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VOL. 53.

TORONTO, DECEMBER 21, 1906.

No. 12.

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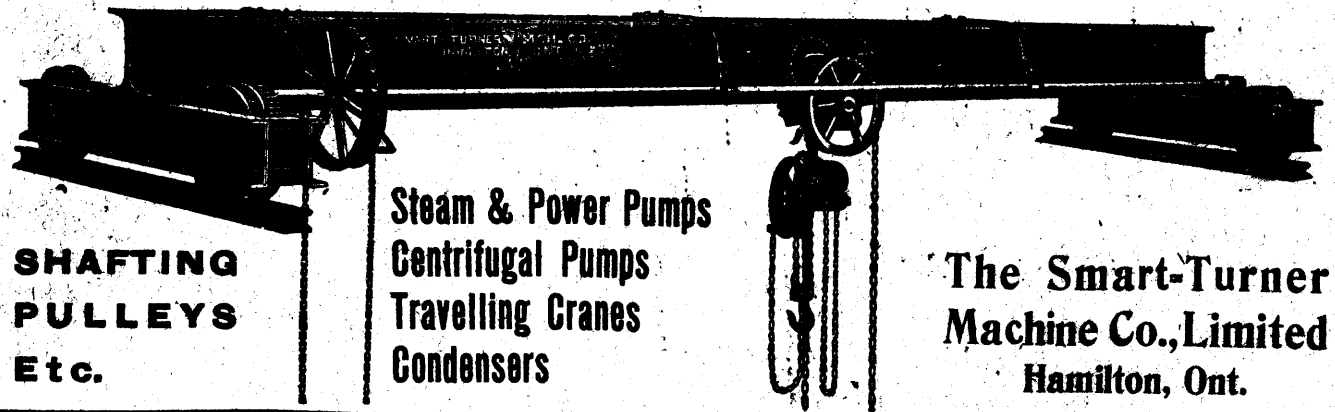
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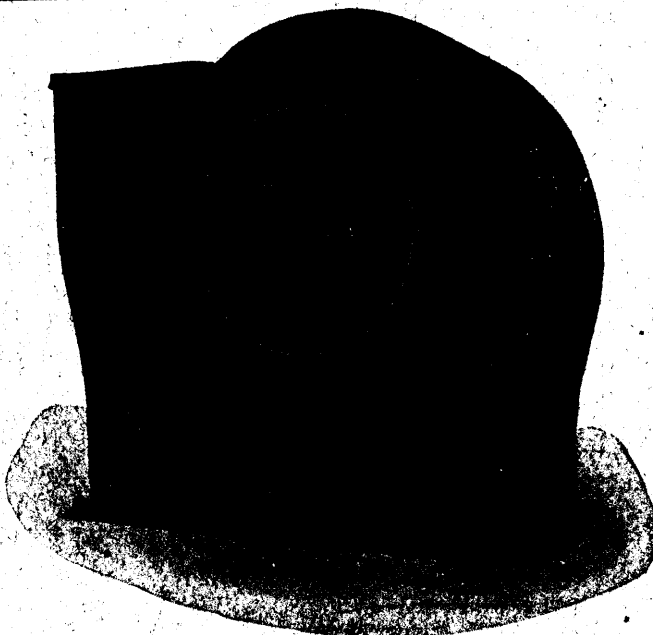
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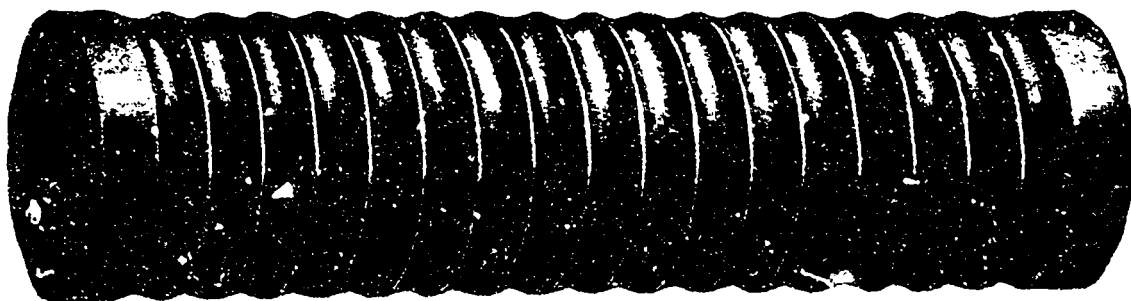
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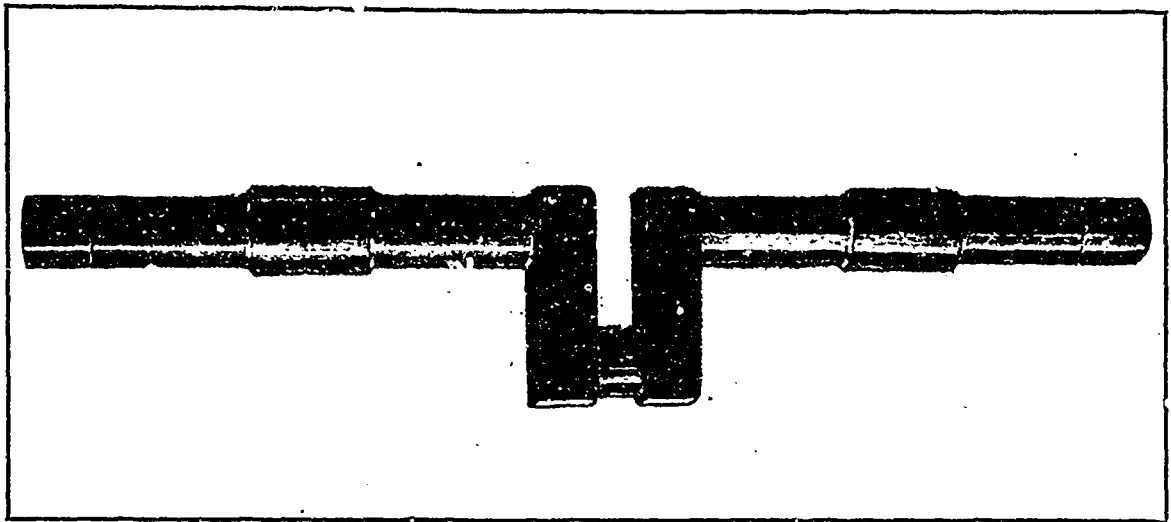
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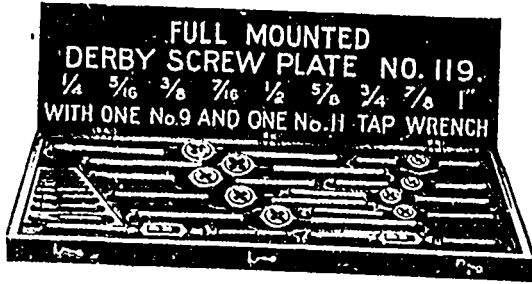
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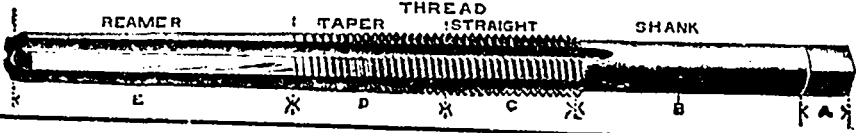
