASTUS WIMAN, of New York, was, at a special meeting of the Dominion Telegraph Company, held on the 29th, elected a director to fill the vacancy caused by the death of the Hon. T. N. Gibbs. Mr. Thos. Swinyard, who was Vice-President, succeeds to the Presidency, and the Hon. Wm. Cayley takes the Vice chair.

A THIEF was detected in Montreal the other day in a way as amusing as it is unusual. A laboring man went into Messrs. Jones & Co.'s wholesale establishment, and while no one was looking picked up a \$13 alarm clock, put it under his coat and started for the door. He had not reached it, however, when to his dismay, the clock commenced to strike the alarm and attracted the attention of some of the clerks. A constable was sent for at once and the thief arrested and committed.

H. G. LOVETUS, a wholesale dealer in jewelry and optical goods at Montreal, and also doing business in Toronto as Lovetus, Morris & Co., and in Winnipeg as Lovetus, Wright & Co., has assigned in trust. For some time past he has experienced a difficulty in getting financing facilities. Losses in connection with the Winnipeg business too, assisted to bring about his failure. Liabilities are not yet ascertained, but as he showed a very fair surplus early in the

spring, it is thought the estate should realize pretty well.

AN offer of 17½ cents on the dollar, payable in three months, and 17½ cents in six months unsecured, has been made by J. S. Cohn, a jeweler in Winnipeg; this his creditors have not yet accepted. His affairs show a deficit of from \$1,000 to \$12,000.—Another jewelry firm, Stiraky and Mylins, is in difficulties, the sheriff having been placed in possession of the premises. Stiraky, the senior member, went west ostensibly for the purpose of disposing of surplus stock, but in reality took all the better class of goods with him and is said to have left for the United States. The estate will probably be sold.

#### WORKSHOP NOTES.

GOLD TINGS.—A bright gold tinge may be given to silver by steeping it for a suitable length of time in a weak solution of sulphuric acid and water, strongly impregnated with iron rust.

MELTING GOLD.—In melting gold use none other than a charcoal fire, and during the process sprinkle saltpetre and potash into the crucible occasionally. Do not attempt to melt with stone coal, as it renders the metal brittle and otherwise imperfect.

JEWELER'S CEMENT.—Put into a bottle two ounces of isinglass and one ounce of the best gum arabic, cover them with proof spirits, cork loosely and place the bottle in a vessel of water, and boil it till a thorough solution is effected; then strain for use.

GOLD AND SILVER FROM TEXTILES.—Cut into pieces the gold or silver lace, tie it tightly, and boil in soap lye till the size appears diminished, take the cloth out of the liquid, and after repeated rinsings of cold water, beat it with a mallet to draw out the alkali. Open the linen, and the pure metal will be found in all its beauty.

COLD SILVERING OF METALS.—Mix 1 part of chloride of silver with 3 parts of pearl ash, 1½ parts common salt, and 1 part whiting; and well rub the mixture on the surface of brass or copper (previously well cleaned), by means of soft leather, or a cork moistened with water and dipped in the powder. When properly silvered, the metal should be well washed in hot water, slightly alkalized, then wiped dry.

REFINING SILVER.—After having rolled the silver, cut it into narrow strips, and curled it to prevent its lying flat, the pieces are dropped into a vessel containing two ounces of good nitric acid diluted with one-half ounce pure rain water. When the silver has entirely disappeared, add to the two and a half ounces of solution nearly one quart of pure rain water. Then sink a sheet of clean copper into it; the silver will collect rapidly upon the copper, and you can scrape it off and melt it in bulk.

SOFT-SOLDERING ARTICLES.—Moisten the parts to be united with soldering fluid; then, having joined them together, lay a small piece of solder upon the joint, and hold over your lamp, or direct the blaze upon it with your blowpipe until fusion is apparent. Withdraw them from the blaze immediately, since too much heat will render the solder brittle and unsatisfactory. When the parts to be joined can be made to spring or press against each other, it is best to place a thin piece

