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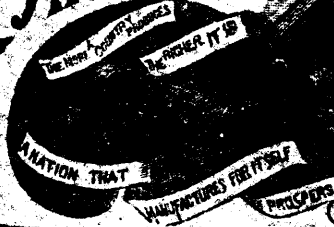
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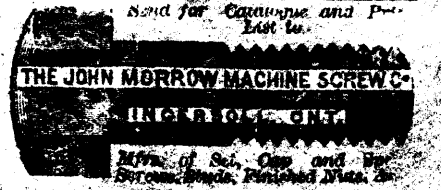
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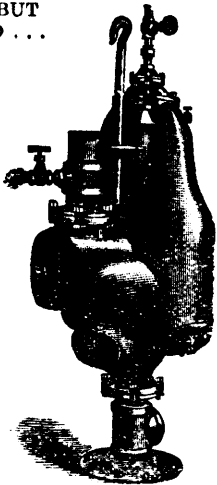
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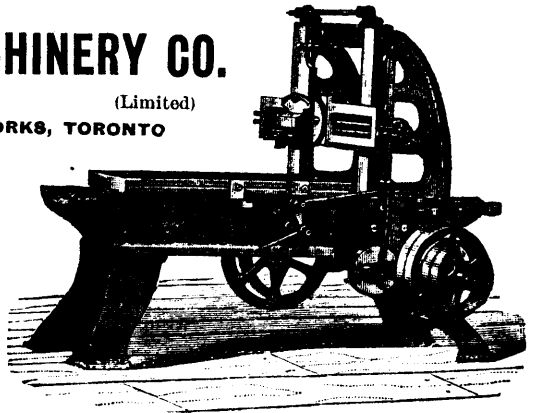
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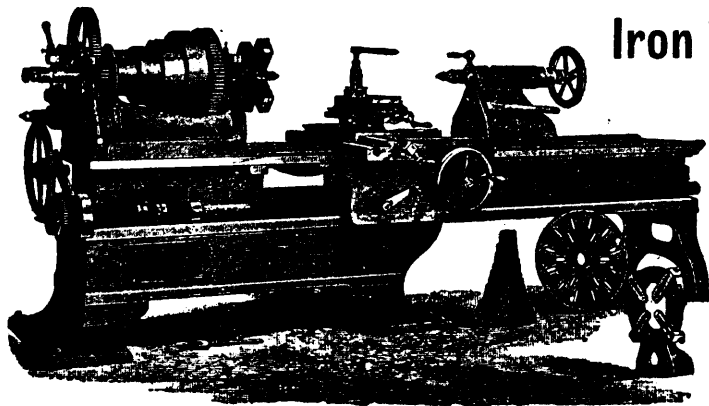
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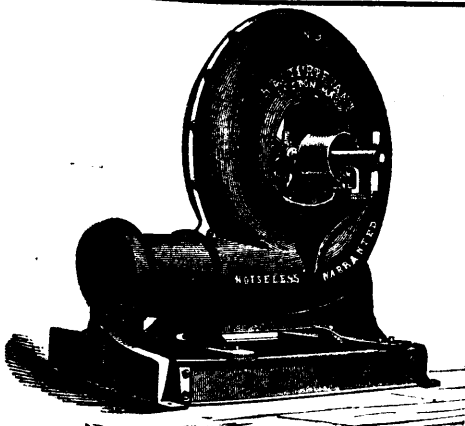
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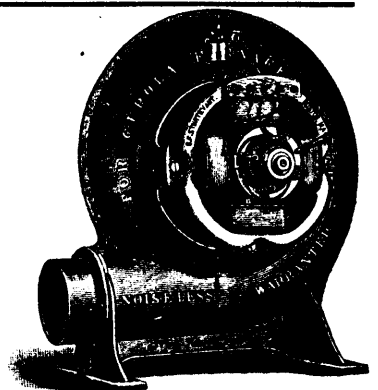
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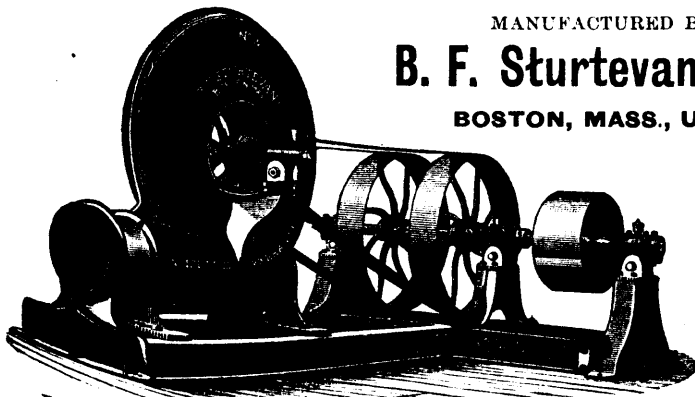
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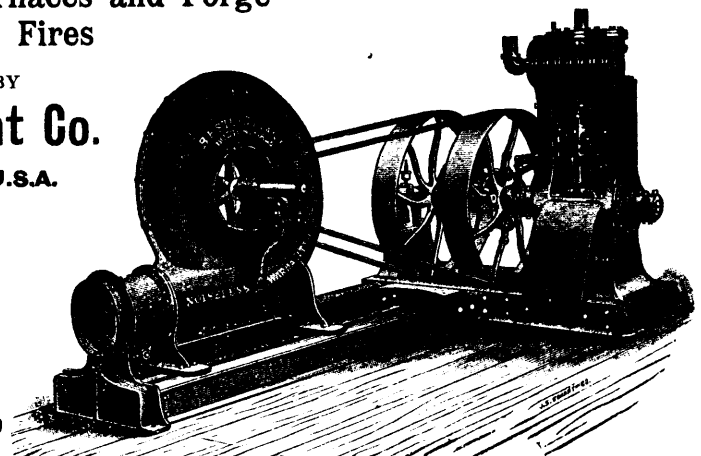
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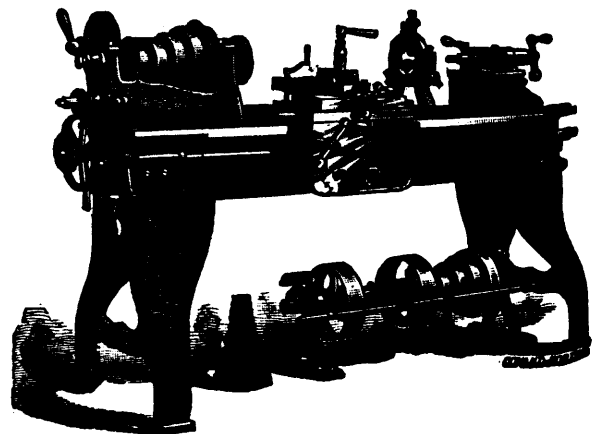
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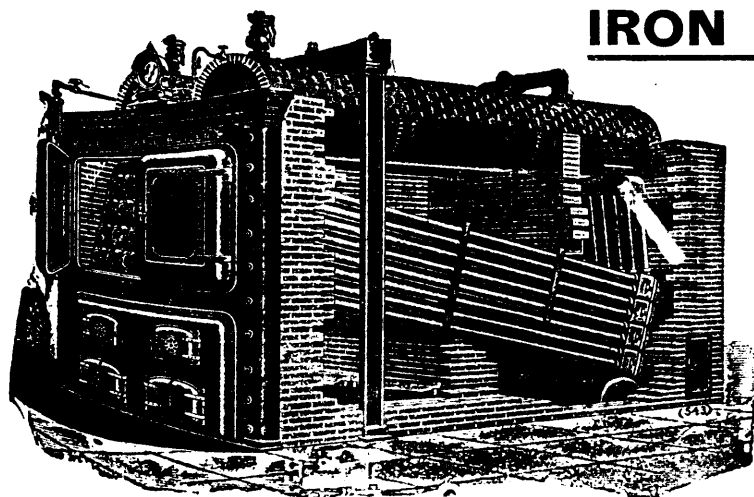
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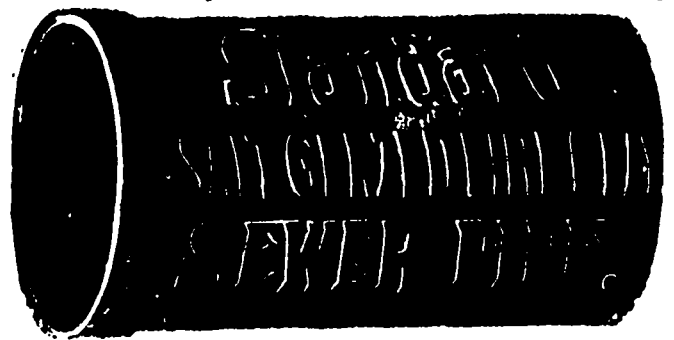
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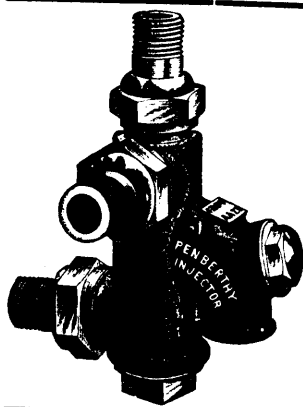
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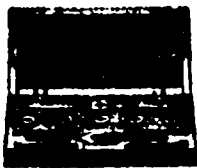
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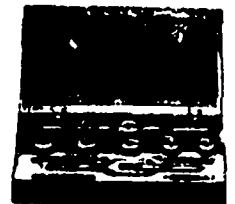
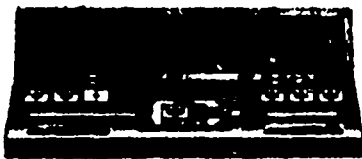


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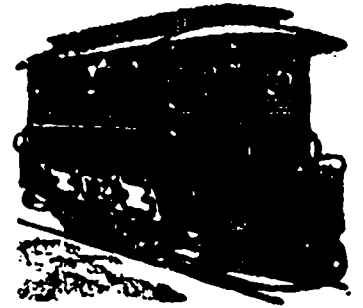
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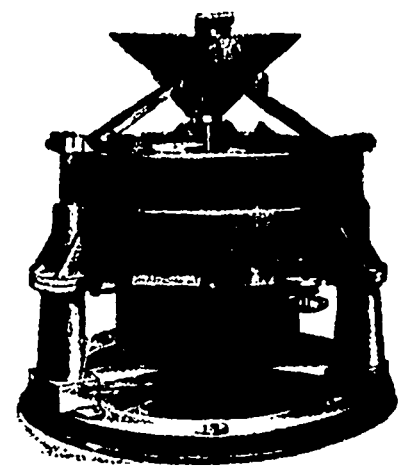
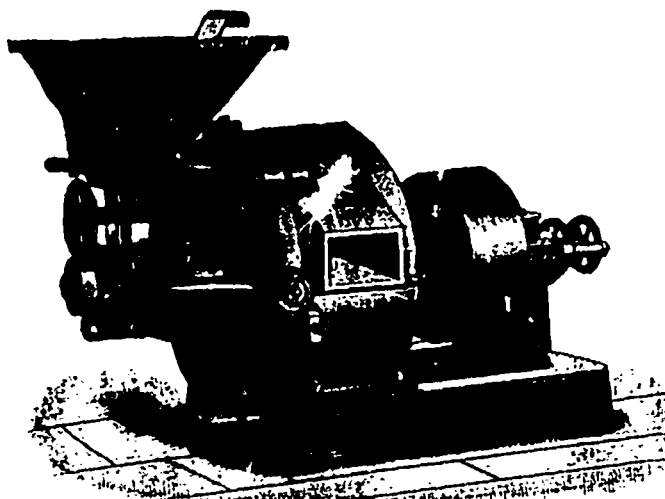
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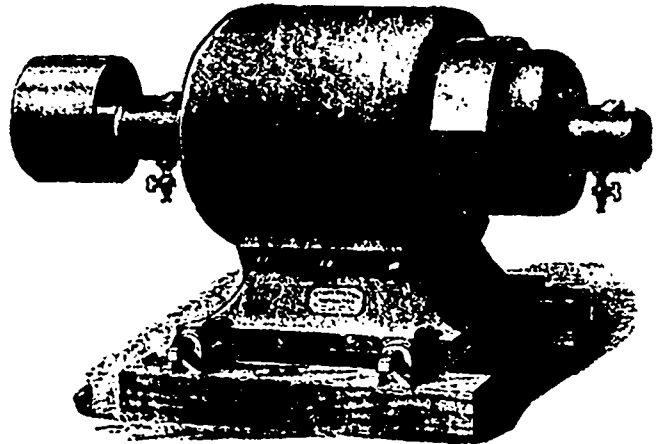
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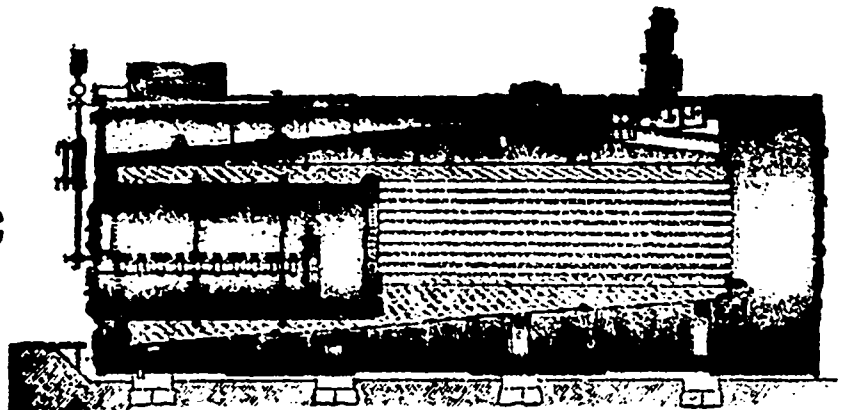
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MR. LAURIER AT ST. JOHN'S.

The political demonstration at St. John's, in the Province of Quebec, was largely attended, and Mr. Laurier was enthusiastically received. The address presented by the mayor contained the usual compliments to the Premier, and expressed great confidence in all the members of his new Government. Mr. Laurier's speech must prove a great disappointment to all who had expected an intelligible annunciation of his policy. Of nicely worded paragraphs there were many; of tasteful praise to each of his colleagues there was quite enough; of vague indefinite promises of the good things he has in store for all the industries in the country, there was

more than enough. But of any information as to the manner in which these promises are to be fulfilled, or of anything which would indicate the character of our future fiscal and commercial policy, there was—NIL.

He claims that "the platform of the Liberal party, to-day in power, is exactly the same as it was in the opposition, what we wanted then we will put in practice now, when we hold the power." When the party was in opposition they clamored for commercial union, unrestricted reciprocity, free trade as it is in England, a revenue tariff. Are they going to put into practice any of these policies, if so, which of them, or is Mr. Laurier going to undertake a combination of them all? When the party was in opposition, its leaders—some of whom are in the Cabinet now—held a conference at Quebec, where they unanimously agreed to make a combined raid on the Dominion treasury for increased subsidies to the provinces. Is this part of the present programme? Two of his colleagues from the Maritime Provinces are best known in the west, the one as an anti-confederationist—the other as an annexationist. Have they disavowed their former attitude on these questions or are they to be permitted to hold such sentiments as open questions? The people of Canada have a right to expect and demand clear information on all these points.

Mr. Laurier announced that at the August session of Parliament, "there will be no legislation, we will provide for the public expenses, nothing more. The changes in the tariff will be deferred to the next session, which will be held in January or February." This means that in the face of all the professions and pledges of strict economy which were so profusely made before the election, we are to have two distinct sessions inside of six months, entailing the immense expense of two indemnities to members, and other contingencies. Not a very promising beginning for the promised era of retrenchment. Mr. Laurier may find that he is assuming too much in dictating to the Houses of Parliament that there will be no legislation. If it were the intention that the August session should be adjourned until January or February, this course might be permitted, but if the early session is to be considered a full session, it is quite likely that the people and the two houses of parliament will demand that some more business must be done than the mere voting of supplies.

With respect to the tariff, Mr. Laurier says: "The first article of our programme is a reform of the tariff. It is not a question to be decided, for it has been already decided by the people on June 23rd, and we have received the mission to change the tariff to better meet the needs and conditions of the country." This is rather a bold assertion, as it is notorious, that the question of the tariff was hardly made an important issue at any of the recent elections, and it is sheer presumption to assert that the opinion of the people on this question was ascertained during the late campaign. He further says: "We will communicate with workmen, farmers, manufacturers, and others, and together we will elaborate a tariff which will be of a nature to lighten the burden of taxes which lie upon our country." This is very vague and unsatisfactory. It might have been expected that Mr. Laurier would have indicated the leading principles which his Government have adopted as the basis on which they propose to frame the new tariff, and having done this, that they would consult the different industries of the country as to the best manner in which these principles can be carried out, with the

least disturbance of existing interests, and for the promotion of new industries. The whole value of proposed consultation depends on the direction towards which it may be conducted. The constant agitation for changes in the tariff has for many years crippled enterprise and hindered investment of capital in the extension of existing and promotion of new industries. With what Mr. Laurier claims to be the ablest Government Canada ever had, and with a good working majority in the House of Commons, some such definite indication of its fiscal policy should have been given as would enable all the various industries in the Dominion to shape their course accordingly. On the contrary, they are called upon to wade through six or eight months of suspense and uncertainty.

Mr. Laurier promises to take care of the interests of the agricultural class. He says: "Government cannot raise the price of agricultural products, but can reduce the price of what they purchase for home consumption." More vagueness. So far as the tariff is concerned, this may mean, either that Government will leave the protective features of the duties on farm products as they now are, or that they will do, as they do in England, admit all farm products free. According to his opinion, these duties do not help prices, so he may have concluded to let them go, and along with them, the present considerable amount of revenue derived from them. Mr. Laurier does not attempt to show that the present condition of our revenue and expenditure will admit of such a reduction in customs duties as will effect that reduction in the prices of such articles as farmers consume, which he promises them to accomplish. He does, however, propose to adopt one practical step in aid of farmers, viz., "to facilitate the sale of farm products by establishing rapid transit and facilitating communication with the European markets, and that before long." This is just the policy, which the late Government, through Dr. Montague, submitted last session of Parliament, and which would now be in operation but for the obstructive tactics of Mr. Laurier and his party.

Mr. Laurier's next item in his programme is the development of the North-West. Hitherto, the Liberal party has exhibited a very luke-warm interest in that section of the Dominion. It is gratifying to witness this new-born zeal. The manufacturers of Canada will, with great pleasure, cordially support them in carrying out a vigorous policy in this direction.