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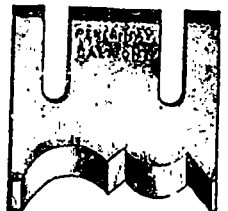
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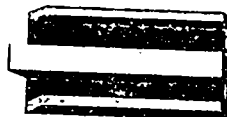
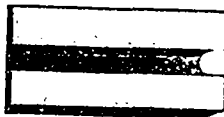
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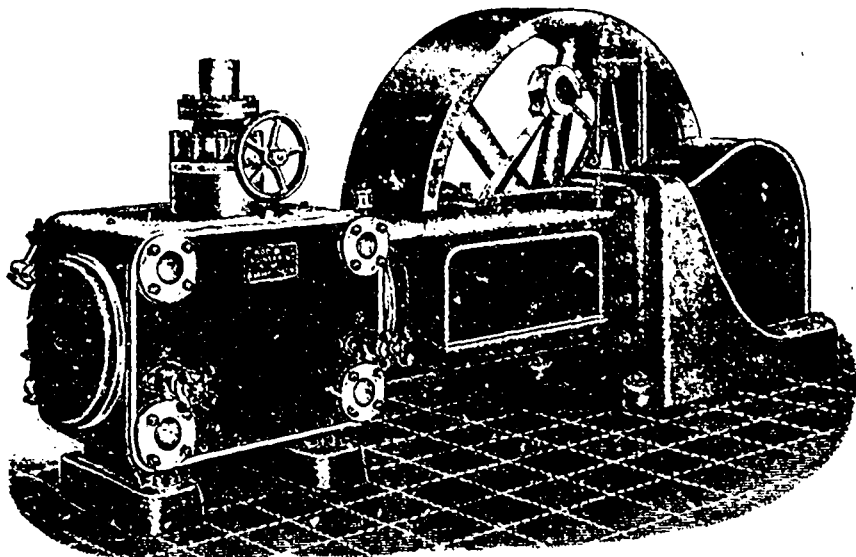
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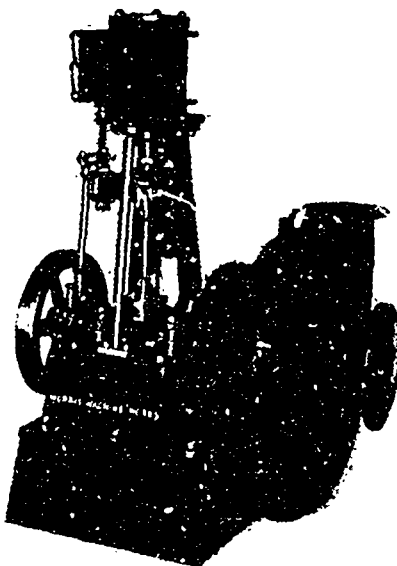
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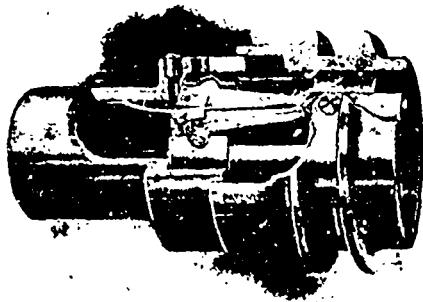
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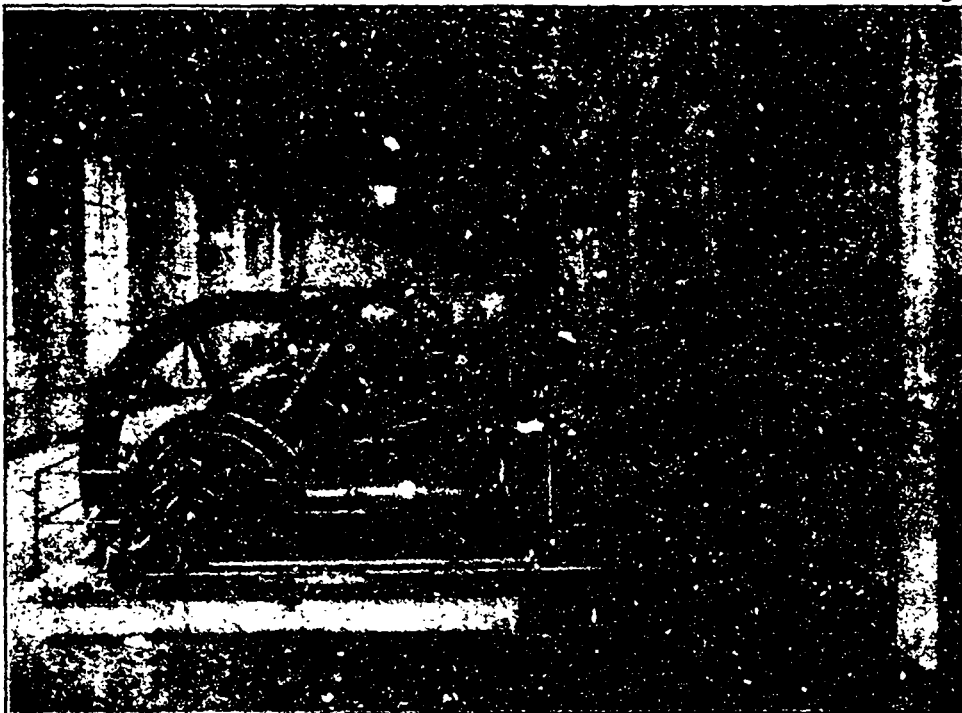
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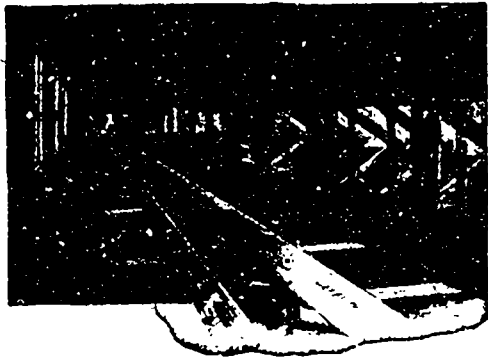
