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THE TRADER.

TORONTO, ONT., OCT., 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.

IMPORTANT TO IMPORTERS

The customs department of Canada have recently seen fit to put in force Sec. 81 of the Customs Act of last session in regard to the certifying of invoices. This section reads as follows :

"No entry shall be deemed perfect unless a sufficient invoice of the goods to be entered *duly certified in writing thereon as correct* by the person, firm, or corporation from whom the said goods were purchased has been produced to the collector and duly attested as required by this Act."

In other words, unless the foreign exporter certifies over his own signature at the bottom of each invoice as to the correctness of the goods shipped by him, his customer, the Canadian Importer, will find it impossible to get them out of bond and into his warehouse. Although this may seem a very irritating regulation to importers, it is simplicity itself compared with the American system, which not only requires verification as above but the costly addition of Consul's certificates.

We have taken the trouble to interview the customs authorities in reference to this regulation, and they assure us that all that is necessary to carry it out is simply for the shipper to write on the

bottom of every invoice the words "CERTIFIED CORRECT," and sign their name immediately below it.

It would be well if exporters would make a note of this: it will save their customers a great deal of delay and annoyance in getting goods through the customs, as we understand that in future no invoices will be accepted for this purpose unless vouched for as above.

THE GREAT FAIR.

The fifth exhibition of the Toronto Industrial Exhibition Association, has been more than ordinarily satisfactory, and the management are to be congratulated upon the great success it has achieved. We are glad to know that the receipts were nearly five thousand dollars more than last year, which fact will enable the Directors to carry out in a satisfactory manner many needed improvements.

The weather during the two weeks of the continuance of the Fair was all that could be desired, and as a consequence the city was filled to overflowing. Indeed, outside of Montreal, we doubt whether any other Canadian city could have afforded accommodation to such a swarm of sight seekers; as it was, Toronto's hotels were taxed to their utmost capacity. As showing the character of the Exhibition, which is becoming more cosmopolitan every year, we may say that not only did the outlying provinces of the Dominion furnish their quota of visitors, but several thousand citizens of the United States thought it worth their while to come over and inspect it.

Of the Exhibition itself we have scarcely space to speak in detail, but in our opinion it certainly surpassed anything of the kind ever held in Canada.

As shewing the progress the Dominion is making in manufactured products, it was well worth a visit, and we have no doubt every true Canadian must have felt a pride in knowing that in the line of goods thus shewn Canada is fully abreast of any country in the world. In horses, cattle and other live stock, the entries were unusually numerous and the exhibit very fine. Taking it together it was a grand show and well deserving of the liberal patronage it received from all classes of the community. The citizens of Toronto should feel proud of its record, and do all they possibly can to help the management in making it even a greater success in future.

THE NEW WATCH DEAL.

The new venture of the "Globe Printing Company" in giving away cheap nickel stem winding watches with each copy of their paper to new subscribers, is worthy of more than a passing mention, inasmuch as it has excited no small amount of banter from others in the same line of business, and provoked a feeling of hostility towards it amongst watchdealers, many of whom have hitherto been numbered amongst its warmest friends. Of course, while *The Globe* has a perfect right to do business in any fashion it chooses, there are certain methods which are so far out of the common rut, as to make them peculiar, to say the very least. The ostensible giving away of a fine stem winding watch with every copy of their paper, at the first blush, seems to be more than liberal, in fact it savors more of the philanthropic than the hard hearted business policy of this utilitarian age. On closer examination however, we find in the words of the poet, "things are not what they seem," and instead of being conceived by a liberal heart bent on sacrificing its wealth in the attempt to provide the great unwashed at once with reliable time pieces and moral reading matter, it is really an ordinary outgrowth of the business sharpness of the present age, the only difference being that the sublimity of its cheek is so paralysing as almost to make the sceptic feel ashamed of having for a single moment doubted the good intentions of so honorable and philanthropic a company. The fact of the matter is, however, and to put it in plain English, the whole thing is an imposition of the most transparent kind, and people might as well expect *The Globe Printing Company* to sell them dollars for fifty cents as to furnish the paper for \$8.50, and throw a good timekeeper into the bargain. Boiled down, the transaction would stand something like this: *Weekly Globe* for one year, \$1.50; one nickel stem winding watch, \$2.00—Total \$8.50. In other words the subscriber pays regular cash price in advance for his paper, and \$2.00 in excess, for which \$2.00 he gets a watch that will be sure to go when he carries it and worth probably the money paid for it as a toy to amuse the baby, who can use it for a saw mill or anything else that its childish fancy may suggest. Practical time-keeping qualities, it has none, and for a man's own use, except as

ballast for his watch chain, is entirely worthless. So much for the true inwardness of *The Globe's* great offer.

As far as the watchmaking trade is concerned we think they have no great cause for alarm in this new departure of *The Globe* people. We don't think it is going to hurt their trade much, if any, while the crusade lasts, and we are strongly of the opinion that it will do the trade good in the long run. It seems to us that *The Globe* people are doing a kind of pioneer work in educating the people up to the necessity of a time keeper of some kind, and any person who has worn one of their patent watches for a few months and had a fair taste of its quality will very soon become a good customer to some regular dealer for a real watch that will not only go when carried but keep reliable time.

If it accomplishes this, and this is about the size of what it will accomplish, we think *The Globe* will not have prosecuted its watch crusade in vain, and in educating the people as to the necessity of having a reliable time keeper it will have its reward.

In conclusion, we may say that we have no sympathy with those people who have attempted to belittle this great social reformation of "The Globe Printing Company." Virtue is its own reward, and bearing this in mind we would advise them to continue on in their elevating task—their reward is sure.

FREE TRADE.

The sentiments uttered by the Hon. Alex. Mackenzie in his recent speech before the Greenock Board of Trade, Scotland, have evoked a considerable amount of discussion in this country. Of course the party press each criticizes it from their own standpoint, and it is either good or bad according to the politics of the paper criticizing it. Apart altogether from politics, there is much in Mr. Mackenzie's speech that is calculated to do good to Canada, and raise it in the estimation of those who are at present or may in the near future be looking across the sea for a favourable spot in which to locate. To all such, it contains many truths that will go far in making them view Canada in a more favourable light than they have probably heretofore done, and we shall look for good to result from it in this direction.

We think, however, it was unfortunate

that Mr. Mackenzie should have touched upon the question of free trade as against protection at all, seeing that his audience, however loyal they may have been to Great Britain, could after all only view this question, which is really none of their business, in the sight of their own interests. Their interest is, as a general thing, opposed to the progress of Canadian manufactures, and it is no wonder that the free trade sentiments uttered by our ex-premier should have been received by them as marks of warm approval. If Mr. Mackenzie's speech is to do any good for Canada at all it must be because it is instrumental in influencing emigrants to come to this country in preference to going elsewhere. If it does not have any effect in this way, it will have been simply as "a sounding brass or tinkling symbol," pleasant perhaps, but useless. If it should have the effect, however, which we trust it will, of inducing Scotchmen to come to Canada, we are strongly of the opinion that if there are any manufacturers amongst them that they will change their trade creed before they are here many years. Trade is selfish, and what is sound doctrine in England, may be rank heresy in some other part of the world. Thus while Britain advocates free trade, it is simply because that system is best adopted to further her own interests. The country is one huge workshop, and her facilities for manufacture are so great that she can produce many lines of goods cheaper than any other nation in the world. With Canada it is the reverse; free trade to us means simply that we may close the bulk of our manufactories and become mere leasers of wood and drawers of water to Great Britain, the United States, and any other country that is more favourably situated for manufacturing than we are. We do not think our people will care to do this, and although free trade such as Great Britain enjoys is entirely out of the question with us, even the revenue tariff of anti-protection days is looked upon by our manufacturers and the bulk of our people, as being unsuited to the requirements of a country so peculiarly situated as ours is. Of course Mr. Mackenzie has a perfect right to express his own sentiments upon any such occasion as the Greenock speech, but we think as a matter of policy and in the best interest of Canada, such subjects should be left severely alone. The result of their introduction is simply to

give the Conservative press an opportunity of going for him, and has the effect of weakening the force of the many excellent things which form the bulk of the speech. Politics are all right in their place, but politics and emigration don't mix well, and British manufacturers generally care a great deal more for our trade than our politics.

Selected Matter.

THE SEVEN METALS OF THE ANCIENTS.