Another plank in the new platform is "our relations with old England." After a prettily worded tribute to the loyalty of the French Canadian people, Mr. Laurier says: "From a commercial standpoint, our relations might be better." "It might be possible to obtain from England a preferential treaty which would be exclusive for our products." In the very next paragraph, he says that our relations with the United States have not been what they should have been. Further on, he says: "If we succeed in establishing friendly relations with the United States, we will revive the treaty of reciprocity of 1853-56, (is Mr. Laurier correct as to these years?) the golden age for the Provinces of Quebec and Ontario." Here again, continued indefiniteness. Mr. Laurier must know that these two policies are incompatible with each other. Any attempt in either direction must render success in the other impossible. Surely his Government should be able to decide which of the two policies is likely to prove of the greatest advantage to Canada, and if any effort on our part is likely

to lead to its consummation, all our energies should be concentrated in that one direction.

The next question on the programme was the Manitoba school question. Concerning which Mr. Laurier says that he hopes, before six months, to be able to say to the people of Canada, "Here is the settlement of that question." As the Manitoba Government rejected all attempts on the part of the Dominion Government to settle this question, because the remedial bill was too stringent, and as Mr. Laurier and his Quebec supporters opposed the bill because it was not stringent enough, it appears strange that Mr. Laurier should express himself with so much confidence on this subject. He must feel that there has been a great deal of insincerity on the part of himself and followers, or on the part of the Manitoba Government, or on the part of both, and that there has been a mutual understanding that after using the question for party purposes, and achieving the success aimed at, a compromise, long since agreed upon, will be made.

A fair summary of this long and indefinite address is: Wait until next winter, and you will see what you will see. This adroitness helped to carry the General Elections, and is expected to carry the bye-elections, which may take place before next winter. However, Mr. Laurier has to meet Parliament this month, where he will meet with a different body of men than the complaisant and easily satisfied assemblage at St. John's. He may rest assured that Parliament will not be adjourned or prorogued until the policy of his Government is more intelligently and definitely announced than it has been at St. John's.

DEBT OF THE DOMINION.

The net debt of the Dominion at Confederation in 1867 amounted to \$75,728,641; on June 30, 1895, it amounted to \$253,074,927; the increase being \$177,346,286. Part of this increase consists of allowances made to the different provinces since Confederation, and may be fairly deducted from the increase, because, although adding to the liabilities of the Dominion, it to the same extent reduced the indebtedness of these provinces. Making this deduction, which amounted to \$30,743,393, the real increase in the net Dominion debt has been \$146,602,893. The average rate of interest payable on the whole debt is 3.29 per cent., so that the increase in the net debt has involved an annual charge on the revenue of \$4,823,352.

In considering the debt of any country as affecting its present and probable future position and prosperity, many considerations must be taken into account. Was the debt or any considerable portion of it due to the inability or unwillingness on the part of Government or the people to raise in each year a sufficient amount of revenue to meet the ordinary expenditure of the year?

This was not the cause in the case of Canada, where there always has been a design on the part of Parliament to make ample provision for each year's expenditure. Unfortunately there have been a few seasons of financial and commercial depression in which the amount of revenue realized has not come up to the amount estimated, but in the majority of years, there has been a surplus. During the twenty-eight years since Confederation there have been eighteen years in which the revenue exceeded the ordinary expenditure, and ten years

in which there was a deficit. The total surpluses have amounted to \$33,873,060; the total deficits to \$22,219,056; net surplus \$11,654,004, which has been expended on public works of a permanent character.

As this last sum, together with the amount of the increase of Dominion debt, has been expended on public works of a permanent character, the enquiry arises: Was this expenditure justified by political or commercial considerations, and have these public works proved of such general advantage, that the country is better able to contribute the additional revenue required for payment of the debt incurred for them, than it would have been to raise the lesser revenue which would have been required without them?

These public works comprise:

| | |
|---|----------------------|
| Intercolonial railway and its connections | ... \$45,294,039 |
| Canadian Pacific railway | 62,653,745 |
| Prince Edward Island railway | 635,830 |
| Canals | 44,161,312 |
| | <u>\$152,744,917</u> |

As these four items exceed the increase of debt, it is unnecessary here to refer to other items expended on capital account since Confederation, for public buildings and other public works, and for opening up the North-West; all amounting to \$16,654,861. With reference to the above four items, it will hardly be disputed that the construction of the Intercolonial and Canadian Pacific Railways and the Sault Ste. Marie canal was clearly demanded by political necessity. (1) Because through the repeated threats of our American neighbors to abrogate our privilege of shipping through their country in bond it had become absolutely essential that Canada should have an independent entire through rail route from ocean to ocean, and also a complete through water route from the head of Lake Superior to the Atlantic, through our own territory and our own waters; (2) Because it was a matter of political importance that persons as well as merchandise, should be transported if necessary over our own territory, from any part of the Dominion to another; (3) Because without these connecting links there could be no practical connection of the political, commercial and social relations necessary to bind together the different section and interests of the Dominion.

The same reasons which establish political necessity establish also the commercial necessity for undertaking these great public works. Few, if any, will deny that they have developed and increased the resources and commerce of the Dominion to an extent which would otherwise have been impossible, or that the results realized and prospective have fully justified the expenditure incurred. They have attracted population, capital and enterprise; they have built up a large inter-provincial trade; they have afforded new facilities for transportation, and have largely reduced rates of freight, and have thereby added by so much to the value of every product which Canada has to sell—which latter advantage will be largely increased when the enlargement and improvement of our canal system shall have been completed—and they have given to Canada a position among the nations of the world of which its people may well be proud.

Is the amount of the Dominion debt when viewed in comparison with the debt of other countries so large as to afford ground for anxiety or apprehension with regard to the future; should it be considered as an impediment to the introduction of additional capital and population?

The Canadian Year Book for 1895 furnishes the following figures as to the per capita debt of sundry countries:—

| | |
|--------------------|----------------|
| Canada | \$ 49.78 |
| Natal | 72.12 |
| Capo of Good Hope | 78.70 |
| New South Wales | 208.83 |
| Victoria | 192.12 |
| South Australia | 304.45 |
| Western Australia | 191.66 |
| Queensland | 334.97 |
| Tasmania | 197.03 |
| New Zealand | 286.46 |
| Argentine Republic | 113.54 |
| Egypt | 74.70 |
| Peru | 62.89 |
| Uruguay | 140.90 |
| United Kingdom | \$1.70 |

There is nothing very alarming in this exhibit. Leaving out the Australian Colonies, which are said to possess important revenue-paying public works, all the other above countries have much larger per capita debt than that of the Dominion. Will any one who knows the valuable resources of Canada contend that there can be any great difficulty in meeting its debt obligations when they are seen to be so much smaller than those of the half civilized countries of South Africa, Egypt or South America? The constant harping upon our debt is culpable and cowardly. It does not necessitate any great sacrifice to meet the annual interest. The following familiar illustration may show how light the burden is which falls upon any individual or family. As has been stated above, the amount of interest annually payable on the increase of debt since Confederation is \$4,823,352. During the two years 1893-94 and 1894-95, Canada's imports of foreign sugar averaged a little over 160,000 tons in each year. An additional customs duty of 1½ cents per lb. would produce an additional revenue of over \$4,800,000; this one extra tax would cover the whole of the interest on the increased debt. Every head of a family can thus judge for himself whether this would prove any great tax on his business or labors. Is this a heavy sacrifice to have made in order to secure the accomplishment of these great national undertakings?

Has the increase in Dominion debt injured the credit of Canada in the money markets of the world, so as to deprive her of the power of obtaining on reasonable terms any further loan which it may be deemed advisable to negotiate for the purpose of prosecuting such further enterprises as may prove to be necessary?

With nations, as with individuals, the best estimate of their financial position is that of their bankers or creditors. By referring to the principal speech of Hon. Geo. Brown during the Confederation Debate in Parliament in 1865, it is seen that a complaint was made that under the terms of Confederation, the Intercolonial railway was to be built at once, while the enlargement of the canals and the development of the North-West were to be postponed until the financial position of the country should be improved. In reply to this complaint Mr Brown explained that the immediate construction of the above railway was rendered practical by means of the Imperial guarantee which had been secured for the bonds to be issued for that purpose. With respect to the postponement of the other projects he said that this course was necessary, because it would be unwise to attempt to raise the money required for them at that time, as for some time past, Canadian 5 per cent. bonds had ranged at 75 to 90 in the London market. This

was the position of the credit of Canada in 1865 with the very moderate debt which it then owed. What is its position to-day with the large debt which it now owes, and which for political purposes our Canadian pessimists pretend to view with such alarm? To-day Canadian three per cent. bonds command a premium of over five per cent. in London. It may be said that the rate of interest has decreased enormously during the last thirty years. This is true, but the fact remains, that taking both quotations and rate of interest into consideration, there has been a greater appreciation in Canadian Government securities than even in English consols. The best financial authorities in the world believe that Canada is better able to pay its present large debt than it was to pay its small debt thirty years ago. The enterprise of the Canadian people has not crippled, but has established and strengthened the credit of its Government at home and abroad, so that any amount of money which it may be desired to procure, can be borrowed on the most favorable terms.

PREFERENTIAL TRADE WITH ENGLAND.

In the last issue of THE MANUFACTURER, two extracts were given from the British Trade Journal; one of them obviously showing distrust in the present virtue of free trade inasmuch as the home and foreign commerce of protectionist Germany is increasing more rapidly than that of free trade England; the other complaining that in Australia and Canada the imports of merchandise from the United Kingdom are falling off in proportion to those of other countries. The Journal says: "Our colonial possessions should be the best markets in the world for us." It says that the initiative of any new commercial policy must come from the colonies, and that any fair and reasonable proposition "will come with a force which no government here will be able to resist." It recommends that these colonies should impose lower duties upon British than upon foreign goods, and thus test the question whether the German and Belgian treaties are really any bar to the carrying out of this policy.

THE CANADIAN MANUFACTURER does not believe that any trade arrangement can be concluded with the United States, which would prove of material advantage to the farming industry of Canada, as this is abundantly clear from the immense surplus of farm products which the United States annually exports. It looks very alluring to offer to farmers free access to a market of seventy million people, but the other side of the question is carefully concealed, viz.: the danger to farmers' interests in being exposed to competition with the surplus of the seventy million people. The prospect of loss is greater than the prospect of profit. Preferential trade with England would prove of unquestionable benefit to our farmers, and any large stimulus to this prosperity would communicate itself to the manufacturing and other industries in Canada. Suppose that something like an average rate of thirty per cent. duty was imposed on foreign manufactures, and twenty per cent. on like articles of British manufacture, and that in return for this, the United Kingdom would levy a duty of ten per cent. on all such farm products as are raised in her own colonies, can any one doubt that such a policy would greatly conduce to the prosperity of Canada?

It is not intended at present to discuss any details of preferential policy. Our object now is to submit to our readers

the views of some of the leading trade and commercial papers in England. Our daily newspapers may be expected to give full and fair reports of British sentiment on this question as are exhibited by the leading dailies of the English press.

The London Economist, one of the ablest and most influential trade journals in the world, makes the following remarkable admission:—

We are perfectly willing to consider all proposals for minor modifications of the policy on their merits. We have no patience with those who shout down such proposals with the cry that they are contrary to free trade principles, as if those principles were necessarily incapable of the slightest alteration. Take, for example, the way in which the very reasonable proposal to prevent the importation of live cattle into our ports has been met by the more fanatical section of the followers of Cobden. In truth, freedom of trade is only good for the country when its effects are good.

The London Statist, another very influential paper, treats of free trade in a very similar vein, it says:—

Here at home we have had full free trade for half a century, and in all Europe there is, perhaps, no more poverty-stricken country than Ireland. The United States, France and Germany are highly protected, yet he would be a rash man who would say that the United States and Germany have not made extraordinary progress during the past half century; and although it is true that in France the population is stationary and trade not very progressive, yet France is certainly one of the richest countries in the world. Free Trade, then, is good so far as it goes, but it is not to be worshipped as a fetish, nor set up as a doctrine, the infringement of which incurs political damnation. The truth is that Free Trade is good for England because she needs food and raw materials cheap and in abundance, and with our usual national self-conceit, we have erected what is good for us into a canon for universal observance.

The Chamber of Commerce Journal for June published a supplement of 108 pages, giving the Official Report of the Third Congress of the Chambers of Commerce of the Empire held in London, June 9th to the 12th, and in its regular number contains an article entitled "Imperial Commerce," in which it comments on the proceedings at that meeting. The following are extracts from this editorial:—

The highest anticipations formed by its conveners were realized by the Third Congress of Chambers of Commerce of the British Empire, which, on four days of this month, sat and debated a series of questions of varying importance concerning Imperial interests.

Every division of the Empire was represented directly or indirectly, while, as though to prove the homogeneity of the British peoples, even when their fortune ordains expatriation for business reasons, the British Chambers of Commerce of Paris, Constantinople, Nice and Alexandria were also brought within the sphere of the Congress, and contributed to its proceedings.

It is no part of our task now to attempt a review of discussions which must be, for some time to come, a source of inspiration on one subject, that of Commercial Union within the Empire.

There was no burking of the issue. Mr. Chamberlain, as Secretary of State for the Colonies and Honorary President of the Congress, faced the difficulties boldly, and, at the outset, stated the position in plain terms. He declared it was not to be expected either that we should abandon our commercial regime in favor of that most commonly adopted in the Colonies, or that the Colonies would revolutionize their policy, to bring it into line with that of the Mother Country. To propose the one or the other would be to start with a dead-lock. Under these conditions, is there a third course worth consideration? Mr. Chamberlain believes there is, and the

discussion disclosed a large body of confirmatory opinion. Mr. Chamberlain outlined his idea of "a course in which there shall be give and take on both sides, in which neither side will pedantically adhere to pre-conceived conclusions, in which the good of the whole shall subordinate the separate interests of the parts." Shortly put, the suggestion which he favored was the constitution of an Imperial Customs Union, on the principle of the German Zollverein, and the principle underlying the federation of the United States of America. Personally, the Secretary of State for the Colonies was convinced, "that if a proposal of this kind came to us from the Colonies, backed by any considerable support on their part, it would not be met with a blank refusal by the people of this country." "A distinct and definite opportunity is now given to the Colonies, generally, to seek for a discussion as a matter of high policy, and in leading up to that invitation the Congress has advanced the question considerably on its way to a final determination, without in any way arousing the fears or susceptibilities of free traders or protectionists at home or in the Colonies."

The Textile Mercury of Manchester, which claims to have the largest textile circulation in the world, has recently published a series of articles on "the Commercial Federation of the British Empire." Article No. 4 appears in its issue, June 11th. In these articles, it contends that not free trade, but mechanical invention has been the basis of England's commercial progress—the changes from manual to mechanical systems of industry enabled Britain to overcome all the opposition of high tariffs in other countries. These countries, discovering this, commenced importing the necessary machinery from England, and imitated, and in some cases improved on them. The combined influence of competition by foreign nations using England's best appliances, plus the protection accruing to them from high tariffs has had an important influence upon the industrial and commercial condition and prospects of Great Britain. This competition has been increasing since 1875, and for the last twenty years, the extension of spinning and weaving has proceeded much more slowly than at any other period for a considerable time previously. The number of unemployed people is very large. In agriculture, "Could anything be more deplorable than the condition of land-owners, farmers and laborers on the whole? If we exclude from our survey a ring of agricultural land immediately surrounding our large cities and towns, it would be difficult to find an industry more depressed. Next take coal-mining. In this, the men have succeeded in nominally maintaining a high rate of wages, but are hardly finding half-time employment. The great iron trade, momentarily doing moderately well, is subject to very severe, and frequently recurring periods of depression." "Amongst all this, one great fact stands prominently forth: that is, that the great producing interests of the country have had to face hard times for a long while past, and that the future does not grow brighter." "Industrial and commercial interests are now poised on the edge of a precipice, and any of several conceivable events would send them over. Coming events cast their shadows before, and of some of these we had glimpses in the closing months of last, and the early ones of this year. It is to be hoped that the lesson will be taken seriously to heart by politicians of both parties, and that they will display a little statesman-like ability in guarding the interests, and promoting the welfare of the country. The opposite has been the result, although we have opened our ports to all, irrespective of whether the interests of the country would be promoted or injured thereby." "It is high

time this policy ceased to be the guide of their political conduct, and that they began to propound policies not primarily meant to serve party interests, but to advance the public weal." "It has always been affirmed by free traders, that free commercial intercourse would inaugurate an era of peace among the nations, but so far as free trade principles have been tried, the opposite has been the result; for, although we have opened our ports to all comers, we are hated more thoroughly and universally than any other people. Wars are now far more likely to have an industrial or commercial origin than a dynastic, or even a political one. In these circumstances it becomes absolutely incumbent upon our professional politicians to seriously consider the facts fronting the nation in the future, and to make the best possible provision to meet them. Competing plans should be submitted to the country for securing its interests, and amending not destructive criticism should be offered to them. It is only by a policy of this kind that politicians can fulfil their duty to the State, and we trust that they will recognize that present conditions are sufficiently serious to compel them to adopt it. The Commercial Federation of the British Empire is one of these measures, and if the Radical and Free Trade Party cannot produce a better, they ought to help to improve, and assist in securing its adoption, because the conditions and circumstances of the nation imperatively demand some such measure if they are not to be blindly allowed to drift to destruction."

Invention, an illustrated weekly Review of Industrial and Scientific Progress, London, July 11th, has an editorial, "An Imperial Zollverein," from which the following extracts are taken:—

There are but few Englishmen who at this time can say that they are quite unaffected by the issues of our colonial trade. Most of us have, like Mr. Chamberlain, a constant ideal before our eyes, in which our great empire, with its branches and colonies all over the world is bound together by ties of kinship, race and moral harmony. Our patriotic feelings would lead us to see a nation banded together by a strong Imperial Federation, the stepping-stone to which lies in the Imperial Zollverein discussed by the Congress which has been sitting in our Metropolis. From a practical commercial standpoint such a union would be an inestimable benefit both to the Mother Country and to the colonies which are her offshoots. . . . What we wish to secure first is, that the goods which are imported by the United Kingdom from any other portion of her Empire shall enjoy preferential treatment over like goods, which may be imported from foreign countries; secondly, that exports from the United Kingdom to any other portion of the Empire shall receive the same preferential treatment; thirdly, that intercolonial trade shall be similarly favored in the matter of tariffs.