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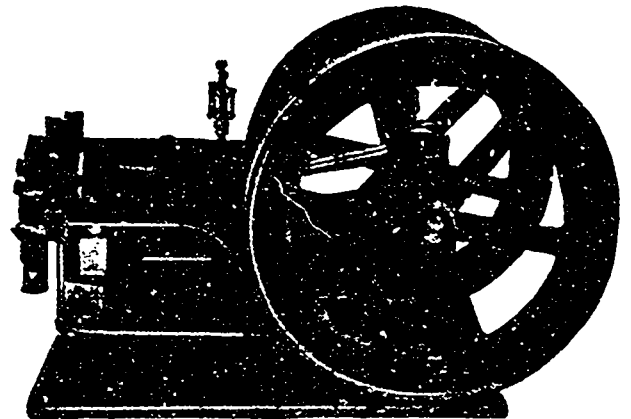
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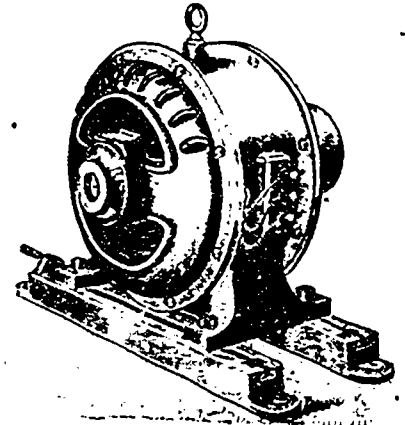
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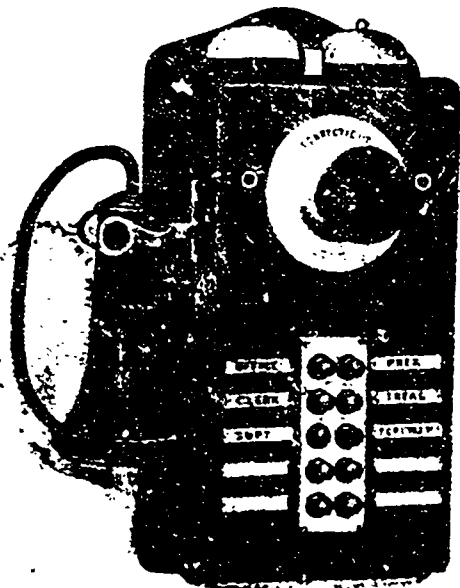
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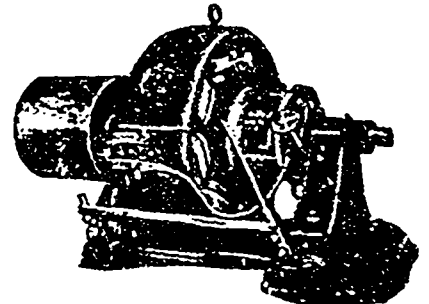
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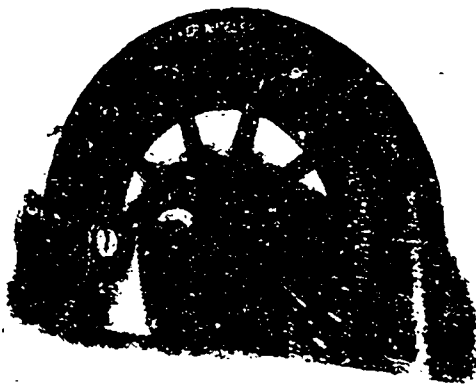
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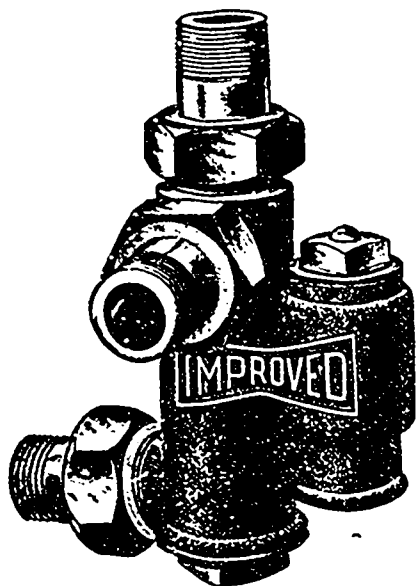
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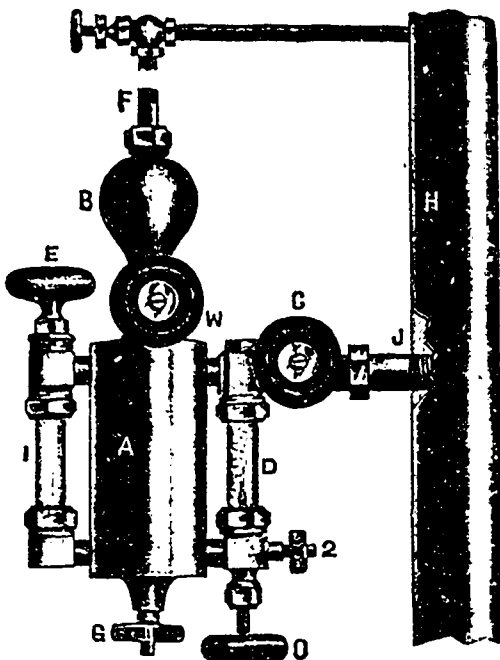
