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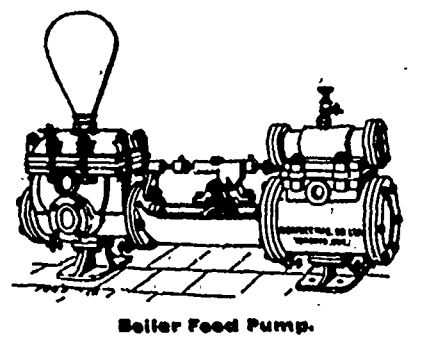
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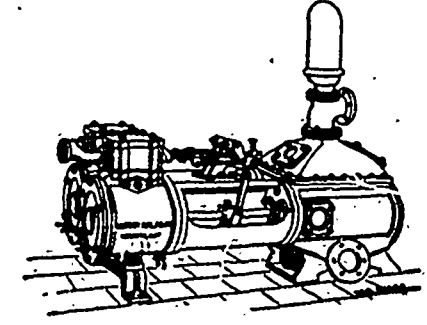
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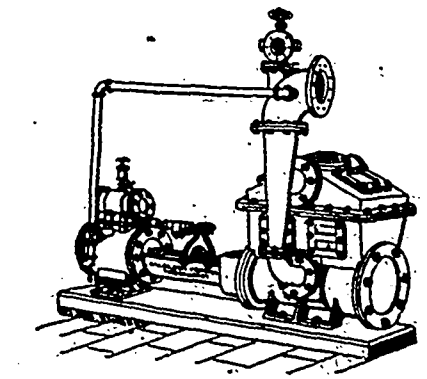
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THE FARMER'S INTEREST IN PROTECTION.

THE Montreal *Star* makes an exhibition of its foolishness by repeating the worn out free trade argument about the taxes imposed by the tariff upon about everything the farmer has use for, and the *Herald* pats it on the back for doing so. The *Star* puts into tabular form some of the duties which it says press heavily on the farmer, enumerating a list of agricultural implements, household necessaries, furniture, clothing, tools, etc., giving the duties imposed upon them, endeavoring to show that these duties are added to what should be the cost, that they are taken from the consumers, and are paid to the manufacturers. It also informs us that the farmer is not taxed on his pork, his bread or his porridge, because he grows them himself.

The importance of this question hinges on whether the tariff is really a tax, and whether the duty is paid by the consumer. Pending the general Parliamentary elections last year the Toronto *Globe* published the complaints of certain of the manufacturers of agricultural implements in Ontario, which declared that they desired access to the American market because there was overproduction in the Canadian market, and that they were forced to sell their products at less than American prices. Admitting the truth of this argument it proves that the *Star* is deceiving its readers, in saying that the tariff is a tax. The fact is, agricultural implements and about everything else in the *Star's* list are quite as low in price in Canada

as in the United States, and in some articles even cheaper. the operation of the tariff being not to increase the price but to retain the Canadian market for the Canadian manufacturer.

Is this of any advantage to the Canadian farmer? If his requirements can be supplied from domestic factories, would it be to his greater advantage to use American goods rather than Canadian? Would it be more desirable to draw supplies from a distant foreign market than from a nearby home market? In the absence of the nearby home manufacturer, with his large army of consumers of farm products, as would be the case without protection, would the farmer receive the larger benefit by sending his products to the far away foreign market for sale? Would he obtain better prices in Buffalo, Detroit or Cincinnati, than in Toronto, Hamilton or Brantford? If so, then he might hope for greater prosperity under free trade with the United States—if not, then his interest is to maintain the status quo.

It is childish to argue that the tariff is inconsistent because it levies no duties upon Iceland moss, rosewood and fancy grasses, and does upon plows, nails and saws. In direct contrast with the Cobden theory, it is not according to the ethics of protection to levy duty upon articles which cannot be produced in the country under any circumstances, or which cannot influence the volume of revenue to any appreciable extent, or for revenue purposes; but it aims to build up at home any industry which may be of value to the country and tends to our commercial independence. Thus any amount of Iceland moss, rosewood or fancy grasses which might be brought into the country would not appreciably effect the revenue no matter what rate of duty might be imposed upon them, and the fact that no duties are imposed on tea, coffee or sugar, being non-produceable in Canada, proves the wisdom of raising revenue in other ways.

The *Star* alludes to the fact that the farmer is not taxed on his bread and meat, because he raises them himself, but it does not go further and show that both bread and meat and every thing else the farmer produces are protected by the tariff, and that without this protection he would not be nearly as well off as he now is. As it is we import millions of bushels of various grains and the duty on them enhances the value of the home product. So also as regards butter, beef, cattle, horses, sheep, hogs, etc. Why does the *Star* not point out these facts? Taking into account the necessity to the country of the farming element, the laborious nature of their work, the privation of many comforts entailed by living away from the centres of population, and the desirability of encouraging the growth of a healthy, country element, it was wise on the part of the Government to adopt a policy which removed the fear of the constant visits of the tax gatherer as would be the case under free trade; which gave the farmer a market at his door for almost everything he produced, and which protected him against the competition of foreigners.

TARIFF CHANGES.

THE *Shareholder*, in a recent editorial, undertakes to adjust the tariff to suit everybody, that is, everybody who believes in a tariff or is willing to tolerate it. The closing sentences of its article are as follows:—

If we sincerely desire to encourage trade relations with Great Britain, if we desire to convince the people of that country that our object in taxing their manufactures is to protect our home manufactures and foster them, we must at least restrict our protective taxation to those articles which Canada produces, instead of extending it to those which the country, though able, has not yet seen fit to introduce and establish. In our present condition as a young country the imposition of customs duties is necessary, necessary as well for revenue as protective purposes, but let the subject of protection first exist, and then consider and legislate for the protection which it deserves. In the meantime a change of duties in many articles is called for. The importers as well as the manufacturers, the consumers as well as the operatives, should be afforded a measure of protection, and that protection consists in doing away with taxation of a high or protective rate on goods which are not manufactured under theegis of the National Policy. Commercial men, boards of trade, importers and consumers should impress upon the Government that fair play should be shown to all alike.

No doubt a sincere desire exists to a large extent in this country to encourage closer trade relations with Great Britain, and the feeling goes to the extent of a willingness to grant tariff favors to that country which we would not be willing to show to foreign nations. We do not mean by this that we would be willing to materially lower or entirely remove our duties on British merchandise, but increase them against the rest of the world. The manufacturing industries of Canada are not in a condition to allow of any reduction or abrogation of the protection they now enjoy; and any effort to put such a policy in force would inevitably result in disaster and destruction. Our love for the Mother Country does not call for self-destruction, and our love for Canada would not allow us to contemplate a course which could bring no other result. As we have heretofore shown, there are many articles which we import largely from the United States which ought to come from Great Britain, and would do so if, without lowering the duties in her favor, we raised them against the American products. It is this sort of discrimination we would be willing to see established.

But the *Shareholder* misses the mark when it suggests that we should restrict our protective taxation to those articles which Canada produces, allowing other articles to come in free. This is entirely contrary to the ethics of protection, and the system would not work at all. For instance, fine broadcloths are not made in Canada, but good, substantial tweeds are. Broadcloths are luxuries for the rich—the common people wear tweeds. According to this theory, then, the clothing of the rich should go untaxed, and the clothing of the common people should be taxed. That would never do. True protection places the burden upon those best able to bear it, and places the minimum of taxation on the common people. The *Shareholder* pleads for the importers, saying that they should be afforded a measure of protection, and that protection should consist in doing away with taxation of a high rate on goods which are not manufactured in Canada; and as a reason for this it suggests that high duties on such goods has the effect of reducing the quality of the goods imported. Certainly the *Shareholder* does not suppose that because Canada imposes high duties upon broadcloths manufactured in England, France and Germany, the manufacturers of those countries reduce the quality of their products; or that, if the

quality of them is now debased, it would be elevated if Canada should remove the duty upon them. This proposition is quite ridiculous, but it is just what our contemporary advances. No wealthy man declines to go without his broadcloth clothes because the cost of them may be a few dollars greater because of the tariff upon them; neither will he buy an inferior article for that reason.

And then if duties are to be levied only upon such articles as are made in Canada, how are we to ever acquire new industries? Scarcely a day passes but we learn of new industries being started; certainly the *Shareholder* would not advise that the tariff be changed every time one of these events is announced. How, then, are we to acquire the new industries, or what sort of a tariff are we to have when it is to be changed every day? No doubt the importers are a worthy class, but they are neither producers nor consumers, and because they are not their interests are not entitled to the consideration that should be accorded to the manufacturers or the people at large. They are a convenience as middlemen, but they are not indispensable to the prosperity of the country.

CANADA AND HER NEIGHBOR.

OUR esteemed Philadelphia contemporary, *The Manufacturer*, has discovered a *casus belli* with Canada, and is determined that if this country continues to decline to accept the political views of Washington instead of Ottawa and London, that it will proceed to demolish us instantly. Its complaint against Canada is that although the United States has refused to enter into reciprocity arrangements with us which promised to be unprofitable to that country, "it has not imposed upon Canadian products, duties more severe than those that have been levied upon similar products of other countries;" that it "has conceded to Canadian commerce without compensation, favors that have not been granted to any other nation;" that "the Canadian Pacific and Grand Trunk railways operate within our borders without restriction;" that "the former owns and conducts several independent lines in the United States, and that the latter has in this country nearly 1,000 miles of railway;" that "these companies are permitted to carry goods in bond across the country, with the result that wares brought from the far East to the Western terminus of the Canadian Pacific road, by subsidized British steamers, are shipped by that subsidized railroad through this country without paying duty, to the Atlantic coast and thence to England;" that "in the Welland canal a discriminating toll of 16 cents per ton on grain is levied upon American vessels;" that "Canada imposes a discriminating duty upon tea and coffee imported through the United States, and a duty of 20 per cent. upon American coins;" that "Canadian and British money built the Canadian Pacific Railroad for the purpose of stealing our trade upon the Pacific;" that "both the Canadian roads are operated in defiance of the Inter-State Commerce Law;" that "Canadian insolence and piratical proclivities are responsible for the trouble we have had with England in the matter of the seal fishery;" that the motive for "this policy of nagging injustice, insult and irritation," is that "the British and Canadian Tories desire to stir up ill feeling between the two peoples so

as to create sentiments against annexation. They hope to force us to consent to reciprocity, which will not discriminate against British goods, and which will give to Canadians such advantages that the latter will not desire political union with us." It enquires: "If Canada taxes our Commerce in her canal, why should we not tax her commerce in our canal?" And so on.

This silly tirade is only a concretion into one article of the continual reproduction of such ideas running continually in the editorial columns of *The Manufacturer*, and represents not only the views of that journal on the subject, but of many others in that country equally uninformed and vindictive. Such sentiments and views are peculiar to the journal, considering that it is the organ of a large, respectable and influential association of American manufacturers. We are accustomed to seeing such bombastic and misleading articles in American political newspapers, particularly such as take much harmless delight and amusement in twisting the tail of the British lion; but it is a source of much pleasure to us to observe that the best and most conservative journal in the United States, specially devoted to the manufacturing industries of the country, uniformly abstain from such unkind and impolitic expressions. They do no good, but they evince a desire on the part of the writer to stir up ill feelings toward Canada when, if he is not too callow to appreciate the fact, those to whom his efforts are addressed are not the floating rabble of the slums of the cities, but the substantial, clear-headed business men and manufacturers who are making the United States the great country it is, and who are too generous to others and too true to themselves to participate in creating bad blood between neighbors.

An examination of some of the charges which *The Manufacturer* urges against Canada will show them to be groundless, while what it calls the exceedingly liberal policy followed by the United States towards Canada is not so very liberal after all. The very word "reciprocity" implies mutual concessions for mutual benefits. Each country should be the judge as to how far it is willing to concede something which it has for something which the other country may be willing to give. There may be some measure of unprofitableness in the giving, but this will be more than counterbalanced by the receiving; and if our American friends desire that any reciprocity with us must be all take and no give, the arrangement would be a delusion to us from which we must beg to be excused.

We challenge the assertion that the American Government have not imposed upon Canadian products duties more severe than those levied upon similar products from other countries. It was the avowed intention of the McKinley tariff to do this very thing. It was not necessary that that document should state that Canadian eggs should be liable to a duty of five cents per dozen and that eggs from Europe, Asia, Africa, Australia and South America would be allowed to be imported duty free. No eggs are or were imported from these remote parts of the world but Canada found a market there for many of them. And so on through the list. Heavy complaint is laid against Canadian railroads doing business in the United States—that one of them has 1,000 miles of railway in that country. It is a novelty to hear an American journal objecting to an investment of good foreign gold in its country represented by railways

covering a distance greater than that from New York to Chicago, and that too when the stocks and bonds of the most prominent American roads are owned in London and European cities. The objection, however, seems to lie in the so-called fact that these Canadian roads cannot be made amenable to some American law. And, forsooth, because the combined wisdom of the great Yankee nation finds itself incapable of making a law that will stand the test of its own courts, Canada is to be blamed. How childish!

The Manufacturer discloses the animus in declaring that the terrible Canadian and British Tories have adopted their political course, "so as to create sentiments against annexation," and will not, in discussing reciprocity, discriminate against Great Britain. If this is the issue, then, all true Canadians will gladly accept it and abide by it. But we call the attention of our contemporary to the fact that, until New England on the one hand and the Great West on the other, are willing to forfeit the advantages they enjoy in the use of our Canadian railways to the demands of other sections and of the existing American railway monopolies, it is not at all probable that our roads will be excluded from American soil. These conflicting American interests must be placated before any Inter-State Commerce Law can be made effectual.

Stress is also laid on the fact that merchandise from China and Japan is brought across the Pacific by our subsidized steamers, transported across the continent by our subsidized railway, and shipped to Europe through an American Atlantic seaport; and that as a punishment to Canada for not assenting to annexation, this traffic must cease as far as the American Government can abate it. It is here, dear friend, that a snag will also be encountered. Your late president, Mr. Cleveland, wrestled with this question when your Senate refused to ratify a reasonable reciprocity arrangement a few years ago. No party could exist in the United States which would enact and enforce such exclusive laws as these. Such legislation might be made as regards China, but not Canada. Know ye that this Canadian trade is not obliged to be carried on through the ports of Portland, Boston, or New York. It is merely done for convenience and economy. No better harbors exist on the Atlantic coast than Halifax and St. John, and our railway system reaches them at all seasons of the year. Non-intercourse of this character would hurt the United States more than it would Canada.

And then about the tolls through the Welland Canal. The American contention is this: that an American vessel shall be allowed to transport grain from, say Duluth, through the Welland Canal—Canadian property—to Ogdensburg, N. Y., and there transship to Montreal—a Canadian port—to be carried across the ocean; and that a Canadian vessel shall not be allowed to do just this very thing. If the trade via the Welland Canal and the port of Montreal is of such great value to American shipping interests, a transfer of cargo being made at Ogdensburg, why would it not also be a good thing to Canadian shipping interests? Canada does not object to transfer of cargo at Kingston, Ont., but the most liberal Government of the United States prevents Canadian vessels from transshipping at Ogdensburg. Taxing Canadian commerce passing through the St. Mary's Canal would mean shutting American commerce out from passing through the Welland Canal; and

how would Ogdensburg and all the American cities on and near Lake Ontario like the arrangement?