The ancients had a knowledge of seven metals, viz., gold, silver, copper, tin, iron, lead, and mercury (or quicksilver). They were each sacred to some ruling deity. Homer has mentioned all these except mercury. Mercury was common in the century next before the Christian era. Gold, indestructible, malleable, the richest in color, in its lustre, and its property of not being altered or even affected by the air, has been known from the remotest times. It is the Sol or sun of the all chemists, who represented it by the circle, the emblem of perfection. There are drawings of gold washings on Egyptian tombs as early as 2,500 years before the Christian era, and fine gold wire was made into ornaments—often found on mummies—by the Egyptians 3,500 years ago. It was coined into the heavy *daries* of Persia, and woven into *mate* threads that enlivened the flowered stuffs of Babylon. In the earliest days of Greece gold existed in great abundance in the Levant. Cræsus, B. C. 560, coined the golden *stater*, and about B. C. 207, gold coins were first struck off at Rome and were denominated *aurei*. Copper came into use next after silver and before iron. It was called Venus by the ancients, who gave it the symbol of that planet. The age of copper followed the stone age. Homer wrote in the copper age. His famous shield of Achilles is made of gold, silver, and copper, a small quantity of tin being put in to harden it. The shield is itself a proof of the art of design, and the working in metals having attained a very high degree of perfection among the Greeks at a period believed to have been B. C. 962. In a mine near Lake Superior there was found, in 1858, a mass of copper forty-eight feet long, twenty feet

high, and calculated to contain 150 tons. Brass, which has often been confounded by ancients with copper, is merely an alloy made by mixing one third of zinc with two thirds of copper. Brass was made by the ancients without discovering zinc. Iron, the most important of metals, came into common use long after copper was well-known. It was regarded by the ancients as a symbol of war, and received the name of Mars, the god of arms. Homer mentions a mass of iron as one of the prizes at the funeral games given by Achilles in honor of Patroclus:—

*Then buried the hero, thundering on the ground
A mass of iron, an enormous round,
Whose weight and size the circling Greeks admire,
Rode from the furnace, and but shaped by fire.*

In 1597 B. C. the Lacedemonians coined iron into money. At Babylon the huge stones of the bridges were held together by bands of iron fixed in places by molten lead. Thucydides tells us that the walls of Piræus were fastened in the same way. In preparing the stone for building the Pyramids iron was used, Herodotus affirms; and Iron must have been employed in engraving the beautiful old gems which now are so valuable. The Ninevites made tools of iron, the ancient Britons made spears and lances of it, and the Romans, during their occupation of Britain, smelted iron to a considerable extent. The iron mines of Elba are said to have been worked from the time of Alexander the Great; and Pliny speaks of this region as "inexhaustible in its iron." The mines of Arragon and New Castile in Spain are supposed to have been worked from the times of the late Jewish kings, successively by the Tyrians, the Carthaginians, and the Romans. Through all the nations of high antiquity iron is mentioned almost always in a way that shows it to have been a partially common but always highly esteemed metal. Indeed, from the difficulty of working it with the primitive means at the command of men just emerged from barbarism, it was held at a high price. Only 153 years ago, Batachoff, in Russia, bartered iron for an equal weight of copper coin. Lead, a blueish-gray metal, was known to the Egyptians at an early date, and is mentioned by Homer; it was used in Rome in pipes to convey water, and in thin sheets for roofing purposes. The powder (cyrrassa) used by the Athenian ladies to tint their complexion, was our white lead. Lead owes its usefulness in the metallic

state chiefly to its softness and fusibility. In ancient times tin was scarce, and the chief supply was from India, Spain, and the celebrated mines of Cornwall, England, which have been worked uninterruptedly from the earliest historic periods. Tin was used by the Egyptians nearly 4,000 years ago.—*Ex.*

FOES OF THE TELEGRAPH.

If you will kick or pound on a telegraph pole or place your ear against one on a windy day what will the noise remind you of? A hive of bees? Precisely. So it does the bears in Norway. Bears are passionately fond of honey, and when in one of the wind districts bruin hears the humming of the wires he follows the sound to the post where it is loudest and begins to tear away the stones heaped round the poles in rocky soil to steady them, in order to get at the hive which he imagines to be there. In his disappointment and disgust he usually leaves savage marks of his claws in the wood. Nor is he the only victim of the wires. In the electric exhibition at Paris, they show the top of a thick pine telegraph pole, through which a woodpecker has drilled a hole several inches in diameter. The bird had apparently perched on the pole and taking the humming of the wires for the buzzing of a nest of insects in the wood, and had set himself manfully—or birdfully—to dig them out. Wolves will not stay in Norway where a telegraph line has been built. It was formerly the custom to protect farms by planting poles around them strung with cords, something like rabbit snares, and gradually the wolves came to respect these precautions so that a line stretched across the neck of the peninsula would protect the whole district. The wolves take the telegraph for a new and improved snare, and promptly leave the country when a line is built. On our own treeless plains the buffalo hails the telegraph pole as an ingenious contrivance for his own benefit. Like all cattle, he delights in scratching himself, and he goes through the performance so energetically that he knocks down the post. An early builder of telegraph lines undertook to protect the posts by inserting brad-awls into the wood, but the thick skinned buffalo found the brad-awls an improvement, as affording him a new sensation, and scratched down more poles than ever.

In Sumatra the elephants are systematically opposed to telegraph lines, and at least twenty times a year make raids on them. In May, 1876, the elephants tore down the poles for a distance of several furlongs and hid the wires and insulators in the cane jungle, and for three nights in succession they repeated the performance as regularly as the repairers rebuilt the line during the day. The monkeys and apes are about as formidable enemies, as they use the wires for swings and trapeze and carry off the glass insulators as valuable prizes; then, when the repairer goes to correct the mischief, he may be pounced upon by a tiger or driven up the post by a mad buffalo. In Japan the special enemies of the telegraph are the spiders, which grow to an immense size and avail themselves of the wires as excellent framework for their webs. So thick are the cords the Japanese spiders spin that often, especially when they are covered with dew, they serve to connect the wires with each other on the ground, and so stop them from working. In the sea the wires are not any safer, as a small worm has developed itself since cables came into fashion which bores its way through iron wire and gutta-percha, lets in the water and so destroys a line worth millions of dollars. When a great storm comes on in the centre of the ocean, and the cable breaks while it is being laid, or threatens to break, no one is alarmed. They fasten the cable to a buoy and come back afterward and pick it up; or if it is at the bottom of the sea they drop a dredge, with a mule or so of rope, and fish out the precious thread, as large as one of your fingers, almost as easy as you would fish up a penny from the bottom of a tub of water with the tongs. But the little worm, no bigger than a needle, is more formidable than the elements or the hurricane.—*Ex.*

THE WATCH RACKET.

From the Hamilton Spectator.

The Toronto Globe Printing Company makes announcement that it has gone into the intellectual and exhilarating business of peddling nickel watches. In order to facilitate the business the company has erected a tent on the exhibition grounds, where the watches and the Weekly Globe will compete with circus lemonade and fat women for popular favour. The cases will be elegantly illustrated with wood-cut engravings,

wholly regardless of cost, and every separate and individual watch will be warranted to go as long as anyone will carry it. Each implement will be provided with a patent safety-valve and stem-winding attachment guaranteed to make the hands go round so long as anybody grinds at the crank. The whole business to be shipped to any address in Canada or the United States postage paid, and insured against fire, pirates, and death from old age while in transit; and the price is fixed at the ridiculous low sum of \$8.50, while the *Weekly Globe* for fifteen months will be thrown in as an inducement. In the language of the advertisement, this is "a liberal and magnificent offer."

With one of these watches in his pocket every consistent Reformer will be able to rise as soon as he wakes in the morning, grease his boots, and polish up the watch-case with a little brickdust and tallow till it shines like Mr. Mowat's countenance or Major Walker's reputation. He can then go out and regulate the rising of the sun. When he goes fishing he can use the watch for an anchor; and when he is disposed to be extravagant, it will be a silent monitor of the value of cash payments by reminding him that there is "no trick here." It will incline him to turn his thoughts to the things of eternity, because it will resolutely refuse to take any note of time. It will be warranted to make its owner a free trader because he will freely trade it for a jack-knife or a mess of string beans. It will firmly convince him that the Tories will never get into power in Ontario, because he will mentally associate the watch with Mr. Mowat; and he will never have any difficulty in persuading himself that the watch will not go.

It is difficult to learn from the advertisement whether a watch is to be given as a bribe to induce people to read the *Globe*, or whether the *Globe* is to be thrown in as an inducement to buy a watch. The two are fitly associated. The *Globe* is just the paper one would expect to find in company with a \$8.50 watch. The people who would put faith in a \$8.50 watch are just those who would be apt to believe a *Globe* editorial. No doubt the watch peddling business will be successful, because the man who could be bribed to read the *Globe* can no doubt be caught by the offer of a

\$8.50 watch as well as by something of commercial value. It would be gratifying to see the man. He who could sit with the *Weekly Globe* in one hand and the *Globe's* pewter watch in the other, all for the modest sum of \$8.50, and have his picture taken in the attitude of one resolved to defend Ontario's rights to the last gasp, would be a man whose photograph we should like to have — not for its intrinsic worth, but as a reminder that simple trust and guileless innocence have not yet perished from the earth.

GEMS AS CURES.

A writer in one of the English magazines says: In both the Greek and Roman writers there are endless references to the curative power of precious stones. From many of the allusions it appears that the dictates of fashion here, as everywhere else, had much influence over the prevailing belief in the virtue of particular stones, now one and now another being held up as specially efficacious for the cure of certain diseases. Thus, while the "Crystals" and the "Adamas" stood for a long time among the Greeks at the head of the medicinal agents, that position was afterward assumed by the "Sardius," or the Oriental carnelian. "No other stone," records Pliny, "was so great a favorite with the Greeks as this, and the plays of Menander and Philemon abound in allusions to it." The cause of this favoritism lay probably in the facility with which the carnelian could be cut by the engraver, the dull red flesh-colored stone offering by itself no other attractions. Such engraved stones, either in the form of intaglios or of cameos, constitute to some extent an epoch in the history of gems, as it modified the original idea of stones being possessed of inherent virtues. To this came now to be added the conception that these powers might be raised or changed by pictures and inscriptions from the hand of the engraver.