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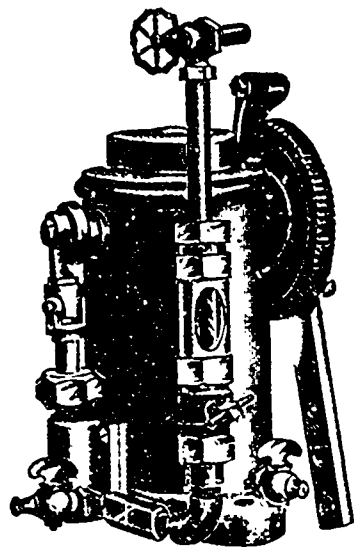
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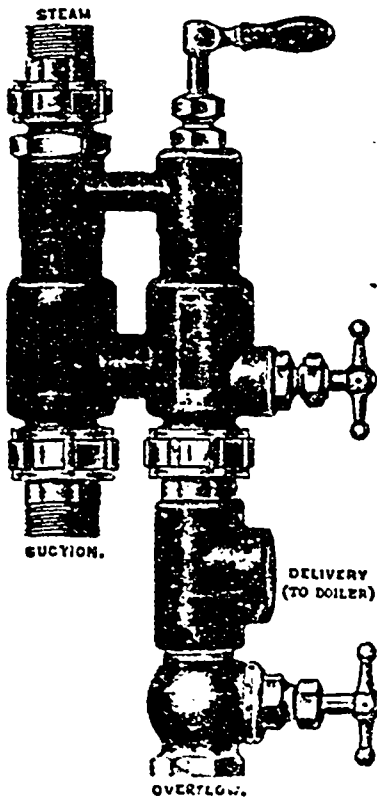
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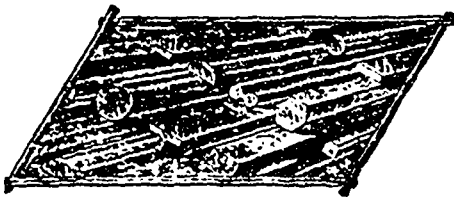
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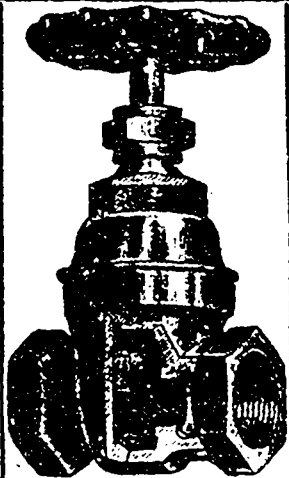
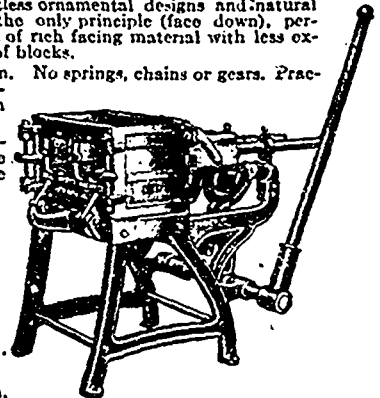
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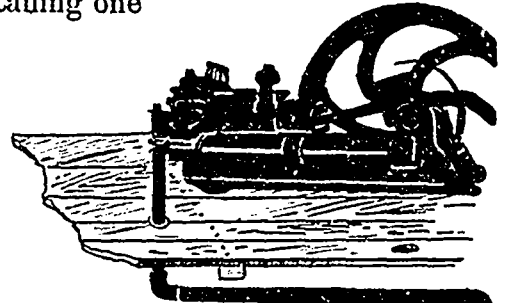
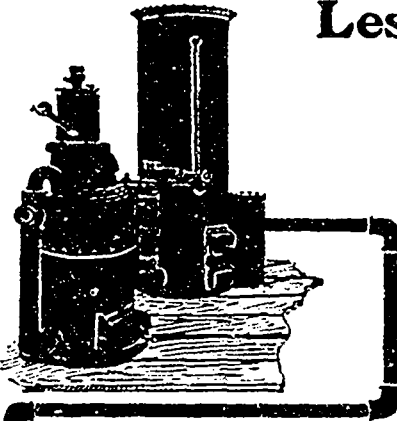
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J. J. CASSIDY, - - - Editor.
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NEW ADVERTISERS IN THIS ISSUE:

- Canada Forge Co., Welland Ont.
- Canadian Fairbanks Co., Montreal.
- Alex. Gibb, Montreal.
- W. B. McLean & Co., Montreal
- Oshawa Hay Carrier Works, South Oshawa, Ont.
- Stevens Mfg. Co., Galt, Ont.

INASMUCH.

"Then shall the King say unto them on His right hand, Come, ye blessed of my Father, inherit the Kingdom prepared for you:

"For I was an hungered, and ye gave me meat: I was thirsty, and ye gave me drink: I was a stranger, and ye took me in:

"Naked, and ye clothed me: I was sick, and ye visited me: I was in prison, and ye came unto me.

"Then shall the righteous answer Him, saying, Lord, when saw we thee an hungered, and fed thee? or thirsty, and gave thee drink?

"When saw we thee a stranger, and took thee in? or naked, and clothed thee?

"Or when saw we thee sick, or in prison, and came unto thee?

"And the King shall answer and say unto them, Verily I say unto you, Inasmuch as ye have done it unto one the least of these my brethren ye have done it unto me."

The Hospital for Sick Children, Toronto, appeals for funds to maintain the thousand sick children that it nurses within its walls every year. It cares for every sick child in Ontario whose parents cannot afford to pay for treatment. It is not a local institution. Since its foundation the hospital has treated more than 12,000 children, more than two-thirds of whom were unable to pay, and were treated free. It costs money to maintain the institution. If you know of any child who is sick, or crippled, or has deformity, send the name and address

of the parents to the Hospital. Does this most worthy charity appeal to you? If it does send your contributions to J. Ross Robertson, Chairman, or to Douglas Davidson, Sec.-Treas., of the Hospital for Sick Children, College Street, Toronto.

THE NEW TARIFF.

When Sir Wilfrid Laurier and his party came into power and Hon. W. S. Fielding became Minister of Finance, they found in operation a very plain, practicable and efficient tariff, quite satisfactory in a general way, not only to the manufacturers of Canada, but to the people generally; and the schedules of that tariff, with some changes and modifications, have been in force ever since. The old tariff was a human invention, and the Government said that changes and alterations were to be made. Complexity, they said, was a too prominent feature in it. and that plainness and simplicity should be the characteristic of the revision they proposed to make. The "complexity" of the old tariff consisted chiefly in a single schedule of duties imposed alike upon all dutiable articles imported into Canada, also a very comprehensive list of articles upon which no duties were imposed.

About that time certain commercial facts were forcing themselves upon the attention of the country. A wave of wonderful prosperity was sweeping in great volume over about every civilized country of the world, and Canada was experiencing a most gratifying share of it. The country was going ahead by leaps and bounds. Production in all branches of industry was wonderfully stimulated, and our manufacturers were unable to meet all the demands made upon them for home consumption. Under the operations of the old tariff large capital began to flow in, finding investment largely in manufacturing industries. Much of this capital, perhaps nine tenths or more of it, came from United States sources, and it is quite safe to say that in the last ten years at least two hundred million dollars of American capital has been invested in Canadian manufacturing and similar industries, another feature of the situation being that the inflow of capital from Great Britain for investment in Canadian manufacturing enterprises has been very small and almost unobservable.

Another thing was noticeable. It was noticed that the ratio of imports from Great Britain were not keeping up with the increasing trade of the country, and that the imports from the United States far exceeded the ratio. Why was it that British manufacturers were not exploiting the opportunities as their American competitors were doing so successfully? The answer is not far to seek. The Americans were sending in first class up-to-date goods, just what the people wanted, and at favorable prices, while the Britishers left it to us to buy just what they had to sell, or go without. Further, under free trade Great Britain was fast losing her relative commercial status among the nations of the world, and Mr. Chamberlain, seeing this, sought to improve the situation by a change of the fiscal policy of the country, under which he hoped to effect a Zollverein of all British countries under an Imperial free trade banner. As he said in public at the time

he sprung his scheme, his proposition was that Canada should not attempt to take on or further exploit any new manufacturing enterprises, but rather, in common with all other British dependencies, devote her energies to producing raw materials to be converted into finished products in British workshops and factories. This idea was, and is the alpha and omega of the Imperialism of which we hear so much. Under it Great Britain would hold her own at the expense of the commercial advancement of Canada.

Imperialism made tremendous advances in Canada, and it ran away with the better and soberer judgment of many, including the Dominion Government at one extreme and the Manufacturers' Association at the other. The Finance Minister simplified his tariff by the addition of a column of duties by which imports from Great Britain were allowed a rebate of one-third from the general rates. This was the contribution of Canada to Imperialism, made at the expense, chiefly of Canadian manufacturers of woolen goods. The Manufacturers' Association, not to be outdone in their Imperialism by the Canadian Government, at their Halifax convention, passed a resolution which has been their shibboleth ever since. They desired an entire revision of the tariff, and in reciting the necessity therefor, declared that while the proposed revised tariff should primarily be framed for Canadian interests, "it should nevertheless give a substantial preference to the Mother Country."

It has never been satisfactorily explained why Canada should give a tariff preference to Great Britain—such an explanation would be a most valuable contribution to current history. Whatever the obligation of Canada to the Mother Country may be, it should be promptly paid without discount, but Canada owes a duty to herself also, and it is poor, very poor policy to place obstacles in the path of her progress. One great duty Canada owes to herself is to encourage and maintain her manufacturing industries by the imposition of adequate duties on foreign made goods. Such duties should be levied on all imports irrespective of source of origin. "He who provideth not for his own household denieth the faith and is worse than an infidel." Of course British manufacturers want to sell their products to whoever may wish to buy them, and to exploit them in the markets of the world on the best possible terms. If they can have the benefit of duty free entrance, well and good, and this they do not have from any country; and if high tariffs or moderate tariffs are to be encountered, the products must be sold. Same way with Canadian exports—same way with exports of all other countries. Then why should Canada be handicapped by unnecessary favors shown to Great Britain?