It is to be regretted that our American friends do not view this question through other than the narrowest and most selfish mediums. We assure them that if they are determined to force annexation upon Canada, they will not succeed. This country will never be profitable to them as a conquered province, and the sentiment of the people is against it, in which resistance they would sacrifice their all. When this delusion passes away, as we sincerely hope it soon will, and common sense and neighborly kindness rules in the councils of the American people, no doubt some trade arrangements will be made, mutually advantageous to both sides. Meantime, we will maintain our self-respect and look after our own interests as best we may.

CHANGING THE COURSE OF NATURE.

THE *Montreal Herald* has a long editorial in which it undertakes to show that the Dominion Government undertook a big and impossible contract when it essayed to "change the course of nature and the habits of a people by Act of Parliament." It points out that before the inauguration of the N.P. we were but an agricultural people, but Government decided to drive the people from their free and healthy homes in the country to huddle together in crowded dens in the city; that the trend of trade at that time was the exchanging of the products of our northern zone for the varied productions of the states to the south of us; that the natural course of trade was checked by the artificial barriers of the tariff; that trades and manufactures were to spring up, no matter how unsuited to the exigencies of our climate, etc. It reminds us that the fact was lost sight of that the most profitable of trades have developed by the slow process of national evolution during centuries, and that the artisans working at them have almost made their employment hereditary. It says:—

No matter what degree of protection were promised it would be found almost impossible to transplant to Canadian soil a colony of the watchmakers of Switzerland, the clockmakers of Schwartzwald, the wood carvers of Bavaria, the glass makers of Venice, the ceramic artists of Staffordshire, the steel toy makers or jewellers of Birmingham, the edge tool workers of Sheffield, the locksmiths of Wolverhampton, the tin-plate workers of South Wales, the iron shipbuilders of the Clyde, the Thames or the Mersey; but there is no necessity to lengthen the list. It was a mistake at the time of the inauguration of the N. P. to suppose that trades that in other countries have been the slow growth of centuries would in our soil spring up like mushrooms in the night, the only fertilizers necessary being a few cents suspended within reaching distance in order to tempt them to attain their full altitude. With greater common sense and honesty it might have been possible to select and foster certain industries for which the country is suited, but to levy heavy taxes indiscriminately is not protection but prohibition or confiscation. The mischief is so far done that it cannot be undone, except with great caution. The first and easiest step to take towards a return to saner conditions would be the freeing of raw materials; this would be quickly followed by works employing far more hands than would be displaced by the alteration and there would be the satisfaction of feeling that such trades were being built up on a sound and natural basis.

These arguments are old, stale, flat and unprofitable, but about the best we suppose our free trade contemporary has to

offer. But their absurdity is barofaced. It is argued that the N.P. is wrong and that we should return to the conditions prevailing previous to its adoption. We were then an agricultural people living in free and healthy houses—now we are not living in such houses, but in crowded dens in cities. Then we were non-producers of any sort of manufactures—now we make our own boots and shoes, hats, socks, shirts, clothing, wagons, plows, harrows and all manner of agricultural implements and about everything imaginable necessary for our comfort and welfare; our imports consisting chiefly of articles of luxury for the rich, and raw materials for our factories and workshops. And this is the condition the *Herald* desires to be reversed. It is a slander upon our working people to say that they live huddled together in crowded dens. There is no country in the world where the humbler classes live in more comfort than in Canada. If the trend of trade under the old arrangement was the exchanging of agricultural products with our Southern neighbors, that exchange is not lessened except in so far as our own farmers supply such things; and if the *Herald* knows anything about the matter it knows that we now consume more largely of tropical productions than ever before. In fact Mediterranean and West Indian fruits are more abundant and cheaper in Canada to-day than ever they were under the old regime. The N.P. is chided with a failure to materialize trades and manufactures which were to spring up on every hand. This is simply dishonest. It is not supposed that the people of Canada require any less of the necessaries of life, or that they consume less than before; but a great complaint of the *Herald* and its free trade friends is that we are not importing such things in proportion to our ability. The answer to this is that under the benign influences of the N.P. our manufacturing industries have developed to a most gratifying extent, and that they supply a large portion of the wants of the people, leaving but the smaller demand for imported goods.

But how ridiculous to suggest that because certain trades have been long established in the old countries, they not being "indigenous" to this, we should not aspire to engage in such industries, but content ourselves with producing cabbage and potatoes. One might suppose cabbage and potatoes, according to the *Herald* were indigenous to Canada, and that ever since the days of primeval man the cultivation of them was the chief occupation of the inhabitants of this land. If such industries as the *Herald* alludes to as being impossible for Canada, because they are not indigenous, what, pray, made them indigenous in the old countries?

Every civilized country under the sun practices some sort of protection except Great Britain, and even she is becoming exceedingly weary of it, finding that if she is to maintain her manufacturing industries and keep her laboring classes from starvation, she must restrict the indiscriminate free importation of foreign manufactures. But in the face of this fact the *Herald* asks Canada to abandon the most satisfactory and popular system known and adopt the obsolete failure of Mr. Cobden.

By the way, will the *Herald* please inform a waiting world what are "raw" materials which it wants admitted duty free. Pray don't be bashful or diffident, but speak right out and tell us what are "raw" materials.

THE CANADIAN CARPET INDUSTRY.

THE carpet factories now in operation in Canada include about 150 hand looms and 50 power looms, with capacity to produce about 1,250,000 square yards of carpet per year, and the actual output approximates that quantity, giving employment to about 500 hands. The raw materials of which carpets are composed—wool, cotton wool, jute, etc.—are admitted free of duty, and the manufacture of these into warp, yarns etc., constitute an industry only of slightly less importance than the manufacture of carpet, and gives employment to almost as large a number of hands. The manufacture of warp, yarns, etc., is protected by what is believed to be a sufficient tariff duty.

The imports of carpet into Canada in 1891 aggregated a little more than 3,000,000 square yards, valued at \$1,270,000, an average of about forty-two cents per yard. The imported carpet which comes most directly in competition with Canadian carpet are the two and three ply all wool and union : rains, the imports of which last year aggregated 139,116 square yards, valued at \$65,465 (about forty-seven cents per yard) the value of the all-wool carpet being fifty-six cents per yard; and tapestry carpet, the imports of which amounted to 1,507,637 square yards valued at \$509,522, or thirty-four cents per yard.

Of these 3,000,000 yards of carpet imported into Canada last year, about five eighths of it, or 1,800,000 yards was of such grades and qualities as might readily have been supplied by our Canadian manufacturers; or their products might well have been substituted for it, being quite equal or better in quality, and not exceeding it in price. And this would have been done to a very large extent if the domestic industry had been sufficiently protected by the tariff. If Canadian manufacturers had enjoyed this business instead of it having been done abroad, it would have increased their output to the extent of nearly 150 per cent. and have given employment to 700 or 800 more hands in our carpet factories, and there would also have been a corresponding increase of business and employment for our yarn mills and their operatives.

The competition in this business coming from Great Britain is fair and legitimate, the difference in the cost of labor in the two countries being the only feature which the Canadian Government is called upon to interfere in, and which it aims to equalize by the tariff. The competition from the United States is not of this character, and is very pernicious in its operation. Although the McKinley tariff imposes very heavy duties upon many of the materials entering into the manufacture of carpet and which are charged against the cost of the finished product when going into consumption in that country, yet when American manufacturers produce carpet for export 99 per cent. of these duties are returned; and in doing this as far as their trade with Canada is concerned, they are in a condition to manufacture cheaper than Canadian manufacturers. When they have supplied their own territory at paying prices, sooner than close their factories they continue at work upon imported materials, thus giving continued employment to their labor and keeping their machinery in motion, and then to enable them to dispose of their surplus product they slaughter it in the Canadian market, frequently to the extent of paying the

duty. It is impossible for the Canadian industry to successfully contend against this unfair competition.

CANADIAN CEMENT.

A CORRESPONDENT calls attention to the fact that the specifications for the work on the Soulauges canal call for Portland cement, by which is meant such cement as is imported from Great Britain, France, Belgium, Germany and the United States, discriminating against such cement as is manufactured in Canada. If this is true, as our correspondent says it is, it must be because of some mistake or misunderstanding at Ottawa, and not because Canadian cement is in any manner inferior to any made in any of the countries mentioned. We have knowledge of one concern in Ontario, who have been manufacturing cement for the past fifty years, and the excellence of the article has never been questioned. We refer to the Thorold Cement Works, established by the late John Battle in 1841. Every barrel of cement used in the construction of the Welland Canal is said to have been made at these works, and now after years of the most trying tests to which such a work could be subjected, it is found that even at this day there can be found no failure, no deterioration, no crumbling away, no decay, but it is as perfect and satisfactory now as it was when accepted by the Government from the hands of the contractors. Some of the statements regarding the excellence of this cement, made by Government and other engineers, should be repeated. In 1884, Mr. John Page, Chief Engineer of Canals wrote:—"For the past forty years the natural hydraulic cement obtained at Thorold, Ont., has been used to my knowledge on various extensive public works, and in every instance the result has proved highly satisfactory." Mr. Thomas Monro, engineer in charge of the Welland Canal enlargement, writing in 1879, stated:—"During the past four years, about one million bushels of Thorold hydraulic cement have been used in the construction of the canal works in my charge, and this experience enables me to testify to the excellence of the article." Mr. W. G. Thompson, resident engineer on this work, wrote in 1884:—"My tests of the Thorold hydraulic cement have extended over a period of twenty-eight years, and have been on a large scale, as exemplified in the locks, bridges, culverts other masonry on the Welland Canal and Welland Railway, and and that the record, which has been invariably satisfactory, is to be found in examination of these structures. The necessary tearing down of masonry and concrete during the Welland Canal enlargement, has afforded abundant evidence of the reliability of the Thorold hydraulic cement, both in masonry and concrete, and above and under water; and I desire no better cement for the class of work referred to." Mr. J. C. Bailey chief engineer of Northern Pacific Junction Railway, writing in 1886, says:—"During the construction of the Credit Valley Railway, of which I was then Chief Engineer, the Thorold cement was used altogether in the building of the culverts, bridge abutments, and other masonry. Again, on the Northern and Pacific Junction Railway (recently finished) some thousands of barrels of this cement were used in the masonry and concrete required, and under peculiar circumstances, which put the cement to a very severe test indeed, as the work was unavoidably done in winter, in the coldest weather possible to

do such work, yet, notwithstanding all this, the finished work proved entirely satisfactory. I therefore consider it equal to the best natural or artificial cement manufactured in Canada or the United States, and it can safely, and with profit, be used wherever Portland cement is specified."

This is strong testimony in favor of this Canadian article; and much more of the same character could be produced if it were necessary. It was used in the construction of the Victoria Bridge, at Montreal, the towers of the old Suspension Bridge, and in the Canadian abutments and approaches of the Cantilever Bridge at Niagara Falls and in the International Bridge at Fort Erie; and in all these works it has maintained its unrivalled reputation.

The capacity of the cement works in Canada to produce this most excellent article is only bounded by the demand. The raw material is practically inexhaustible, and those who are engaged in manufacturing it are abundantly able to expand their works to meet every demand.

Under these circumstances it is rather remarkable that native cement should not long ago have entirely superceded the imported article, and it undoubtedly would have done so if the duty had been sufficient. The duty is only 40 cents per barrel, and under it in 1891 the imports of hydraulic and Portland cement aggregated 187,243 barrels valued at \$310,800. An increase of duty would not increase the price, but it would give our manufacturers the control of the home market, and that is what they ought to have.

EDITORIAL NOTES.

A TELEGRAM from Winnipeg reports a rich find of nickel ore near Kewatin, N.W.T., said to carry about four per cent of the metal.

MR. FREDERIC NICHOLLS, chairman of the Executive Committee of the Canadian Manufacturers' Association, has been delegated by the Association to represent them at the forthcoming Second Congress of Chambers of Commerce of the British Empire to be held in London, England, in June.

No Canadian vessel is allowed to take any cargo from one American port to another. A Canadian vessel cannot take a load of grain from Chicago to Ogdensburg, to be reshipped to Montreal, but American vessel owners are clamoring for that privilege, the route being through Canadian canals. If American vessels should be allowed to take cargo from Chicago to Montreal via Ogdensburg, why not allow Canadian vessels the same privilege?

ONE of the largest carpet sweeper manufacturing concerns in the United States is investigating the advantages of various Canadian towns with a view to establishing a branch factory here. If this factory materializes, as it doubtless will, it will give employment at the beginning to a hundred hands. So much for the N.P. There are scores of factories now in operation in Canada established here under just such circumstances. They will remain with us as long as the N.P. remains, and no longer.

A FEW days ago, what was called "an influential" delega-

tion from the Province of Quebec, interested in the sugar beet industry, waited upon the Ottawa Government, asking to be assisted in the development of the industry by giving a fixity of tenure to the present bounty for at least five years. They pointed out how greatly the industry had developed in France and Germany. We imagine that if the "influence" of the delegation had first been successfully brought to bear on the Montreal sugar refiners their prospects would have been more hopeful in Ottawa.

THERE is somewhere in the *Spectator* mention made of a certain class of very interesting people, who, failing to make any headway with their listeners by reasonable argument, knocked sense into them, or cut of them, as might be, by knocking them on the head until they had convinced them. Now, here is one way in which this kind of a stick could be used to advantage. Is there a true, loyal-hearted Canadian who doubts for a moment that this country is going to the devil? Then let a stick be made of recent back numbers of the *Globe* and let him be knocked over the head with it. Followeth anybody the lead of the free trader who would fain bull-dozé us into unrestricted reciprocity? Let a stick be made of the CANADIAN MANUFACTURER as before, and let him be knocked galley west and crooked with it. — *Our Monthly*.

Hardware, a Toronto trade paper expert on political and tariff matters, telling that the agricultural implement manufacturers were responsible for the extortionate charge for binder twine made to farmers last year in Manitoba and the North-West, of six cents per pound more than what the Consumers' Cordage Company received for it, says: "The best antidote to this sort of thing is to put binder twine on the free list." This is richness. Because dealers ask an extortionate prices for an article which they don't manufacture, *Hardware* wants to punish the manufacturers by withdrawing tariff protection from them. Our tariff expert contemporary don't seem to know any more about the ethics of protection as applied to binder twine than it does regarding the duty on scrap iron.

THE question of canal tolls would be greatly simplified if the Dominion Government were to restrict American vessels from participating in any trade between that country and this in which Canadian vessels were restricted by American laws. As it is, American vessels are allowed all the privileges in Canada allowed Canadian vessels, but Canadian vessels are not accorded like privileges in the United States. Thus, an American vessel can load lumber at Ottawa and proceed through Canadian canals and water-ways, and through American canals and water-ways to New York, but no Canadian vessel is allowed to traverse the American portion of that route. An insistence upon reciprocity in this matter would give employment to Canadian capital and labor; or a refusal of reciprocity should shut out a large business now being done exclusively by American vessels.