Referring to the treaties with Belgium and Germany, Invention says:—

Surely it is high time that these two treaties should be annulled or modified to a very large extent. Even the most rank free traders must see, that with such a tariff plan as that proposed by Mr. Chamberlain, there would be nothing "protective," as this word is understood in the worse sense. The species of protection which caused such panic early in the present century was of a very barbarous description, a sort of Chinese wall built up to the exclusion of all progress, and with which no new idea could grapple, which effectually prevented the launching out into new fields of the energetic blood flowing in the nation's veins. The scheme under discussion would be a "fair trade," in the strictest sense of the word.

It would give our struggling colonies a chance, and would on the other hand help to widen out the chances of our well-

to-do dependencies. If we charged an all-round registration duty, however small, giving out comes the advantage over foreign countries, our Imperial Exchequer would reap a large advantage, which on the other hand would hardly be felt by the foreign empires. . . The cry of raising the price of the poor man's bread would not now be sustained, for it was practically proved that the poor man's bread was no cheaper, when the one shilling registration duty on imported corn was knocked off than it was before.

With respect to the alleged danger of retaliation on the part of other countries, Invention says :—

This is impossible, as their import duties are now so high that they cannot well afford to make them higher, and any increase in this particular line in the face of a union, would react upon the countries interested. . .

Our colonies need our help, but they must hold out the right hand of fellowship honestly, and not expect the policy of the Mother Country to be all "give" and no "take."

We have no room for further quotations. Bearing in mind that the views above quoted on this question are those of the very class in England which adopted, and have so long maintained ultra free trade sentiments, they carry more weight than the opinions of strictly political journals. They exhibit the growth of a sentiment in Great Britain which Canada, at any rate, should respond to most cordially. Prompt and liberal propositions on our part may lead to the adoption of an Imperial policy which will greatly contribute to our future prosperity.

PROTECTION IN GERMANY.

Mr. I. C. Monaghan, U. S. Consul, at Chemnitz, in a report to the Government at Washington, May 6th, says :—

Moderate protective tariffs are said to have helped the German woolen manufacturers to hold not only their own, but to obtain a fair share of the markets in lands not yet advanced far enough to manufacture for themselves. At least this is the claim made by the writer from whom I obtained most of my facts. In 1895, the empire used three times as much raw wool as in 1865; had won back all the home markets held hitherto almost entirely by England and France and had gone out into all parts of the world with the surplus products of her woolen looms winning new fields from her powerful rivals.

That the above is no fancy picture is proven by facts. The export of woolen yarns went up from an average of 101,000 centners during the sixteen years from 1872 to 1887 to 181,000 centners in 1895. During the same time, the export of woolen cloths and wares went up from 390,000 centners to 616,000 centners, while the imports of the latter (woolen wares and cloths) went down from 86,000 centners to 31,600 centners.

Phenomenal as has been the empire's success in textiles during the last twenty-five years, the success in the iron industries has been greater. Nothing pays now in Saxony so well as the many knitting, weaving and spinning machine-making shops. Large woolen mills are being erected all over this kingdom, and what is true here is true of the whole empire.

By enquiring at the dry goods, ready made clothing and hardware stores in Toronto, it is surprising to find a large proportion of German goods in stock.

The result in Germany is just what protectionists claim will be the result in Canada. Maintain here a moderate but sufficient tariff to secure to our manufacturers the home market and in a few years millions of dollars worth of home-made goods will take the place of foreign manufactures. In many lines, for which Canadian material and labor are

especially adapted, we will be able to do as Germany has done, go out into all parts of the world with the surplus products of such industries.

BRITISH COLUMBIA RAILWAYS.

The Annual Report of the Board of Trade, Victoria, B. C. contains the following information with regard to the railways of that province :—

There are 800 miles of railway track laid in British Columbia—that is, about one mile of railway for each 478 square miles of territory. These figures show conclusively the necessity for the local and Dominion governments adopting a liberal and progressive railway policy in order to open up the vast resources of the province.

The Canadian Pacific Railway with its branches is of great service to those portions of the province which are tributary, but the territory to the north of this railway, by far the largest portion of British Columbia, is practically inaccessible. Immense tracts of grazing lands, much agricultural land, and enormous mineral wealth are at present lying dormant for want of railway communication.

These resources will be largely opened up by the building of the proposed British Pacific Railway, to commence from the north terminus of the Esquimalt & Nanaimo Railway, thence northward on Vancouver Island to Seymour Narrows, where connection would be made with the Mainland. The proposed line would then proceed in an easterly direction, making for the Yellowhead Pass, the object being to connect with a railway which would form another transcontinental line to the north of the Canadian Pacific Railway. The company formed to build this proposed railway made proposals to the local government in March last involving financial assistance, but the terms were not acceptable and there is consequently further delay in the commencement of extensive construction work. As soon as the break in the negotiations was known your council addressed communications to the provincial government and to the construction company, expressing the hope that the block might be only temporary and that further negotiations would lead to an understanding agreeable to both parties. The company's charter requires the expenditure of a sum not less than \$200,000 per annum, commencing on May 1st last, and the completion of the line within eight years from that date.

The building of the Canadian Pacific Crow's Nest branch line would have a very beneficial effect upon the mining interests of Kootenay, and it is hoped that the Federal authorities may give the financial assistance which is needed to ensure early construction.

The Kaslo & Slocan Railway, length thirty-three miles, was opened for traffic in November last.

The Nakusp & Slocan line was extended from Three Forks to Sandon, distance four miles.

The Nelson & Fort Sheppard Railway was continued from Five Mile Point to Nelson.

The Canadian Pacific Revelstoke branch line was built from Wigwam to the head of Arrow Lake, where boats connect with the Nakusp & Slocan Railway, Robson and other points on the Columbia River.

The Columbia & Western, a narrow gauge line, between Rossland and Trail on the Columbia River, was completed last month.

With regard to exports and imports the report speaks as follows :—

It is also pleasing to note that the exports have again increased during the past twelve months, and exceed by about a million and a half of dollars those of any previous year, the total being approximately ten and a half million dollars.

The imports, too, show a very substantial increase compared with the year ending June 30, 1895. From returns available it appears that this city alone has contributed to

THE GLOBE ON THE BASIS OF PROTECTION.

The Globe of Monday last has one of its usual pedantic editorials on the above subject in which it informs protectionists that the basic fallacy of their policy leads naturally to the belief that a nation will lose, and have an "unfavorable balance," if its purchases or imports exceed its sales or exports. It argues: "In no particular has British experience discredited protection theories more effectually than in regard to this balance of trade. With yearly adverse balances mounting into the millions, the people enjoy a higher standard of living than exists in any other European country, although many of her less fortunate neighbors enjoy what is called a 'favorable balance of trade.'" Will The Globe please explain how it happens that in the United States, which rather enjoys having this favorable balance of trade, which the Globe despises, the standard of living is as much higher than is found in Great Britain, as is that of the latter over other countries in Europe. But The Globe knows that the balance against England, as shown by the statement of imports and exports, is not the actual balance. England's import values are values in England, so are its export values, but in the former case must be deducted and in the latter case must be added the immense amount which she collects in both cases for freight, insurance, commissions, bank exchanges, etc. Add to this the several hundreds of millions of dollars which she collects annually from foreign nations and corporations for interest on loans and dividends on stocks, and it will be found that England has on the whole a tidy little balance in its favor, and that this enables her to keep up her high standard of living. But for these extraneous advantages, which The Globe ignores, England would soon be landed in bankruptcy. Any school-boy would tell The Globe that if a nation has no other means of paying for its imports of merchandise than through its exports of merchandise, and if it were to allow its imports year after year to exceed its exports, the end of that nation would certainly be bankruptcy or repudiation. The Globe has an absurd knack of establishing general principles on exceptional cases, and often, as in this instance, on a case which does not exist.

The Globe further says: "A merchant finding that his purchases exceeded his sales in amount would not seek to avoid the evidently unprofitable nature of his transactions by adopting restrictions designed to make his purchases dearer or less profitable." Rather inconsistent with its previous contention. Formerly, it was no evidence of unprofitableness to have an unfavorable balance of trade; now the same condition is pronounced to be "evidently unprofitable." Apart from this, and taking the case of a merchant in the position stated by The Globe; the merchant finds that he and his family can raise or manufacture some of the goods which he formerly purchased, and at the same time carry on his former business, would not this be a sensible way of reducing or wiping out the unfavorable balance. With all respect to the free trader who pins his faith to the maxim that the consumer should buy in the cheapest market, we have more faith in the practical maxim of Hon. G. A. Grow: "The consumer in all cases buys the cheapest where he pays easiest, no matter what the nominal price of the article may be." So with the merchant in above case: the goods raised or manufactured by his family may cost a little more than if imported, but if payable in a

kind which the foreign merchant will not accept, they may be practically cheaper than the imported.

With respect to subsidized exports, The Globe says that they are profitable to the exporter, but unprofitable to the people as a whole. It undertakes to lecture the Germans on what it is pleased to term their "economic error" with respect to Sugar Bounties. The Globe undertook to instruct the people of Manitoba by an "open letter" on the school question. With the cacophones scribendi so strong, the editor might try his hand again on an open letter to the Germans on the sugar question. The Germans have the reputation of being as intelligent, sagacious, and progressive merchants as are found in the world; they have had nearly a century's experience in beet-sugar manufacture, and about thirty years' experience of the relative cost and advantages of the policy of bounties on exports of sugar. After a protracted discussion, during which all the arguments for and against were considered, the Reichstag, on May 15th, passed an act, raising the bounty on raw sugar from 29.7 cents per 220 lbs. to 59.5 cents, and on refined sugars proportionately. This act was passed by a large majority. Does The Globe imagine that its objections, on the ground that it imposed a tax on the people and that it crippled the jam and candy trade of the country, were overlooked? Every possible objection was brought forward, discussed and many of them admitted. But the compensating advantages, of which The Globe makes no mention, were also discussed, and were found to be greater than the disadvantages. The Germans were much more thorough in their investigations than The Globe. All admitted that the policy of bounties is an exceptional one, and should neither be continued or increased unless necessary to the maintenance of the beet-sugar industry on the same large scale as at present. A comparison with the bounties paid in France and Austria showed that the proposed increase was absolutely necessary to the preservation and prosperity of the industry. Then arose the question whether the advantages to be derived by the country in general justified the amount of expenditure incurred. The beet-sugar industry and its products are valued at about \$80,000,000 per annum, requiring about 14,000,000 tons of beet roots, the produce of about 1,250,000 acres. Every acre cultivated to beets requires about three times as much manual labor as an acre sowed to grain; the land used for beets has its productiveness for future crops increased fully fifty per cent.; there are about 400 beet-sugar factories in the Empire, with a capital of \$100,000,000. Owing to these considerations, the Reichstag passed the bill referred to; at the same time expressing a general opinion that Germany would abandon the system of bounties, as soon as France and Austria would agree to do the same. As an illustration of the practical view which German politicians take of commercial questions, this sugar bounty question is a good one. It has long been known, that large factories have a great advantage over smaller ones in the cost of manufacturing, and the object of the bill was to effect the enlargement and improvement of the small factories, rather than bring new factories into operation. To enable such improvements to be undertaken, it was necessary that the factory owners should be guaranteed that the new bounty should be continued for a definite period, and this was secured them by the bill. The Germans have frequently shown how strongly they believe in attaching the principle of permanency to their fiscal policy, so as to pro-

EDITORIAL NOTES.

The C.P.R. have under consideration a scheme for the shipping of frozen salmon to England on a large scale. The exporters of New Westminster, B.C., have built up a large trade in the product, but have hitherto sent it to the old country by way of Australia.

The Free Trade policy of the United Kingdom has resulted in doubling the direct taxation of the British people. In 1811-12 it was £0 19s 1d (\$2.50) per capita of the population, and in 1895-96 it was £1 2s. 5 1/4d (\$5.50) per capita. This is the way in which "a Tariff for revenue only" diminishes the burden of taxation.

Mr. J. E. Molleur, the extensive manufacturer of straw hats, St. Johns, professes indifference with respect to the tariff. If the new government lowers the duties he declares that within thirty days he will simply move his machinery and take his employees across the lines, and carry on his manufactory there more advantageously, he says, than he is able to do here.

The Italian Government has raised the duty on barley, rice, flour, oat and barley meal, white Indian corn meal, linseed and cottonseed, as well as other grains and grain products. The new schedule is expected to prevent dishonest speculation, notably the selling of barley mixed with oats and the adulteration of wheat flour by mixing with it Indian corn meal.

The shipments of raw sugar to Montreal this season have been unusually heavy. The cargoes brought in by the different vessels have also been very large. Two vessels with 3,000 tons each on board are now on their way up the river. These are the steamship "Rhosianna," with a cargo consigned to the Canada Sugar Refinery, and the ship "Lornda," consigned to the St. Lawrence Sugar Refinery. Both vessels are from Java.

Mr. C. O. Swanson, Dominion Immigration agent in the United States, arrived in the city yesterday from New England, in charge of a party of forty-five immigrants, mostly adults, bound for Wetaskewin, Alberta, N.W.T., to take possession of the homesteads selected by their delegates last spring. They are practical farmers and take with them a quantity of farm implements.

The National Industrial Review, Cincinnati and Chicago, for July, publishes in full the address recently delivered by Mr. Kemp, President of the Canadian Manufacturers' Association, at its annual meeting, and comments as follows: "It is perhaps the most able paper ever read or written on this most important subject (protection) and we heartily recommend a thorough reading of Mr. Kemp's article."

Twenty new papermaking machines are to be added to the New England mills this year, each machine having a capacity of fifteen tons daily. Canada should be the greatest paper manufacturing country in the world. We have the trees to supply the pulp. We have the water power to drive the machinery. All we need is men of capital and energy, who know where to find a market for their products.

Mr. Hugh D. Lumsden, engineer for the C.P.R., has been making preparations for some time past to build a portion of the Montreal and Ottawa line between Rigaud, P.Q. and a point near Alfred, Ont., a distance of twenty-eight and one half miles, a great many of the ties, rails, and other material are scattered along the line and the whole section will soon be covered by large gangs of men with the view to having the section completed by the end of November.

The Montreal Customs officers have completed the weighing up and inspection of thirty-three barges of raw sugar which arrived from New York during July. The cargoes, which amounted to 8,800,000 pounds, were for the Canadian sugar Refinery. The sugar was from the Manilla Islands and was bought in bond in New York. The duty of one-half cent a pound upon these cargoes amounted to something like \$11,000, which however is but a bagatelle compared with the gross receipts from this source for the season.

The preparations for the Fair, to be held in Toronto from August 31st to September 12th, are going on swimmingly. The number of entries promises to exceed those of last year, and the attractions provided by Mr. Hill are said to excel all former efforts. Ontario is securing a fair crop of cereals, and an abundant crop of fruits, under favorable weather conditions, so that there is every reason to anticipate an immense attendance, not only from Ontario, but from the border States. The Canadian and many United States railways have advertised liberal passenger rates for the occasion.

According to statements prepared by the Canadian and United States canal officers at Sault Ste. Marie, the shipments of soft coal up to the first inst. aggregated 831,403 net tons, against 229,757 tons on July 1, 1895, and only 59,724 tons on July 1, 1894. In the ore movement from Lake Superior there is also a large increase, the shipments to the 1st inst. amounting to 2,931,703 net tons, against 2,540,702 net tons on July 1, 1895. The total freight movement through the canals is 1,538,587 tons greater than it was a year ago.

The following figures show the vast amount of labor involved in compiling the Bradstreet's register of the changes in business during one year.

| | |
|--|---------|
| New names added..... | 265,597 |
| Names erased..... | 241,011 |
| Changes in firm style or business..... | 84,067 |
| Changes in capital or credit..... | 177,168 |
| Places added..... | 4,902 |
| Places erased..... | 3,357 |
| Changes in Gazetteer..... | 23,318 |
| Total..... | 799,420 |

The Ottawa Citizen, July 23rd, contains an article headed "The Seventy Million Market," in which it shows that Canadian farmers have suffered less through the depreciation of the value of farm property and products than have the farmers in the United States, from which they may learn what an empty shadow the market of seventy millions is which Sir Richard Cartwright and others have been dangling before their eyes. In order to establish its point, the Citizen uses the figures given in THE MANUFACTURER on July 17th, obtained from reports of the Ontario Bureau of Industries, and from the columns of United States commercial journals, showing the comparative depreciation in the two countries. The

Citizen has omitted to give THE MANUFACTURER credit for the quotations used.

Broomhall's Liverpool Corn Trade News, July 20, says:— since a week ago the protectionist ring of the Continent has been further strengthened by an increase in the import duties of Norway. Flour having now to pay 2s 10d (sixty-eight cents.) instead 1s 9d (forty-two cents) per sack of 280 lbs., but in this instance the increase for wheat is quite in proportion to the increase for flour. The same issue of the Corn Trade News reports that the Fermier of Paris professes to be alarmed at the prospective abundance of native and foreign supplies of wheat and calls on the Government to take immediate measures to protect growers' interests! As the duty in France on foreign wheat is equal to about thirty-seven cents per bushel of sixty pounds, Fermier must have pretty high ideas as to the extent of protection required in the interest of farmers.

The German Reichstag has passed a law prohibiting speculation in options, and intended to restrict speculation in stocks. Under this law a large proportion of American industrial, mining and railway properties will be excluded, and the restriction will be specially severe on new projects. No stock can be placed on the lists except by the direction of a committee on which there must be at least a majority who are not members of the exchange. No stock can be listed unless the corporation has been in existence at least one year and has submitted a profit and loss statement for the year; nor can any stock be listed until the committee has thoroughly examined into the soundness of the new corporation, and satisfied itself as to the truthfulness of the statements made in the prospectus. Any person guilty of deceit in placing or promoting stocks may be fined fifteen thousand marks (\$3,750), and there are other severe penalties for offenses against the law. There is every indication that a vast number of new projects are about to be floated in Canada, particularly in the shape of mining stocks. It would be well that some such provision as above should be made for the prevention of bogus companies and the punishment of fraudulent boomsters.