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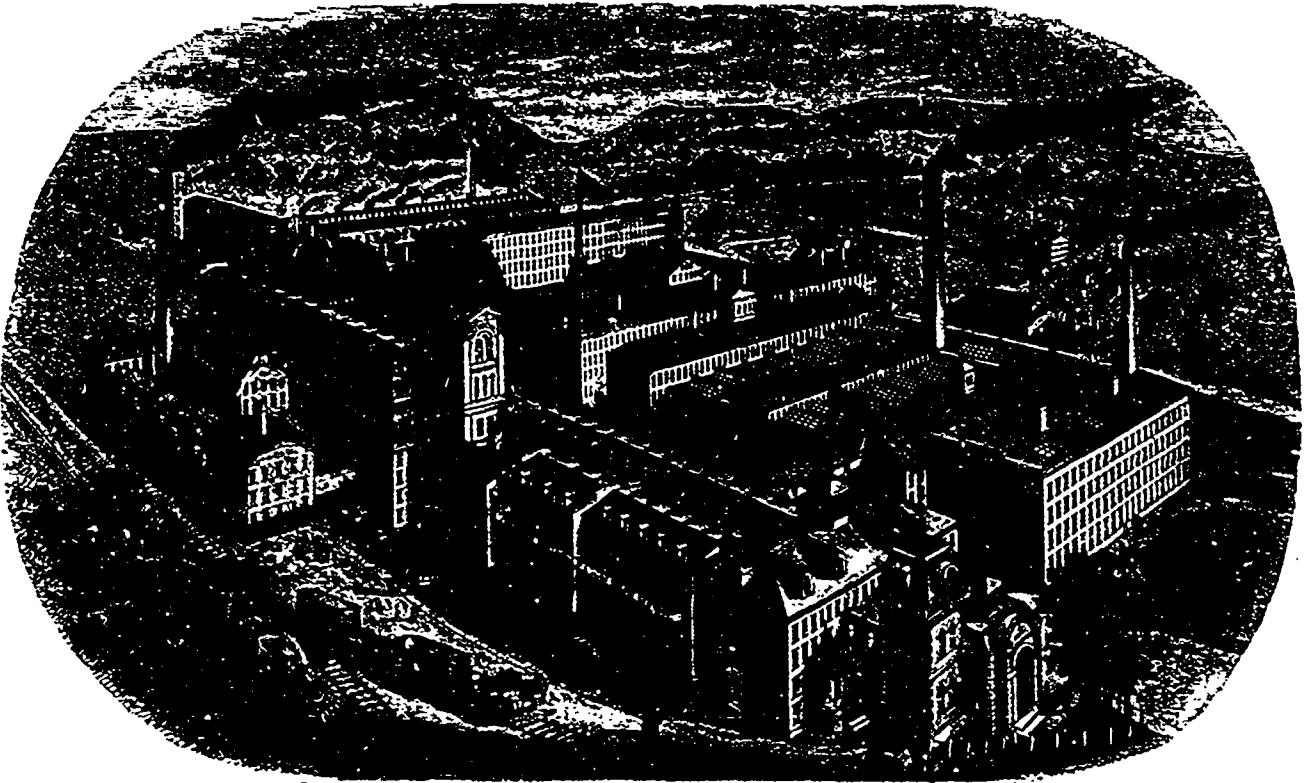


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The Meriden Britannia Company have been awarded the highest premiums wherever exhibited, from the WORLD'S FAIR, 1863, to the PRESENT TIME, and the high reputation of our Goods throughout the world has induced other makers to imitate our Trade Marks 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.

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of solder between them before exposing them to the lamp. Where two smooth surfaces are to be soldered one upon the other, you may make an excellent job by moistening them with the fluid, and then, having placed a sheet of tin foil between them, holding them pressed firmly together over your lamp till the foil melts. If the surfaces fit nicely, a joint may be made in this way so close as to be almost imperceptible. The bright looking lead, which comes as a lining of tea boxes, is better than tin foil.

**TINTING METALLIC SURFACES.** It is found that metallic objects may be attractively colored by immersing them in a bath formed of 630 grains of lead acetate dissolved in 8,450 grains of water, and warmed from 88° to 90° F. This mixture gives a precipitate of lead in black flakes, and when the object is plunged into the bath, the precipitate deposits upon it; the color acquired depends on the thickness of the skin, and uniformity of tint is insured by gradual treatment. There is thus imparted to iron a bluish aspect like steel; zinc, on the other hand, becomes brown. By employing an equal quantity of sulphuric acid in the place of the lead acetate, and warming a little more than in the first case, common bronze may be colored red or green with a very durable skin. And not only this, but beautiful imitations of marble are obtained by covering bronze objects, warmed to 100° F., with a solution of lead thickened with gum tragacanth, and afterward submitting them to the action of the above-named precipitate of lead.

### SCIENCE AND OTHER NOTES.

**POSTAL CARDS WITH ANSWER.**—Great Britain also has joined those countries of the World's Postal Union, to which postal cards with answers may be sent. The postage is 5 cents.

**THE TUNING FORK.**—Experiments are instituted in Prussian artillery target practice to ascertain the velocity of the ball within the cannon by means of the vibration of a tuning fork, which records them by means of a small pin fastened to one of its arms; it has also been much used lately for measuring the smallest intervals of time. The French colonel, Severs, experimented with it, and obtained very satisfactory results. The tuning fork, set in motion by the explosion of the powder, makes from 2,000 to 3,000 vibrations per second, which are marked upon a sheet of paper; not visible, however, to the naked eye, and seen only by assistance of the microscope.