A MANUFACTURER of malleable iron goods complains that the particular quality of bituminous coal which is necessary in his business is not mined in Canada; indeed, to his knowledge it has never been discovered in this country; and as Nova Scotia coal is entirely unfit for the purposes of his business

being what is known as steam coal, he enquires why such coal as he is forced to import should not be admitted duty free. One reason for imposing a duty upon soft coal is for raising revenue; and while it may appear to be a hardship for the malleable iron manufacturers to be forced to pay duty on an article which is not produced in Canada, that article is so close of kin to the soft coal which enters so largely into consumption that to discriminate would be but to invite fraud. If it could be made to appear to the Government that the duty on coal for manufacturing malleable iron was a serious drawback to the success of that industry, and that some sort of relief should be afforded, no doubt that relief would come in the form of commensurate protection by increased duty on malleable iron.

COTTON waste is the tangled and unserviceable yarns produced in cotton mills manufacturing yarns. There is no duty upon the article when imported into Canada. Canadian mills produce waste in considerable quantities, but not enough to supply the demand. For many uses it requires some further preparation, and there are factories in Canada which are employed in thus preparing it. Similar factories in the United States ship large quantities of the article into Canada, our import last year being 3,800,000 pounds valued at \$274,000. Of course this American waste is brought into direct competition with the Canadian article; and it is found that wherever there is a demand for a large quantity of it the American article is slaughtered at prices at which Canadian factories cannot compete. The capacity of Canadian mills for the production of waste is probably about 800,000 pounds per annum, and the sale of the article is quite an item with them. If waste did not come in free of duty Canadian mills would realize more money from this by-product. There should be a small duty imposed upon manufactured waste.

THAT department of this journal wherein is recorded in short, terse paragraphs a history of the progress of manufactures and manufacturing industries is considered of special value to our readers because of the information contained therein; and with a view to sustaining the interest taken in this feature, our friends and manufacturers generally are invited to contribute any items of information coming to their knowledge regarding any manufacturing enterprises. This invitation extends to those who may desire to exhibit illustrations of any sort of machines, machinery, implements, etc., of their manufacture, whether they are advertisers in our pages or not. All such matter is treated as news, and of course must have editorial sanction. No charge whatever is made for publishing any such items, and no contract made for advertising can possibly include them as a right. In publishing illustrations it must be understood that the cuts must be new and in good order, and must never have appeared in any catalogue or circular, but simultaneous appearance in other legitimate trade journals is equitable and unobjectionable.

Mr. F. B. D. CURTIS, who for several years was editor of that sterling protectionist journal, the *American Economist*, published by the American Tariff League, New York, has surrendered that position to become editor of *The Republican Magazine*, a monthly publication soon to be issued devoted to

the promulgation and perpetuation of republican principles. We are informed that there is now no monthly magazine published in the United States devoted to the interests of the Republican party and Republican principles. Whatever else may be said of that party and its principles it is interesting to know that the principle of tariff protection to American manufacturing industries, although originating, we believe, with Henry Clay, were first put into practical operation by the Republican party in 1860 in the Morrill Tariff. This principle became a concretion in Canada in our well-known National Policy, which, if it does as much for this country as its prototype has done and is doing for the United States, will prove itself the greatest blessing ever bestowed upon us by legislative enactment. Protectionists the world over may well be pleased to know that Mr. Curtis has undertaken the work he has. It should receive large patronage from Canadian manufacturers.

FORTUNATELY the attempt to put an export duty on spruce logs has been rejected by the House of Commons. The motion was made by Mr. Ives, a private member, though the resolution was in fact intended to lay the foundation for a money bill, which could only proceed on the responsibility of the Government. By rejecting the motion the House has saved us from the calamity of having the duty on our lumber doubled in the United States. It is monstrous that the time of Parliament should be taken up with a scheme like this for the benefit of half a dozen individuals, if so many—a scheme which could only be carried out at the cost of the whole body of lumberers. *Monetary Times*.

The question which might be considered is whether it would be a "calamity" to Canada to have the American duty on our lumber doubled, if, by putting an export duty on logs, we gave to Canadian mills and Canadian workmen the business now being done in the United State, growing out of the working up of Canadian logs. Last year, Dr. Spohn, then an M.P., stated that under the existing conditions hundreds of the finest and best saw mills in Canada, in the Georgian Bay district, were idle, while the logs which they should have been employed in manufacturing into lumber, were being hauled *past these mills to be rafted across the lake to give employment to American mills and American workmen.* This condition of things is a real "calamity" to Canada.

THE bounty which the United States pledged itself to pay to its sugar growers when the free sugar clauses of the McKinley bill were passed, is now being calculated. Seven hundred and thirty one applicants have been heard from, and they want over eleven million dollars. The magnitude of the sum has startled public opinion, and has somewhat taken the beauty out of the cheap sugar articles the Republican press has been printing. *It has also set people enquiring, why, if an established industry like sugar growing is bonused, corn growing or wheat raising should not also receive public aid? The sugar bounty will be a fruitful subject in political discussion yet.—Montreal Gazette.*

The sugar bounty provision of the McKinley tariff is effecting just such results as it was intended to effect, and the calculations regarding it were all made beforehand. If over eleven million dollars is required wherewith to pay the bounty on American sugar, it indicates a certainty that the farmers in that country made over 550,000,000 pounds of sugar; and it also indicates that the labor involved in producing this vast

quantity was expended at home and not in foreign countries. It must be a thick skull that cannot comprehend that corn and wheat raising is not an experiment, and therefore needs no bonusing. Why does the *Gazette*, which professes to be an advocate of encouragement to home industries, belittle and discourage one which is capable of doing so much for the farmers?

LAST summer I became acquainted with an old fisherman who lives some distance up the lake shore. He is hale and hearty, though nearly seventy years of age, and is quite a character. The old man is somewhat hampered by rheumatism at times, and in one instance allowed a travelling quack doctor to prescribe for him. The prescription was something out of the ordinary. "The old fool told me to fill a kettle full of spring water," said the fisherman, "and then go out and shoot a robin. I was told to hold the body of the bird so that when the kettle was on the fire the shadow of the robin would be cast into the water. Then what do you think he said? Told me to boil the shadow of that old bird for three hours and rub my legs with the water while it was hot!"—*Buffalo Enquirer*.

If you would call that man an old fool, what would you call some people here in Canada? There are quite a number of quacks here who for years have been advising the people how to rid themselves of some of their imaginary ills. Their suggestion is to go out and shoot an unrestricted reciprocity robin or an annexationist goose, and hold the bird so that the shadow of it may fall in a kettle of boiling water, and continue the boiling until the water becomes thick broth. This broth must then be applied to the seat of the trouble while it is hot. The *Toronto Globe* and *London Advertiser* are keeping up a great ebullition in their little kettles, but the broth doesn't seem to appreciably thicken and become fit for use.

UNTIL the enforcement of the McKinley tariff prevented, the firm of Edward T. Steel, & Co., operated a large woolen factory at Bradford, England, entirely upon goods for the American market. The increased duties under the McKinley tariff, however, left them but a choice as to whether they should endeavor to hold their American trade by reducing the quality and weight of their goods, or to remove their work to the United States. They chose the latter, and have established themselves at Bristol, Pa., where they are now in full operation. In a circular which they have issued to the trade is an engraving of their new American mills; and in the circular it is stated that this is "where the manufacture of goods will be carried on with the guarantee that they will be up to their previous English standard of weight, wealth, and quality without any advance in prices over former rates for the same class of goods." Last year the value of imports of woolen goods into the United States was nearly \$25,000,000 less than the year before; but no one supposes that the American people abstained from the use of such goods to that extent. Not a bit of it. They used just as much goods, but it was of American instead of foreign production; and it was manufactured by American instead of foreign workmen. Was this increased occupation of American workmen of benefit to the country? If yes, then the McKinley tariff benefitted the country to that extent at least.

HON. MR. DRUMMOND writes, re Sir Richard Cartwright's

statement that two million dollars a year are by some tariff arrangement transferred from the pockets of the people to those of the sugar refiners, that he does not discredit Sir Richard's intelligence so far as to assume that the Liberal chief believes his monstrous invention. Mr. Drummond, no doubt, judges the situation correctly so far; but he misses Sir Richard's point. It is not what Sir Richard himself believes, but what he believes he can make the people believe that is the issue. Hence the monstrosity.—*Montreal Gazette*.

A very remarkably queer thing about this question is that neither the *Gazette*, the *Empire*, or any other Government journal, nor any minister of the Government, nor any of its supporters in Parliament or out of it, have ever yet undertaken to analyze the charge made by Sir Richard Cartwright and show its falsity. The policy seems to be to entirely ignore the charge and to abuse the accusers. Whether the sum unfairly diverted from the people to the sugar refiners be two million dollars, or more or less, is not material to the issue; but it is of the utmost importance to the people to know if any money is thus diverted. This continual shrinkage of the question creates a feeling of *d'squiet* in the minds of many which does not strengthen confidence in the Government, and which should be allayed. This could be done either by showing by facts and figures that there is no truth in the charge, nor can there be, or by a frank acknowledgment of an error that should be corrected. Abuse of Sir Richard is no answer to his accusation.

PARLIAMENT dealing with the duty on saw-logs, has acquiesced in the principle that it may be a mistake sometimes to correct a mistake. The United States got decidedly the best of the bargain by which, in return for a reduction of a dollar a thousand feet on sawn lumber, United States lumber manufacturers were given the opportunity to obtain free for sawing in their own mills the logs that under ordinary conditions would be expected to be cut up in Canada, giving work to Canadians instead of their rivals. It is a question, too, if the reduction of the United States duty by \$1 a thousand benefited the Canadian producer. The week after it went into force *Bradstreets* announced a reduction of \$1 a thousand in the price to the United States consumer.—*Montreal Gazette*.

The axiom "never too late to mend" is far better than "it may be a mistake to correct a mistake." If it was a mistake to remove the export duty on logs, it would have been perfectly right to restore that duty, and the most grievous mistake consists in not having done so. We all know that while the duty was enforced the Canadian lumber trade was in a flourishing condition, and that although at that time the American duty on lumber was a dollar per thousand feet higher than it is now, yet, as *Bradstreets* shows, that duty was paid by the American consumer, not by the Canadian producer. At that time Canadian manufacturing establishments which produced saw-mill supplies, machinery, saws, belting, etc., enjoyed a prosperity which they do not now enjoy, and which they will not again enjoy until the saw-mill interest revives. The Government made a mistake in refusing to restore the duty on logs.

A BOSTON correspondent of the *Philadelphia Manufacturer*, discussing the proposed Canadian export duty on saw-logs, says:—

In order to take advantage of the clause of the McKinley law, lowering the rate of duty on white pine lumber entering

the States from Canada from \$2 to \$1 per 1,000 feet, the Dominion authorities abolished the then existing export duty on saw-logs; but now, with a view to cause the manufacture of lumber from the logs to be made in Canada, thereby providing labor and otherwise enhancing Dominion interests, and to prevent the wholesale shipment of the logs to the United States with no compensating benefits, it is proposed to restore the export duty. The matter is before the Canadian Parliament, and it is believed the duty will be re-applied. Statistics show that since the export duty was removed, Canadians rushed their logs over the border, and this is attested by the large number of mills which have sprung up just on this side of the line, and are being worked to full capacity, while many Canadian mills have been closed down. The reason for this is, that our lumbermen offered more for the logs than the Canadian mill men would pay. In six months, shipment of these logs (free under our tariff, with Canadian export duty removed), increased to the value of not far from \$400,000, compared with shipments for the same period in 1889. With our forests nearly depleted of white pine, imposition of the export duty by Canada will tend to increase the price of this lumber for building purposes, hence the matter is one of considerable importance.

And still there are those who are in doubt as to the necessity of imposing the export duty. Large numbers of American mills springing into existence along the border, and large numbers of Canadian mills closing down. With the American forests nearly depleted of white pine, without the imposition of the duty Canadian forests would soon share the same fate. If the matter is of such considerable importance to the Americans, of how much more importance must it be to Canada. Impose the duty.

EX-GOVERNOR CAMPBELL, of Ohio, was recently in Toronto and while here was interviewed by the newspaper men, of course. As reported in the *Empire*, Governor Campbell said:

I am interested in an asbestos company which is now in active operation in the Belleville district in the neighborhood of Tweed and Bridgewater. The Standard Asbestos Company is probably the largest concern on this side of the water. We started mining last summer and are now making our first shipments. Canada is rich in asbestos deposits. Across the border the natural supply is meagre. Small deposits are found in New York, Virginia and North Carolina, but they are feeble in quantity. I expect that the coming year will see a very large increase over the half million tons of asbestos exported from Canada to the States last year. It is a growing industry of great promise. While we have not found the pure asbestos in Canada—which material worth \$250 a ton, and a vein of it two fingers thick is a fortune—we have the secondary form known as actinolite, which is almost as useful, and which is worth from \$25 to \$100 a ton. It can be utilized in every way that the original mineral is except that it cannot be spun into cloth. Our company subjects it to a treatment that brings out the fibrous nature of the rough metal, and it is shipped over the border in a state which is ready for the manufacturer. In this unformed condition the duty is avoided. The industry is going to be a large one, and of great benefit to Canada.

Which leads us to remark that it might be a good thing for Canada if our Government imposed an export duty on unmanufactured asbestos. Across the border the natural supply of the article is meagre, and the Canadian asbestos can be utilized in every way imaginable except that it cannot be spun into cloth. Governor Campbell's company, he tells us, ship this Canadian product over the border in a condition ready for the American manufacturer, by which the McKinley duty is

avoided. Of course. Just the same as with nickel. Our American friends have no adequate supplies of asbestos, and, therefore, draw upon Canada. But they will not allow Canada to prepare the article for them. There should be an export duty upon crude Canadian asbestos equivalent to the McKinley import duty on the manufactured article. Impose the duty.

In American politics much importance is usually attached to any general State election occurring in the year of the presidential election earlier than that event: and this importance is intensified if the political parties in that State are nearly evenly divided. And thus it was that the general election in Rhode Island, last week, excited so much interest throughout the country. Mr. Cleveland, standing on his tariff reform platform, believed that if his Democratic friends could carry that State it would brighten his chances for the presidential nomination, and that it would also show that New England had tired of McKinley's tariff, and would reject the Republican candidate in the November election. And without doubt, if this, the smallest State in the Union, had gone Democratic at this time, it would have been a severe blow to the cause of protection. In fact the election last week was regarded as the decision of an important battle between protection and free trade. Previous to 1889 a property qualification was required of voters in that State, and up to that time elections there were generally in favor of the Republican party. The Democrats urged that this was because poor men were not allowed to vote, and that the Republican manufacturers controlled the elections. But manhood suffrage was adopted there in 1889, and every year since until now the Democrats have obtained a plurality of the popular vote. This year, however, Rhode Island elected a Republican Governor by over 2,000 plurality. Two years ago, the Democrats by unsparingly denouncing the McKinley idea of tariff protection, obtained possession of the National House of Representatives, and this encouraged them to hope that they would also obtain the presidency at this year's elections; and the Rhode Island election was accepted by both parties as the battle ground for the first skirmish between them, pending the ensuing general conflict. The Democrats forced the issue, believing that they would win, and, having won, they would have proclaimed that McKinleyism had been defeated by tariff reform, which is but a move in the direction of free trade. The result, however, shows that protection is more securely entrenched in the political affections of the New England working man than had been supposed; and no doubt the example set by this the smallest of the States will be followed by the whole country in November.