The current of ideas that led to the engraving on precious stones is very clearly sketched out by Camillo Lionardo, an Italian writer of the fifteenth century, himself a firm believer in the power of "charms" and "amulets." Taking up the argument that the ancient Greeks and Romans, following in the footsteps of the Egyptians and Persians, were perfectly reasonable in attaching value to

engraved stones, Lionardo goes on to say: "All things in nature have a certain form, and are subject to certain influences. So, also, precious stones, being natural productions, have a prescribed form, and as such are subject to the universal influence of the planets. Hence, if these stones be engraved by a skillful person, under some particular influence, they receive a special virtue, as if they had been endowed with additional power by that engraving. And should it happen that the power intended by the engraving be the same as that of the natural quality of the stone, its particular virtue will be doubled, and thereby its efficacy greatly augmented."

SELLING THE JEWELS.

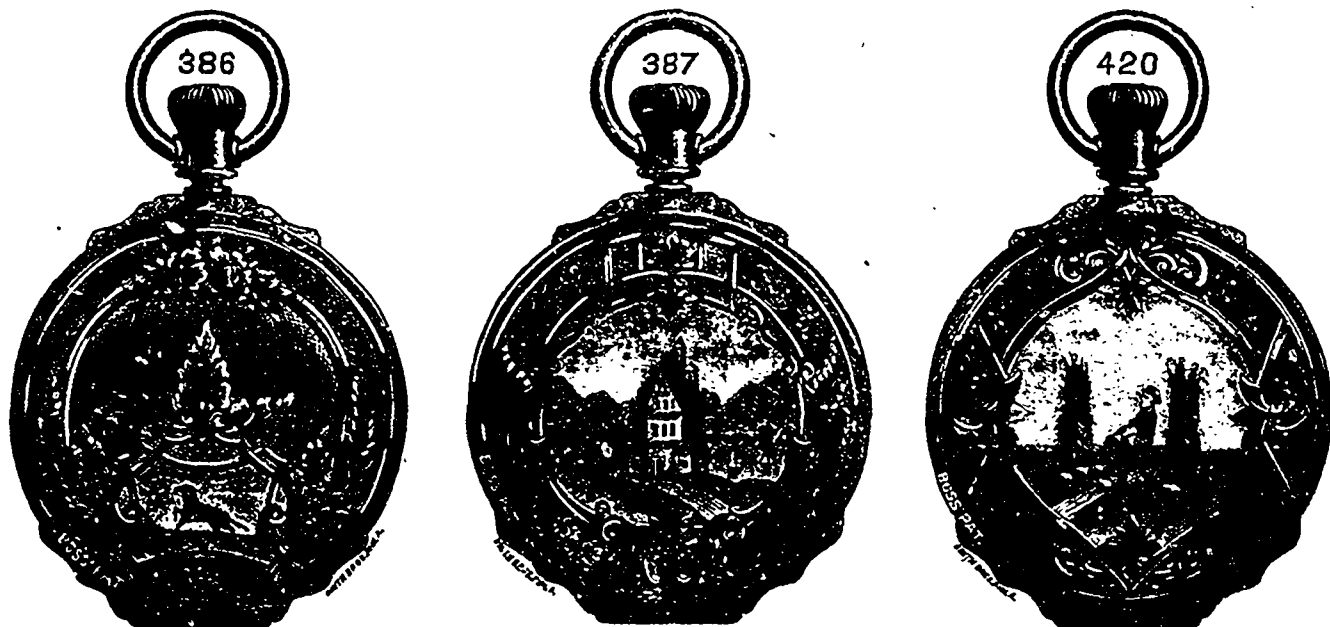
The Plantagenets were very rough-and-ready financiers. When Richard I. took it into his head to try conclusions with Saladin, he raised the needful by turning the crown manors and the fortresses of Roxburg and Berwick into hard cash, selling offices of trust to the best bidders, and did not hesitate to avow that he would dispose of London itself if a purchaser was forthcoming. Strangely enough, Cœur de Lion never seems to have thought of doing the same by his crown jewels. Henry III. was the first English monarch who had recourse to that undignified expedient. The idea, indeed, did not originate with him; for it is recorded that when some person or persons unknown suggested the replenishing of the royal coffers by selling the crown plate and jewelry the King hinted a doubt as to the likelihood of finding purchasers, and being assured that the citizens of London would gladly accommodate him. Henry exclaimed: "On my word, if the treasury of Augustus were brought to sale, the citizens are able to be the purchasers. These clowns, who assume to themselves the name of Barons, abound in everything, while we are reduced to necessities!" Notwithstanding his indignation, Henry, like other men in his predicament, was willing enough to deal with the full-pursed ones he abused, and so, in 1248, he sold the citizens of London all the plate and jewelry he had already mortgaged to the merchants of France. The relief afforded was, however, only a temporary one, for seven years later we find him demanding 8,000 marks of the Jews, and answering their remonstrance against the exact-

NEW LINE

—OF—

Jas. Boss' Gold Watch Cases.

THE LOUIS XIV OR BOX JOINT STYLE.



These Cases are engraved in all designs now being used on our regular goods, as well as a special line, particularly adapted to this style of case.

THE BOX JOINTS ARE ALL MADE OF SOLID 14k. GOLD.

The JAS. BOSS GOLD WATCH CASES are unapproached in quality, construction, finish and ornamentation.

THE GOLD USED UPON THEM ASSAYS $14\frac{2}{10}$ KARAT BY U S. MINT ASSAY.

All of the parts most subject to wear are made of SOLID GOLD. They are not gilded to make them look better than they really are, consequently will not change color in a short time, to the annoyance of the dealer and disgust of his customer.

For Sale by all Canadian Jobbers.

tion by pleading that he was a heggar, spoiled and stripped of all his revenues, without a farthing wherewith to keep himself, and therefore must have money from any hand and by any means.—*All the Year Round.*

A LUCKY FIND.

In 1847 Godfrey Luther and his son were engaged in gold mining on Wilson's branch, in what is now Wilson's district in this country. Their appliances were of the rudest kind, consisting of sluice and rifle boxes and the traditional miner's pan. On one occasion, Col. John E. Redwine, then a lad of about 16, was sent by his father to Mr. Luther's works to see him about some business matter. While there the elder Luther and some other gentlemen walked off some little distance, and he continued in conversation with the young man, who was "panning out" some earth and showing Redwine the gold. In one pan he noticed an exceedingly beautiful pebble, and called Mr. Redwine's attention to it, and while they were admiring it the other gentleman returned, and they also noticed its beauty. The gentlemen, without any idea of its value, remarked to the boy, "I'll give you a dime for it." "All right," said he, and accepted it gladly. Some time afterward the gentleman was in Gainesville and showed the stone to Dr. Daniel. That gentleman believed it to be a diamond, but finally paid the gentleman \$30 for it and took the stone. He sent it to London, there being at that time no diamond cutters in the United States, where experts pronounced it a diamond of the first water, and he received for it \$800. It was afterward rumoured that it sold for a much larger sum than this, but nothing is known positively of its history beyond its sale in London.—*Gainesville (Ga.) Eagle.*

MINUTE WORKMANSHIP.

The Salem Museum, Massachusetts, has in its possession a cherry stone containing one dozen silver spoons. The stone is of the ordinary size, the spoons being so small that their shape and finish can be distinguished only by the microscope. This is the result of immense labor for no decidedly useful purpose, and there are numbers of other objects in existence the value of which may be said to be quiet as indifferent. Thus, Dr. C^ober gives an account of a

cherry stone on which were carved 124 heads, so distinctly that the naked eye could distinguish those belonging to popes and kings by their miters and crowns. A Nuremberg toy maker inclosed in a cherry stone which was exhibited at the French Crystal Palace, a plan of Sebastopol, a railway station, and the "Messiah" of Klopstock. Pliny, too, mentions the fact that Homer's Iliad, with its 16,000 verses, was written in so small a space as to be contained in a nutshell. The greatest curiosity of all, however, was a copy of the Bible written by one Peter Bales, a chancery clerk, in so small a book that it could be inclosed within the shell of an English walnut.—*Ex.*

PEARL SHELLS.

The *Central Anzeiger* contains the following item from Adorf, the chief seat of the German mother-of-pearl industry:

Our mother-of-pearl industry, principally engaged in the manufacture of *articles de luxe*, generally are received only after New Year; but this time our workmen were busily engaged. Orders from America have again been received plentifully, and give rise to the hope that work will be abundant. We must remark about the source of supply of the crude shells, that until now Liverpool supplied all demands, being the centre of shell seekers. But according to an item in an American newspaper, America again enters into competition with England. The steamer *Burswell* sailed at the end of last year to Havre, loaded, among other things, with thirty-six hogsheads of pearl shells, which were sent to a manufacturer at Paris. Should they turn out to be good, America will soon be able to send more. In the factories at Adorf, the American sweet-water shell *Cassia*, has been used already, but it is said that the aforesaid vessel transported a new sea shell, found on the southern coast of California, and took them as samples to be tested. That also very valuable finds of shells may be made, is shown by the circumstances that, in 1827, a Paris professor paid the sum of 6,000 francs for a *Spondylus regulus*, and that a few years ago in London, a very handsome shell, without pearl, was sold at auction at 1,200 francs. Should America seriously enter the market as shell furnisher, the crude material will at least not become dearer.

ENGLISH AND AMERICAN BRAIN AND HAND WORK.

In the September number of the *Atlantic Monthly*, Mr. Richard Grant White has given a very gracefully written and interesting account of a visit to Oxford and Cambridge and of what he saw there.