From 1860 to 1890, during the thirty years that protection was the national policy, the progress of the United States exceeded that of any other nation for any similar period in the history of the world. The comparison of the condition of the country at the two periods is most interesting:—

| | 1860. | 1890. |
|----------------------------------|------------------|------------------|
| Population..... | 31,443,321 | 62,622,250 |
| Wealth..... | \$16,159,616,000 | \$65,037,091,000 |
| Manufacturing product..... | \$1,885,861,676 | \$9,372,437,283 |
| Pig iron, tons..... | 921,223 | 9,292,703 |
| Coal, tons..... | 14,333,942 | 157,788,656 |
| Wheat, bushels..... | 173,104,924 | 399,262,000 |
| Corn, bushels..... | 838,792,742 | 1,489,970,000 |
| Exports of domestic manufactures | \$40,345,392 | \$151,102,376 |
| Foreign trade..... | \$687,192,000 | \$1,647,139,000 |
| Customs revenue..... | \$53,187,511 | \$229,668,554 |
| Railroads, miles..... | 30,626 | 166,691 |
| Patents issued..... | 26,642 | 418,665 |

The population has doubled, our wealth has increased four times, our manufactured product increased in value twice, while the production of pig iron, which thirty years ago our free trade friends claimed that we never could make in large quantities in this country, increased nearly twelve times, and in 1873 we were the largest producers in the world. Our

coal product has increased eleven times and our wheat and corn doubled. Such marvelous results indicate that the Republican policy of protection has been of wonderful benefit to the nation. —American Manufacturer and Iron World.

The Iron Trade Review, Cleveland, July 23rd, has an article commenting upon the late General Election in Canada, headed "Politics and Industry in Canada." The following extract is taken:—

The well-worn assertions of free traders were used in the late campaign, as in others, against the legislation that has been enacted by the Canadian government for the encouragement of home manufacturers. It was said that protection retards the growth of export trade, imposes on the consumer a higher price than he would pay under free trade, and lastly, that the people of Canada had brains and genius enough to cope with any other country in open competition, without the aid of protective duties. The fallacy and mis-statement contained in these familiar assertions have been gone over many times; but that they should be effective in making votes across the border, in full view of the sorry experience of the United States, in following the lead of the enemies of protection, is only surprising. THE CANADIAN MANUFACTURER, in commenting on the election result as affecting Canadian industries, finds some ground for hope in the proposition for the appointment by the new government, of a commission of experts, to investigate and report on the operation of the present tariff on the prosperity of the country and make recommendations as to its revision. THE MANUFACTURER believes also, and the history of the Wilson-Gorman bill confirms this, that government responsibility is apt to temper the license of the stump orator. It finds in the exaggerated and reckless campaign statements concerning the profits of manufacturing one reason for the popular feeling that politicians have turned to their own advantage, and notes that with the subsidence of election excitement the anti-protection press has become more conciliatory toward manufacturing industries. It is safe to predict that the responsibilities of power will greatly modify the tariff programme of the new Canadian government, just as like responsibilities led the majority in the last Congress to enact a tariff bill that preserved scarcely one prominent feature of that originally proposed.

The annual report of the Clerk of Forestry for the Province of Ontario, dated May 1, 1896, and addressed to the Commissioner of Crown Lands, has been received. It is replete with interesting information as to the good effects of forests upon rainfall, agriculture, and streams, and the injurious results from indiscriminate deforestation. It very properly directs attention to the necessity for maintaining and increasing the present measures for protection of the Crown forests from fire. On page 35 it gives a table showing:—

| ANNUAL CUT OF TIMBER IN LUMBERING OPERATIONS, AS PER CROWN LANDS REPORT, 1894. | | Cubic feet. |
|--|--|-------------|
| Saw logs, boom timber, dimension stuff..... | | 53,200,555 |
| Square timber, pine and other than pine..... | | 1,185,529 |
| Cordwood..... | | 1,879,936 |
| Pulpwood..... | | 1,381,504 |
| Posts and shingle bolts (estimated)..... | | 767,872 |
| Piles and head blocks..... | | 279,354 |
| Railway ties and telegraph poles (estimated)..... | | 2,000,000 |
| Total..... | | 60,695,258 |

The above only refers to the timber which falls to the lumberman's axe. There is the loss by fire, which is said to far exceed the above. With respect to the expediency of the policy of selling timber limits, the report shows that the annual growth on the Crown Lands largely exceeds the yearly quantity cut. It says:—"The forests of Ontario are primeval,

and for the most part long ago reached maturity. They are not increasing in growth or quality of timber, and cannot do so until the mature trees are cut away. . . . Withholding the large areas of forest growth from sale longer than the conditions of the market warranted would not increase the wealth of the Province, except in the possible increase in the value of forest products, and this would be met by the loss of decadent timber in the meantime, as much of it is already past its prime, and must soon decay—in fact is already decaying." As our forests form the most valuable of all the assets of the Province, the questions of their protection from fire, and of reforestation demand the greatest consideration from the Ontario Legislature.

The Shareholder, Montreal, July 24th, in an article headed "The Mote and the Beam," assails the position taken in last issue of THE MANUFACTURER; that the large volume of manufactured goods purchased by Canada from the protective United States—most of which articles are in close competition with similar merchandise manufactured in free trade Great Britain—is a proof that protection does not necessarily involve dear goods. THE MANUFACTURER contended that these United States goods must have been, as to quality and price, as good value as like articles in England, otherwise they would not have been purchased. This being so, it is evident that the high protective duty levied in the United States has not increased the selling price of goods there, by the amount of the duty. The Shareholder says that both in the case of imports from Great Britain and the United States, "the consumer paid the duty, and had there been no duty, the cost to the consumer would have been so much less." In the same paragraph it asks, "Is it not a fact that Canadians can buy American manufactures at a lower price than they can be bought by consumers in the United States?" It says "In regard to iron it is a well-known fact among iron founders in Canada that they can purchase American iron laid down in Montreal at a less price than it can be bought in the States . . . If protection in the United States enables American manufacturers to slaughter their surplus production in this market, at prices below the cost of production by Canadian manufacturers, they will continue to do so, no matter what the rate may be, in order to get rid of this over-production." The Shareholder's own statements refute his argument that if there had been no duty the cost to the consumer would have been so much less. Most of American manufactures coming into Canada, come in close competition with Canadian articles of similar character, the most of which are sold at Canadian factories at as low or a lower price than at United States factories. In such cases the American seller must accept Canadian prices, and he, not the consumer, pays the duty. If there were no duty, the United States manufacturer would obtain the same price for his goods, would save the duty, and the Canadian Government would lose the revenue now derived, and with no benefit to the consumer. Even where the price at American factories may be somewhat lower than in Canada, this rule will apply, and the effect will be proportionately the same. The Shareholder says: "The National Policy has done good, the people have supported it with the object of nursing the infant industries, but it is not to be expected that those industries are to be infant forever. Consumers have made sacrifices, what have the manufacturers

done? They must now bear a part of the burdens of the country." Why talk of sacrifices if the National Policy has done good? It is for the Shareholder to show that the sacrifices it talks of have been greater than the good accomplished. Under what circumstances and how have the manufacturers been exempted from bearing their fair share of the burdens of the country? Such expressions are discreditable to any journal professing to have a commercial or financial standing in the country.

LITERARY NOTES.

Outing for August presents a charming combination of artistic illustrations and breezy sketches of sport, travel and adventure in many lands. The frontispiece shows two racing half-raters in a fresh breeze; other good things follow. The number opens with "A Bout with the Bluefish," by Ed. W. Sandys, who is at home in this seasonable sport. "Plain John Miller," by C. P. Burton, is an excellent complete story of a camp and what came of it. J. B. Carrington contributes a pleasant *pen-picture* of Virginia as seen from the wheel. R. B. Burchard, in a profusely illustrated paper on "The Half-Raters," tells us all about these popular little fliers. "Two Handicaps," Caroline Sholley's fascinating story of the turf, ends at the track by the sea, and Lieut. W. H. Stayton explains the methods, purpose and progress of "The Naval Militia."

Seldom is so much delightful fiction presented in a single issue of a magazine as is invitingly arrayed in the short-story issue (August) of *The Ladies' Home Journal*. With the best contributions of such clever story writers as Bret Harte, Jerome K. Jerome, Sarah Parr, Lilian Bell, Jeannette H. Walworth. Of Mr. Harte's story, his latest and best, "The Indiscretion of Elsiebeth," it is enough to say that it is in the author's characteristic vein, while the others present the happiest efforts of their writers. The cover of the *Journal*, a reproduction of Albert Lynch's "Lees Parfums," a painting that won signal distinction in last year's Paris Salon, and W. L. Taylor's exquisitely dainty drawing, illustrating James Whitcomb Riley's poem, "While the Heart Beats Young," are artistic features of conspicuous beauty. A spirit of humor, not wholly unminged with pathos, is imparted by Mr. Woolf's page of waifs—"Life's Comedies." In a practical vein are articles by ex-President Harrison, Rev. Charles H. Parkhurst, D.D., and department editors. General Harrison discusses "The Secretary of the Treasury," a topic which brings under review our monetary system, the raising and disbursing of revenues, and the various sub-departments of the Treasury. Dr. Parkhurst has for a theme "Selecting a Career," and gives wise and emphatic council to young men. The midsummer *Journal* covers a wide range of topics and is exceptionally attractive. By The Curtis Publishing Company, Philadelphia; one dollar a year, ten cents per copy.

The August number of *The Methodist Magazine* and *Review* opens with a finely illustrated paper on "The Conquest of Mont Blanc," containing a vivid account of Alpine adventure. The second part of "Trades and Occupations in Bible Lands," by the Editor, illustrated with many fine engravings, will be found specially helpful to Bible students. "Our Indian Empire," gives descriptions, with illustrations, of many places in the "gorgeous East." "Nathaniel Hawthorne," by Rev. R. Osgood Morse. "The Life and Work of Emerson," by Miss M. S. Daniels, M.A. "Elsie Marshall, Missionary and Martyr," by Miss Marian Norma Brock; and "Lady Blanche Balfour," by Rev. J. Robertson, D.D., are biographical papers which will be found especially interesting and instructive. Mr. Thomas Lindsay contributes an interesting popular article on "The Mystery of the Moon," and Rev. Dr. W. T. D. Dunn gives a thrilling account of "Wrecks and Rescues in Tynemouth Harbor," a dangerous part of the east coast of England. "Pastor Harms and His Work" is an account of the founding of the missionary settlement at Hermannsburg. "Hiram Golf's Religion" is continued. "A Man for a' That" is a sketch of mission work among the Longshoremans of Blackwell's Island, by James M. Ludlow. There is also in this number a valuable contribution by Rev. W. I. Shaw, comparing the Methodist Standards with other Creeds of Christendom. Short sketches of "Joseph Arch, M.P.," and "Miss Ethelwyn Wetherald," "Reviews," "Current Thought," "Recent Science," and a condensed report of the various Conferences make this magazine a valuable visitor to the home.

The Fiction Number of Scribner's Magazine contains six short stories and a little comedy, in addition to several special articles of wide popular interest, including the first paper in Mr. A. F.

Jaccaci's picturesque account of his journey "On the Trail of Don Quixote," and Mrs. Alice Morse Earle's "Old Gardens," describing the old fashioned flower-gardens that still persist in some New England villages. Artistically, this issue contains several features new to magazine audiences. Viorgo, the great French illustrator, seldom seen in periodicals, has made twenty-five drawings for the Don Quixote article that are his very best work. Miss Cecilia Beaux, an American painter who has achieved distinction also in France, furnishes the frontispiece of this number—her first illustration for any magazine. Another artistic novelty is the series of marginal illustrations and decorative borders, printed in two colors and filling sixteen pages. The cover, printed in twelve colors, is from a drawing by Will H. Low, and is the most elaborate ever made for an American periodical. The short stories in this issue are all by American writers, and, as is the custom with Scribner's Fiction Number, several new names appear that are likely to be heard from. "Charm He Never So Wisely" is the first magazine story of Eleanor Stuart—a tale of great beauty describing the love of a famous tenor for a princess. George W. Cable, whose reputation was won by his short stories, contributes "Gregory's Island," a powerful study of the reformation of a drunkard. A certain type of young clergyman who has a better knowledge of theology than of human nature is depicted in Rollo Ogden's "From the Errors of his Ways." The only continued fiction is Barrie's "Sentimental Tommy," which exploits one of Tommy's strangest pranks. Poems by R. H. Stoddard, Clinton Scollard, Mrs. Fields, George Cabot Lodge, and Henrietta Christian Wright complete the issue with the usual timely departments.

HALF-WOOL DYEING.

The following are a few extracts from an article on this subject published by the Farbenfabriken Vorm Friedr. Bayer & Co., of Elberfeld, Germany, for whom The Dominion Dyewood & Chemical Company, Toronto, are sole agents in Canada.

The manufacture of half-woollen goods has taken a great upward tendency within the last ten years in the cloth line, and in consequence dyeing of half-woollens comes more and more into importance.

Dyeing mixed tissues, that is to say, such which have been wrought from several qualities of fibres, is much more difficult than working goods of one fibre in the dye liquor, as for obtaining equal shades on the different fibres as a rule different dye stuffs are required, which must be worked after different methods, and, moreover, because the first dyed fibre must not be affected by the dye process of the fibre to be worked afterwards, in the event dyeing of the various fibres is to be done in different operations.

Three processes of working half-woollen goods can be adhered to, all of which are still in practical use:—

1. Dyeing cotton first and wool afterwards.
2. Dyeing wool first and cotton afterwards.
3. Dyeing cotton and wool together in one bath.

The start was made by dyeing or mordanting cotton warp, then to weave same with wool and finally to dye the latter in the piece.

Now followed a period where raw cotton was interwoven with wool, and thus half-woollen tissue was worked so that cotton became dyed in the first and wool in the second bath.

Black dyeing was done on half-wool by mordanting cotton warp in the yarn with sumac and iron and then weaving the yarn to a tissue with wool, whereupon it was passed through bichromate of potash and finally dyed with logwood and fustic.

Blue shades were obtained by treating the different fibres with the same mordants and dyeing with logwood, methyl violet, soluble blue, etc.

Brown shades were wrought by dyeing cotton in the warp with catech and blue stone, then interweaving same with wool, wet out with bichromate of potash and dye with logwood, camwood and fustic.

1. This process of first dyeing cotton in the warp has been retained up to this day for all the goods where it is desired avoiding to dye cotton in the tissue.

Thus alpaca serges and similar qualities of cloth are still being produced by dyeing warps first. These warp dyeings must be fast to acid, as the wool will be dyed acid afterwards, and must resist the various operations of finish, such as steaming, singeing, crabbing, etc.

Aniline black came into great importance and is still at the head of all the dye processes. Most dyers and manufacturers would gladly introduce another color on account of aniline black having such a difficult dye method and the tendering of the fibre, which latter is often in a state unfit for use. Aniline black, it should however be stated, has received a competitor during the last few years in the diazotisable blacks fast to acid, and diazo brilliant

black has been introduced for warp dyeing. These blacks do not offer all that is required, and amongst other disadvantages they are not sufficiently fast to crabbing, a process of interweaving black dyed cotton with white wool and then to treat same on the crabbing machine in boiling water, when wool is more or less tinged. This disadvantage is not to be noticed in a new group of dye stuffs, which, after having been dyed direct, are worked with bichrome and blue-stone. Benzo chrome black belongs to this group, which proved to be fairly fast to crabbing and likely to suit in competing with aniline black in warp dyeing, as besides the advantage of fastness to crabbing, it has that of a simple dye method and other good properties. Some firms have, indeed, adopted it after subjecting this color to very severe tests. Besides black, brown warps are in demand and direct fast brown shaded with chrysanine with an after-treatment of bichrome and blue stone and benzo chrome browns have prospects of being accepted for this kind of material. A chromable blue would also be of great importance.

The manufacture of black on goods with white warp distinguishes itself from the process above mentioned, in that mordanting cotton with sumac and iron is no longer done in the yarn but in the tissue. Logwood black is produced on Italian cloth as follows.

After having washed the raw material in a tepid bath of ammonia and soap, crab, steam and singe, whereupon enter into a cold sumac bath in a jugger for three hours, rinse well and pass on to a bath of ten per cent. blue stone, or copperas, pyrolignite of iron or nitrate of iron. The goods are now wetted out in two or three per cent. bichromate of potash after having been carefully rinsed, when rinse again and finally dye with thirty to forty per cent. logwood chips or about ten per cent. logwood extract. Steam the goods, singe, rinse and press after drying, or steam once more in order to produce the goods so as to be fast to ironing. After the iron bath, dyers often pass through a bath of prussate of potash.

Another black for half-wool, which should be mentioned, is that of dyeing cotton with an oxidation black, wool with logwood, Victoria black and similar products. For other colors besides black the method of dyeing cotton first, wool after, is not of general interest, as for this one has a not sufficient number of fast cotton colors at disposal. Experiments have been made for producing shot effects by dyeing cotton first with such direct dyeing colors tinging wool as little as possible, and which are so fast to acid that they resist the subsequent dyeing of wool, unfortunately there are but few direct dyeing colors, even of those fairly resisting acid and working alkaline, leaving wool sufficiently white so as to dye the latter in all possible light shades, and thus there is every possibility that dyeing cotton first, will not come into general demand.

2. For half-wool piece dyeing, the second method, by which wool is dyed first and cotton to follow, is by far more of importance. After this method wool is dyed acid first and the shade is kept a few shades lighter, because one has to take into account that the subsequent dyeing of cotton darkens the wool, then mordant the goods with sumac and tartar emetic or iron in a jugger, rinse well and work with basic dyes if possible cold in a jugger. What is of special importance in dyeing half-wool, is that cotton and wool are of uniform shade. The shade of the cotton must not appear lighter than that of wool, on the other hand must not be essentially darker. Where the cotton should be lighter one is in a position to help oneself by darkening with sumac and iron, but where the cotton is darker the goods should be passed through a weakly acid bath.

By this method one can also dye cotton different to wool and thus obtain shot effects of two colored patterns square and stripes.

Patterns with several colors can be obtained by weaving dyed cotton into a material, which cotton must be dyed with a color fast to acid. Dyed silk can also be woven along with the wool or cotton, when fine effects can be produced. Black belongs also to this method of dyeing wool, and is obtained by dyeing wool first with Victoria black and cotton to follow with aniline oxidation black. This process of dyeing wool first, cotton after, is the most in use according to our knowledge, but has a disadvantage same as the first process mentioned and that is that several baths are required, causing cost to increase essentially.

3. Since direct dyeing dye-stuffs were introduced it became possible to work half wool after the third dye process, working in one bath by which a great saving is effected in workmen's fees, plant and time; whereas two days are necessary to produce a black on half-wool after the older dye methods, a one bath black can be done in two hours, thus considerably more can be produced. Shades wrought in one bath have great advantage, being fast to rubbing acid and perspiration; the goods have a more agreeable handle than those treated with sumac and iron after the old methods. This advantage is only of importance for dress material, less or not at all in coatings or linings. For these textures the

handle is not firm enough, as the cotton selvage is required to be hard, which can be obtained by additions of starch, dextrin, size, etc., to either in the dye bath or in the subsequent finish. We will not omit to mention that dyeing half-wool in one bath has already been done previous to the direct colors being known and thus, for instance, yellow was obtained with curcuma, Glauber's and sulphuric acid; red, green and violet were produced after giving the fibre a tannin bath, when somewhat even shades were obtained on both wool and cotton. Very light shades or such which can be called slightly tinge, were produced by dyeing direct with basic or acid dyes. But since direct dyeing colors have come into the foreground the one bath method has come into real importance.