Now that spring, gentle spring, has come, every one who loves flowers and who has ever so small a space around the door-step, is planning about beautifying it. But every one cannot boast of sufficient knowledge to know how to plant and tend even a small flower-bed, and to such we suggest that they subscribe forthwith to *Vick's Illustrated Monthly Magazine*, published by the Vick Publishing Company, Rochester, N.Y., which will give them all the information they need regarding this delightful enjoyment.

MR. JOHN B. ALDEN, New York, has begun the publication of *Knowledge*, an illustrated weekly paper, the price of which is fifty cents per year, and is a continuation in a different form of *Knowledge*, a monthly magazine, the publication of which was suspended last year. This paper undertakes to give in an attractive form a

very large amount of useful knowledge and choice literature. Each issue will be devoted to some special feature. Three early issues will give, complete and beautifully illustrated, Longfellow's "Evangeline;" other issues will give Hawthorne's "Scarlet Letter," etc.

UTAH: A Peep into the Mountain-Walled Treasury of the Gods." This is one of the most beautiful little books which has come to our table for a long time—beautiful in that every page of text contained in it teems with beautiful language regarding beautiful places, and every page which does not contain reading matter is occupied with beautiful pictures of some of the most wonderful and romantic scenery to be found in the world. Of course the beauty of the book also extends to the mechanical execution of it, which is first-class in all respects. It is not our object to give in detail even a brief description of what this book tells of Utah, but merely to direct attention to it and to suggest that if during the coming summer season any of our readers contemplate visiting in the Rocky Mountain region, it would be well to procure this book and discover what pleasures would greet him in that direction. It is for sale by newsdealers at 25 cents per copy, or will be mailed on receipt of that sum by Mr. J. H. Bennett, Salt Lake City, Utah.

BREEZY, seasonable, a magazine for ladies and gentlemen from cover to cover, is *Outing* for May. The splash of waters, the rustle of leaves, the spirit of pure, outdoor, healthful pastimes, enliven its eighty handsomely illustrated pages and make it what it is, a valued instructor in beneficial exercises, and an encourager of a closer intimacy with Nature's wondrous charms. The contents are as follows: "By Wheel from Havre to Paris," by J. W. Fosdick, illustrated; "George Dale's Ambition," by Lorenzo Griswold; "May Rides," by Jessie F. O'Donnell; "A Bout with a Kingfish," by Ed. W. Sandys, illustrated; "Harry's Career at Yale," (continued), by John Seymour Wood, illustrated; "The International Field Trials of 1891," by "Damon," illustrated; "A Day with Gun and Canoe," by "Nomad;" "Saddle and Sentiment," (continued), by Wenona Gilman, illustrated; "The Evolution of the Forty-six Footers" (second paper), by George A. Stewart, illustrated by Cozzens; "The Race-courses of the East," by Francis Trövelyan, illustrated by Hy. Stull; "The Training of the Harvard Intercollegiate Team of 1891," by John Corbin, illustrated; "The Maryland National Guard," by Hanson Hiss, illustrated; "From the German Ocean to the Black Sea" (continued), by Thomas Stevens, illustrated, and the usual editorials, poems, records, etc.

HERBERT SPENCER and the Synthetic Philosophy" is the subject that opens the *May Popular Science Monthly*. The writer, Mr. W. H. Hudson, who was for some years the philosopher's private secretary, traces the development of Spencer's philosophic thought, and points out the true relation between his work and that of Darwin. Considerable space is given to anthropology in this number. A copiously illustrated article on "Cave Dwellings of Men" is contributed by Mr. W. H. Larrabee. It relates not only to the ancient cave dwellings of America and the Old World, but describes also the way in which modern troglodytes are living in several parts of Europe to-day. Mr. David Dwight Wells illustrates "Evolution in Folk Lore" by the modifications in an African legend produced by changes in the surroundings of the people who preserved it. Prof. Frederick Starr tells what facilities there are for "Anthropological Work in Europe," giving the portraits of a large number of the most noted European anthropologists. In other departments of science are "The Limitations of the Healing Art," by Dr. H. Nothnagel; some considerations as to "Why We Should Teach Geology," by Prof. A. S. Packard; an illustrated paper on "Dendrites," a curious tree-like formation in rocks, by Stanislas Meunier; and one of Grant Allen's always delightful papers, on "A Desert Fruit" namely, the prickly pear. The paper on "Science and Fine Art," by Emil Du Bois-Reymond, is concluded, as is the one on "Bad Air and Bad Health," by Harold Wager and Auberon Herbert. A sketch and portrait of Alessandro Volta, the discoverer of voltaic electricity, are given, and many interesting topics are briefly presented in the departments. New York: D. Appleton & Company. Fifty cents a number, \$5 a year.

ABOUT none of the magazines this month seems there to be such a freshness of spring-time as in the *May Ladies' Home Journal* goes out to its hundreds of thousands of readers laden with song, story, and a wealth of good material. The number opens with "A Day in Patti's Castle," written by Florence Wilson, a young English-woman, who obtained permission from the famous diva to describe minutely the daily life at Craig-y Nos, Patti's castle in Wales. This article is accompanied by drawings and engravings taken from

photographs made specially for the *Journal* by Madame Patti herself. Mrs. John Wanamaker gives a strong paper on "The Patient Work of Motherhood." Mrs. William Ewart Gladstone contributes her second article, "Hints From a Mother's Life," and Miss V. Stuart Mosby furnishes an interesting sketch, with portrait, of the wife of ex-Senator Ingalls. Mrs. Alice Freeman Palmer, ex-President of Wellesley College, is delightfully written of by Kate Upson Clark, and Mrs. L. B. Walford gives a charming description of "An American Girl at Court." Two good illustrated short stories, "A Modern Martyr," by Madeline S. Bridges, and "A Privileged Person," by Caroline Atwater Mason, provide good fiction, and the poetry is by such well-known poets as Flavel Scott Mines, Mary Aingo de Vere, and Clifford Trembley. "The Duchess" writes of "When I Was a Girl;" Mrs. Beecher continues her reminiscences of her husband; Mrs. M. C. Williams writes of "The Native Heath of Authors;" Mrs. Gorge T. Lanigan of "The Naming of a Country House;" Mrs. Burton Kingsland of "Ideas for Pretty Luncheons," and Robert J. Burdette discourses on the delights (?) of May. Palmer Cox gives a full page of his inimitable Brownies; Mrs. Mallon devotes several pages to summer and graduation gowns, and Miss Haywood writes of "Tapestry Painting;" Dr. Talmage, Mrs. Lyman Abbott, Mrs. Botome, Miss Scovil, Miss Parloa, Miss Hooper, Ruth Ashmore, Foster Coates and Eben E. Rexford fill their departments with all that is interesting and instructive. Altogether the *May Journal* is more than usually attractive, and no woman can afford to be without it. Published by The Curtis Publishing Company, of Philadelphia, for ten cents per number, and one dollar per year.

Scrivner's Magazine for May opens with the second article in the series on "The Poor in Great Cities," in which Jacob A. Riis, the author of "How the Other Half Lives," repeats his first success which has gained him such wide recognition. This time he finds a most congenial subject in "The Children of the Poor" in New York—a phase of life to which his sympathies strongly attract him. The next article in this series is the Rev. William T. Elsing's account of "Life in New York Tenements as Seen by a City Missionary," which gives an actual picture of the surroundings in which the children of the poor are bred. Thomas Curtis Clarke, the eminent engineer and builder of the Poughkeepsie Bridge, writes, from his full experience, of the great problem of "Rapid Transit in Cities"—which is one of the chief elements in the future betterment of the condition of the poor, as it is for the comfort and convenience of the commercial world. In the first article Mr. Clarke elaborates the great obstacles and difficulties which efficient rapid transit must overcome. It is a most entertaining study of the conditions which have brought about congestion of travel, and it shows how various stages in it have been met by the street-car, the cable-car, and the electric and elevated railways. The special difficulties of Berlin, Paris, London, New York, Boston and Chicago are set forth most clearly, and it is shown that in each of these cities the great problem which is confronting the authorities is how rapid transit may be best secured. The article is accompanied with illustrations and maps which add to the clearness of Mr. Clarke's exposition, which for the first time presents a comparative view of the whole question. A second article, in the June number, will give Mr. Clarke's proposed solutions for the difficulties. The brief pen-pictures of "Historic Moments" are represented in this issue by an account of "The First News Message by Telegraph," sent on May 1, 1844, from Annapolis Junction to Baltimore, announcing the nomination of Clay and Freminghuysen by the Baltimore Convention on that day. The author is John W. Kirk, the only man present with Morse in the little room in the capitol when this message was received. The fiction of the number includes the third instalment of Robert Grant's very successful social satire, "The Reflections of a Married Man;" a chapter of Stevenson's serial, "The Wrecker," which is the first fruits of his recent visit to Australia, picturing most graphically life in and around Sydney; and a short story by a new writer, entitled "France Adorée." There are poems by the late Charles Henry Lüders and by Benjamin Paul Blood.

To engrave on metal, take four ounces of nitric acid and one ounce of muriatic acid, mix and shake well together, and it is ready for use. Then cover your metal surface to be engraved with beeswax or soap, write your inscription plainly in the wax clear to the metal, then apply the mixed acids with a feather or a stick of wood, carefully filling each letter; let it remain from five to ten minutes, according to appearance desired, then throw on water, which stops the etching process, and the inscription is completed.

PRESIDENT.
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GEORGE BOOTH.

The Canadian Manufacturers' Association.

THE OBJECTS OF THIS ASSOCIATION ARE:

To secure by all legitimate means the aid of both Public Opinion and Governmental Policy in favor of the development of home industry and the promotion of Canadian manufacturing enterprises.
To enable those in all branches of manufacturing enterprises to act in concert as a united body whenever action in behalf of any particular industry, or of the whole body, is necessary.
To maintain Canada for Canadians.
Any person directly interested in any Canadian manufacturing industry is eligible for membership.

CORRESPONDENCE WITH MANUFACTURERS REQUESTED.

Office of the Association: Room 66 Canada Life Building,
KING ST. WEST, TORONTO

J. J. CASSIDY, Secretary.

TELEPHONE 1274.

THE SMOKE NUISANCE.

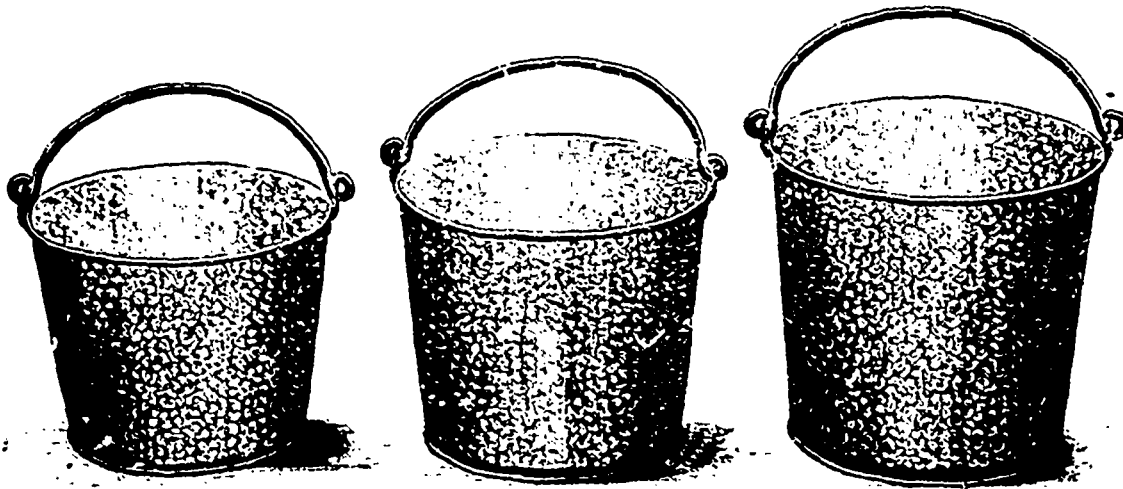
THE manufacturers of Chicago are forming a combination to fight the anti-smoke society. They reason that it is the large manufacturing interests that have built up the city, and that the use of soft coal is a necessity. While they are as anxious as any one to abate the nuisance, and would gladly adopt any satisfactory means for doing so, it is a fact that as yet no method has been developed which is practicable and efficient. One thing is certain in relation to this matter, and that is that without the smoke-creating factories and workshops any city would soon go to decay, for it is these same objectionable smokestacks that have built up and serve to keep alive the great cities all over the country. They help to pay the taxes, furnish employment for thousands of residents, attract business and increase population. Numerous contrivances and systems have been brought forward, which it was thought would do away with the objectionable features of these great enterprises, but none of them have proven on practical tests to do more than at most partially overcome the difficulty, and until some practical means is developed, no one can blame the manufacturers for resisting the efforts of those who, having no practical experience, seem to think it a matter of wilful negligence that the nuisance is unabated. It is to the existence of the numerous smoke stacks and large manufacturing interests that Chicago owes its large population and wide reputation. It is to them that is due the increased value of real estate, and the immense amount of capital invested in other lines of business. Take them away and you take away not alone the creator of the nuisance but the creator of wealth, values and population. One of the largest manufacturers in the city recently said: "It is possible to limit the amount of smoke, but to entirely prevent it is out of the question. People get wild on the smoke question once in a while. Smoke made Chicago what it is to-day. This is a manufacturing town, and any one who tries to get rid of the

smoke is an enemy of the interests that sustain Chicago's greatness. That is the way I feel about it, and the men who have written me express similar views. It has come to be a sort of disgrace to own a smoke-stack. The manufacturers of Chicago are just as public-spirited as any other class of people, but they cannot close down their works in order to make the city look prettier. If they did, there would be no Chicago. Real estate is valuable because the soot falls on it."—Manufacturers' Gazette.

THE difference in length of the cables in the East River Bridge, Brooklyn, when the thermometer registers zero and when it registers 100 degrees above, is 2 feet and 4 inches. The difference in the rope which hauls the cars is 7 feet 6 inches.

KEMP'S GALVANIZED STEEL BUCKETS.

THE Kemp Manufacturing Co., as their advertisement in this issue shows, are putting on the market a line of Galvanized Steel Buckets that cannot but secure a strong hold upon the demand. This style of bucket is something entirely new in this country, and the advertisement itself shows in what way it differs from the old style buckets, so narrow at the bottom and wide at the top, and which had a rim slipped on the bottom. The new galvanized steel buckets have no rim, but the sides and bottom form a rim, and consequently there is no separate rim to come off in shipping. The Kemp Manufacturing Company are the first to make this style of bucket in Canada, and the sale of them is very large. They are being used very largely in warehouses and factories for fire buckets, for which purpose they are well adapted on account of their wide bottoms and greater capacity. The advertisement gives full particulars, and we direct the attention of our readers to it. The accompanying cut illustrates the buckets.