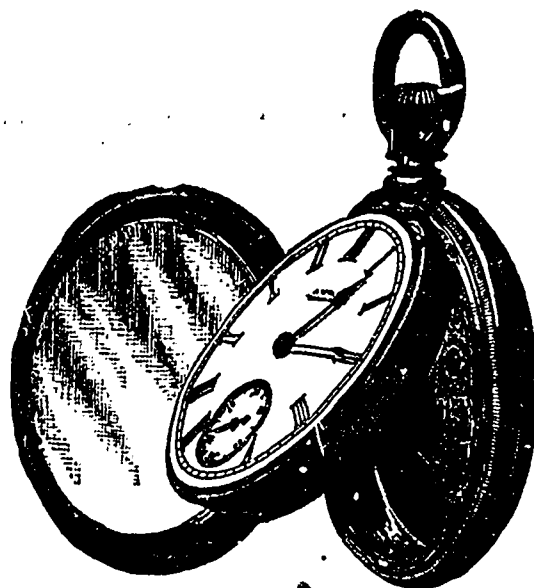
He says: "Nothing impressed me more constantly and more pleasantly in England than the absence of 'drive.' Everybody seemed to take life easily; nobody seemed to be very hard worked, and yet the amount of effective work of all kinds done in England, whether with hand or head, is very much greater than that which is done in America."

The implication is that in this country people work in a hurry and accomplish less than in England, where they keep cool and go slow. Now, we are prepared to dispute this proposition with reference to hand work and also with reference to head work, except in a peculiar literary field. In philosophy and in the higher walks of literature, England excels America; in scientific thought or in mechanical handiwork, in proportion to the numbers engaged in such pursuits, America outstrips England. It is a noted fact that, with regard to mechanical and manufacturing operations, in proportion to the help employed in our establishments, a far greater amount of production is accomplished than in English establishments, and it is owing to this fact that, notwithstanding the much higher price of labor with us, we have been enabled to enter the markets of the world and successfully compete with England, even in the products in which she has, till within a few years, held a monopoly.

Englishmen coming to this country and entering our machine-shops are astonished at the rapidity with which certain kinds of work are performed. Americans visiting English work-shops are equally astonished at the slowness with which these operations proceed.

The reason why England excels us in the higher walks of literature and philosophy is that a greater number of workers exist there, who are, on account of their wealth, possessed of leisure to persistently pursue any course of study which interests them. Here, nearly every student is obliged to devote more

THE AMERICAN WATCH CO.'S PATENT DUST-PROOF STEM-WINDER,



—AND—

—WHAT AN IOWA JEWELER SAYS OF IT.—

(Extract from a letter written by C. S. RAYMOND, Clinton, Iowa, April 29, 1881:)

"I wish you would send me a Spring for the Wm. Ellery Watch. * * * * *

'By the way, this Ellery is a watch I sold to a farmer, in your Screw Bezel Case, last Fall. The first of January he "lost the watch in the woods and found it this week in about one foot of water. It had lain three months and "over in snow and water, with but a slight injury to the watch—only a hair spring."

The above, as will be seen, was a very severe test, and demonstrates that, for a reasonable length of time, during which a watch might be under water, it would receive no injury whatever.

We wish to call attention to the fact, that although we do not guarantee such cases to be absolutely water-tight, many of them are, and nearly all can be made so, with a little care and attention to details, such as thoroughly cementing the glass, etc.

**As a Perfectly DUST-PROOF Stem-Winding Watch Case, we
challenge the world to produce its equal.**

ROBBINS & APPLETON.

SOLE AGENTS.

NEW YORK.

BOSTON.

CHICAGO

or less time to some occupation by which he can gain a livelihood.—*American Machinist*.

We fully coincide with the above criticism quoted from the *American Machinist*, and remark that so far as the horological jewelry and silverware trades of this country are concerned, while their artisans have lacked almost all of the ordinary means of technical education in their various trades, having no organizations, schools, libraries, or historical past with its "old masters" from which to draw knowledge and inspiration, they entered their own market to find it occupied by experienced and wealthy foreign competitors, while they were absolutely unknown in any other. The "absence of drive," "the taking life easy" among her law-makers and tradesmen, the nursing of pride and prejudice in trade, the catering to the trade of royalty and government "boards" has given to the busy, inventive, persistent Yankee an opportunity to catch the ear, please the eye, and favor the pockets of the general public everywhere. As a result our factories in these trades, and they are many, are busy without exception, and unless England listens to others than such "graceful" and pleasant writers than Mr. Richard Grant White, and provides more wholesome regulations for her tradesmen her manufacturing interests in the lines for which we speak, will remain in the very "unsatisfactory state" in which they are to-day.—*Jewelers' Journal*.

MICA MASKS.

A well known German manufacturer of mica wares, Herr Raphael of Breslau, now makes mica masks for the face, which are quite transparent, very light, and are affected neither by heat nor by acids. They afford good protection to all workmen who are liable to be injured by heat, dust, or noxious vapours, to all workers with fire, metal and glass melters, stonemasons, etc. In all kinds of grinding and polishing work the flying fragments rebound from the arched mica plates of the mask without injuring them. These plates are fixed in a metallic frame, which is well isolated by means of asbestos, so as not to be attacked by heat or acid. These masks allow the turning of the eyes in any direction, and, as against mica spectacles, they afford the advantage of

protection to the whole face. In certain cases the neck and shoulders may also be guarded by a sheet of cloth impregnated with fireproof material, or by asbestos sheet, attached to the mask. The interval between the mica and the eyes allows of workmen who have poor eyesight wearing spectacles, and of workers with fire or in melting operations wearing colored glass spectacles under the mask without fear of breakage of the glass, mica being such a bad conductor of heat. Where the mask has to be worn long it is found desirable to add a caoutchouc tube with mouthpiece for admission of fresh air; the tube passes out to the shoulders, where its funnel-shaped end (sometimes holding a moistened sponge) is supported. The mask has a sort of cap attached to it for fixture on the head.—*London Times*.

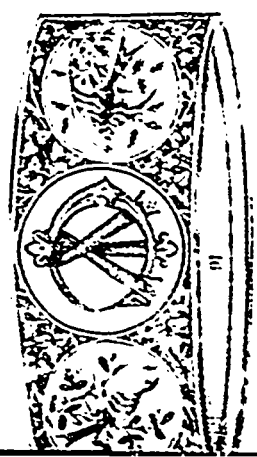
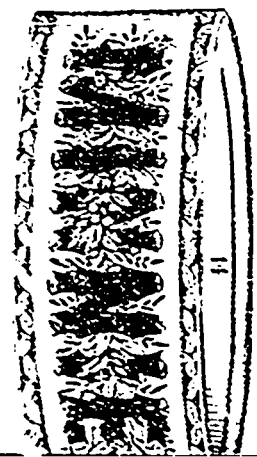
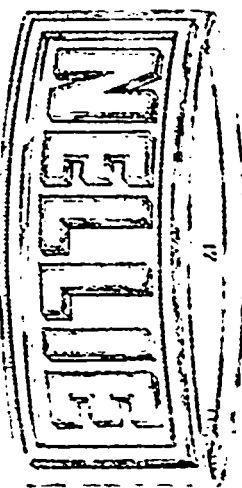
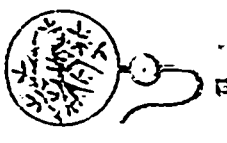
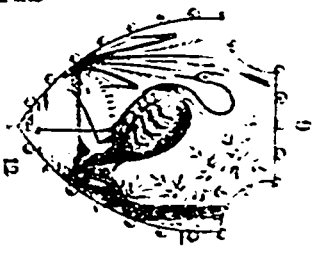
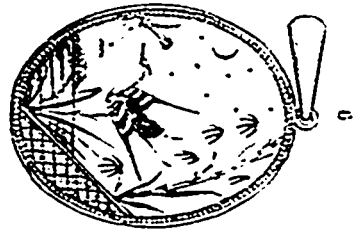
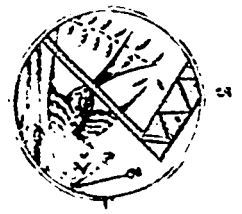
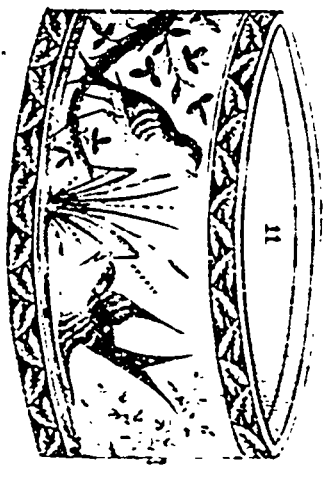
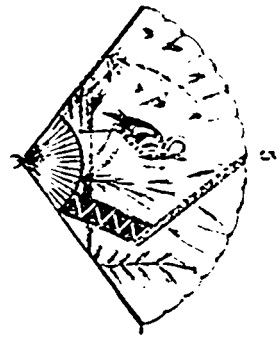
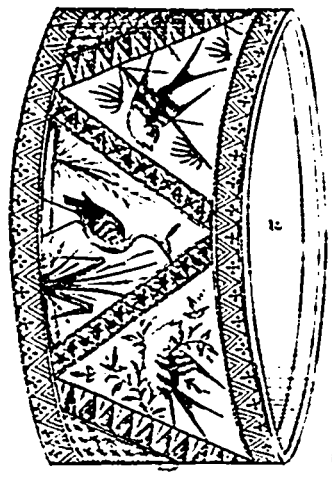
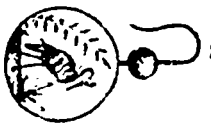
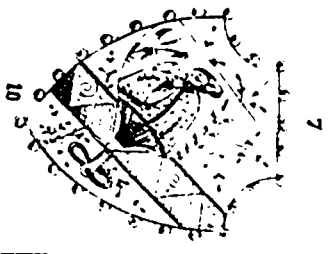
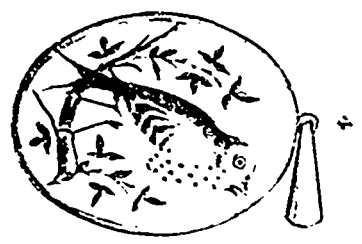
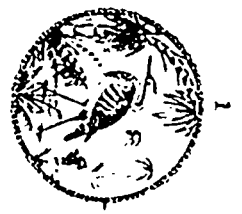
HOW INDIANS MAKE JEWELRY.