In the issue of this journal of October 5 last was published a tabulated statement showing the value and destination of every dollar's worth of textile fabrics made in the United Kingdom exported in the years 1901 and 1905, compiled from the official documents. Every item enumerated under that head, the value thereof, and the country of destination was given. It might be

supposed that because of the McKinley tariff British exports of textiles to the United States would be restricted. The United States lays both specific and ad valorem duties on imports of woolen goods, the total duties levied and collected on such imports in the fiscal year 1905 averaging 91 per cent. of their appraised value. Under the recent general tariff of Canada the duty on woolen goods in the piece averaged about 25 per cent. and on ready made clothing, carpets, etc., 35 per cent., less $33\frac{1}{3}$ per cent. on British goods, the average duty on British fabrics in Canada being about one fourth the duty on similar goods in the United States.

According to the British official returns, in 1901 the value of British textile exports to Canada was \$19,057,443, and to the United States \$40,193,541; and in 1905 to Canada \$27,453,743, and to the United States \$51,039,557. Upon exports to the United States British manufacturers paid 91 per cent. duty, and to Canada less than one fourth that rate of duty. Imperialism in Canada comes high, the expense in the illustration here shown being borne by Canadian manufacturers and Canadian labor.

The simplification and business-character of Mr. Fielding's new tariff is shown by the additions of other columns of figures and percentages, which, if not intended to distract the mind, certainly has that effect. Under the old tariff there was a flat discount of $33\frac{1}{3}$ per cent. of the duty on dutiable goods coming from Great Britain, which was readily understood and easily calculated, but in the new tariff the British preference duty is specific in many instances, and ad valorem in many others. Thus the duty on British potatoes is 50 cents, specific per one hundred pounds, and on vegetables n.o.p. 15 per cent. ad valorem; on cement, 8 cents per 100 pounds, specific, and on bags in which the cement is imported, 15 per cent. ad valorem. And there is another column indicating an "intermediate" tariff which, like a fifth wheel to a coach, is of no use whatever, is not used under any existing circumstances, and is calculated to confuse and distract.

In the recent tariff schedule A, containing 447 items, gave rates of duty imposed upon dutiable goods, from which rates a straight reduction of $33\frac{1}{3}$ per cent. was allowed on British goods other than wines, spirits, tobacco, etc. Schedule B contained 188 items, constituting the free list, and Schedule C contained 6 items of goods, the importations of which was prohibited. In all there were 641 items enumerated in that tariff.

The arrangement of the schedules are entirely different in the new simplified tariff. All the items or articles are classified in groups, and against each article is shown the rates of duty, if any, under the British Preferential, the Intermediate and the General tariff; and it will be observed that an article may be "free" in the British Preferential column, and dutiable in the other columns. There are about 10 such items. In the British Preferential column are 236 articles marked "free," and there are 711 items in schedule "A." In the previous tariff schedule B was given to the enumeration of articles not liable to duty.—in the new tariff schedule "B" "Goods sub-

ject to Drawback for Home Consumption" in which are enumerated 13 items. There is a hiatus in the consecutive numbering of the tariff items, item No. 711 being the last schedule "A" list, and item No. 1001 the first in schedule "B"; and the same fact is noticeable in the enumerations in schedule "C," relating to prohibited goods. Schedule "B" ends with item 1013 and schedule "C," in which there are 9 items, begins with item 1201. These discrepancies will probably not appear in the revised bill.

THE TARIFF COMMITTEE.

"If so soon I was done for
I wonder what I was begun for."

Immediately upon the announcement that the Finance Minister had presented his proposed new tariff to the House of Commons, which was published in extenso in the newspapers, a hurry call was sent out for the assembling of such members of the tariff committee of the Canadian Manufacturers' Association as were within reaching distance. At the headquarters of the Association the matter presented a peculiar, varied and alarming aspect. Ever since the Halifax meeting of the Association in 1902, a steady and persistent demand has been made for a "thorough" revision of the tariff, and now a thoroughly revised tariff has eventuated. The committee was not of the *veni vidi, vici* sort. They talked the matter over, passed a perfunctory resolution protesting that the revised tariff for which they had so long talked and prayed, did not suit them at all, and adjourned. After adjournment, Mr. George, the Chairman of the committee, said:

"The defects and merits of the various details of the new tariff will be dealt with by the different trade sections of the Association when they meet.

The Tariff Committee bases its protest on two main propositions:

"1. Our appeal for a changing and altering of the tariff was based on the idea that it should be so drawn as to force new industries from the United States and other foreign countries to come to Canada; to manufacture their goods here, and to do their export trade with the British Empire from Canadian soil. We believe that this could have been accomplished without disturbing any existing interest. This is our main contention.

"2. Although the country is at present prosperous, every business man knows that times of change arrive. The new tariff is based on a theory of continuous and increasing prosperity. In it there is no anticipation of, or preparation for, hard times, or at least, less prosperous times when competition will be keener and the struggle for existence among Canadian manufacturers more serious. Outside a little aid to a few suffering industries the present tariff will contribute in no degree whatever toward a stable and permanent prosperity in this country."

The plea for adequate tariff protection to existing Canadian manufacturing industries, according to Mr. George, was abandoned. There was a large and rapidly growing import trade from the United States to Canada that must be quenched if possible, or very much retarded, and the only way to accomplish this was to be by the imposition of prohibitive duties on American goods. Mr. George and his committee knew very well that Canadian manufacturers were not able to supply all the demands of Canadian consumers. They knew that Great Britain

could supply only a small portion of the demand, even under the encouragement of a one-third deduction of the duty imposed by the general tariff. They knew that if the wants of Canadian consumers were to be filled, it would have to be, of course, to a very large extent, from the United States. If Canadian manufacturers had been and were handicapped by the competition of goods that had been imported free of duty, or at only for revenue rates; that such competition had strangled and destroyed their industries, the case would have been different. But it is safe to say that no manufacturer included in the membership of the Association could make any such complaint. No wheel in any factory in Canada has ceased to revolve for any such causes. No workman in Canada walks the streets in idleness for lack of employment, the constant demand being for more skilled employes. We do not believe that Canadian manufacturers, as a general thing, are actuated by a dog in the manger spirit. Far from it. Naturally they want to make all the goods they can, and to sell all they make at remunerative prices; but they not only want to live, but are willing that others may also live. They want to see the country grow and prosper, and they want to see the people—the consumers who want their goods, increase and multiply. The consumers require goods—their wants must be satisfied if possible, if not from domestic sources, then from foreign sources.