KEMP'S GALVANIZED STEEL BUCKETS.

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INVENTIONS.



This department of THE CANADIAN MANUFACTURER is devoted to the interests of inventors, of patentees of inventions, and of manufacturers of patented articles. Patents are granted in Canada for fifteen years, the Government fee for which may be paid by instalments. Arrangements have been made by which the issue of all patents by the Canadian Patent Office and all renewals and extensions thereof will be promptly noticed in this department, and a brief description thereof given. Enquiries on these subjects are invited and will receive prompt attention. No charge will be made for answers by mail when return postage is sent. Information given free regarding patent laws and the obtaining of patents in Canada, United States, Great Britain and all foreign countries. Claims for inventions, as embodied in Letters Patent, also the illustrations of them, will be inserted in this journal at moderate charges. The attention of manufacturers is specially directed to the opportunities for lucrative business which may be acquired by close observation of whatever may appear in this department.

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CANADIAN PATENTS.

The following patents have been issued from the Canadian Patent Office from April 1 to 18, 1892, inclusive.

Information in regard to any of these patents may be had free on application to THE CANADIAN MANUFACTURER, or copies of American patents corresponding to these, where the American patent has been previously granted, can be procured through us for the sum of twenty-five cents.

MECHANICAL PATENTS.

38,604	Clothes washer, A. and M. L. Rousseau, April 1st.	
38,605	Monkey wrench, A. E. Gundlack and W. B. Poulton, April 1st.	
38,606	Steam radiator attachment, J. E. Woodworth, April 1st.	
38,607	Return bend for steam radiator, J. E. Woodworth, April 1st.	
38,610	Grain cleaning machine, H. M. Wadleigh, April 4th.	
38,611	Mop wringer, G. C. Morrill <i>et al</i> , April 4th.	
38,612	Harness tug, J. W. Roberts, April 4th.	
38,613	Nut lock, B. F. Gram and W. Bard, April 4th.	
38,614	Lamp kettle, W. H. Holden, April 4th.	
38,615	Governor for steam engine, G. Fussell, jr., April 4th.	
38,616	Valve and valve chest for steam engines, G. Fussell, jr., April 4th.	
38,617	Artificial stone, C. A. Stark, April 4th.	
38,618	Tea chest, P. Buford, April 4th.	
38,619	Reamer, J. M. Chesnut, April 4th.	
38,620	Device for removing debris from cisterns, G. D. Wilson, April 4th.	
38,621	Bridge, R. Boyle, April 4th.	
38,622	Automatic registering photographic apparatus, E. E. Moore, April 4th.	
38,623	Corset, R. W. Parramore, April 4th.	
38,624	Water trough for horses and cattle, Wm. Fraser, April 4th.	
38,627	Automatic car coupler, J. H. Coleman, April 4th.	
38,628	Veneer and board cutting machine, G. A. Oncken, April 4th.	
38,629	Composition for washing clothing, cotton and woolen, F. H. Nice, April 4th.	
38,631	Fruit and egg filler and carrier, L. H. Page and E. E. Finn, April 4th.	
38,632	Axe, M. Leduc and T. McKelvey, April 4th.	
38,633	Tracing circular bodies, J. N. Barr, April 4th.	
38,634	Brake-beam, W. A. Pungs, April 4th.	
38,635	Bag filler, T. Craney, April 4th.	
38,636	Sap spout, J. W. Carrier, April 5th.	
38,637	Vehicle seat, J. P. Huber, April 5th.	
38,938	Excelsior machine, M. S. Minor, April 5th.	
38,639	Station indicator for railway car, S. Soly, April 5th.	
38,640	Pitman connection for reciprocating motion, D. S. Henderson, April 5th.	
38,641	Fire escape, H. Schwannecke, April 5th.	
38,642	Portable wooden booth, C. F. Hodsdon, April 5th.	
38,643	Hot air furnace, D. S. Richardson, April 5th.	
38,644	Elevated railway, H. K. Wicksteed, April 5th.	
38,645	Cow-bag protector, H. W. Chasse, April 5th.	
38,646	Draft regulator, I. F. and F. C. Beers, April 5th.	
38,647	Medicinal plaster, J. H. Osgood, April 5th.	
38,648	Door latch, C. Gagnon and L. Lefebvre, April 5th.	
38,649	Wheel for the propulsion of vessels, T. Dunlop, April 5th.	
38,650	Shoe fastening, C. A. Harvey, April 5th.	
38,651	Diaphragm die for plastic molding, J. H. Mitchell, April 5th.	
38,652	Door and window screen, C. J. Shirroff, April 6th.	
38,653	Railway car construction, F. L. Jay, April 6th.	
38,654	Method of bushing key-board mortise, A. Newell, April 6th.	
38,655	Buggy top, D. Conboy, April 6th.	
38,656	Fertilizer distributor attachment, J. M. Robinson, April 6th.	
38,657	Anti-friction alloy, C. B. Miller, April 6th.	
38,658	Journal boxes for steam engines, Wm. Fussell, April 6th.	
38,659	Engine and machinery stop, J. Nesbitt and J. J. Coulter, April 6th.	
38,660	Manufacture of barrels and craks and in apparatus used therein, G. A. Oncken, April 6th.	
38,664	Endless travelling conveyer, J. H. Gaither and W. L. Hammond, April 6th.	
38,665	Drive chain, S. L. and M. L. Vinson, April 6th.	
38,666	Railway frog, C. N. Boyd, April 6th.	
38,667	Straw separator for threshing machine, J. E. Cook and E. Vradenburg, April 6th.	
38,668	Bath tub, G. Booth, April 7th.	
38,670	Shaping plastic and similar materials, Pneumatic Press Company, April 7th.	
38,671	Letter file, C. F. Lomb, April 8th.	
38,672	Propelling and steering boats, J. W. Williams, April 8th.	
38,673	Ferrules, which serve as labels for whips, box bodies, and the like, April 8th.	
38,674	Salt grainer, T. Craney, April 8th.	
38,675	Car wheel, J. R. Davies, April 8th.	
38,676	Machine for perforating dates and amount upon documents or checks, A. R. Abbott, April 8th.	
38,678	Cash register, C. J. Pasmore, April 8th.	
38,680	Car wheel, J. R. Davies, April 8th.	
38,681	Valves for percussive rock drills, direct acting pumps and engines, A. W. and Z. W. Dow, April 8th.	
38,682	Household utensils, H. H. Barry and W. James, April 8th.	
38,683	Air disinfecting and deodorizing apparatus, A. C. Haven, April 9th.	
38,684	Violin, J. A. Close, April 9th.	
38,685	Spoon bait, G. M. Skinner, April 9th.	
38,686	Frying pan, E. L. T. Robertson, April 9th.	
38,687	Letter and bill file, W. O. Gottwals, April 9th.	
38,688	Water and other like closets or articles, A. G. Chadbourne, April 9th.	
38,689	Drench horn, F. Fisher and J. D. Taylor, April 9th.	
38,690	Nut lock, J. C. Nichol, April 9th.	
38,691	Velocipede, D. I. Lybo, April 9th.	
38,692	Rubber stamp, T. S. Buck, April 9th.	

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CABLE ADDRESS "INVENTION, TORONTO."

- 5th. 38,693 Magazine holder for cartridges, A. H. Dean, April 9th.
38,694 Rail for street railway, W. T. Jennings, April 9th.
38,696 Extension ladder, J. L. Kew, April 9th.
5th. 38,697 Surgical appliance for special work in diseases of women, F. L. Barnum, April 9th.
6th. 38,698 Cart, M. A. Libbey, April 9th.
38,699 Machine for digging potatoes, W. A. Martin, April 9th.
38,700 Cutting beet root, F. Stephan, April 9th.
6th. 38,701 Spoon, J. N. Plotts, April 11th.
38,702 Wall paper pasting machine, P. McQueney, April 11th.
h. 38,703 Gate, P. Wood, April 11th.
ter, 38,706 Sash balance, J. J. O'Connor and J. J. McDermott, April 11th.
used 38,707 Compartment bag, W. A. Lorenz and W. H. Horriss, April 11th.
am- 38,708 Machine for drilling to a pattern, P. Pryibil, April 11th.
38,709 Preserving fruit, C. F. Morris and T. Chenevert, April 11th.
E. 38,711 Box making machine, G. W. Strong and G. A. Williams, April 11th.
38,712 Wheel, W. Sheridan, April 11th.
38,713 Road sweeper, M. S. Kjellstrom, April 11th.
ess 38,714 Improvements in the manufacture of barbed wire, J. D. Curtis, April 11th.
38,715 Car-coupler, J. T. Jones, April 11th.
38,716 Wash. machine, W. L. Dearth, April 11th.
nd 38,717 Churn, R. Simpson, April 11th.
38,718 Warm air furnace, E. B. Butterworth, April 11th.
38,719 Method of transportation, W. C. Andrews, April 11th.
38,720 Compound ingots and wire made therefrom, Burdon Seamless Filled Wire Co., April 12th.
ts 38,721 Circular knitting machine, M. J. Dimmen and J. H. Haggerty, April 12th.
38,723 Composition material, C. F. Baker and J. H. Randall, April 12th.
id 38,724 Stove lighter, P. Morency et al, April 12th.
38,725 Wiping rod, H. C. and C. G. Patterson, April 12th.
1. 38,726 Oil can, H. A. Hart, April 12th.
38,727 Ladder, M. C. Wilson and B. C. Vincent, April 12th.
38,728 Dump wagon, J. T. Dungino, April 12th.
38,730 Water heater, A. Lloyd, April 12th.
38,731 Revelment of malt floors, J. Jungbluth, April 12th.
38,733 Sash cord machine, The Dovernourt Twine Mills Co. (Ltd.), April 12th.
38,734 Sickle grinder, G. J. Cline, April 12th.
38,735 Dredgers for the excavation of golden alluvium, E. F. Lacour, April 12th.
38,736 Stock tether, M. Rooney, April 12th.
38,737 Automatic draft regulator, The Howard Thermostat Co., April 13th.
38,738 Die stocks and dies, J. S. Fletcher, April 13th.
38,739 Alarm knob, E. C. Garlick, April 13th.

G. de G. LANGUEDOC,
PATENT SOLICITOR,
CIVIL ENGINEER AND ARCHITECT.

Associate Member Can. Soc. Civil Engrs., Member of the Soc. of Archts. of the P.Q.
Room 7, (3rd floor), 180 St. James St., MONTREAL.

William Bruce, Solicitor of
CANADIAN
AND FOREIGN
PATENTS,
17 King Street East, - - - Hamilton.

- 38,740 Nutritive, stimulating compound of animal and vegetable substances, Booril Limited, April 13th.
38,741 Cinder sifter, J. A. Stovel, April 14th.
38,742 Printers' side and foot sticks, E. R. Johnson, April 14th.
38,743 Centrifugal blower and injector, Ruble American Blower & Injector Co., April 14th.
38,744 Anti-friction bearing for vehicles, W. J. Brewer, April 14th.
38,746 Projectile, P. H. Holmes, April 14th.
38,747 Corn cultivator, C. H. Hilbert, April 14th.
38,748 Nut lock, W. Timmis, April 14th.
38,749 Nut lock, B. S. Rayback, April 14th.
38,750 Drive chain link, C. E. Hart, April 14th.
38,751 Drive chain link, C. E. Hart, April 14th.
38,752 Extension table, W. H. Pickett, April 18th.
- SCIENTIFIC PROCESSES.
- 38,603 Treating leaf tobacco, R. E. Ellis and F. Bastable, April 1st.
38,608 Manufacture of sulphuric acid, E. and J. Delplace, April 2nd.
38,625 Method of preparing medicinal oils, A. Gauvreau, April 4th.
38,677 Treating or scouring and washing wool and other fibrous substances, I. and J. Smith, April 8th.
38,695 Separating oil and water from gas, C. L. Stock, April 9th.
38,704 Evaporating naphtha, J. W. Evans, April 11th.
38,710 Treatment of silicated nickel ores and pyritic ores of nickel and copper with or without cobalt, H. L. Horronschmidt, April 11th.
38,745 Process of treating ores containing nickel in combination with sulphur and iron as sulphides, C. G. Richardson and A. B. English, April 14th.
- ELECTRICAL.
- 38,609 Electric motor for wheeled vehicles, R. S. Dobbie, April 2nd.
38,626 Heating and welding by the electric arc, April 4th.
38,630 Motor, The Reliance Electric Manufacturing Company, Ltd., April 4th.
38,661 Forming and welding metals by electricity, The Thomson International Electric Welding Company, April 6th.
38,662 Electric welding, Thomson International Electric Welding Company, April 6th.

- 38,663 Electric welding transformer, Thomson International Electric Welding Company, April 6th.
- 38,669 Electric cable, E. F. Phillips Electrical Works (Ltd.), April 7th.
- 38,679 Applying carbon filaments to electric lamps, A. C. Carey, April 8th.
- 38,705 Controlling switch for electric railway, Reliance Electric Manufacturing Co. (Ltd.), April 11th.
- 38,722 Electric car motor, Reliance Electric Manufacturing Co. (Ltd.), April 12th.
- 38,729 Electric self-marking target, E. W. Ely, April 12th.
- 38,732 Electric cable, E. F. Phillips Electrical Works (Ltd.), April 12th.

PATENT TRICKS, OLD AND NEW.

SOME time ago, under this heading, we briefly explained some of the methods practiced by sharpers upon unsuspecting patentees, for whose benefit we will now repeat our remarks and make a few additions.

When an inventor receives a patent, his name is immortalized in the *Official Gazette*, and he immediately becomes the object of attack from a horde of hungry aspirants for money, among whom are ex-clerks, patent brokers, and pretended legal lights of varying degrees. The patentee is deluged with circulars and letters from this class of gentry. Some write to inform him confidentially that his patent is good for nothing; but on receipt of a certain fee they will set it right and make it sound as a silver dollar. Others pleasantly inform the new-sledged inventor they have read his patent with great pleasure, consider it to be a very valuable invention. If properly introduced much money can be soon realized. The State of Iowa, they say, is worth \$50,000, Ohio, \$45,000, Pennsylvania \$65,000, and so on. All that is necessary is to print some circulars and do a little blowing, which the broker generously offers to do on receipt from the inventor of ten to fifty dollars cash in advance. Another writes to say he has an actual offer of \$10,000 for the patent for Canada, provided the patent is at once taken, which he will procure on receipt of the necessary money. It is almost needless to suggest these schemes are designed to fleece the inventor. The so-called patent sellers rarely effect a *bona fide* sale. They depend upon the advance fees obtained as above for a livelihood. Some of them have thus grown rich and prosperous.