The California sea shell is a regular article of trade among the wild tribes of Indians on the Plains, as well as among the civilized ones. The shells are about one-fifth of an inch in thickness, five or six inches long, and 4 inches broad. They are shaped like a saucer, and the outside is prismatic, the colors often merging into blue, green, pink and gold. Near the edge the shell is very thin and delicate, but hard to break. The Indians saw it into pieces, some round, others square, oblong or pendant, and these they string together by means of wire passed through little holes bored in the pieces. Brass beads are often strung on wires, as a sort of washer, between different parts of the earring, while those suspended on sinews form the pendants. A large brass ring for the ear generally begins a Sioux earring, and to this are hung five or six pendants, made of beads, supported on wire; to these pendants are attached a cross-piece of green hide or wood, then another column of pendants. To these are hung large and small beads, then another cross-piece and next three large wampum beads, beneath which is suspended the piece of shell that gives the earring its value. A shell will make one pair of rings, and it generally costs two robes, or \$6. They are something over a foot long, and from three to four inches in breadth at their widest portion. What the ears of the Indians are made of, to withstand such a strain, is

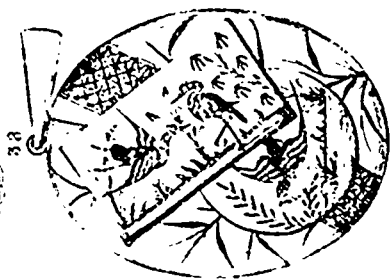
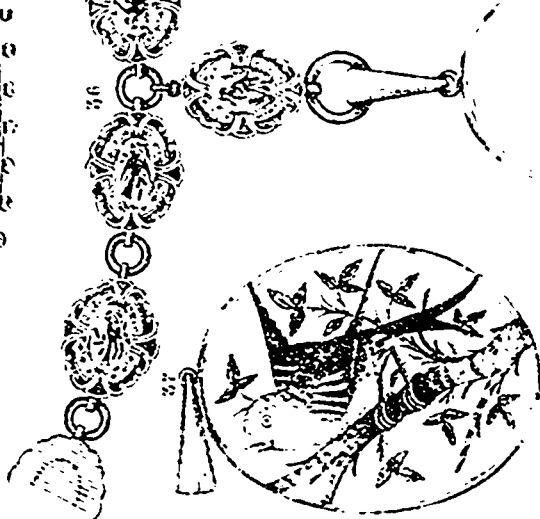
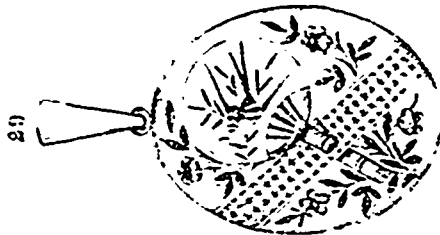
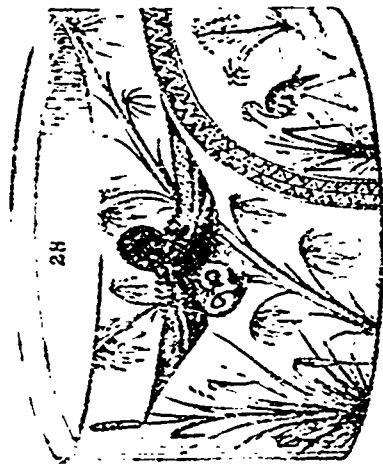
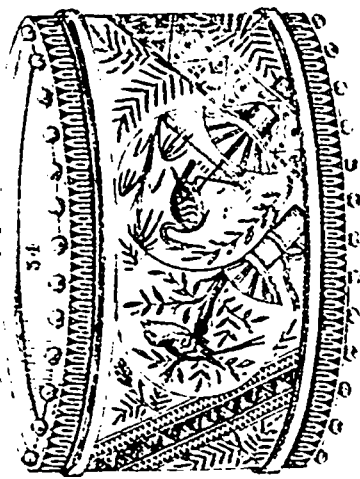
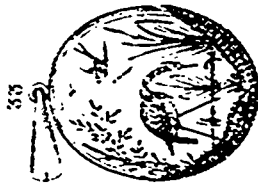
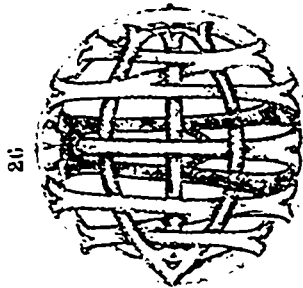
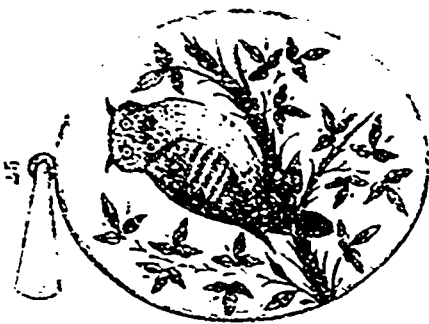
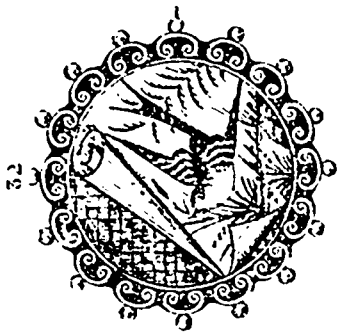
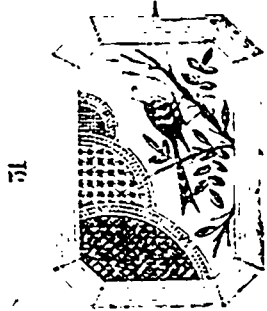
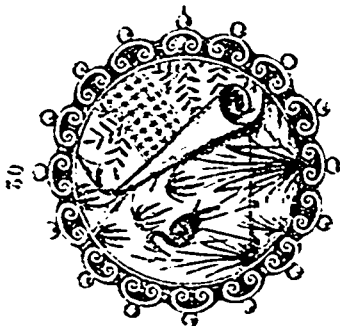
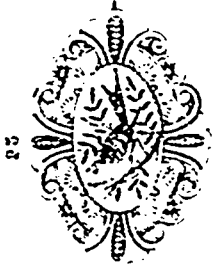
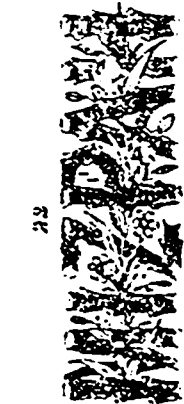
a mystery; but pride and vanity tell the story of the savage as well as the more civilized dwellers in the cities and towns.—*Jewelers' Journal*.

FORMATION OF DIAMONDS.