Why is it then that Mr. George hoped that the new tariff would have been so drawn as to force new industries from the United States to come to Canada? Why does he desire a prohibitory tariff to effect such a result. All that the Association at the time of its organization demanded was that there should be adequate and reasonable tariff protection to our industries. That was the demand that placed Sir John Macdonald in power and kept him and his party there for so many years. But, the present management have renounced the teaching of the "Old Guard" that organized the Association and did so much for the manufacturers of Canada for so many years. They thank God that the tariff question is now out of politics, but it will be observed that as far as their influence goes, they are endeavoring to make the Association a political machine. Claiming to ignore politics in Canada they cross the ocean and meddle with the politics of the Mother Country, and become partisans of a political party there; and, having nothing else to do, are now endeavoring to divide the people of Canada on a strictly political question.

The tariff committee of the association was formed to act in just such an emergency as now presents itself. Its duty should be to reconcile any differences that may exist between the members regarding any tariff matters, and having reconciled them, present the views of the association to the Government. But we find that in this emergency the divergent views of the members of the committee are such as to destroy its usefulness. The committee finds itself in a funk, and every man in left to struggle for himself. After the fiasco here alluded to the following inspired notice was published in the Toronto papers:

"After mature deliberation the Canadian Manufacturers' Association have decided to take no united action in respect to the revised Customs tariff, which is in the main highly unsatisfactory to the majority of them. Instead the various manufacturing interests will endeavor to lay their grievances before the Government personally."

MR. GRIGG AND HIS MISSION.

A few months ago it was announced in this journal that the Commercial Department of the British Board of Trade has sent Mr. Richard Grigg as a commissioner to Canada to ascertain by direct enquiry the extent and degree of the effectiveness of foreign competition with British trade in Canada, the best means of successfully combatting the same, and the opportunities which may exist for the further development of the trade of the United Kingdom with Canada. The idea was that there was a grand field of operations in Canada for such a mission, the result of which would bring to the immediate consideration of British manufacturers information of which they had long been in need to enable them the better to cater for the Canadian market. Previously the productions in many lines of goods made by British manufacturers had not been entirely suited to the requirements of Canada, and the information which it was expected Mr. Grigg would acquire would enable British manufacturers to become thoroughly acquainted with the peculiar wants and requirements of Canada, and to conform thereto in supplying them.

Mr. Grigg came to Canada, and we believe, visited every province and many of the principal cities and towns and places of interest in the Dominion. He was in Toronto also. Wherever he went he was paid the courtesy and attention due to a genial and pleasant gentleman of the real old English kind; and without doubt those with whom he associated gave him, upon request, all the information they possessed in reply to his enquiries, but we never heard of his extending his visits to the factories and workshops with which this country abounds to notice the methods of production and styles and peculiarities of the products that find such favorable reception among the users and consumers of them, nor did he waste his time in scrutinizing styles, qualities and fashions of the imported goods on exhibition in our marts of trade and retail establishments from which they are distributed to consumers. No doubt he heard a great deal of the Imperial sentiments that he was told pervaded the country.

We heard a few days ago of Mr. Grigg being in St. John, N.B., where he was accorded a reception at a special meeting of the Board of Trade, before whom he made an address anent his mission. He explained that he had been appointed by the British Board of Trade as commissioner of trade and commerce to Canada, the desire of the British Government being for the establishment of closer trade relations between Canada and the Mother Country, and the obtaining of a larger share of the import trade of the Dominion. He explained that the British Board of Trade is a department of the British Government, the president of which is a Cabinet Minister—that the Board takes cognizance of the commercial affairs of the

whole Empire, and had sent out trade commissioners to Australia, South Africa and Canada.

Mr. Grigg in his address said that one of the methods to strengthen the bonds between the motherland and the Dominion was to be the appointment of commercial agents at the main centers of trade in Canada, such agents to gather trade information and to communicate the same to the intelligence department of the Board, and otherwise to make every effort for the promotion of trade between Canada and England. He said he was authorized to appoint nine such agents in the Dominion at a salary of \$500 each, and that he contemplates making these appointments at St. John, N.B., Halifax, N.S., Quebec, Montreal, Ottawa, Toronto, Hamilton, Winnipeg and Vancouver.

We have not yet seen the announcement of the names of the nine gentlemen at a salary of \$500 each, who are to be appointed by Mr. Grigg. It is an important financial matter, of course, and we presume Mr. Grigg has it yet in contemplation. It means the bestowment of pap to the value of \$4,500 by the British Government to promote trade—the export trade of Great Britain to Canada. There are lots of Italian and Grecian banana and peanut sidewalk vendors in Toronto who make than more \$500 per year at their occupation.

THE IRON AND STEEL BOUNTIES.

The bounties on iron and steel are to be retained for the ensuing four years. Mr. Fielding's resolution is as follows:

Resolved (1) That it is expedient to repeal Chapter 8 of the Statutes of 1899 and Chapter 68 of the Statutes of 1903 from and after January 1, 1907.