These pretended sellers try to make it appear they are reliable by giving respectable reference, and cite names of patentees for whom they purport to have sold patents. One mode of procuring these references is as follows: They write the patentee they have a customer who will buy a country right in Minnesota for \$500, and pay by deeding twenty-five acres of land in Arkansas, really worth \$1,000, but the parties are so anxious to obtain the patent right they are willing to let the land go, taking the right in settlement, provided \$50 is paid and a mortgage is given for \$500. This done, the patent broker closes the transaction, receives the \$50 cash, which is the full value of the land, also receives a mortgage for \$500, together with the patent deed. At the same time the broker is careful to obtain a written certificate from the inventor stating, "I take pleasure in saying that X. Y. Z. & Co. have sold a patent right for me, at my price and on terms satisfactory, and I recommend them," etc. In this way references are secured which make quite an impressive show on circulars, while the inventor is so ashamed of having been so easily duped, he keeps mum.

One of the latest tricks is the following: The patentee receives a letter from A. & B. asking for how much he will sell his patent for such a State. He replies giving a price, say \$5,000. The patentee soon after receives another letter from X. Y. Z., saying that A. & B. write they have corresponded with you, and now say they have decided to purchase the patent on the terms named, provided the title and claims are found to be correct. To ascertain this they require that X. Y. Z. shall examine and report upon the patent, otherwise A. & B. will not purchase: that if the patentee wishes to complete the sale, he must remit fifty dollars to pay for the examination, which is a work independent of the sale and must be independently paid. The inventor sends the money; a report is made adverse to the patentee, no purchase is made, and none was ever intended.

A new edition of the same class of swindles is worked by a gang of confederates as follows:

One of the swindlers writes to the patentee asking if the patent has been disposed of. If not, he would like to correspond with a view to purchase or manufacture. Reply is made that the patent is for sale. Then comes another letter from the swindler, saying

substantially, "We have examined the invention very carefully, and if you will furnish us with an opinion or report as to the scope and validity of your patent we will, if same is satisfactory, make you an offer either for purchase or license on royalty. Our proposition will be based entirely on the nature of the opinion or report. If you have not already a reliable opinion, we recommend D. Co. (Diddlem), as moderate in charges for this class of work. Such patent rights as we buy must be bought at once, and it will therefore pay you to furnish the report without delay." The inventor then writes to the other members of the gang, Diddlem & Co., whom the inventor is requested to send \$50 or \$100 cash and the desired report will be furnished. Unsuspecting inventors fall victims to this trick; the money is paid and the tricksters never had any idea of buying the patent, divide the plunder.

The patent insurance dodge is another scheme for relieving inventors of their cash. This purports to be a corporation insuring inventors against infringements. By paying eight dollars cash within thirty days of the insurance of the patent, the concern undertakes to insure the patentee for one year against any infringement of his patent by other people, besides giving advice services for which other lawyers charge anywhere from \$250 to \$1,000. There is less chance of infringement during this period than that the inventor will be struck by lightning in winter. This is simply a scheme to do the inventor out of eight dollars.

A French trick, played with much success on American inventors is the following: The new patentee receives by mail, from Paris a flaming ornamental document of provisional membership, which looks as if it came officially from the president of the famous Academy of Sciences, with a letter informing Monsieur le John Smith, of Snuffkinsville, Arkansas, Republique des Etats Unis, that the Academy has observed with pleasure his invention for planting seeds, so important for agriculture; in view of which they have voted to confer upon M. le Smith the honorable distinction of membership in the Academy. M. le Smith will have the goodness to remit to the treasurer the nominal sum of fifty francs—ten dollars—to defray the cost of the parchment, framing, boxing and transportation of the diploma. These tricksters are said to draw considerable money from the United States.

Such are a few of the adroit schemes now in vogue for swindling "innocent" inventors.

Bills have been introduced in Congress to protect innocent purchasers of patents, i.e., infringers. Might it not also be well for somebody to formulate a law to protect innocent inventors?—*Scientific American*.

On what is known as the standard nailer, a shoe machine, a single operator can nail 300 pairs a day, the machine making its own nails of wire, pointing them, driving them, and automatically regulating the length of each nail to the thickness of the shoe.

A STRIKING example of the efficiency of the trolley may be seen by New Yorkers who live in Orange. Talking about the mule and horse going, the trolley can beat them at their own game, for it certainly goes at least fifty per cent. faster—retiring the animals at the same time. On the new electric line just opened between Newark and Orange the time between the terminals of the line has been reduced from an hour and seven minutes to forty-two minutes. And yet some people persist in wondering why the trolley system is a favorite and why the receipts of a road increase as soon as the horse is discarded and the electric motor put in its place. Just consider the number of friends the new electric line will make and the number of extra twenty-five-minute naps that will be taken in the morning. The wonder is, not that electricity is so frequently introduced, but that horse cars should be tolerated at all when the railway companies can be persuaded into using electricity.—*The Electrical World*.

Owing to the increase in the number of air brakes used most railway shops find it necessary to have their plants supplied with air pumps, with pipes leading to all important parts of the shops to be used in testing. Another way in which this air pressure can be used to great advantage is in the sending of small, light articles from point to point. The transfer of mail and messages from one office to another, particularly when they are located in the different stories of a building, is often a great cause of annoyance. The average messenger boy is not a very reliable person and is often not at hand when his services are desired the most, which fact sometimes causes a delay in the delivery of important messages. It is probably questionable whether it would pay to establish an expensive system for this purpose, but there are a great many places about large plants where a short and straight line could be established. A very successful and convenient arrangement of this kind has been put in operation in at least one of our large railway

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SOME months ago the Manchester (Eng.) Steam Users' Associa-
tion made an exhaustive series of tests regarding the effect of low
water on boilers while in use. The result of these experiments is
pretty well known to most engineers, for a description of the tests
has been published in nearly all the engineering journals. It will
be remembered that although the tests were very severe, no explo-
sion was produced which could be attributed directly to low water.
The effect of low water in softening the plates is well known, and
in the case of poor iron the bulging which follows the overheating
will result in a rupture, which when once started and backed up by
the pressure of steam within the boiler will cause the sheets to tear
in such directions as cannot be calculated beforehand, as the
course will sometimes be through such parts of the boiler as might
be considered as being fully as strong as any other part. Crown
sheet boilers usually suffer more from the effects of low water than
do the other types, principally on account of the large area of flat
surface which is overheated. The cry which is always raised of
low water whenever a boiler explodes may be the expression of
opinion of those making it, but is seldom borne out by the facts.
The principal causes of such explosions will generally be found
among the following: poor material in the plates, imperfect con-
struction of the boiler and initial strains set up in the plates by the
use of the drift pin; corrosion of plates through want of proper
care and attention, producing weakness and inability to resist inter-
nal pressure; over pressure of steam; the sudden closing of a valve
through which a large volume of steam is escaping, such action pro-
ducing a hammer-like blow. In the experiments cited, it was
found that the introduction of cold water into a boiler that had
become red hot from lowering the water level produced no disas-
trous effects further than straining the seams and rivets and buck-
ling or flattening the crown sheets, and in no case was the boiler
burst or the settling disturbed.—Stationary Engineer.

A MACHINE has recently been brought out by a Pennsylvania
mechanic, which, if successful, as now appears, will work a revolu-
tion in the manufacture of steel and iron pipes. A bar of steel at
white heat is fed to the machine, and comes out a perfect piece of
pipe. The size and thickness can be made as desired. This is one
of the most beneficial inventions of late, as it will greatly reduce the
price of pipe, and do away with considerable labor and time by the
old system.—Manufacturers' Gazette.

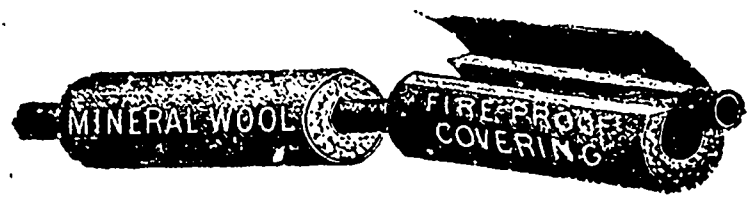
To obtain a light instantly without the use of matches, and with-
out the danger of setting things on fire, is, according to the *Mining
and Scientific Press*, an easy matter. Take an oblong vial of the
clearest of glass, put into it a piece of phosphorus about the size of
a pea; upon this pour some pure olive oil heated to the boiling point,
the bottle to be filled about one-third full; then cork tightly. To
use the light, remove the cork, allow the air to enter, then recork.
The whole empty space in the bottle will then become luminous,
and the light obtained will be a good one. As soon as the light be-
comes dim, its power can be increased by opening the bottle and
allowing a fresh supply of air to enter. In very cold weather it is
sometimes necessary to heat the vial between the hands to increase
the fluidity of the oil, and one bottle will last all winter. This in-
genious contrivance may be carried in the pocket, and is used by
watchmen of Paris in all magazines where explosive or inflammable
materials are stored.

Captains of Industry.

This department of the "Canadian Manufacturer" is considered of
special value to our readers because of the information contained there-
in. With a view to sustaining its interesting features, friends are in-
vited to contribute any items of information coming to their knowledge
regarding any Canadian manufacturing enterprises. Be concise and
explicit. State facts clearly, giving correct name and address of person
or firm alluded to, and nature of business.

- McCLELLAN Bros' flour mill at Alton, was burnt out 23rd ult.
- SPARE the advertisements and spoil the business.—London Fanc.
- THE Almonte Knitting Co., Ltd., are about enlarging their mill.
- HUNTSVILLE, ONT., is going to have electric light. 400 lights will be required.
- H. CLEMENTS, saw mill, Salmon Arm, B.C., is removing his mill to Shuswap.
- HE is a wise man who takes a large space and puts little matter in it.—London Fanc
- THE Dominion Organ and Piano Company are building an addition to their factory at Bowmanville.
- THE Wishart Furniture Co. of Winnipeg, is being wound up. Mr. Wishart is going to settle in Toronto.
- MR. P. CHRISTIE'S shingle mill at Severn Bridge, Ont., was destroyed by fire April 21st, loss about \$3,000.
- JAMES THOMPSON'S saw mill three miles from Lynden was destroyed by fire last week.—Loss \$6,000, no insurance.
- MESSRS BEUTZ & PELATZKE'S roller mill at Eganville was burnt out last week. Loss \$10,000, insurance \$6,000.
- By the breaking of a driving belt in the saw mill at Elmwood, Conrad Ruhl, a machinist, was instantly killed.
- THE Rathum Company had a big fire at their Belleville premises last Sunday night. Loss \$17,000, covered by insurance.
- W. C. QUICKFALL'S saw and chopping mill at Glen Allan, was burnt out on April 27th. Loss \$10,000. No insurance.
- HE that payeth for advertisements with goods is a fool, for he raiseth up competition in his own market.—London Fanc.
- NORTH BAY town council has decided to construct water works for the town, the supply for which will be taken from Lake Nipissing.
- MR EDWARD ROOS, of Berlin, Ont., is organizing a stock company in Hanover, Ont., for the purpose of manufacturing felt socks.
- THE tools and machinery of the Parkin's Cutlery Company of Halifax, have been sold at auction by the deputy-sheriff.—Hartware.
- BOWMAN & ZIMKAN'S tannery at Southampton, Ont., was burnt out on the 28th ult. The loss is estimated at \$25,000, insurance \$8,000.
- GEORGE O. BUCHANAN, saw mill on Kootenay Lake will remove and rebuild at Kaslo City during the summer.—B.C. Commercial Journal.
- THE Stewart foundry in Woodstock made their first casting on the 20th ult. A large force of men are now at work, and everything is going on well.
- It is proposed to establish a granite polishing works at Calais, N.B. Mr. E. R. Burpee is at the head of the scheme with some local capitalists.
- GILLIES BROS., lumber merchants, Paris Station, are applying to the Dominion Government for incorporation under the name of Gillies Bros. & Co.

LAMKIN'S PATENT.



If You Need a Pipe Covering, Get the Best

Our covering will pay for itself in six months, or in other words, will pay a profit of 100 per cent. a year. That's a good investment. It will pay you to investigate. Catalogue free.

Canadian Mineral Wool Co., 122 Bay St., Toronto.

Successors to GAST & CO.

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MESSRS. GOLDIE & McCULLOCH, of Galt, are to supply the engines for the Hamilton electric street railway. The contract is for three 250 horse-power engines.

THE Hamilton, Grimsby and Beamsville railway, will be built according to Secretary Rutherford, who says \$80,000 stock has already been subscribed.

THE New Rockland Slate Co. have installed an electric plant for lighting and drilling. Two electric drills are now in operation and a third is to be added shortly.

THE Nova Scotia Steel & Forge Co., have shipped last week, from their works at New Glasgow, N.S., over 1,300 tons of finished material, worth about \$75,000.

ALMONTE citizens have subscribed \$7,000 toward the proposed cotton warp factory. The balance of the stock will likely be taken in Montreal.—*Almonte Gazette*.

MESSRS. TAYLOR SONS & Co. of Toronto, have purchased the knitting mill at Merritton, formerly run by Alex. McInnis, and are going to put it in operation at once.

THERE is a rumor that the difficulty between the moulders and the foundry owners of Hamilton, is to be referred for settlement to some member of the Board of Trade.

THE Metal Worker's union of Halifax are working for the formation of a Canadian Association and are corresponding with metal workers throughout Canada about the matter.

THE Hobbs Hardware Company, London, Ont., will start a factory for beveling, silvoring and plating mirrors, at which employment will be given to about twenty-five hands.

THE Reduction Works Co., at Nickel City, will go into liquidation in a few days. They have expended some \$12,000 in hard cash here and are over \$4,000 in debt.—*Sudbury Journal*.

THE Toronto Can Company is a new concern started in Toronto.

Their factory is 68 Esplanade St. West, where they are going to manufacture cans and sheet metal goods of all kinds.

W. KING is now the manager of the mechanical department of the Victoria Stove Works, Kingston. The employment of labor is under his control. Moulders are to be given \$2 per day.

THE Construction and Paving Company, of Toronto, will erect works in Montreal at a cost of about \$5,000 for refining crude Trinidad asphalt and preparing it for street paving purposes.

W. F. ROBINSON, V. E. MITCHELL, P. DAVIDSON, P. C. RYAN and A. G. CUNNINGHAM, all of Montreal, desire incorporation as the Packard Lamp Company, with a capital of \$6,000.—*Hardware*.

ABOUT \$1,000 worth of very fine specimens of gold quartz were brought in from the Anand mine, Montague, N. S., a few days ago. The quartz was taken from about 220 feet below the surface.

THE Edison Company have the contract for supplying an Electric Light and power plant at the Thousand Islands Park. There will be two dynamos with a capacity of 750 incandescent and 22 arc lights.

THE Gullfint Lake Iron Co., Port Arthur, will be incorporated immediately by John Paulson, O. D. Kinney and Marcus Johnson. The capital stock will be \$100,000.—*Canadian Mining Review*.

FILES are now sharpened by electricity. They are immersed in a liquid and the current turned on for twenty minutes, at the end of which time they come out as good as new.—*Manufacturer's Gazette*.

T. H. TAYLOR & Co., Chatham, woolen manufacturers and millers, have changed their firm to "The T. H. Taylor Co., Ltd." The new firm has a capital of \$150,000, with a paid up capital of over \$100,000.