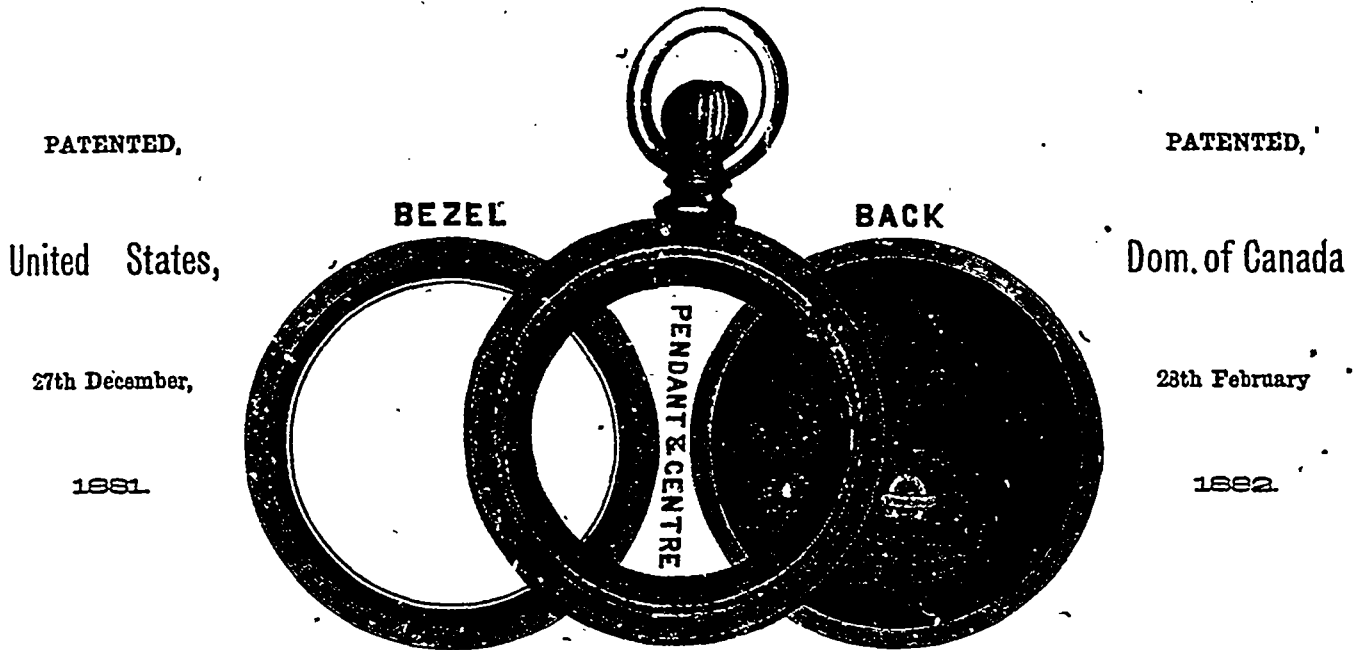
We do not know in which of her laboratories or by what long process of distillation nature forms the glittering grains for which souls and kingdoms have been bartered. "Very seldom it is, and thought a miracle, to meet with a diamond in a vein of gold," says Phil Holland, translating Pliny, "and yet it seemeth as though it should grow nowhere but in gold." That was a curious philosophy, not quite extinct, which supposed itself able to guess where things should grow. In Balzac's novel, "La Recherche de l'Absolu," the same theory survives. The hero is "trying to get the Absolute into a corner" by means of alchemy. He does not quite succeed with the Absolute; but when all his means are exhausted, his crucibles cold, his furnace faded out, his friends find diamonds in the sediment of one of his alchemical messes. Diamonds really were found in gold, or at least in auriferous strata, by gold diggers on the Mudgee, in Australia. In 1829 they were found in the gold washings on the European side of the Ural Mountains. Believers in the old "sympathetic" philosophy would have had that Nature was half consciously putting forth her noblest productive energies and combining her choicest ingredients in these districts. The gold was comparatively her failure, the diamonds (people would have said) her success. And just as alchemists tried to distil out of gold, as the most perfect substance, the elixir of life, so they would naturally have tried to make diamonds out of gold. Not till early in the seventeenth century did people even guess that the diamond was an inflammable substance. "Neither was it known for a long time," says the old translator of Pliny, "what a diamond was, unless it were by some kings and princes, and those but few." As to its combustible qualities, the ancient writer flatly denies them. "Wonderful and marvellous is the hardness of a diamond; besides it hath the nature to conquer the Furie of Fire; nay, you shall never make it hot, do what you can." Yet the members of the Academy of Florence "made it hot" for the diamond in 1694



SUPPLEMENT TO "TRADER"
P. V. ELLIS & CO'S DESIGNS FOR SILVER JEWELLERY



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. He it 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.

in the presence of Cosmo III, and these experiments at high temperature led to the discovery of the essential nature of the stone. Notwithstanding the alleged discovery of a process for making artificial diamonds, fine goods are commanding a higher price than heretofore, because of their growing scarcity. Preference is given to stones having a faint blue tint. Small first water stones from $\frac{1}{2}$ to a carat are quite scarce, large quantities of them being worked up into fine jewelry. Owners of genuine diamonds need not get stampeded just at present over this artificial diamond bugbear.—*Ex.*

MUSICAL BOXES:

Almost from the earliest history of clocks and clock-work, dates also the history and use of mechanical music. Bells upon church towers, from being sounded at stated intervals by ecclesiastics, came to be acted upon by clock mechanism, and which, in the process of time, from striking the hours, was required to announce also the quarters. The lingering sweetness of these tones begot the desire for chimes, a species of music very common upon ancient churches, and which has descended to our time. The ringing of these chimes was a duty which demanded some musical skill, as well as considerable muscular effort. These duties were also, in time, put upon the clock machinery, and hence arose the invention of barrels for ringing these chimes.

From the ringing of chimes by a cylinder revolved by the clock in the bell towers, naturally enough grew the custom of so constructing the cylinder as to play simple airs upon the chime bells. From this beginning sprung barrel organs; that is, those musical machines which depend upon the action of air upon reeds or pipes for their tones. The principles of construction are the same, whether it be a chime of bells in a church tower, a hand organ on a beggar's back, or a music box in a lady's boudoir; each are operated by a revolving cylinder with projections upon it for actuating mechanism that produces musical tones; the only difference being, that in those instruments where the tones are from pipes or reeds, the valves which admit the air must be held open during the continuance of the tone; consequently, the projections upon the barrel must be more than points or pins, which would give only a single ex-

plosive note. To do this, a bridge or staple is used for such notes, and of a length proportioned to the time the note is to be prolonged.—*Jewelers' Journal.*

BUSINESS CHANGES FOR SEPTEMBER.

Geo. Eddleston, stoves and tins, Stratford, sold out to James Nesbit. M. Myers, jewelry, Montreal, stock slightly damaged by smoke and water. John Woltz, jewelry, Winnipeg, sheriff in possession. Miss Scott, Woodstock, fancy goods, sold out to Miss Wood. R. Y. Ripple & Co., Hardware, Brandon, assigned in trust. Saunders & Kersch, Stoves & Tins, Emerson, about removing to Manitoba City. Walton & Bird, Hardware, Emerson, about opening a branch at Manitoba City. T. L. Dodge & Co., Hardware, Kentville, dissolved; Dodge continues under old style. Wm. Thomson & Co., crockery, Toronto, advertise business for sale 20th inst. Thos. McGratton, Uxbridge, tins, damaged by fire. A. McLean, Brandon, Hardware, Sheriff in possession. Geo. Elliot, tinsmith, Frederickton, N. B., away. T. J. Carroll, Jeweler, Hamilton, sold out. J. J. Campbell & Co., dry goods, Regina, assigned in trust. Horsman & Co., Hardware, Winnipeg, assigned in trust. Cameron and Westcott, hardware, Beaverton, assigned in trust.

BUSINESS NOTES.

THE firm of Hadden & Rorabeck, hardware merchants, Picton, dissolved Oct. 1st. E. H. Rorabeck retiring, R. Hadden continuing the business.

A LARGE hardware firm in Winnipeg, Horsman & Co., has assigned with liabilities, as shown a month ago, of \$24,000, and assets \$38,000. They will probably be able to effect a compromise with creditors.

WE understand that J. R. Ormond, jeweler, of Winnipeg, has had his stock seized by the Customs authorities for smuggling, and that he is likely to have several thousand dollars' worth of goods confiscated.

THE firm of Metcalf & Stephen of Blyth, Ont., jewelers and stationers, have dissolved partnership. The firm have succeeded in working up a splendid trade. The business is to be continued by F. Metcalf for whom we wish every success.

WE regret to announce the death of Mr. Cleary, of the firm of Nerlich & Co., wholesale Fancy Goods dealers, of this city. Mr. Cleary was a true gentleman, and will be deeply regretted by every one who had the pleasure of his acquaintance.

A CENT stamp, partly on the wrapper and partly on the newspaper, in the United States, constitutes it a sealed package, and the package will go only to the dead letter office. The public are interested in having this official triviality more widely known.

ON Saturday morning last month the steamer *Annie Craig*, specially chartered, conveyed the employees of P. W. Ellis & Co., numbering about 150, to Victoria Park, where they held their annual picnic, by the kind permission of

Ex-Ald. Lobb. A long programme of athletic games were closely contested, comprising many interesting features.

ADVERTISING is to business what food is to existence. It should be regular, adequate and varied. Large advertisements pay better in proportion than small ones. The object is to be seen and remembered. A business man should have an attractive advertisement just as much as he would have an attractive show window in his store, if the latter is in a prominent place. How much more prominent is a good newspaper.

THE Montreal Customs authorities have been going for several of the retail customers of the jobbing firms recently fined for smuggling in that city. We understand that amongst others Mr. Bailey of Cornwall had his stock seized, but he was fortunately able to show that he had no connection with the smuggled goods and thus got off. Retail dealers for this reason should be very careful to buy goods only from reliable houses, if they don't, they may find themselves minus of their extra cheap goods some day, the customs people having a prior claim to them.

SAYS the *Globe's* Winnipeg correspondent:—"John Woltz, identified with teller Andrews in the recent Imperial Bank embezzlement of \$13,000, has been again arrested and was lodged in the Provincial gaol last night on a charge of forgery. The charges are based on cheques as follows:—A cheque on the Bank of Ottawa for \$500, signed E. Roll and payable to bearer; a cheque on the Federal Bank for \$678, signed Wm. Stephen and made payable to J. A. Ross or bearer; a cheque on the Federal Bank for \$600, signed by Wm. Stephens and payable to bearer; and a cheque on the Federal for \$678, signed by Wm. Stephens and payable to J. A. Ross. The prisoner was taken before Police Magistrate Peebles this morning and remanded until Saturday."

A NEW firm in this city, Rae & Watson, offer to business men what has been long a desideratum, viz: facilities for sending parcels from this side of the water to the old country. This they are in a position to do from having the agency for Wheatly's Globe Foreign express. London and Liverpool, which does a considerable business already in shipping parcels to Canada. The new firm, one of whom was with Morrison, Taylor & Co., and the other with Rice Lewis & Son, have a good record and have some desirable agencies. That for example of Wm. Cook & Sons, Glasgow steel and file works, and Andrew Mitchell & Co., sack manufacturers. They also propose doing a general commission business.