From what is said we have learned that the direct dyeing dye-stuffs can be grouped as follows:

- (a) Wool and cotton dyeing evenly;
- (b) Wool appearing stronger than cotton;
- (c) Cotton appearing stronger than wool;
- (d) Dyeing wool in another shade as cotton.

Best suited for half-wool dyeing would be those colors under (a), which work both fibres even, but we regret to say that their number is not very small. The qualities dyeing wool more than cotton, are very numerous and should be worked in combination with those colors dyeing cotton stronger than wool in order to bring about that cotton and wool dye a uniform shade. The fourth group or direct dyeing dyes which work wool a different shade than cotton are those suited the least for half-wool dyeing. It is not always possible to obtain the shade with direct colors only it becomes necessary to shade cotton with basic dyes, and wool with acid colors. Only these colors of this latter group are at all coming into consideration which work in a neutral bath. We are glad to say that in our Sulphon group of dyes we have products excellently suited for half-wool. For shading wool there are, moreover, at disposal Indian yellow, orange G.T., cochineal-scarlet P.S., croceine scarlet 3B., brilliant croceine 3B., alkali violet R., new Victoria blue P., acid violet H.W., which fall on well in a neutral bath.

The difficulty of dyeing half-wool in one bath is besides increased by the fact that the affinity of the direct colors is by no means under all conditions the same on both fibres. Temperature, addition of color or chemicals, concentrated baths and quality of cotton and wool all tend to affect dyeing. The affinity of the dye stuffs on wool is enhanced by increasing the temperature when boiling, therefore the substantive dyes fall best on wool, whereas at a lower temperature they work best on cotton. This affinity is taken advantage of in order that the one or the other fibre can be made to appear darker. When giving instructions in practical dyeing one has, however, always to direct the thoughts to the instructions being most simple so as to give reliable results. It is not to be expected from a practical dyer that he keeps within the temperature of exactly five to ten degrees for a given time, and one dare not approach him with any other directions than either hot, cool or boiling. The affinity of the dye stuffs to the different fibres is further affected by additions such as the following:—Alkaline salts, soda, phosphate of soda, borax, which all weaken the affinity to wool; acids, on the other hand, improve the affinity to the wool. It is unquestionably most to advantage to dye in a neutral bath with common or Glauber's salt, as alkaline additions easily affect wool, whereas presence of acid prevent cotton to be sufficiently dyed. For working these substantive colors, dye methods have been proposed from different parties which proved partly only admissible for very special patterns. One dyer recommends working from fifteen to twenty per cent. Glauber's salt and five per cent. borax at 122 to 140 F., a temperature which can scarcely be regarded sufficient to produce even shades on wool. Another dyer proposes dyeing cotton hot in an alkaline bath, to neutralize with more or less bisulphate of soda and now to dye wool boiling in proportion to the percentage of wool in the fibre; according to the property to the dye-stuff more or less bisulphate of soda should be added, a process by the by, which is possible to be adhered to in laboratory dyeing, but which will scarcely bear out a satisfactory result. The same dyer proposes further to dye grey, drab and fashion shades quite separate on either wool or cotton with colors working either on wool only or when on cotton only with twenty to thirty per cent. Glauber's salt. We already mentioned above that the affinity of the direct dye-stuffs is by no means one and the same, but is affected by circumstances beyond control; to match off fashion shades on half-wool by the one bath process, so that wool and cotton are of uniform shade, such as is the demand in the dress material branch, is a problem yet to be solved. The half-wool pattern cards issued by the different Aniline Colors Works has to a great extent caused the belief to gain ground, that it was possible to work level shades in one bath. Practical tests, however, have at all times turned out badly;

laboratory dyeing of goods for pattern cards and practical dyeing of goods in bulk is done under different conditions. It is not advisable to give general directions for dyeing half wool in one bath, as the affinity of the dye-stuffs to both fibres is not only caused by the quality of the ingredients, temperature and concentrated baths, but also by the quality of the fibres contained in half wool. In most cases we daresay it would be recommendable to work neutral with common or Glauber's salt, viz.:—Work for an hour at 176 to 194 F., boil for one-half hour, shut off steam, and allow to cool till cold. One may also proceed by boiling gradually and slowly, and then to work for one half hour without steam, whereupon again raise slowly to the boil, then work for one-half hour without steam, and continue until the shade is obtained. If half wool contains some cotton difficult to dye, it is then recommendable to add to the dye bath, two-thirds to three-quarters of the dye-stuffs intended for shading cotton, together with the necessary color for wool and to dye after the method above mentioned, having obtained the shade desired, shut off steam, and add the remaining part of the cotton dye-stuff, and now let cool. In special cases this dye method can be modified to which we shall draw attention to later on. Dyed in a neutral bath our products must be distributed in the following way over the four groups mentioned above:—

(a) Colors dyeing cotton and wool evenly or almost so, i.e., equal shade and equal fullness.

Thiazole yellow, toluylene orange G., congo orange R., benzo orange R., orange T.A., congo red, hessian purple N., benzo purpurine 4B., 10B., congo corinth G., toluylene brown R., M.P., direct fast brown R., benzo brown N.B.X., benzo black brown, benzo dark brown, benzo azurine G. 3G., Chicago blue B., benzo cyanine B., benzo blue 2B. R.W., blue for half-wool, diazo blue black, diazo black B.R., direct blue black B.N., direct deep black G. & R.

(b) Colors falling on wool stronger than on cotton, but in equal or in almost equal shade, same as cotton:—

Chrysamine G.R., chrysohemine, geranine G., brilliant geranine 3B., delta purpurine 5 B., hessian purpuro B., Congo indigo, diazo red blue, brilliant benzo blue 6B.

(c) Colors dyeing cotton stronger than wool, but in equal or in almost equal shade same as wool:—

Chloramine yellow, curcumin S., chloramine orange, brilliant azurine 3B., Chicago blue R., benzo sky blue.

(d) Colors dyeing wool and cotton in essential different shades:—Benzo brown N.B.R., benzo black blue G.R., benzo olive.

The above experiences rest on experiments made on half-wool astrachan with loose cotton warp, easily to be dyed; the firmer the cotton is twisted, the more difficult it will dye, and consequently a number of dye-stuffs do not answer what is said under the above section (a), but show the property of those dyes under the above section (b). Such a classification of dye-stuffs must always give different results according to the quality of the half-woollen cloth, even if the conditions at which dyeing was done were the same.

We have to distinguish between three groups of half-woollen material offering essentially different difficulties in one bath dyeing:—

(a) Coatings:—Ladies' trimmings and gentlemen's suitings (cheviot, worsted yarn imitation);

(b) Linings:—Italian cloth, serges and such like qualities;

(c) Ladies' dress material.

One bath dyeing has come most into importance and is of the greatest success in dyeing coatings, as these work the easiest because cotton is well covered, requiring generally to be only darker than wool without it being necessary that the shade must be exactly the same, and, further, because only few dark and saturated shades are in demand; consequently change of shades with an exact matching off is seldom wanted.

1. Only three shades, black, brown and blue, have to be considered in gentlemen's material and according to the texture very different quantities of dye-stuffs are required for the same shade. Worsteds yarn half-wool: Worsteds west with cotton warp. Cheviot half-wool: Cheviot west and cotton warp. Cheviot shoddy: Cheviot west and shoddy warp. Doubles: Cloth of similar texture as broad cloth, wool face, shoddy back and inside cotton warp. The shoddy warps are of very different composition. Worsteds goods require from twenty-five per cent. to thirty per cent. dye-stuffs more than cheviots; those with cotton warps from ten per cent. to twenty per cent. more than shoddy warp. The doubles require about as much dye-stuff as cheviot half-woollen goods.

The Sturgeon Falls Pulp Co. will erect a new mill at Sturgeon Falls, Ont. The Company expect to get about 10,000 cords of pulp wood this season.

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CANADA'S FOREST WEALTH.

The "North-eastern Lumberman" says the forests of Canada have supplied more or less the wants of Europe for centuries. From the earliest days of its occupation by the French, the forest wealth of the country washed by the St. Lawrence engaged the attention of the government of France, who saw therein vast resources available for their naval yards. They drew from these forests large numbers of masts and spars, and issued stringent regulations for the preservation of the standing oak. When the country was first ceded to Great Britain, but little attention was paid at first to its vast timber supply, owing to the fact that almost the whole of the Baltic trade was carried on in British bottoms, and that the timber of northern Europe provided an unfailing and convenient return freight for the shipping thus engaged. When, however, the troubles of the Napoleonic era com-

menced, and especially when the continental blockade was enforced, the timber supplies of the Baltic becoming uncertain and insufficient, attention was directed to the North American colonies, with the result of increasing the quantity of timber which reached Great Britain from 2,600 tons in the year 1800 to 125,300 tons in 1810, and to 308,000 tons in 1820. In 1895 the amount exported to the United Kingdom showed a total of 1,310,685 tons.

THE END OF A FAMOUS FOUNDRY.

The end of Soho Foundry, the famous works of Boulton & Watt, the cradle of the steam engine, and the first mechanical engineering shops the world ever saw, recently broken up and brought to the auctioneer's hammer, conjures up many memories of the past, and, whether viewed in the light of the historical associations recalled or the lessons of the changes time brings, is well worthy of some passing comment at our hands.

Soho is about two miles south of Birmingham, and was until the middle of the last century a barren heath and rabbit warren, the sole relic of the past, the well of the warren's hut, still existing. On this spot Boulton erected his famous factory about 1760, and devoted his attention to the manufacture of metal wares and similar articles. This factory, the "Soho" properly so called, was dismantled as far back as 1850-51, many of the tools being removed to "Soho Foundry," about a mile distant from "old Soho." It is with the fortunes of the "Soho Foundry" that we are now concerned, as this famous establishment, now sold, had survived its parent by nearly half a century. Soho Foundry was built in 1775, and covered an area of

over nineteen acres; its foundation was due to the rapidly extending business of Boulton & Watt, who found their existing works quite unable to cope with the ever-increasing demand for the new steam engine.—Chambers' Journal.

The Canadian shipping list for the year 1895 shows the total number of vessels on the register book of the Dominion on January 1st last, including old and new vessels, sailing vessels, steamers and barges, as 7,262, measuring 825,836 tons registered tonnage, being an increase of 17 vessels, and a decrease of 43,738 tons register as compared with 1894. Assuming the average value to be \$30 a ton, the value of the registered tonnage of Canada would be \$24,775,080. The number of new vessels built and registered in the Dominion during last year was 250, measuring 16,270 tons registered tonnage.

Martin White, 516 Roanoke building, Chicago, has in his possession, says the Chicago Record, a section of brass tubing a foot long and hermetically sealed. It contains only a few bits of metal and a scrap of paper. But for the tube and its contents Mr. White has refused an offer of \$50,000. The two bits of metal in the brass tube are of pure cast copper. One is brittle and porous and honeycombed with blow holes, the ordinary intractable cast copper familiar to foundrymen. The other is of fine grain, tough and hard as steel, and capable of being twisted or bent double without breaking. On the scrap of paper is written the secret formula by which the discoverer says the transmutation of the metal from the first to the second form can be accomplished. For a Chicagoan declares that he has rediscovered one of the lost arts of the ancient Egyptians.

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CAPTAINS OF INDUSTRY.

The following items of information, which are classified under the title "Captains of Industry," relate to matters that are of special interest to every advertiser in these pages, and to every concern in Canada interested in any manufacturing industry whatever, this interest extending to supply houses also.

If a new manufacturing enterprise of any kind is being started, or an electric lighting plant instituted, or an electric railroad, or a telephone, or a telegraph line is being constructed; or a saw mill, a woolen, cotton, or knitting mill; or if any industrial establishment has been destroyed by fire with a probability of its being rebuilt, our friends should understand that possibly there may be something in the event for them. Do you catch on to the idea?

The starting of any such concern means a demand for some sort of machines, machinery, or supplies, such as steam engines and boilers, shafting, pulleys, belting, lubricants, machinery supplies, wood or iron working machinery, ventilating and drying apparatus; pumps, valves, packing, dynamos, motors, wire, arc and incandescent lamps, and an infinite variety of electrical supplies, chemicals, acids, alkalis, etc. It is well worth the while of every reader of the Canadian Manufacturer to closely inspect all items under the head of Captains of Industry.

The Taylor Iron and Steel Company, Montreal, has been incorporated with a capital stock of \$30,000.

The Kerr Engine Company, of Walkerville, Ont., have secured the contract for hydrants required for the waterworks system at Petrolea.

The Dominion Glass Company, Montreal, has been incorporated with a capital stock of \$20,000.

At Orillia, Ont., the Tudhope Carriage Company is getting out plans for a \$15,000 enlargement to their premises. It will be a three-storey metal covered building, 50 feet wide by 140 deep.

The Gardner Tool Co. is moving its works from Brockville, Ont., to Sherbrooke, Que.

The new canning factory at Perth, Ont., has turned out 60,000 cans of peas. Sixty hands are employed and the factory is run night and day.

A monster steam barge is to be built at Garden Island, Ont., this winter. Workmen are engaged in setting up blocks for the keel, which will be laid this week. The new steamer will be constructed on very fine lines and will be larger than any of the steamers now in the Calvin fleet. Every part of the new boat, including the boilers and machinery, with the exception of a few castings, will be made on the island.

Bothwell is having an oil boom. Several new wells have been drilled and property has been leased for a radius of miles. One new well is said to have produced ten barrels in three hours.

Giesbracht & Wiens, Plum Coulee, Man., will build a 100 barrel flour mill at that point and have let the contract for plant to Stewart & Harper, Winnipeg.

Wm. Farwell, of the Eastern Townships Bank, Sherbrooke, Que., purchased the beet root sugar refinery at Coaticook at a sheriff's sale last week.

Inches & Moulton's new planing factory at Sudbury was recently destroyed by fire. Loss, \$3,500.

The Messrs. Shaw, Dauphin, Man., contemplate building a 100 barrel flour mill at that point.

Plans for the extension of London, Ont., sewage system involve an expenditure of \$207,000.

It is reported that Thomas Croft, Madoc, Ont., has discovered a rich vein of gold-bearing quartz on his property, and that practical miners are engaged in the work of development.

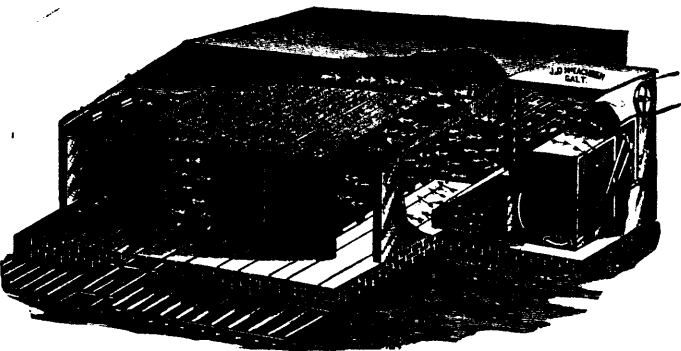
Hespeler, Ont., is to have a fire alarm system. The Bell Telephone Co., has the contract.

The Okanagan Flour Mills Co., Armstrong, B.C., are now making flour from the famous hard wheat of the Okanagan Valley. The stockholders of the company are the farmers of the district, who have started the milling business on the co-operative basis, as the company not only grinds but grows the wheat.

Messrs. D. G. Loomis & Sons, Sherbrooke, Que., have established an extensive brick manufactory at Ascot Corner, Que., six miles from Sherbrooke. The kilns are capable of turning out 35,000 bricks daily.

McEachren's System of Drying, Heating and Ventilating

Under Recent Patents.



In construction and process of drying this Kiln differs widely from all others in use. They have given entire satisfaction where all others Dry Kilns have failed. They will season More Lumber in a Given Time, with a given heating surface and a given quantity of steam than any other Kiln now in the market. Their construction and mode of operating is such as to season lumber without Case Hardening, Checking or Warping. They work equally well on Lumber Right from the Saw and on Air Seasoned Lumber, the only difference being that one takes a little more time than the other. By a Peculiar Arrangement Found Only in Our Dry Kilns we extract the moisture from the heated air, return it through the heater again and thus preserve the heat passing from the Kiln instead of wasting it as is the rule with all other Blast Kilns.

Ventilating Fans, Shaving Fans, Pressure Fans, all sizes.

BLAST HEATING SYSTEM FOR LARGE BUILDINGS

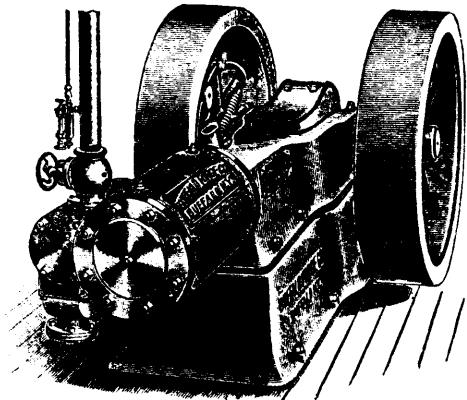
Little Wonder Boiler and new Hot Water Heating System half price of usual hot water system. STEAM BOILER CLEANERS, Feed Water Heaters covered by Patents of recent date in Canada and United States.

Second-hand Heaters and Fans made by the best American Manufacturers, only in use a short time, for sale at great reduction. Send for Illustrated Catalogue and Prices to

McEACHREN HEATING & VENTILATING CO.

GALT, ONT.

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AUTOMATIC CUT-OFF ENGINE

Horizontal and Upright Types, for Electric Light and Power Purposes.

DIRECT CONNECTED AND BELTED

1896 Sectional Catalogue furnishes full details.

Buffalo Forge Co., Buffalo, N.Y., U.S.A.

BRANCHES:

NEW YORK, CHICAGO, PHILADELPHIA, LONDON, PARIS AND ST. PETERSBURG

New York Office—26 Cortland Street.

The London Furniture Company London, Ont., are again employing their full staff.

The exhibition buildings at Montreal were destroyed by fire July 30th. The Machinery Hall was occupied by the Park and Island Railway as a power house. The loss amounts to \$50,000. Total loss \$150,000.

The Canadian Paint Co., Montreal, has secured possession of the plumbago mine near St. John, N.B. and will re-open it.

The Kingsville, Ont., Woollen Mills have started up in full force.