THE Collingwood Dry Dock and Ship Building Co., on Monday launched what is claimed to be one of the largest and most power-

BELTING

Patent Rolled Shafting,

Hangers AND
Pulleys,

Wrought Iron Pipe and Fittings.

RICE LEWIS & SON

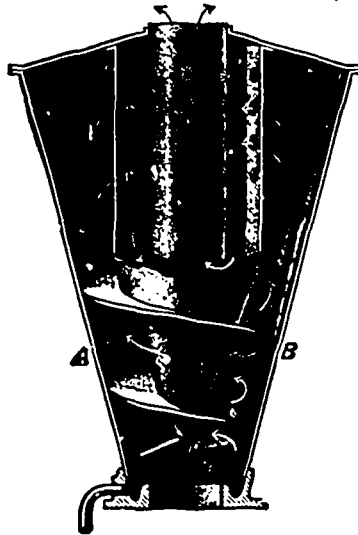
Limited,

General HARDWARE Merchants,
TORONTO.

SIMPSON'S PATENT CENTRIFUGAL EXHAUST HEAD

FOR EXHAUST STEAM PIPES.

Screwing Flanges included with every Head.



No wet floors or sidewalks. Thoroughly entraps water and grease from the Exhaust Steam without back pressure. Utilize the water of exhaust steam.

Save your roofs by keeping them dry, and avoid the nuisance created by spray from exhaust pipes blowing on pavements, etc.

It should be used by all Rolling Mills, Blast Furnaces, Breweries, and Manufactories using Steam.

Centrifugal Steam Separators, Centrifugal Oil Extractors, Centrifugal Exhaust Heads, Keystone Double and Single Plunger Belt Pumps, Keystone Feed-Water Heaters and Purifiers.

List of Prices and Sizes of Exhaust Pipe Heads on application to

Keystone Engine & Machine Works

W. L. SIMPSON, Proprietor.

Fifth and Buttonwood Sts., Phila., Pa.

Southwick Oil Co.,

ROCHESTER, N. Y. TORONTO, CAN.

MANUFACTURERS OF

Red Giant Cylinder Oil,

DYNAMO OILS

Crown Lubricants, Etc.

Toronto Office, Board of Trade Building.

Established 1872.

THE

Accident Insurance Co.

OF NORTH AMERICA.

NEW FEATURE:

Joint Insurance for Partnerships.

Important to Manufacturing Firms.

MEDLAND & JONES, Gen'l Agents,

Mail Building, TORONTO.

ful tugs on Canadian waters. She is the Reliance, and was built for the Emery Lumber Co., Midland.

A. SHAW'S electric light works at Victoria, B.C., have been converted into a joint stock company with a capital of \$75,000. Twenty-five per cent. will be retained by Mr. Shaw and the rest is taken up in New York, Vancouver, and Victoria.—*Electrical News*.

W. H. PETRIE, whose advertisement appears in our columns, informs us he received a large order last week, from The Buffalo Drop Forge Co., Buffalo, N.Y., for iron tools. He says this order is only a beginning, and he expects to do a large trade over there.

MESSRS. Wm. Brown & Co., Moorootown, Ont., are erecting works at that place to manufacture salt. They expect that their output will amount to about 200 barrels per day. They will make not only dairy and fine table salt, but salt for agricultural purposes also.

We are in receipt of letter from Theo. H. Eaton & Son, manufacturers and importers of dye stuffs, chemicals, etc., Windsor, Ont., in which they say "they are doing a large trade, in fact, their business, both in the United States and Canada, was never so prosperous as at the present time."

THE WEST YORK NATURAL GAS AND MINING CO. (LTD) will apply for incorporation. Head office, Toronto. Capital stock, \$500,000. Those applying are: Joseph E. Stomago, Weston; John P. Jackson, Weston; Frank Andrew Fleming, Toronto; Edward Eagle, Weston; and Ernest Heaton, Toronto Junction.

THE SAINT NICHOLAS NICKEL MINING CO., OF ONTARIO, (LTD.) have applied for incorporation. Head office, Toronto. Capital stock, \$500,000. Those interested are: Isaac F. Toins, judge, Goderich; Henry W. C. Meyer, Q.C., Wingham; Henry Lowndes, Toronto; John Segsworth, Toronto; Richard Caddick, Toronto; Arthur Wyndham Harrison, Toronto.

THE Dominion Suspender Company, Niagara Falls, Ont., although but recently established, are doing a remarkably successful business. In addition to the enlargement of their factory recently spoken of in these pages, they are now just completing another considerable addition—a two storey brick building, 50x30 feet—thus enabling them to very largely increase their output.

THE NOVELTY CO., OF NEWMARKET.—The stockholders having

failed to raise a working capital of \$9,000 to place the success of the business beyond a doubt, the present Directors refuse to continue operations beyond the present season. The Directors have advertised \$13,000 preferred stock and if outside capitalists do not invest within a few days steps will be taken to either sell out as a going concern or move to some other town.

THE HAMILTON NATURAL GAS AND MINING CO. (LTD) are applying for incorporation. Head office, Hamilton, Ont. Capital stock, \$50,000. The applicants are: Thomas H. Pratt, John H. Tilden, Lewis Springer, Charles E. Nowberry, Henry Carscallen, John Milne, John E. Parker, Edwin D. Cahill, Chas. R. Smith, Joseph Heron, Alex. Gartshore, George H. Bisby, Edgar P. Wmgate, and William Male, all of the city of Hamilton, Ont.

THE Gutta Percha & Rubber Manufacturing Co., of Toronto, are going to move their warehouse and general offices from 43 Yonge St. to 61 Front St. West. Their business has been increasing so rapidly, they have been compelled to take a larger building. Their new warehouse which is being altered and fitted up, will give them four times the floor space of the old stand. They expect to move about the end of this month or beginning of June.

Mr. JAMES WILSON, founder and machinist, Thorold, Ont., is putting in a plant for the manufacture of wire rope, and he will also start a factory in Buffalo, N.Y., for the same purpose. He will manufacture by a process for which he has recently received patents in Canada, United States and Great Britain. Mr. Wilson but recently increased the size of his works by the addition of a 60x30 feet machine shop, and now he will have to still further enlarge to accommodate his wire rope plant.

THE new boat now being built for the E. & N. R. Co., by the Alton Iron Works, at Victoria, is to be equipped with electricity. The boat is to be wired throughout by the Edison Company, and the fixtures are to be very handsome and durable, and to be finished by the new process of coating with aluminium, which is proof against the action of salt water or steam. When finished it will be one of the most perfect boats on the Pacific coast, so far as the electrical arrangements are concerned. —*NewsAdvertiser*.

THE Erie Glass Company, Ltd., will commence building their factory at Port Colborne by the end of this month and expect to be actively engaged in manufacturing by September next. They

BRUNNER, MOND & CO., Limited, Northwich, Eng.

Manufacturers of **PURE ALKALI** Guaranteed 58 degrees.

The Strongest and Purest Form of **SODA ASH** in the market, and the most economical Form of **SODA** for the Manufacture of



Glass, Paper, Wood Pulp, Soap and Starch

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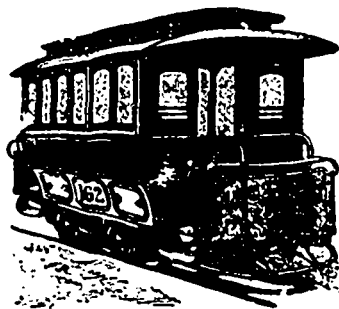
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FINE

ELECTRIC CARS

OUR

SPECIALTY



ST. CATHARINES, ONT.

MANUFACTURERS OF

Horse and Trail Cars

OF

EVERY DESCRIPTION

will build two furnaces, one for flint and one for green glass, which will put them in a position to supply a full line of both. They inform us they are going to manufacture some new lines in glassware that have not as yet been manufactured in Canada. The company will employ 100 hands. With the exceptional facilities they will enjoy at Port Colborne in the way of Natural gas, this company ought to do well.

MESSRS. JOHN BERTRAM & SONS this week shipped a 25 ton building stone planer to Sylvester Neelon, Toronto, for use in dressing the stone for the new city hall. The machine has eight tools, each eight inches wide, and will plane three sides of a stone at once. It will take in a stone 12 feet long, 7 feet wide and 3 feet thick and dress it up quick. It will do away with some skilled labor, but will require a lot of unskilled workmen to feed it. It will not, of course, do anything but straight work. These machines are used a good deal on the other side of the river, but this is the first one manufactured in Canada.—*Dundas Star*.

The Allen Manufacturing Company, Toronto, manufacturers of

ladies' underwear, shirts, collars, cuffs, etc., find their business increased to such a degree that their present premises on Jordan St. 80 x 5 feet, four flats, are not large enough. They are now building a large factory on Simcoe Street, 100 x 100 feet, five flats, which will give them about three times their present floor space. They will put in more machines and will have 175 horse power boilers and 75 horse power engines. They expect to be in the new building next September. Mr. A. W. Allen commenced this business in 1866 with 20 hands and 16 sewing machines. The company now employ 260 hands and keep fifteen horses for delivery purposes. When they get to the new factory Mr. Allen expects they will employ about 400 hands. They have branch offices in Ottawa, Hamilton and Barrie, and 51 Agencies throughout Canada. So much for protection.

THE CANADIAN MINERAL WOOL CO., a new stock company, has just been organized, composed of New York and Toronto men, who have bought out the pipe and boiler covering business heretofore carried on by Gast & Co., also several valuable patents and rights,



The Bell Telephone Co.

OF CANADA,

MANUFACTURERS AND DEALERS IN

Telegraph and Electrical Instruments,

Electro-Medical Apparatus, Fire Alarm Apparatus,
Electrical Gas Lighting Apparatus,
Magnets for Mills, Burglar Alarms,
Hotel and House Annunciators, Electric Call Bells, &c.

For further particulars apply to

No. 12 HOSPITAL ST., - MONTREAL.

THE ROYAL ELECTRIC CO., 54 to 70 Wellington Street, MONTREAL

SOLE PROPRIETORS FOR THE DOMINION OF CANADA OF THE

Thomson-Houston Systems of Arc and Incandescent Electric Lighting

The Most Perfectly Automatic System of Electric Lighting in the world.

Thomson-Houston Arc Dynamos and Lamps for 1,200 and 2,000 c.p.

Thomson & Thomson-Houston Incandescent Dynamos for low tension direct current.

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THE "WOOD" ARC LIGHTING SYSTEM.

(Manufactured by the Fort Wayne Electric Company.)

A Full Line of Electric Lighting and Power Supplies always in Stock. Write for Estimates.

W. R. BROCK,
President.

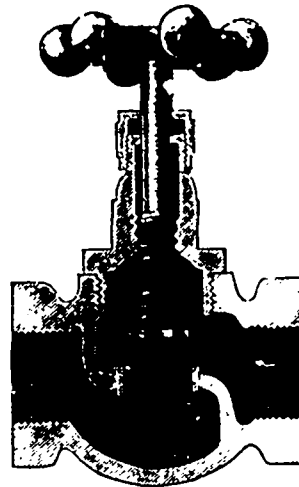
H. P. DWIGHT,
First Vice-President.

FREDERIC NICHOLS,
Second Vice-President and General Manager.

which give the new company exclusive control of the mineral wool business in Canada. The pipe and boiler covering factory and offices are located at 122 Bay street. The wool is imported at present from the States mines, but it is the intention of the company to establish a plant for blowing the wool from the rock in Canada. As a pipe and boiler covering, mineral wool is superceding all other coverings, combustible hair felt is a thing of the past, being utterly condemned by the Board of Underwriters of New York, and the old-fashioned asbestos cement is now hardly ever used. The following are a few of the many buildings in Toronto having in use a mineral wool for deafening and insulating purposes, and mineral wool pipe and boiler covering: The Canada Life, University, Victoria College, Sick Children's Hospital, General Hospital, Women's Guild, Insane Asylum, Bank of Commerce, Traders' Bank, Queen's hotel, Rossin house, Walker house, T. Eaton & Co. and Robert Simpson. See their advertisement in another column.

Messrs. A. M. NEWLANDS & Co. are the first to apply a thorough system of incandescent electric lighting for factory purposes in our town. Others have made experiments but have abandoned, we think, the incandescent for the arc light system, preferring the latter as more adapted for their establishments and the class of work turned out. Messrs. Nowlands, however, required the light they used in so many places and so widely spread, that a fixed light would scarcely answer their purpose, so they decided to order from the Edison Company, of New York, a complete incandescent outfit of 55-light power, with excess power sufficient to drive a motor, to run the sewing machines required in their business. Usually the Edison Company, in sending out these outfits, send also a competent man to put them up, but Messrs. Nowlands did not deem the latter necessary, as they believed themselves competent to put the apparatus in operation. On the arrival of the outfit they set to work at it, and on Tuesday night invited a few of their friends down to their works to observe the success of their efforts. Everything was found in perfect shape, the lamps situated wherever requisite, giving out a beautifully brilliant light, each of 16 candle power, making all parts of the works, where needed, as bright as could be desired. The lamps are, of course, pendant, and are capable of being moved by an operator, if necessary to do so. The two flats of the building presented a very bright appearance, each machine, its parts, and the work it was doing being clearly shown.

Across the road is the building now being fitted up for the sewing machines, and in this are several of the lights and the small motor necessary to furnish the power to run them. This motor is a very trifling looking piece of mechanical skill, and when not in motion very innocent, but once the connection is made, which can be done instantly, the wheels begin to buzz round at a great rate of speed, the full current giving something like 2,400 revolutions per minute. From the small shaft driven by this run belts to the various machines used by the operators, who are thus relieved from any labor except that of watching the work done by their machine. The whole apparatus is very complete and bears efficient testimony to the mechanical electric skill of Messrs. Nowlands.—Galt, Ont., Reporter.



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IMPROVED

Globe Valve

Constructed to prevent Scales or Grains of Dirt being caught between faces at point of closing.

When the projection on valve enters the seat orifice, of which it is an easy fit, only clean fluid rushes past. Scales, etc., are pushed back and the faces meet with nothing between to injure them. Send for prices and particulars to

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Capital, \$300,000

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Builders of the Celebrated **BROWN AUTOMATIC ENGINE.**

Single, Tandem and Triple Expansion. Specially Designed for

ELECTRIC LIGHT PLANTS.

12,000 Horse-Power of these Engines built by us are NOW IN USE IN **ELECTRIC LIGHT PLANTS IN CANADA**

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Boilers

Last Inspected?

ARE THEY IN SAFE

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(Lieut. Govr. of Ontario)

JOHN L. BLAIRKIE ESQ. VICE PRES.

G.C. ROBB, Chief Engineer. A. FRASER, Secy. Treas.

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Boilers

GIVING THE

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AT THE

Least Cost?

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FOR ELECTRICAL PURPOSES

Including Black and White Tapes, Tubings, Rod, Sheet, Telephone Receivers, etc. Rubber Belting, all kinds of Hose, Packings, etc. Mould Goods of every description.

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 J. H. WALKER, Manager.