MR. A. KLEISER, dealer in watchmakers' supplies, No. 14 King street east, and Mr. S. Saniger, manufacturing jeweler in the same building, had a visit from certain toilers of the night last month. Before leaving their places of business both gentlemen put their valuables in their respective safes, and locked carefully their respective doors. When Mr. Kleiser came down town in the morning he found that his door had been forced, and an attempt made to break open his safe, and Mr. Saniger had the same experience. Whoever the housebreakers were they were not good workmen, as there was evidence that their work was of the rough-

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 Nickel Silver in

Extra, Double, Triple, and Sectional Plate.

Full lines of over Forty Staple and Fancy Pieces

in each Pattern in Geneva, St. James Countess, Windsor, Oval Thread, etc. Made under the supervision, and quality guaranteed, and controlled by Wm. Rogers, formerly of Hartford and Meriden. (Wm. Rogers, Sr., died 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.

est description. Nothing has been missed, save a few trivial articles from the rooms, and it is thought that the thieves were disturbed before they had been long on the premises.

REFERRING to the exhibit of silver plated ware by the Toronto Silver Plate Company at the late Toronto Industrial Exhibition, the *Mail* says:—

"Those who admire the silversmith's art and beautiful sideboards and table ornaments should see the magnificent display of the Toronto Silver Plating Company, near the centre of the main building. All the goods shown in the case were designed, moulded, and finished at the company's works on King street, this city, and so great has been the demand for this style of work that where twelve men were employed a year ago, thirty men are now engaged in the different branches. The six epergnes shown are equal, if not superior, to any that can be made outside this city, the designs being of the handsomest and the work of the most artistic. In the east front of the case is a set of majolica table ware, mounted in heavy plate, which will compare favourably with anything from Europe. There are wine urns, Bohemian vases, Wedgewood ware, strawberry and cream dishes, fruit dishes cut glass claret jugs, opaque and damask gold vases, tilting ice pitchers, tete-a-tete sets. There is a beautiful salad bowl, hand painted, and oxidized in gold and silver. The delicate tracing and repousse work on some of the exhibits surprise those who keep no account of the strides of art in this city. The display attracts great attention."

SAYS the *Coaticook Observer*.—"In relation to the seizure of jewelry made here on the 7th instant, we learn that the facts are as follows: Information had been given that J. H. Jones & Co., of Montreal, had some time ago, had some jewelry smuggled through for them, and, in consequence, the Custom Officer Lemoine when he saw W. F. Jones here went to Collector Williams for instructions, the Collector said examine him. This was done by Lemoine in presence of Collector, and Jones was politely asked for his invoices. He had none, alleging that all invoices were in Montreal, where all their goods were entered. To accommodate Mr. Jones, Collector Williams sent the trunk of jewelry into Montreal in charge of Officer Lemoine, who handed it over to the Customs there. We have since learnt that Mr. Jones, in return for Mr. Collector Williams accommodation, no doubt, has turned around quite savage and abused the Coaticook Customs for daring to suspect the honesty of his house. It seems to us that Mr. Jones is just as amenable to customs inspection as any other trader, and has been treated far better than our townsman, A. O. Norton, who was knocked about by the Montreal Customs for seven days, and put to considerable expense, because some *would-be* virtuous person said he was a smuggler."

"DONE UP" FOR DIAMONDS.

HOW A HOTEL CLERK SWINDLED THREE TORONTO JEWELERS.

Wm. P. Sawyer, the young man with the terra cotta hair and moustache, who for the past six months was to be seen behind the desk at the Rossin house performing the duties of

clerk, handed in his resignation to Chief Clerk Nolan Wednesday morning without previous notice. Mr. Nolan was taken somewhat by surprise but said nothing. He examined Sawyer's accounts and found them correct. Sawyer said his reason for leaving was that he wished to return to the boot and shoe business with Mr. Brown in Queen street west. The proprietor of the hotel subsequently had a talk with the young man and told him that there was something on his mind. "Whatever it is," said Mr. Irish, "I would advise you to get rid of it, as it is nothing good." As will be seen by the sequel, Mr. Irish's words proved to be prophetic. Nothing further passed then and Sawyer was paid off. About noon an express package from Chicago marked \$500 arrived at the hotel for Sawyer. It was placed in the safe, pending the ex-clerk's return. He came back between 1 and 2 and on being informed of the arrival of the package requested that it be allowed to remain in the safe, as he did not wish to use the money just then, all of which turned out to be part of the game that Sawyer thereupon set out to play.

The nice young man did a rushing and most successful swindling business in the next two hours. From Ellis & Son, jewelers, he bought two sets of diamond ear-drops for \$950, tendering in payment a check on the Home Savings & Loan Co., Church street. Mr. Ellis knew his purchaser and accepted the check, which was made payable on the 28th. Sawyer bore off his diamonds in triumph. He next presented himself at C. & J. Allen's establishment, where, through the same device, he obtained precious gems to the value of \$500. Woltz Bros. were his next victims. He wanted to purchase largely from them with a check, but they refused to accept it, although they let him have a \$125 ring on the promise of his paying them the next day. Mr. Sawyer now thought that he had all the diamonds he wanted and went into the bogus draft business, obtaining an advance of \$187 on one from Gzowski & Buchan. The draft was drawn on a Chicago firm. This ended Mr. Sawyer's operations and he immediately made himself scarce.

Between three and four o'clock Mr. Ellis enquired for Sawyer at the Rossin house and was informed that he was no longer connected with that hostelry. In reply to Mr. Irish, the jeweler said Sawyer owed him a small amount: Had Mr. Ellis stated the real nature of Sawyer's transaction with him, Mr. Irish thinks there would have been time to have headed the swindler off. But Mr. Ellis did not do so then, but proceeded to the Home Savings company's office where he learned to his dismay that Sawyer had no account at all. In the meantime Mr. Irish's suspicions were aroused and he took the liberty in presence of witnesses to open the \$500 package, when lo and behold he found not a pile of crisp greenbacks but blank tissue paper. It was at once apparent that Sawyer was working some scheme, but the Rossin house folks could not fathom it, as they had not heard of his afternoon's exploits. Later on when Mr. Ellis, Mr. Allen and the other victims came to the hotel and told all, Sawyer's game was seen through. In the first place he must have had arranged with a confederate in Chicago to send on the \$500 package so as to arrive Wednesday,

which would give him an opportunity to work the town that day. His object in allowing the valuable (?) package to remain in the safe was to allay suspicion, in the event of enquiry at the hotel as to his financial standing. The draft, too, is supposed to be part of the confederate's work. The scheme was well laid and it was successfully operated, Sawyer being ahead \$1275 worth of diamonds and \$187 in cash. The case was of course reported to the police but there is not much chance of catching the swindler, as he is doubtless by this time across the border, slyly laughing in his sleeve.—*Toronto World*.

WORKSHOP NOTES.

SOLDERS.—Fine gold, 8 parts, fine silver, 10½, copper, 5½; or 13½ karat gold, 10 parts; fine silver, 5; zinc, 1; it is necessary, however, to say that the latter solder cannot be used for articles to be colored, and it is well to remember that any solder containing zinc cannot be used for coloring, as it turns black.

A silver solder not very hard of fusion consists of 7 part silver, and 1 finest alloy brass, or 20 parts 12 part silver, 3 zinc, fine silver, 5 parts, fine alloy brass, 6, zinc, 2, this composition is very quick of fusion, but less malleable than those commonly employed, owing to its great percentage of zinc (20 per cent).

PROTECTING SILVERWARE Table ware and other articles of silver, solid as well as plated, invariably become tarnished if not used for some time, especially if stone coal is burned in the house or neighborhood, owing to the sulphur it contains. Such tarnishing, however, may completely be prevented by first heating the ware and afterward anointing it with a coating of collodion thinly diluted with alcohol, laid on with a camel's hair brush. This coating dries at once and forms a very thin, transparent film, which completely protects the silver, and which, if necessary, is quickly removed by hot water. The method is much used in English silverware stores, to protect the ware against tarnishing.

MOZAIC GOLD.—One pound pure tin is melted. ¾ pound mercury which first has been heated in an iron spoon until it commences to smoke is poured into the molten metal, and stirred with an iron rod, when cold, a lump is found, which must be rubbed, and when reduced to powder, ¾ pound purified sal ammonia, and ¾ pound flour of sulphur is incorporated with it. The powder is then put into a glass alembic this set into a glass capel, and fired little by little, until the sand is at a glow heat. After the cooling, the alembic is broken, and its upper layer within will be sal ammoniac, below zinnabar, and lastly the mosaic gold, in shape of a gold colored glittering mass, weighing about 1-12 more than the tin supplied.