The Delhi, Ont., shoe and moccasin factory is running overtime to fill orders from the north.

Sherbrooke, Que., will grant the Talbot Brussels Carpet Co. a bonus of \$30,000 to locate there.

The works of the Canadian General Co., Peterborough, Ont., were damaged by fire July 25th. Loss estimated at \$30,000.

The Saint John Rolling Mills and Bolt Works Company, Coldbrook, N.B., is being incorporated with a capital stock of \$50,000.

Several new hands have been recently put on at the Listowel piano factory, 30 pianos were shipped last month.

The Fensom Elevator Co., Toronto, recently put a new elevator in Newton Cossitt's store, Brockville, Ont.

Cant Bros. Company, Galt, Ont., manufacturers of wood-working machinery are about to remove to Lancaster, N.Y.

The Rat Portage Lumber Co. has been incorporated with a capital stock of \$500,000.

Heaps' Hastings shingle mill, Vancouver, B.C., was destroyed by fire July 26th for the second time. Loss, \$4,000.

The Alliance Exploring and Finance Corporation has been formed in London, England, with a capital of \$200,000, to develop Australian and British Columbia mines.

The Owen Sound Sugar Manufacturing Company, Owen Sound, Ont., is being incorporated with a capital stock of \$150,000, to manufacture sugar and other products from beets.

The Buffalo Forge Co., Buffalo, N.Y., have received the following letter with regard to the Fan System of heating and ventilating installed by them in one of the Mason City, Iowa, schools:—Mason City, Iowa, July 27, 1896. Buffalo Forge Co., Buffalo, N.Y. Gentlemen: The system of heating and ventilating which we purchased of your firm has proven entirely satisfactory in every respect, giving even temperature, and fresh and wholesome air, and doing all that you guaranteed. It has proven by comparison with hot water and hot air to be the more economical system, and in my opinion it is the best system sold for heating and ventilating school-houses. Respectfully, A. H. Cummings, The President of the Board of Education.

The McLaren Match Co. have been organized at Buckingham, Que. The company is understood to be composed of the five sons of the late James McLaren, of Ottawa.

The Paxton Tate Co., Port Perry, Ont., is being incorporated with a capital stock of \$90,000, to manufacture saw mill and shingle machinery, turbine water wheels, split pulleys, agricultural implements, etc.

The B.C. Gold Mining Co., Vancouver, B.C., is being incorporated with a capital stock of \$1,000,000.

The Hineckley and Black Colt Mining Co., Kaslo, B.C., is being incorporated with a capital stock of \$1,000,000.

The export of logs from Spanish River to the United States for the year ending July 1, 1896, was 1,222,383 feet of lumber, 16,031,590 feet board measure, valued at \$1,007,179.98. For the year ending July 1, 1895, the export was 1,176,418 feet of logs, with a total value for both lumber and logs of \$897,493.19.

The exhibition buildings recently burned in Montreal are to be rebuilt at once.

The Seine Manitou Gold Mining Co., Toronto, is being incorporated with a capital stock of \$500,000.

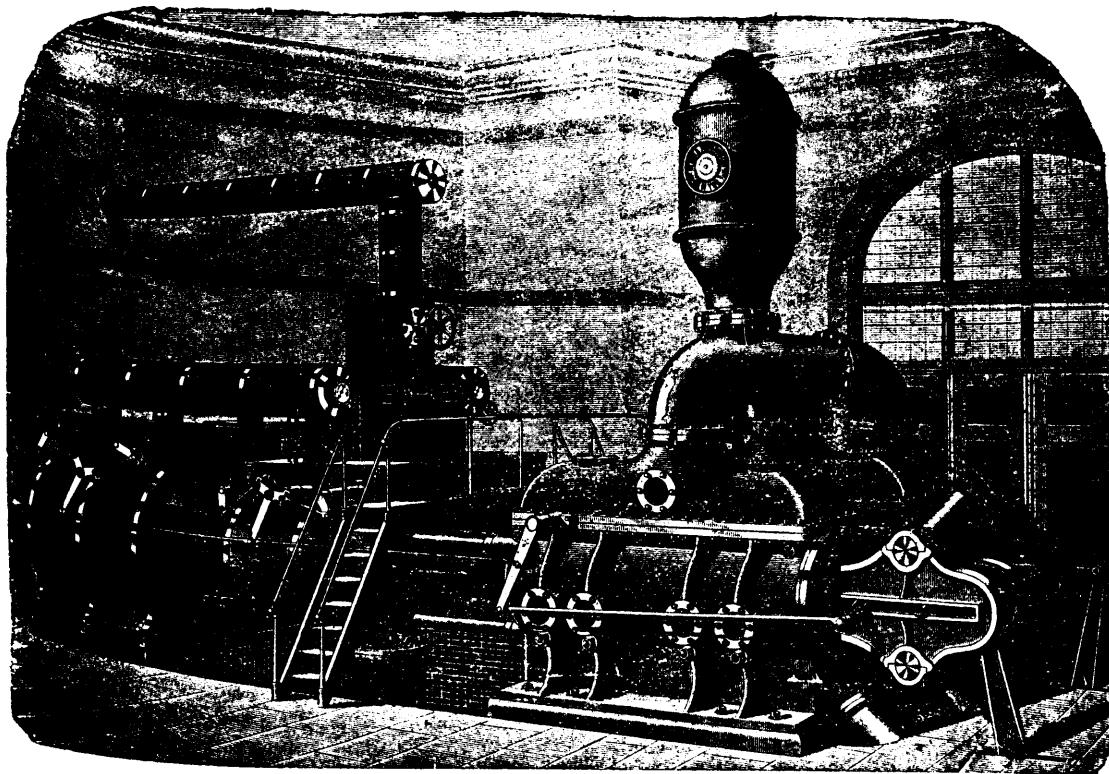
The following foreign mining companies have been registered in British Columbia:—Deer Park Mining Co., Spokane, Wash., capital stock, \$1,000,000; Rossland Red Mountain Gold Mining Co., Spokane, Wash., capital stock, \$1,000,000; Rob Roy Gold Mining Co., Spokane, Wash., capital stock, \$500,000; The Quesnelle and caribou Gold Fields Exploration Syndicate, Hartshead Chambers, Sheffield, England, capital stock, £12,000; The Little Jumbo Gold Mining Co., Seattle, Wash., capital stock, \$650,000.

The demand for mining and other machinery in British Columbia is so great that the British Columbia Iron Works, Vancouver, are putting in \$100,000 worth more machinery, and it is said will establish a department for the manufacture of hydraulic mining pipes.

JOHN McDOUGALL

CALEDONIAN IRON WORKS,

MONTREAL, QUEBEC



General Agents
in Canada for

THE FAMOUS

Worthington
Pumps

Hydraulic
Machinery

Condensers

AND

Water Works
Supplies

WORTHINGTON PUMPS ARE UNEQUALLED FOR EFFICIENCY AND ECONOMY

The quantity of New Brunswick and Quebec deals imported at Liverpool so far this year amounts to 2,785,000 pieces which is more than twice the quantity imported last year.

The Town Council of Goderich, Ont., at a special meeting July 24th, passed a by-law granting exemption from taxes and free water for ten years to the Dominion Cold Storage Co. of Montreal, who intend at once to proceed with the erection of a building with a capacity for 50,000 barrels of apples, to be ready for the winter fruit. A site has been secured upon the G.T.R. siding.

"Daily Notes" for August sent out by the Packard Electric Co. Ltd., St. Catharines, Ont., calls attention to their Mogul Lamps, Packard Transformers, their Hospital for all kinds of broken down electrical apparatus, Packard "high grade" Incandescent Lamps and Scheffer Recording Watt Meters. The booklet is just the right size to carry in the vest pocket and will be found very convenient for memoranda.

The Halifax Breweries, Ltd., have decided to rebuild the works recently destroyed by fire at Turtle Grove, in that city. The building is to be much larger in every way than that destroyed. The machinery will also be of the latest pattern. The company expect to be ready for work in three months.

The Lake of the Woods Milling Co., have taken all the available space for wheat and flour in the direct steamers from Vancouver, B.C., to Australia and also on the Canadian Pacific Steamers to Hong Kong, up to the end of October next. That shipped to the latter point is transhipped to Australia. The quantity taken by each steamer will be 1,000 tons or over.

The Klock Lumber Co. intend rebuilding their saw mill recently burned at Aylmer, Ont.

Messrs McCarthy & Son's brewery near Prescott, Ont., was destroyed by fire July 22nd. Loss \$30,000.

The Kemp Mfg. Co., Toronto, purpose building a \$3,000 boiler house at their factory.

The Royal Soap Company, Winnipeg, has let the contract for extensive enlargements and improvements to their premises.

The Canadian Bridge and Iron Company's works, Montreal, were damaged by fire July 13th to the extent of \$7,000.

Messrs T. & M. Johnson's Woollen mills at Zurich, Ont., were recently destroyed by fire. Loss \$10,000.

Work on Mr. Long's new factory at the city of Sherbrooke has been begun. The dimensions of the factory are 100 x 50 feet, and it will be three stories high. The first storey will be in stone and the other two in brick. Delay has been caused on account of the high water.

S. R. Earle, formerly of Belleville, Ont., but recently removed to 88 York Street, Toronto, is sending out a catalogue illustrating a steam and air injector of which he is himself the inventor and patentee. Mr. Earle claims that his blowers are the best devices in the market for rolling mill furnaces, smelting furnaces and foundry cupolas. They are also highly recommended for steam boats, water works or any place where it is desirable to raise steam quickly; and a good thing for ventilating mines, ships or buildings. They can be fitted to any size of boiler or grate.

The Canada Can Company, Dundas, Ont., is being incorporated with a capital stock of \$200,000 to manufacture an improved can-nistor.

The Worthman & Ward Manufacturing Co., London, Ont., is being incorporated with a capital stock of \$100,000, to do a general manufacturing and foundry business.

Thos. Lawson's foundry at Ottawa, Ont., was damaged by fire July 26th to the extent of \$1,500.

Messrs Dow & Curry, Pilot Mound, Man., have put in machinery for the manufacture of pot barley.

The Alexander Duplex Tire Co., of Toronto, has been incorporated with a capital stock of \$200,000 to manufacture pneumatic and other tires.

The Amherstburg Electric Light, Heat and Power Co., Amherstburg, Ont., is being incorporated with a capital stock of \$20,000.

Goderich, Ont., will spend a large amount to extend its waterworks, electric light and sewerage systems.

Alonzo W. Spooner's Copperine foundry, Port Hope, Ont., was destroyed by fire July 17th. Loss \$5,000.

Over 7,000,000 feet of deals cleared from St. John, N. B., during the week ending July 18th, for British ports.

The Jean Reuse Cigar Making Machine Co., of Canada, Montreal, has been incorporated with a capital stock of \$225,000 to manufacture cigar making machinery.

The Ontario Gold Mines Co., Windsor, Ont., is being incorporated with a capital stock of \$1,000,000 to develop mines in Ontario.

If Your Business is Dull The Best way to Put Life into it and Increase Your Out-Put is to

EXHIBIT AT

...Canada's Great Industrial Fair, Toronto...

AUGUST 31ST TO SEPTEMBER 12TH, 1896.

Early Applicants for Space will Secure the Best Positions **All Entries Close August 8th.**

Visitors are coming from all parts of the continent and Europe

This year's Fair will be greater than ever

. Excursions on all Railways in Canada and the Northern States

ALL SPACE FREE.

NO CHARGE FOR POWER.

For Prize Lists, Entry Forms, and all information, address

J. J. Withrow,
President.

H. J. Hill,
Manager, Toronto.

The Belleville Box and Basket Company's factory at Belleville, Ont., was destroyed by fire July 23rd. Loss, \$15,000.

T. L. Willson, the inventor of acetylene gas, has his factory at Merriton, Ont., about completed, and expects to be turning out carbide in about a month. He has ten acres of land, upon which he will erect a laboratory for experimental purposes, and is spending about \$100,000 on the works.

The town of Listowel, Ont., will on August 21st, vote on a by-law to raise \$15,000 to construct a system of water works and electric light.

The Ontario Standard Oil Co., has struck an extensive flow of petroleum on the farm of James Foster near Leamington, Ont.

The following foreign companies have been registered in British Columbia:—Butte Gold-Copper Mining Co., Spokane, Wash., capital \$1,000,000; Dellie Mining and Milling Co., Spokane, Wash., capital stock \$750,000; Randolph Gold Mining Co., Spokane, Wash., capital stock \$750,000.

The Montreal Iron and Bridge Co., has been awarded the contract for a bridge at Rockwood, Ont.

The town of Deseronto, Ont., propose to raise \$38,000 to construct a system of water works and a new fire hall.

The Gold King Mining and Milling Co., Fairville, N.B., is being incorporated with a capital stock of \$500,000.

Messrs Kirkwood & McKinnon, Sudbury, Ont., are building a pulp mill with a capacity of ten tons dry pulp per day.

Jas. Morrison's shingle factory at Orangeville, Ont., was destroyed by fire on July 23rd. Loss \$1,500.

F. McMenemy's carriage factory, at Metcalfe, Ont., was destroyed by fire July 16th.

MACHINERY AND SUPPLIES WANTED.

If any subscriber to THE CANADIAN MANUFACTURER who may desire to purchase any machinery or supplies whatever, and so informs us, we will publish the fact in a conspicuous manner, and will make no charge therefor. These wants will be stated similar to the following:—

WANTED.

SITUATION as foreman or leading dyer by a Scotsman, 25 years' practice. Dress goods, tweeds, flannels, hosiery, ribbons, laces and garments. Dyeing and cleaning the latter preferred. Address SCOT, care of The Canadian Manufacturer.

WANTED—Address of parties who make machinery for the manufacture of horse shoes. Address G. P. T., care Canadian Manufacturer.

MACHINE LATHE, 18 in. swing, 8 foot bed; also a No. 2 or No. 3 Stile's Power Press or one of equal size. Toronto Electrical Works 37 Adelaide St. West, Toronto.

Wm. KENNEDY & SONS, OWEN SOUND, ONT.

MANUFACTURERS OF HIGH-CLASS

WATER WHEELS,

Electric Water Wheel Regulators,

Machine-dressed Heavy Gearing, Shafting, Etc.

PROPELLER WHEELS AND MARINE REPAIRS A SPECIALTY.....

TURBINE AND CASCADE WATER WHEEL

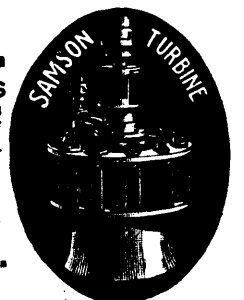
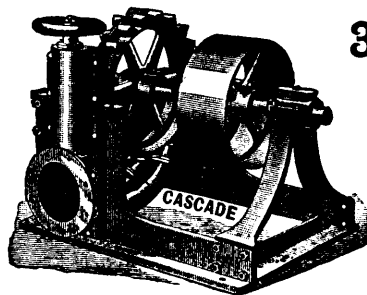
Adapted to all Heads from

3 Feet to 2000 Feet.

Our experience of 33 YEARS building Water Wheels enables us to suit every requirement of Water Power Plants. We guarantee satisfaction.

Send for a Pamphlet of either Wheel and write full particulars.

JAMES LEFFEL & CO.
SPRINGFIELD, OHIO, U. S. A.



MACHINERY AND SUPPLIES WANTED.

If any subscriber to THE CANADIAN MANUFACTURER who may desire to purchase any machinery or supplies whatever, and so informs us, we will publish the fact in a conspicuous manner, and will make no charge therefor. These wants will be stated similar to the following:—

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SITUATION as foreman or leading dyer by a Scotsman, 25 years' practice. Dress goods, tweeds, flannels, hosiery, ribbons, laces and garments. Dyeing and cleaning the latter preferred. Address SCOT, care of The Canadian Manufacturer.

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MACHINE LATHE, 18 in. swing, 8 foot bed; also a No. 2 or No. 3 Stile's Power Press or one of equal size. Toronto Electrical Works 37 Adelaide St. West, Toronto.

Burnham's

Percentage

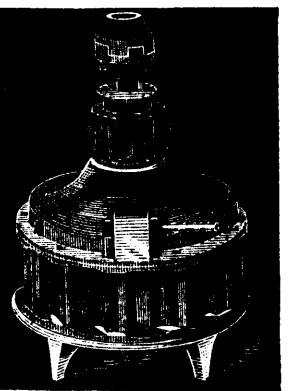
| | |
|-----------|----|
| Full Gate | 84 |
| 1/2 " | 84 |
| 1/4 " | 82 |

NEW IMPROVED

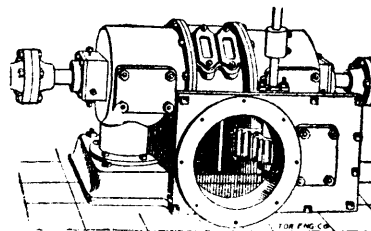
STANDARD TURBINE

It gives on either a Vertical or Horizontal shaft more power for its price, yields a greater percentage for water used, either with full or part gate drawn, and is the simplest, most durable and best finished wheel made. Send for illustrated catalogue and state head of water and power required.

BURNHAM BROS., York, Pa.



"LITTLE GIANT" TURBINE



One Type of Horizontal.

Built in 17 Standard Sizes and 27 Special Sizes, making a range of 44 different wheels in vertical and horizontal cases.

We solicit correspondence from those interested in developing or improving water power.

ADDRESS.....

J. C. WILSON & CO., Glenora, Ont.

The Dominion Bridge Co., Lachine, have finished the railway bridge at Sorel for the Richelieu River Railway Co. There are 1,600 feet of trestle work while the bridge proper is 550 feet. The total cost was \$150,000.

The following companies are being incorporated in British Columbia—The British Lion Mining and Milling Co., Rossland, capital stock, \$600,000; The C. & C. Mining Co., Rossland, capital stock, \$500,000; The Golden Cache Mines Co., Vancouver, B.C., capital stock, \$500,000; The Ivanhoe Gold Mining Co., Rossland, capital stock, \$1,000,000; Independent Mining Co., New Westminster, B.C., capital stock, \$1,000,000.

The Penberthy Injector Co., Detroit, Mich., on July 25th celebrated the event of the manufacture and sale by them of 100,000 Penberthy Injectors. In honor of the occasion all the employees were given a holiday and excursion per steamer to Beauvoir, St. Clair River. A large number of friends and customers of the company, by special invitation, participated in the event.

In Montreal there has just been a test of an electric street-cleaning car, the invention of Mr. A. J. Reynolds, of that city, who claims that such cars can be used to clean the whole street, except a narrow strip at each side, from which the dirt is swept towards the tracks by the usual horse brooms. A test was made on Tuesday last, in the presence of the Montreal city surveyor and officials of the Montreal Street Railway.