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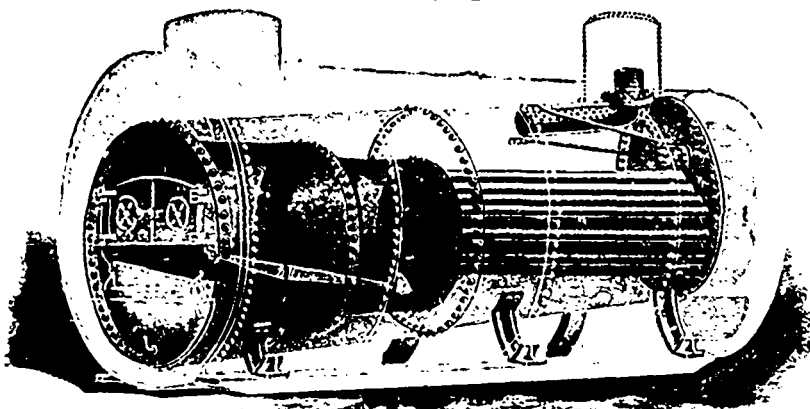
Patented Can. May 6, 1866;
 Feb. 10, 1887.

Patented U.S.A. Oct. 5, 1886;
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Is the strongest and most
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in use, and its high economy
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**BELTINGS,
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MANUFACTURERS OF

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FOR

Driving ELECTRIC Machinery.

COWAN & CO. - GALT, ONT.

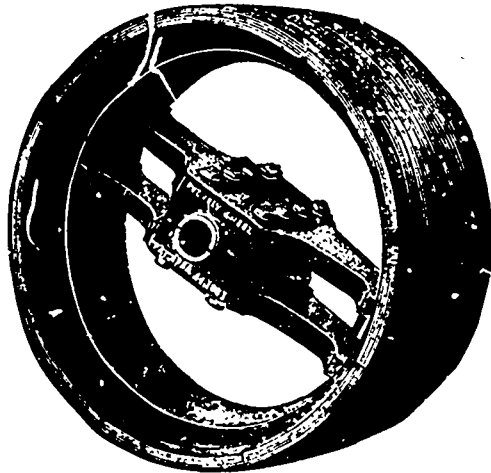
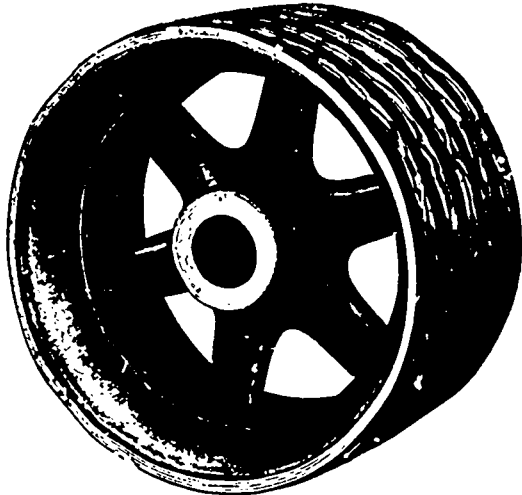
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In special cases where this class of Pulley is desirable, we can give it to you. All the advantages of the wood belt surface, coupled with the substantial Split Iron Centres, with key seat or set screws, make this Pulley "INVINCIBLE."

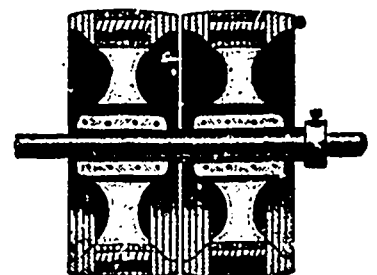
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We fit our regular Wood Split Pulley with special turned iron sleeves for Loose Pulleys, making the most convenient and inexpensive Loose Pulley in the market.

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BAR IRON, NAIL PLATES,
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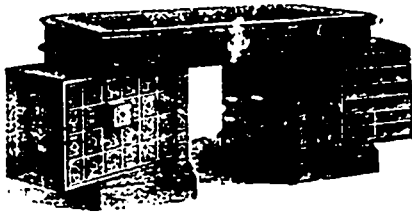
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Suitable for Car Wheels, Cylinders and Fire Castings where
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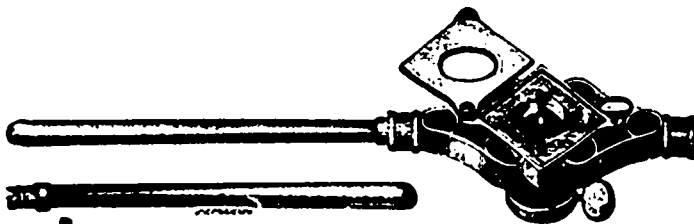
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The finest thing for suburban cottages. Excludes heat and cold; is cheap
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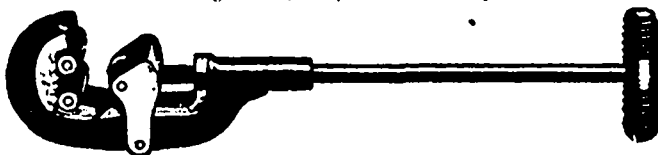
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For Cutting Steam, Gas, and Water Pipes.



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1. To prevent by all possible means the occurrence of avoidable fires.
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3. To reduce the cost of insurance to the lowest point consistent with the safe conduct of the business.

METHODS.

All risks will be inspected by a competent officer of the company, who will make such suggestions as to improvements required for safety against fires, as may be for the mutual interests of all concerned.

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The most perfect method of insurance must, in the nature of things, be one in which the self-interest of the insured and the underwriters are identical, and this has been the object aimed at by the organizers of this company.

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Flat Wires.

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Oakey's Flexible Twilled Emery Cloth.
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PRESIDENT: **GEORGE GOODERHAM,**
President Bank of Toronto.

**A
Five
Years'
Record**

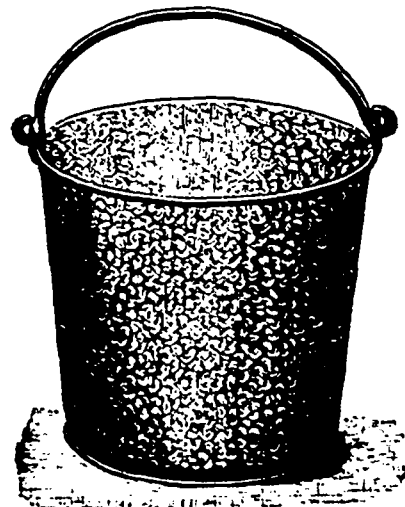
Income	\$207,486.
Increase over previous year	\$38,069.06
Gross Assets	437,959.14
Increase over previous year	86,219.16
Insurance Reserve for the protection of Policy-holders	289,045.00
Increase over previous year	71,795.00
Surplus on Policy-holders account	135,307.63
New Business written in 1891	2,111,100.00
Insurance in force Dec. 31, 1891	7,414,761.00

Head Office, - **TORONTO.**

JOHN F. ELLIS, Managing Director.

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Improved Pattern.



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Something entirely new, and superior to old style Buckets, made in three sizes. They are superior to the ordinary Flaring English Bucket, being of greater capacity. They are stronger in shape, consequently more durable. They will not slop over or tip over, owing to the wide bottom. They nest very close and firm, which protects them in shipping. The rim is in one piece with the body, consequently cannot get knocked off. They are Galvanized and not lead coated.

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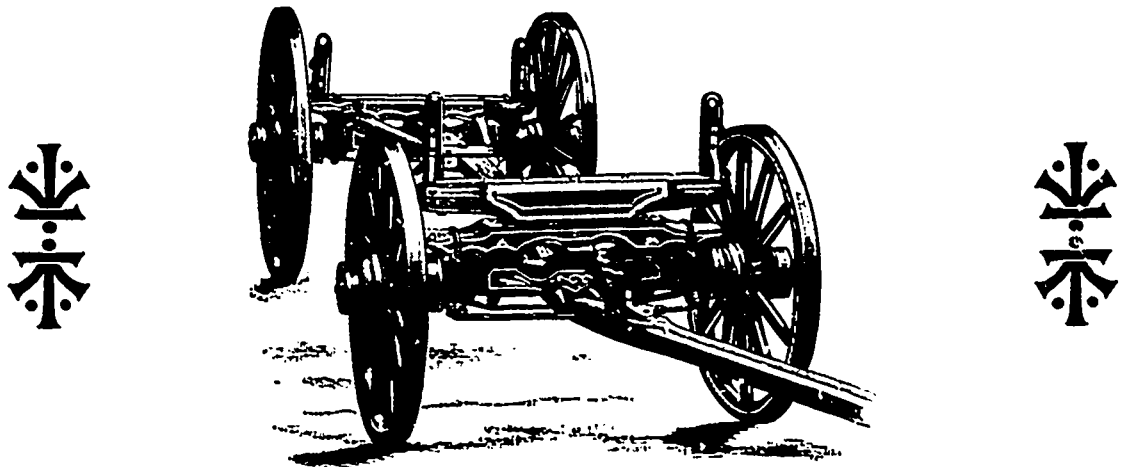
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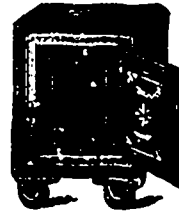
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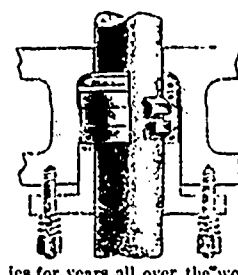
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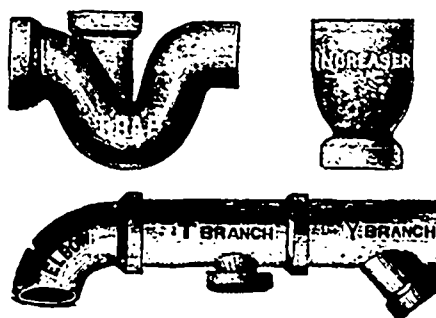


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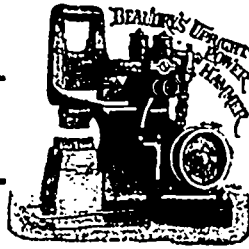
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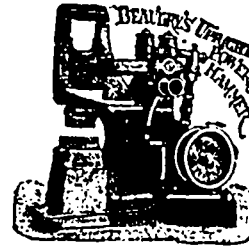
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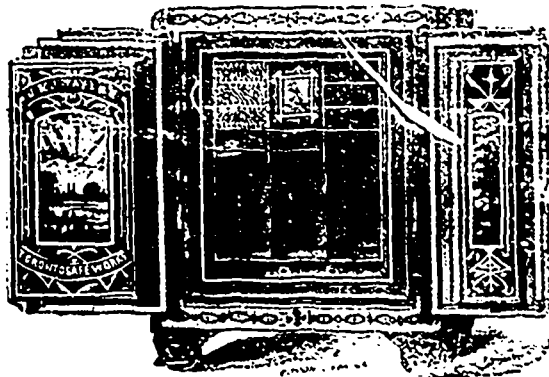


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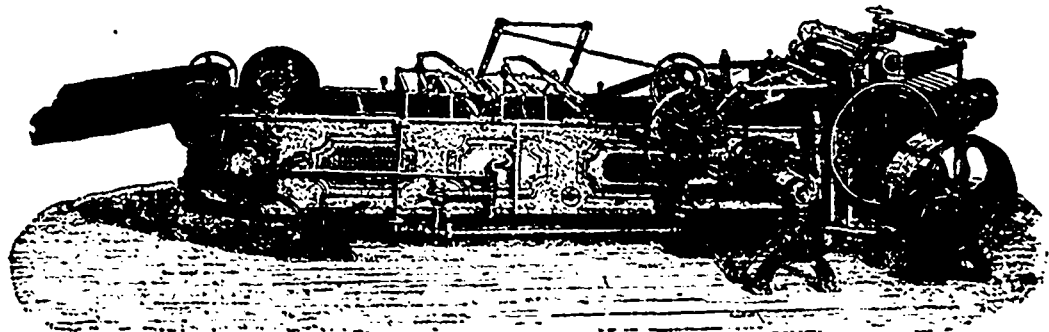
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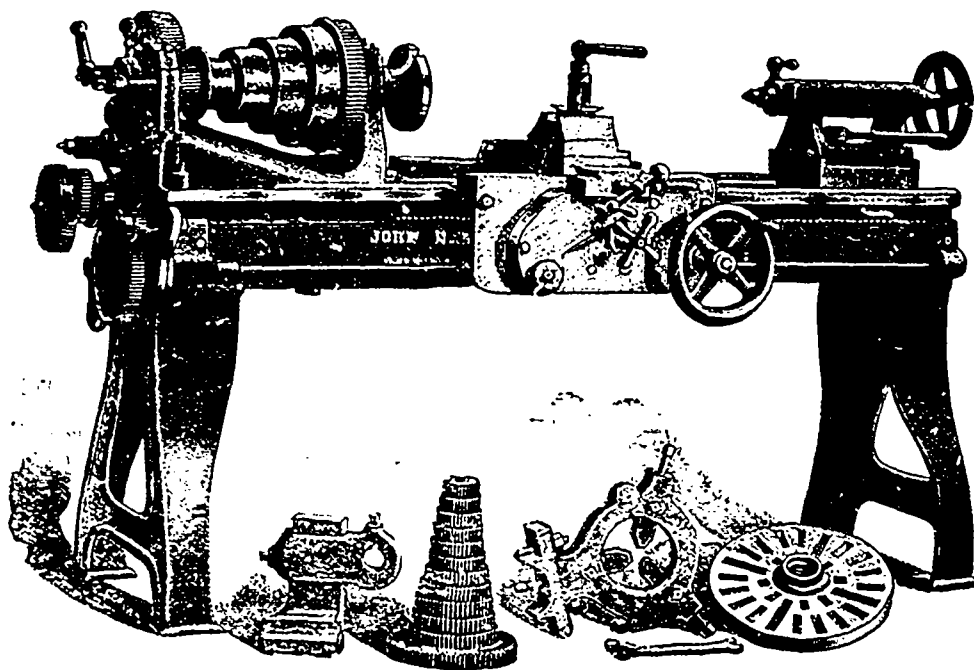
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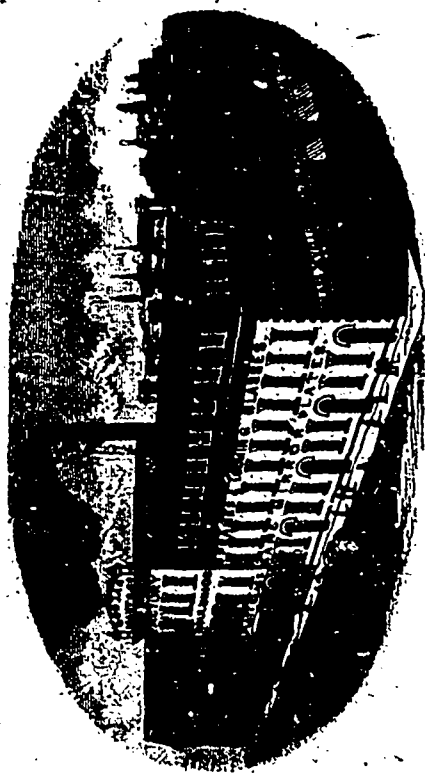
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