TO IMPART A FINELY GROUND SURFACE TO A GLASS PLATE.—For this purpose, use a very fine sand, river, or what is still better, the sediment from grindstone. Stir either of these in a vessel filled with water: after a few minutes, the upper half of the fluid will begin to clear up, and this part, containing all the finer parts of the agent employed, is dipped off with a watch glass. The

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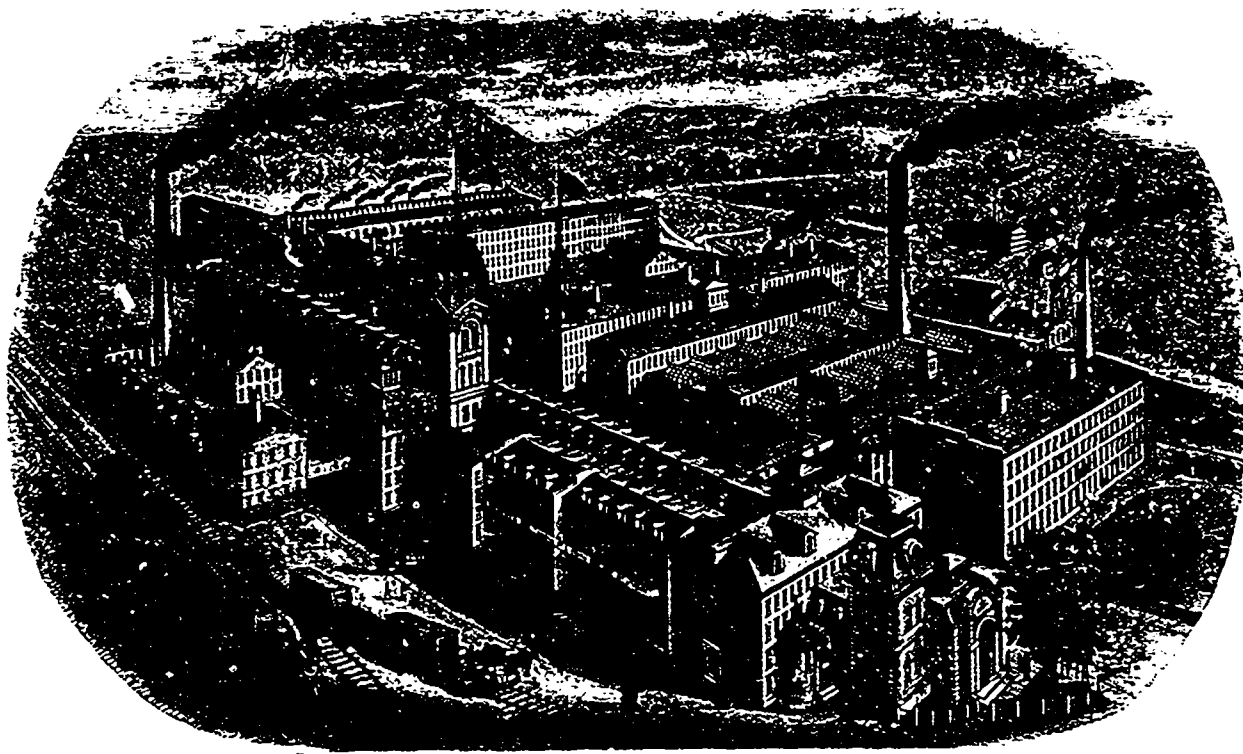


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The Meriden Britannia Company have been awarded the highest premiums wherever exhibited, from the WORLD'S FAIR, 1863, to the PRESENT TIME, and the high reputation of our Goods throughout the world has induced other makers to imitate our Trade Marks 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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glass plate to be treated is laid upon a damp cloth spread upon a table, and of the aforesaid fluid a sufficient quantity is put upon the plate, and the watch glass is used for rubbing, its convexity offering a firm hold to the fingers. In about $\frac{1}{2}$ hour a very nice satin-like polish is obtained; by rinsing with water you will satisfy yourself that the grinding has been uniform.

—The *Deutsche Uhrm. Ztg.* contains a short recipe for small watchmakers, who only at odd times are called upon to do gilding, watch-parts or other small articles, and by which the use of a battery is entirely dispensed with. It says, when wheels or other parts of a watch are disfigured by hard usage or botch repairing, and the watch otherwise is in fair order, but would look better by being regilt, clean the parts thoroughly, grind and scratch brush them; next procure from a drug store or photograph material store, one part chloride of gold, and four parts cyanide of potash, dissolve the two together in boiling water, and the gold bath is ready; into this suspend the articles to be gilt by a thin copper wire, which is hung on a clean scraped strip of zinc, and leave it immersed for a few minutes, when the articles will be handsomely gilt in a simple manner.

ANNEALING STEEL PARTS.—A communication to the *Deutsche. Industriel.* contains the following paragraph signed O. K. L. I experimented with steel, and wished to obtain on it a light blue. Pure lead melts at 315°C ., and the same degree of temperature is necessary to anneal steel to light blue. I melted the lead, raising the heat a few degrees beyond fusion, and having ground the steel white, immersed it in the lead, and after having immersed the steel in it for a few moments, withdraw it and had a handsome light blue color. To keep the lead from oxidizing, fuse it under cover of powdered charcoal and soda or potash.

A similar method can be applied for annealing steel yellow, (at 230°C .) by substituting zinc for lead. It must be remarked, however, that the flame must be extinguished as soon as the metal has fused, a continued exposure to the heat would raise the temperature.

SCIENCE NOTES.

DRAMATIC scene painters in Europe have about as fair an idea of things in general in this country as the average European journalist. One of the scenes in a highly popular spectacular play performed in Paris is the Brooklyn bridge. The bridge looks over three feet wide and 600 feet high. Several scores of ships in full sail are moving briskly under it. Palm trees grow on either shore and Indians sit on picturesque rocks around the Brooklyn entrance. At the New York end of the bridge is the capitol at Washington.

A STEAM buggy is under construction in Augusta, Ga. The machine will be about the size of an ordinary buggy, with two wheels behind and but one in front. The machinery will be located in front, also water and gasoline tanks. The boilers are heated by two gasoline burners. The front wheel is extra large, and will bear the entire weight of the machinery. The rear of the machine will be the same as an

ordinary buggy, with ample room for several persons. Its average speed is estimated a mile in three minutes. The speed of the first horse that gets his eye on it has not yet been computed.

AMONG the companies recently formed in Paris is a society for the utilization of solar heat, with a capital of 1,600,000 francs. The invention consists of a huge reflector not unlike an inverted umbrella, the interior of which is lined with a high reflecting agent. In the centre of this, and occupying the position of the umbrella stick, is a standard boiler made of a material highly conductive of heat. This receives the rays from the whole reflector and thus collects sufficient heat to generate steam. In addition to motors the society supplies domestic sun machines which boil water, prepare tea and coffee, grill chops and steaks, fry eggs, and cook other food. Portable machines are made for carrying on horseback which will boil water and serve a dinner on short notice. The company also supplies scientific machines and even furnishes the same power in the shape of a children's toy.

SAVED BY JOSH BILLINGS.—Josh Billings tells the following story of one of his own experiences:—"A few days ago I was driving in New York, and had got just alongside the Metropolitan hotel when a man with a satchel and duster hailed me. He said he wanted to talk to me a moment, and so I drove around on a side street, and we stood and talked.

"Now," said the man, "six years ago I was going down to my lawyer's office, in the town where I lived, to sign some papers transferring a matter of \$10,000. Suddenly something of yours that I had seen in a paper came into my head. I stopped short, thought a minute, went on to the office, and had the papers burned up, and did something entirely different from what I had intended. I saved by that \$6,000. Now I don't know anything about how you are fixed, but if money is any object to you, if there is anything you want, I am ready to divide with you. What will you take?"

"I took a drink. We stepped into the Metropolitan bar, and, after a little claret and ice, I asked the man what saying of mine it was that he had saved his money on. He said it was something like this:—"Never take the bull by the horns, but take him by the tail, because then you can let go when you want to."

"Yes," said the stranger. "I concluded it was just as well to take him by the tail. I could hold on just as well, I could steer him just as well, and let go when I please."

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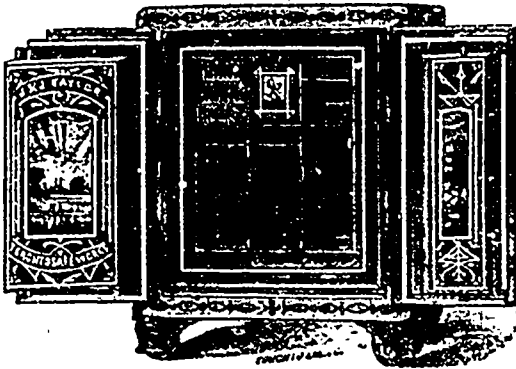
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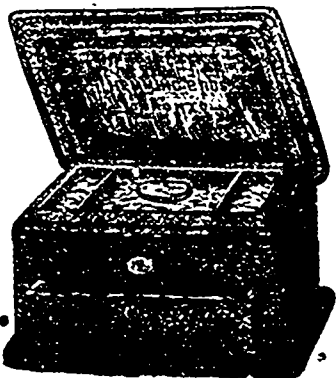
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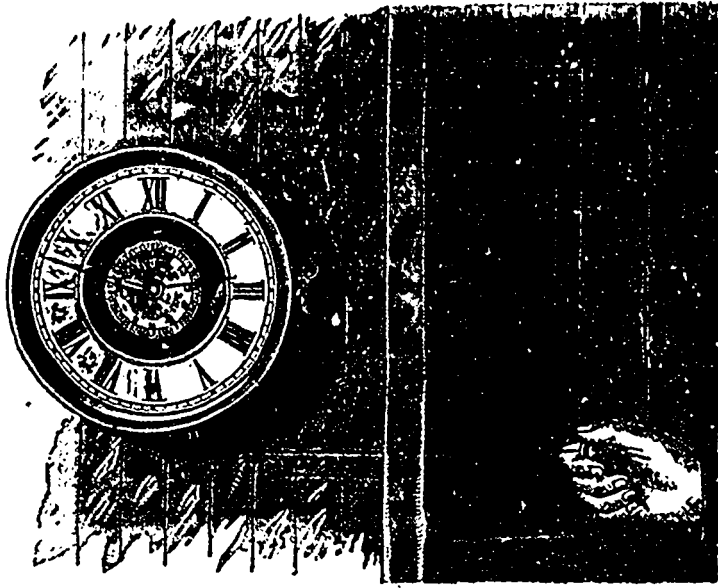
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