According to the British Columbia Journal eleven ships were loading lumber at British Columbia ports for Australia, South America, China and other foreign countries. Their cargoes will amount to about 100,000 tons.

Now shingle mills are still being erected in Restigouche, N. B., there are upwards of 100 machines running some of them night and day. The mill owners are apprehensive that the duty which was taken off shingles a few years ago by the American government will be put on again next year, therefore they are rushing as many as possible into the market.

The Wellington Mills

LONDON, ENG.

Genuine Emery

Oakey's Flexible Twilled Emery Cloth.
Oakey's Flint Paper and Glass Paper.
Oakey's Emery Paper, Black Lead, Etc.

Prize Medal and Highest Award Philadelphia, 1876, for Superiority of Quality, Skillful Manufacture, Sharpness, Durability, and Uniformity of Grain.

Manufacturers....

JOHN OAKEY & SONS, Ltd.

WELLINGTON MILLS
Westminster Bridge Road, London, Eng.

Inquiries should be addressed to

JOHN FORMAN

650 Craig St., Montreal

WM. BARBER & BROS.

GEORGETOWN, ONT.

Manufacturers of

BOOK AND FINE PAPERS

THE TORONTO PAPER MFG. CO.

CORNWALL, ONT.

Manufacturers of....

Engine Sized Superfine Papers
White and Tinted Book Papers
Blue and Cream Laid and Wave Foolscaps, Account, Envelope and Lithographic Papers, etc.

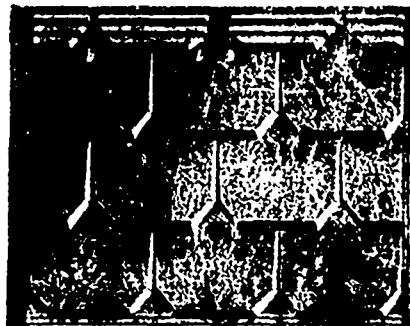
C. G. ELRICK & CO.

MANUFACTURERS OF

HORN and RUBBER COMBS, Etc.

FACTORY—Sheppard Street, Toronto.
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Eastlake Steel Shingles



Beware of Worthless Imitations.

METALLIC ROOFING CO., Ltd

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SOLE MANUFACTURERS.

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NEW YORK

BUSINESS ESTABLISHED IN 1832

Welland Vale Manufacturing Co.

LOCK No. 2, ST. CATHARINES, ONT.

Manufacturers of.....

AXES, SCYTHES, FORKS, HOES
RAKES and EDGED TOOLS

W. H. STOREY & SON

ACTON, - - ONT.

Manufacturers of . . .

Fine Gloves and Mitts

In Every Variety and Style.

MOCCASINS

SPECIALTIES.

Machinery Brushes for woollen and flour mills, Jewellers, shoes, breweries, dairies, platers, foundries, and all machinery work; old rollers refitted.

Frank Wehrle & Co.,
Brush Manufacturers,

131 Bay St., Toronto.

BROWN & CO.

Manufacturers of

Square and Hexagon

HOT PRESSED NUTS

PARIS, - ONT.



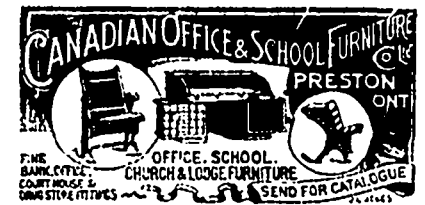
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Dovetail and Packing Boxes

Pop-Pins, Slide Blocks and Cross Arms. Wood Printers, Etc.

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Write for Prices



THE PARIS ELECTRO-PLATING CO.

Manufacturers of

Stove Trimmings, Organ and Piano

Trimmings, also all kinds of

Brass and Nickel Plating Done

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CONSUMERS GAS METERS Any Size

We make an O. K. METER. You should own one, it will pay you.

JOHN S. MOORE, Dominion Gas Meter Works

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Meters of every description Repaired.

Established in Canada in 1879.

SMITH WOOL-STOCK CO.

219 FRONT STREET EAST, TORONTO

Makers of... WOOL STOCK, SHODDIES, Etc.

of... All lines of Graded Woolen Bags. Carbonizing and Neutralizing. Isers of Wool Pickings. All lines of Hard and Soft Waste.

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HAMILTON, ONT.

Manufacturers of . . .

WHEELS. Wheel Materials. Shafts. etc

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KNITTING MACHINERY

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STAFFORD & BABCOCK

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Ripans Tabules cure bad breath.

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This space is one inch high. It

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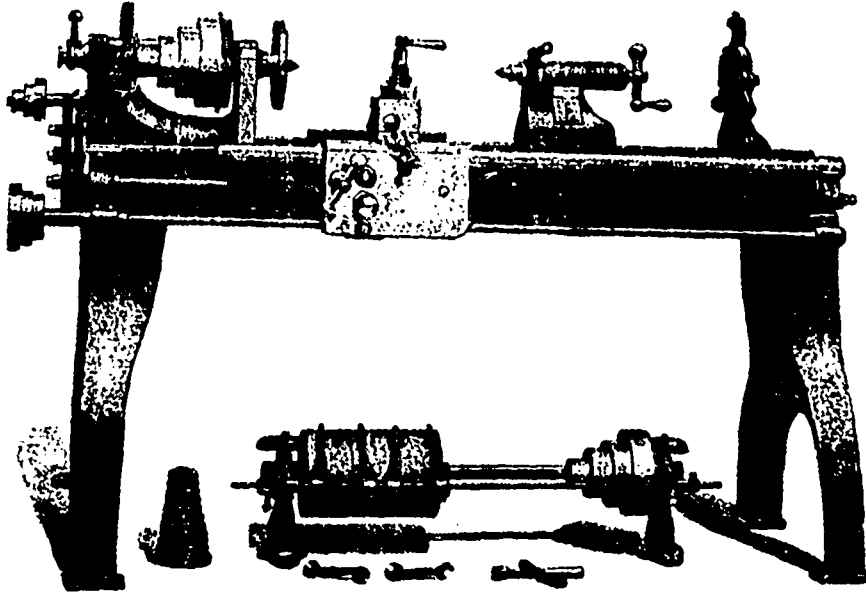
cents per issue.

A test of asbestic, a plaster made from asbestos, recently made in the Treasury Department building Washington, D. C., showed that it was absolutely fire proof. This test brings into prominence one of the most important products of Canada, asbestos, the largest and most valuable deposit of which is to be found in the Province of Quebec.

Speaking of the Facer Car wheel works at Perth, Ont., the Expositor says:—"Perhaps few people appreciate the magnitude of the undertaking in connection with the company, as an example of what it is, the Laurie Engine Company of Montreal, who are making the anvil, have one of the best equipped machine shops in Canada. The casting of

the twenty-five ton blocks and the machinery of the same, on their immense thirty foot lathe they managed successfully. When they came to a point where loading had to be done, they were obliged to construct a new and specially heavy crane to lift them. There was no truck or waggon that could carry the castings from the company's works to the railway, so a special car truck for the purpose was constructed, and permission was obtained from the city council of Montreal to lay a temporary rail track from the company's shops to the railway, so that they could be loaded on to the cars. Of all the C. P. R. cars on the road there are only six capable of carrying one of these blocks. The third anvil block has arrived at the works and is being fitted in place. The hammer was shipped from Philadelphia on Saturday and is expected to reach Perth in a few days."

FOR SALE CHEAP— One of the finest equipped Foundry, Machine Shops, and Plant in Ontario, with water power in abundance,



Apply **THE TORONTO MACHINERY SUPPLY CO.,** 164 KING STREET WEST
Dealers in Wood and Iron-Working Machinery, Engines, Rollers, etc., etc.

The Dominion Bridge Company, Montreal, have been awarded the contract to furnish the steel work in connection with the works of the Lachine Rapids Hydraulic Company.

John Murray, Highgate, Ont., is building a new carriage factory.

James McKinley has begun the erection of a spool factory at Black River, Kent County, N.B.

The Robb Engineering Company, of Andhra, N.S., are putting in a 100 horse power Robb Armstrong engine and a 125 horse power Monarch boiler for the Moncton, N.B., street railway.

The Ontario Lead and Barb Wire Co., Toronto, are said to have decided to establish a branch factory in Hamilton, where they will manufacture plumber's supplies, barb wire and nails.

The Royal Electric Co'y

MONTREAL, QUE.

Western Office.... TORONTO, ONT.

S.K.C. Two-Phase Alternators

Incandescent Light, Arc Light and Power from same Dynamo and Circuit.

Highest Efficiency

Best Regulation

Slow Speed

Least Attention



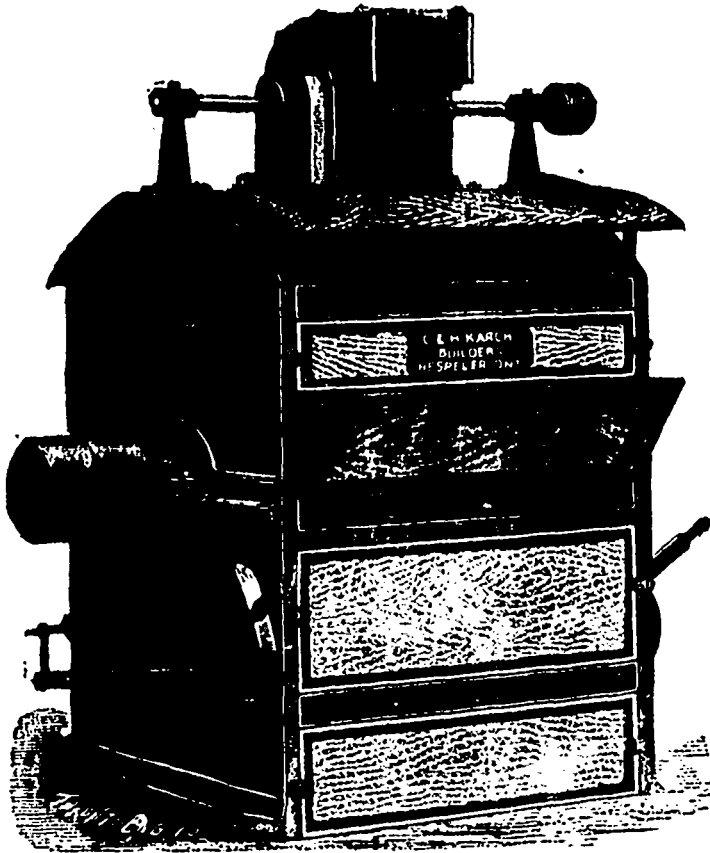
No Collector

No Moving Wire

No Exposed Parts

No Compounding

S.K.C. 50 Kilowatt Two-Phase Generator



H. W. Karch's Rag Duster.

RAG DUSTER.

The illustration represents a Rag Duster built by H. W. Karch, Hespeler, Ont. It is built entirely of iron except panels and doors

and weighs 2910 lbs. The rags are admitted at the mouth, shown front of cut. This is made so as to be conveniently fed. The rags enter freely and drop on the paddles without accumulating. When the rags are sufficiently dusted, the operator catches the handle, which is shown on the side of cut connected with the back door which is thus opened, when the paddles drive the rags out. The door is shut by pulling the handle down, and the machine is again fed. The Duster has two screens—a bottom and a top screen. The bottom screen is circular, and the top screen is nearly straight and level across top of machine. There are two doors on the top to take out any dust that may accumulate between top screen and fan.

CUTCH SHADES ON COTTON.

Messrs. Wm. J. Matheson & Co., in their bulletin No. 49, give illustrations of dyeings made with Diamine Catechu, Diamine Catechu C, Diamine Catechu Y, Diamine Fast Brown G, and Diamine Brown B. All these dyestuffs are patented and manufactured by Leopold Cassella & Co. for whom Messrs. Wm. J. Matheson & Co. are sole Canadian and U. S. agents, are noticeable for their extreme fastness to acids, washing and light, in which they are far superior to dyeings made with cutch. The soft condition in which they leave the cotton and their adaptability to all classes of dyeing make them valuable additions to our series of direct dyes. These colors are particularly valuable for the dyeing of loose cotton in shades ranging from yellow to seal browns or in shades produced with cutch, or with cutch saddened with logwood. The dyeings are very fast to acids and washing, and much faster to light than cutch dyeings. They leave the cotton in a soft, pliable condition, thus overcoming the difficulties experienced with carding cotton dyed with cutch. Yarns are readily and evenly dyed, the dye penetrating thoroughly, and leaving the fibre in an unimpaired condition, exhibiting no harshness or loss in strength. The easy solubility and even dyeing properties of these colors will recommend them for warp dyeing, and the strength and pliability of the warps for weaving are great advantages over the use of cutch. They are equally well adapted for the dyeing of pieces, and the advantages mentioned above obtain here. Wm. J. Matheson & Co., 178 Front street, New York; Branch house Montreal, P.Q., 423 to 425 St. Paul street.

A raft for the Saginaw Lumber Company, containing 3,500,000 feet, arrived at Bay City from the Georgian Bay last week.

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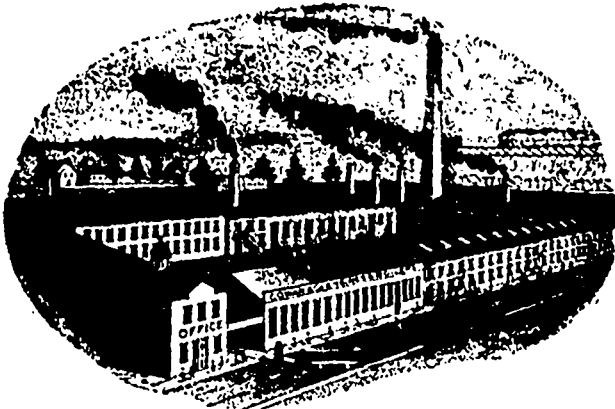
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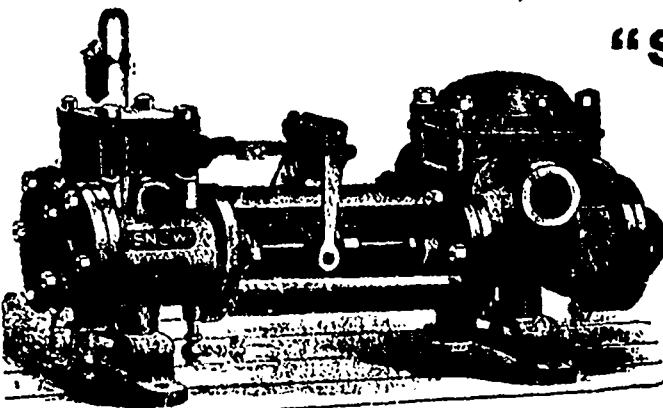
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CANADIAN PATENTS.

The following patents have been issued from the Canadian Patent Office, from May 18th, to May 28th, 1896.

Information regarding any of these patents may be had on application as follows:—

Fetherstonhaugh & Co., Bank of Commerce Building, Toronto.

Ridout & Mayhew, 103 Bay Street, Toronto.

C. H. Riches, Canada Life Building, Toronto.

A. Harvey, Central Chambers, Ottawa.

Copies of any American patents can be procured from either of these attorneys for the sum of twenty-five cents each.

- 52,301 Bal label, John Hanigan, Malmsbury, Que.
- 52,302 Non-refillable bottle, J. Stretch and E. Stretch, East Orange, N.J.
- 52,303 Electric safety appliance for railroads, E. I. Orcutt, Somerville, Mass.
- 52,304 Electric arc lamp, The Davy Electrical Construction Co., London, Eng.
- 52,305 Hinge, the W. S. Reed Toy Co., Leominster, Mass.
- 52,306 Black board, the Laughlin-Hough Drawing Table Co., Guelph, Ont.
- 52,307 Furnace for burning hydro-carbons, C. H. Bachy, Sirault, Belgium.
- 52,308 Turbine water wheel, W.O. Crocker, Turner's Falls, Mass.
- 52,309 Mitten and method of knitting same, the Star Knitting Co., Lacross, Wis.
- 52,310 Car coupler, F. H. Newton and L. G. Wade, Holly, Mich.
- 52,311 Creel, Kunstwerber Clavies & Co., Leipzig, Germany.
- 52,312 Roofer's seaming tool, Emma H. Heberling, Havana, Ill.