**IMITATION WATCHES.**—About a century ago the fashionable world wore two watches, the chains and charms of which dangled toward the right and left upon an embroidered vest. This fashion was also adopted by the ladies, but since it was generally too costly to wear two real watches, people were mostly satisfied with a real watch to the left and an imitation one to the right. The latter was frequently ornamented with gold, silver, jewelry or miniature painting; the face of others was provided with a dial. Some were satisfied with wearing a needle cushion instead, in fact all manners of excess were committed in this line. The most costly imitations were ornamented with stars and allegories, composed of

jewels, which could be revolved by means of special wheel-work. People who had no money to spend for such luxuries were satisfied with wearing a simple gold or painted case. Only the Chinese at present wear two watches, disposed of in two small embroidered pockets.

**LECLANCHE.**—George Leclanché was one of those inventors, who, by a single happy invention, earned a world's reputation. His cell or element is known everywhere where the telegraph has penetrated, and the inventor's demise last fall in Paris awakened the sympathy of the entire scientific world. He obtained his education in the "Ecole Centrale des Arts et Manufactures," and obtained a position in the laboratory of the "Compagnie de chemins de fer de l'Etat," as chemistry engineer for the railroad companies of France. He remained here until 1867, when he obtained a patent for his celebrated battery. He experimented in the latter part of his life to devise a system of time division for annotating chronometers (chronograph) by means of electricity. Leclanché reached an age only of 43 years.

**A WORLD-MOVING WORD.**—The scientist who, according to irrefutable evidence, first made use of the expression "electricity," which is threatening to depose steam from its universal sovereignty, was an English doctor by the name of William Gilbert, who lived in the sixteenth century. He published in 1600, in London, a work by the title "De Magnete, magneticisque corporibus et de magno magnete tellura Physiologia nova." In this work, which already contains the main principles of the earth's magnetism, occurs the following sentence: "Vim illam electricam nobis placet appellare quae ab humore provenit." William Gilbert, born in Colchester in 1540, died Nov. 13, 1603, in London. He was confidential physician to Queen Elizabeth, and afterward to King Jacob I., and a very intimate friend of Lord Bacon. His work, "De Magnete," contains a number of interesting experiments. It met with less publicity and fame in England than in foreign countries, because, since 1628, five editions appeared in Germany, three in France, and only two in England.

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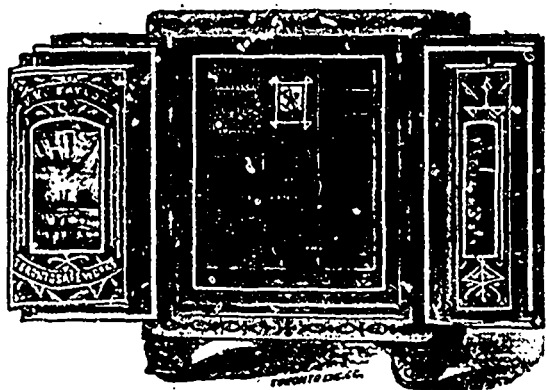
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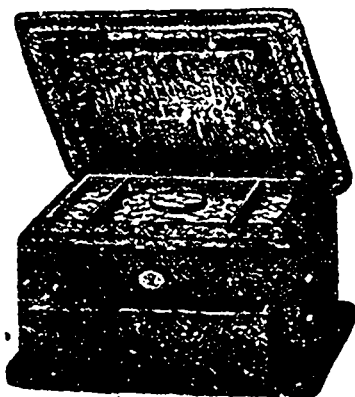
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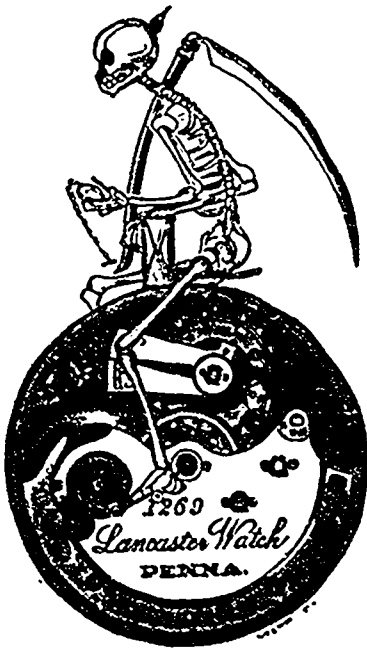
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