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| 52,313 Car coupler, W. M. Robinson, Dil- liner, J. E. Minor, Mapletown, and R. M. Minor, Whiteley, all of Penna. | 52,320 Metallic alloys, W. H. Kemler, Ash- land, Kentucky. | 52,329 Target trap and bird therefor, J. L. Shattuck, Titusville, Pa. |
| 52,314 Diaphragm for electrical apparatus, C. Kellner, Vienna, Austria. | 52,321 Shaper and ditcher, J. E. McCor- mick, Port Jervis, N.Y. | 52,330 Hydro-carbon engine, W. E. Gibbon, Colchester, England. |
| 52,315 Combination square and bevel, J. McLean, Miller's Ferry, Ala. | 52,322 Harness saddle, H. Schmitz, Wy- more, Nebraska. | 52,331 Riveting machine, C. A. Skeie, S. Hillaire, Minnesota. |
| 52,316 Carriage for children, F. Cohn, Namslau, Silesia, Prussia. | 52,323 Caster, J. P. E. Proud, Fortal Kil- kenny, Ireland, and J. O. C. Read, London, England. | 52,332 Combined walking stick and um- brella, F. Goldschmidt, Berlin, Germany. |
| 52,317 Apparatus for separating foreign matter from disintegrated wood, Nils Pederson, Bovregard Sarps- borg, Norway. | 52,324 Wire stretching and splicing tool, O. J. Lalbaue, Galveston, Texas. | 52,333 Apparatus for exhibiting pictures, T. Armat, Washington, D.C. |
| 52,318 Vice, W. Thompson, Boston, and W. A. Thompson, Brockton both of Mass. | 52,325 Twine holder, Otto Priegel, Lauville, Iowa. | 52,334 Finger exercising device, F. E. Osterhout, Oneida Castle, N.Y. |
| 52,319 Hat fastener, C. N. Moller, Chi- cago, Ill. | 52,326 Wrench, R. A. Wilson, Denver, Col. | 52,335 Paper pulp screening machine, W. Curtis, Palmor, N.Y. |
| | 52,327 Electric railway, J. F. Jordan and G. A. Jordan, Brooklyn, N.Y. | 52,336 Vice, W. Thompson, Boston, Mas. |
| | 52,328 Lamp burner, S. A. Hoover and Aaron Longheed, Port Arthur, Ont. | 52,337 Machine gun, A. A. McKnight, Wilmington, Ohio. |
| | | 52,338 Steam boiler, S. Marley and J. Hart- enstein, Montreal. |

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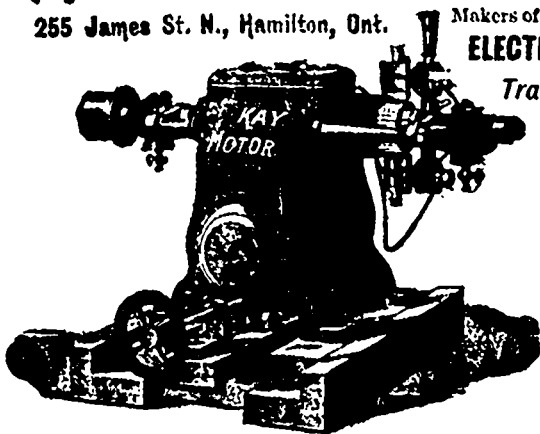
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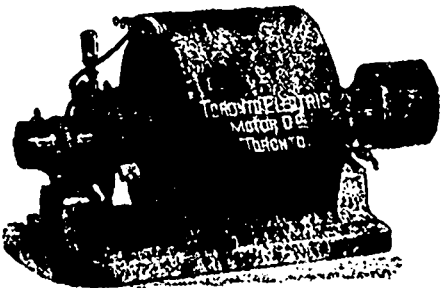
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| 52,339 Monocycle, J. Chouinard, Waltham, Que. | 52,352 Earth auger, J. D. Bowman, H. Y. Miller, E. D. Miller and F. Miller, West College Corner, Ind. | 52,364 Gate, W. Harley, Scottville, Mich. |
| 52,340 Cultivator, E. Doro, Laprairie, Que. | 52,353 Automatic liquid indicator, F. A. Morse, Pawtucket, R. I. | 52,365 Tripping attachment for cane-lifts, A. A. Morrow, Loreauville, Louisiana. |
| 52,341 Hydraulic wheel, Jean-Baptiste Parent, Sault au Recollet, Que. | 52,354 Smelting furnace, C. Cunningham, Jr., Brooklyn, N.Y. | 52,366 Saw, H. J. Frederick, Brainerd, Minnesota. |
| 52,342 Wheel, G. E. Paquette, Montreal | 52,355 Nut lock, J. W. Spriegel, Magazine, W. Va. | 52,367 Bicycle saddle, W. I. Bunker, La Grange, Ill. |
| 52,343 Sewing machine, M. Koch, Montreal. | 52,356 Horse shoe, M. Danby, North Augusta, Ont. | 52,368 Non-refillable bottle, W. von Bokern, Denver, Colo. |
| 52,344 Leather washing machine, J. McKenzie and Co., Shaw, of Cheboygan, Mich. | 52,357 Saddle for velocipedes, S. Patterson, Kensington, Middlesex, England. | 52,369 Cultivator, W. G. Scott, Rock Dell, Minnesota. |
| 52,345 Shelf for baking ovens, C. R. Bonnett, Allegheny, Pa. | 52,358 Automatic life guard for cars, Clara M. Beebe, Elmira, N.Y. | 52,370 Arc lamp, Eugene Hugo, Arthur Heinrich, Ritter von Nollendorf, Scholtensrings, Vienna, Austria. |
| 52,346 Non-refillable bottle, G. W. Johnson, Toronto. | 52,359 Railway car, W. Hardon, Jamesport, Mo. | 52,371 Distilling apparatus, I. A. Jewel, Chicago, Ill. |
| 52,347 Bottle, A. C. R. King, Vancouver, B.C. | 52,360 Bag holder, W. W. Hudgins, Madoc, Ont. | 52,372 Saw stretching machine, E. B. Rich, Chicago, Ill. |
| 52,348 Land roller, W. L. Marshall, Port Perry, Ont. | 52,361 Stove pipe, T. C. Davidson, Montreal. | 52,373 Egg crate, A. DeL. Gilpin, Lincoln, Kansas. |
| 52,349 Insulator pin, F. M. Locke, Victor, N.Y. | 52,362 Sleigh attachment, C. Lusted, Sr., LaFayette, Louisiana. | 52,374 Wedge coupling, P. H. Moore, Sudbury, Ont. |
| 52,350 Electric guest-call alarm, F. O. Smith, La Cross, Wis. | 52,363 Driving mitten, D. C. Clapp, Owosso, Mich. | 52,375 Harness trace, T. Clemow, Sudbury, Ont. |

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To whom this may concern.

This is to certify that we have used some of the Mica Pipe Covering on one of our main pipes in the tannery during the present winter and must say that it has given the very best satisfaction, there is no heat that escapes from the outside covering, it hardly being warm, in consequence there is very little condensation in the pipes. We can cheerfully recommend it to any parties wanting pipe coverings.

Yours truly,
(Sgd.) BREITHAUP BROS. & HALL.

PETROLIA April 22, 1896.

Messrs. THE MICA BOILER COVERING CO., Toronto, Ont.

GENTLEMEN:—In regard to the Mica Pipe Covering on which you have asked us to report, we would say that we placed this covering on the steam pipes in our block of stores and offices last winter and at once noticed the largely increased heating capacity of our plant and a great saving in fuel. The covering was put on by our own men without any difficulty whatever.

Yours faithfully,
(Sgd.) VANTUYL & FAIRBANK.

TORONTO, December 3, 1895.

THE MICA BOILER COVERING CO., City.

GENTLEMEN:—We have tested the Mica Covering which you put on the boiler of the Dredge "Atlantic" in September last and find that it has effected a saving of about one-half ton of coal per day, or about twenty-five percent. We believe it is the most durable covering for marine boilers in

the market, and will stand the wear and tear incidental to such boilers. We consider it a valuable improvement over the cement coverings owing to the convenience of removal and replacing same, for inspection or repairs to boiler.

Yours truly,
TORONTO DREDGING & CONTRACTING CO.
(Sgd.) F. DOTY.

THE TORONTO FERRY COMPANY, (LIMITED).

North of Scotland Chambers,
18 King Street West.

TORONTO, December 12, 1895.

THE MICA BOILER COVERING COMPANY, Toronto.

GENTLEMEN:—I have much pleasure in certifying that the Mica Boiler Covering placed by your company on the boiler of our steamer "Thistle" has proved satisfactory in every respect and has fully proved every claim you made for it. I find that since it has been put on, the consumption of coal has been reduced no less than twenty per cent. My chief engineer's report of the Mica Covering is very favorable, not only for its extraordinary coal saving qualities but also on account of the ease with which any part of it can be removed and replaced without injury. After the season's work I find the covering in perfect condition, and from the flexible nature of it and its inability to crack or crumble I anticipate a very long life for it.

All the steam pipes at our Electric Power Station at Hanlan's Point are covered with the Mica Covering and my engineer there also reports it as a first-class piece of work. From my experience of the above covering during the past season, I have no hesitancy in pronouncing it to be the best that has come under my notice.

Yours truly,
W. A. ESSON, Manager.

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- 52,378 Vehicle gear, W. Atkinson, Granby, Que.
- 52,379 Shuttle threader, S. A. Brodeur, Vaudrouil, Que.
- 52,380 Car fender, The Consolidated Car Fender Co., Providence, R.I.
- 52,381 Car coupler, G. J. Farroy and S. L. Divin, Carlisle, Pa.
- 52,382 Hame hook, S. H. Windley and S. H. Phillips, Trenton, N.C.
- 52,383 Knitting machine, E. J. Franek, Philadelphia, Pa.
- 52,384 Churn, The One Minute Churn Co., St. Louis, Mo.
- 52,385 Ensilago cutter, The Peter Hamilton Manufacturing Co., Peterborough, Ont.
- 52,386 Sad iron, E. Gagnon and T. Cote, Cap Chatte, Que.
- 52,387 Station indicator, W. B. Ramsay, Hickory, and J. H. Beall, Senoir, N.C.
- 52,388 Speed indicator, A. B. Holson and G. T. Holson, both of Chicago, Ill.
- 52,389 Gas regulator, D. Wilson, Boston, Mass.
- 52,390 Combined pick and shovel, W. H. Sharpington, 102 Chamberwell New Road, London, England.
- 52,391 Oar for row boats, J. Berron, Jackmanton, Me.
- 52,392 Awning, F. A. Wagner, Cleveland, Ohio.
- 52,393 Insect destroyer, W. H. Freeman, Lexington, Nebraska.
- 52,394 Pump, W. P. Keeler, Spokane, Wash.
- 52,395 Pump, J. C. Fountain and T. Owens, Parkhill, Ont.
- 52,396 Jar fastener, The Barstow Fruit Jar Co., Jersey City, N.J.
- 52,397 Device to prevent the refilling of bottles, H. Dixon, New South Wales.
- 52,398 Polishing material and process of making same, The Pittsburg crushed Steel Co., Pittsburg, Pa.

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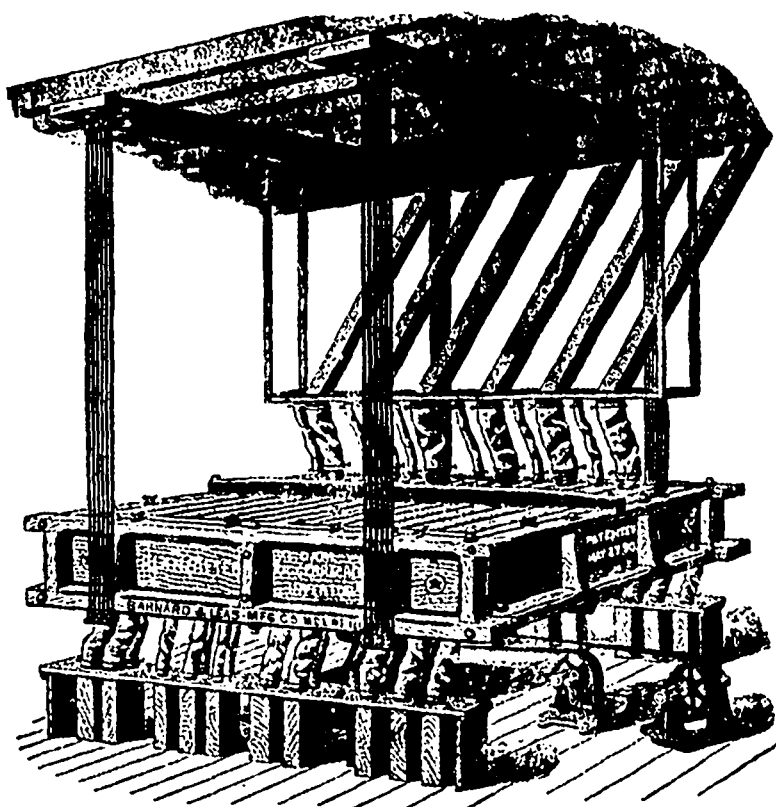
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| 52,400 Arrangement for preventing accidents on railroads, H. Biermann, Breslau, Silesia, Prussia. | 52,407 Dish washer, S. Cripe and E. E. Spranger, Kokomo, Ind. | 52,413 Lazo fastener, C. H. Pratt, Helena, Montana. |
| 52,401 Car coupler, H. Gallagher and J. M. McDonough, Savanna, Ga. | 52,408 Rock crusher, The Kinkead Mill Co., San Francisco, Cal. | 52,414 Carpet stretcher and tacker, E. Huber and B. Reindart, Berlin, Ont. |
| 52,402 Pump for oil cans, F. C. Smith, Dolavau, Wis. | 52,409 Car fender, The Consolidated Car Fender Co. Providence, R.I. | 52,415 Draft equalizer, S. A. Miller, A. Miller and W. H. Rastoter, Plain, Ohio. |
| 52,403 Diaphragm pump, G. F. Flodman, Folkkungagatan, Sweden. | 52,410 Process of gasifying and increasing the heating power of the gases, etc., E. Koltbeck, Berlin, Germany | 52,416 Attachment for cultivators, F. N. Denison, Toronto. |
| 52,404 Steam logging machine, G. T. Glover, Chicago, Ill. | 52,411 Adjustable table, J. R. Baker, Kendallville, Ind. | 52,417 Bicycle, F. W. Goodhue and J. E. Goodhue, St. Charles, Ill. |

HAMILTON, CAN. Catalogue on Application.

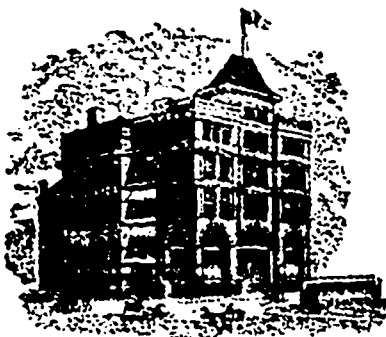
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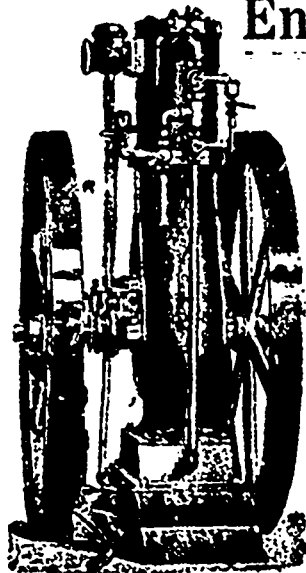


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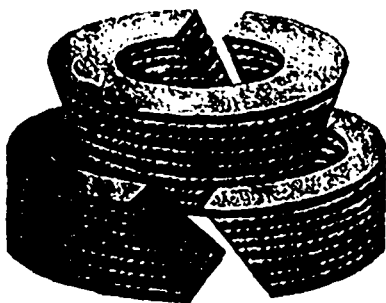
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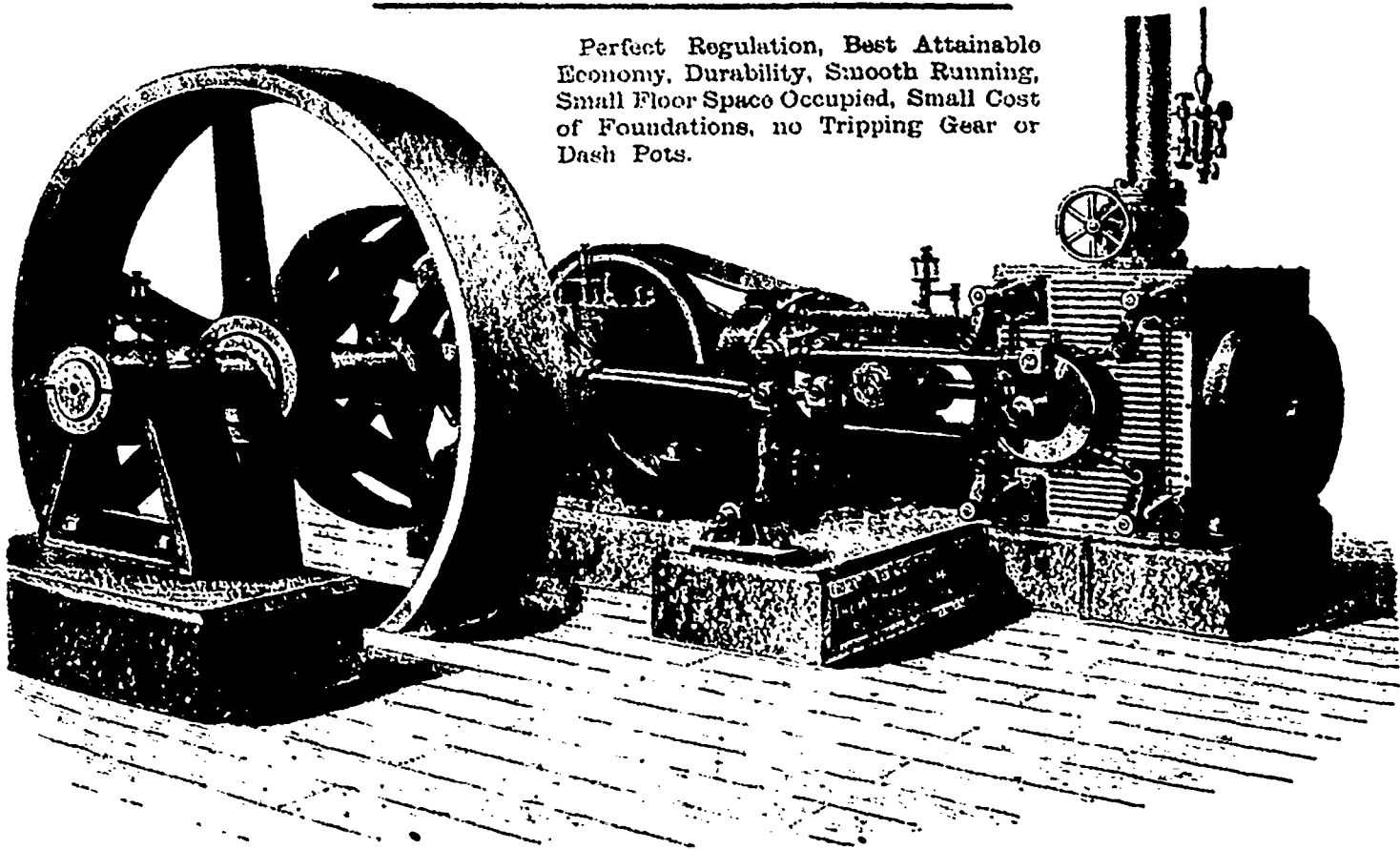
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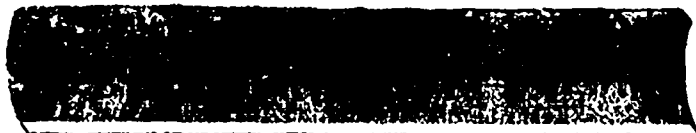
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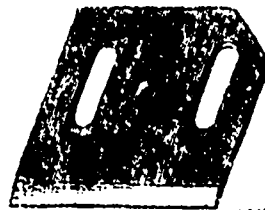


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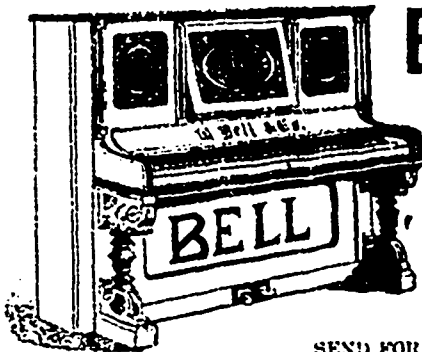
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