(2) That it is expedient to provide that the Governor-in-Council may authorize the payment out of the consolidated revenue fund of the following bounties on the undermentioned articles manufactured in Canada for consumption therein, viz:

(a) In respect of pig iron manufactured from ore on the proportion from Canadian ore produced during the calendar years:

	Per ton.		Per ton.
1907.....	\$2 10	1908.....	2 10
1909.....	1 70	1910.....	90

(b) In respect of pig iron manufactured from ore on the proportion from foreign ore produced during the calendar years:

	Per ton.		Per ton.
1907.....	\$1 10	1908.....	\$1 10
1909.....	70	1910.....	40

(c) On puddled iron bars manufactured from pig iron made in Canada during the calendar years:

	Per ton.		Per ton.
1907.....	\$1 65	1908.....	\$1 65
1909.....	1 70	1910.....	90

(d) In respect of rolled, round wire rods, not over three eighths of an inch in diameter, manufactured in Canada from steel produced in Canada from ingredients of which not less than 50 per cent. of the weight thereof consists of pig iron made in Canada, when sold to wire manufacturers for use in making wire in their own factories in

Canada, on such wire rods made, after December 31, 1906, \$6 per ton.

(e) In respect of steel ingots manufactured from ingredients of which not less than 50 per cent. of the weight thereof consists of pig iron made in Canada, on such ingots made during the calendar years:

	Per ton.		Per ton.
1907.....	1 65	1908.....	\$1 65
1909.....	1 05	1910.....	60

Provided that bounty shall not be paid on steel ingots from which steel blooms and billets for exportation from Canada are manufactured.

(3) That it is expedient to provide that the Governor-in-Council may make regulations to carry out the intention of these resolutions.

(4) That it is expedient to provide that the Minister of Trade and Commerce shall be charged with the administration of the foregoing provisions.

Mr. John A. Robertson, secretary of the Canadian Fire Underwriters' Association, has issued a circular to the proprietors of large dry goods and departmental stores, and to the mercantile trade generally, urging that in the usual Christmas display special precautions be taken against fire. Whenever any kind of a display is made, special care should be given to electrical installations, particularly those of a temporary nature. They should only be put in by competent electricians, and all fuse blocks and cut-outs should be located away from inflammable material, and what is known as "enclosed" or "cartridge" fuses only should be used. "Open" fuses are particularly dangerous. The enclosing of incandescent lights with paper and other inflammable material is altogether too common a practice, and is highly dangerous.

Industrious correspondents are filling the columns of the British newspapers with alarming stories of the Americanization of Canada. There is, no doubt, a good market for the material at good prices. The Old Country is warned that if Canada once starts moving along the wrong road it will take a mighty wrench to change her course, which will surely lead to the absorption of this country by the United States, and the disintegration of the Empire. Canada, fortunately, has no apprehension of these perils ahead, has no fear of Americanization, and is not moving towards the United States nor towards separation from the Empire. If any danger shall ever arise it will be through such diplomatic stupidity as Great Britain revealed in the Alaskan negotiations, and in the very recent sacrifice of the undoubted treaty rights of Newfoundland in order to gain favor with the United States. There is some reason to think that the process of Americanization has gone further in the United Kingdom than it has gone in Canada.—*Toronto News*.

BOOTS AND SHOES.

The Winnipeg Commercial has noted frequently during the past few weeks that Winnipeg jobbers have been complaining that they cannot get their shipments from the East with any degree of promptness, the consequence

of which is that they are unable to fill the orders of retail merchants satisfactorily. The reasons offered for this tardiness of Eastern shipments are, it says, that the manufacturers cannot secure cars, in some instances, while in other cases they say they are so filled up with orders that they cannot keep up with the demand. An interested authority claims that the real cause of the trouble is that Eastern manufacturers are not putting forth sufficient effort to receive and hold the Western trade. In their endeavors to compete with outside producers in the East, they lose sight to a certain extent, of the rapidly increasing market in this part of Canada.

It is small wonder, the Commercial says, that these same manufacturers do not hasten to open factories in Middle and Western Canada, when they are even careless enough to neglect making stronger attempts to supply requirements from their Eastern factories. The outcome of this tardiness is that there is an ever increasing quantity of United States merchandise taking the place of what might just as well be made in Canada; and the field seems so promising to the United States captains of industry that many of them are sending out representatives to spy out the opportunities in the West, with the intention of taking advantage of openings which are neglected by Canadians. It says:

"Take for example the case of boots and shoes. The United States product in this line is steadily gaining ground in these provinces, and it is reported on good authority that several large shoe manufacturers from the south intend locating here before long. Footwear jobbers in Middle and Western Canada cannot be blamed for making even a feature of United States shoes, when they are unable to cope with their growing business by confining themselves to the Canadian make. It is not so much the reputation of Yankee shoes that create such a demand for them as the necessity of carrying some substitute for a Canadian article that is not plentiful enough to retain the entire trade."

Referring to the Dominion trade and Navigation tables for 1906 we find some remarkable facts regarding the boot and shoe industry. In the fiscal year 1906, Canada's imports of boots and shoes made of gutta percha and India rubber were valued at \$143,221, of which \$142,763 worth came from the United States, and \$253 from Great Britain. The Yankee goods paid duty at the rate of 25 per cent. and the British goods only two thirds of that rate.

In the same year our imports of boots and shoes made of leather were valued at \$1,283,004, of which, under the general tariff, the United States supplied us to the value of \$1,214,353, and Great Britain, under the preferential tariff, \$63,052. In the same year we imported boots and shoes and slippers of all kinds, n.e.s., valued at \$100,340, of which Great Britain supplied us under the preferential tariff to the value of \$40,037; Hong Kong \$5,092; China, \$7,051; France, \$7,896; Germany, under the surtax tariff, \$10,595, and the United States, \$26,828, other countries supplying our requirements in smaller extent. In that year our total imports of footwear were valued at \$1,526,565, of which more than 90 per cent. or \$1,383,944 were from the United States.

In the same year Canadian manufacturers of boots and shoes were doing quite an export trade. The returns enumerate our exports of manufacturers of India rubber as valued at \$266,504, but the particulars of the exports are not given: but our exports of India rubber and other scrap were valued at \$205,636, of which \$204,922 was to the United States and \$714 to Great Britain.

Of boots and shoes made in Canada, in 1906, our exports were valued at \$133,792, Great Britain, under free trade, taking to the extent of only \$6,656, and the United States, under the McKinley tariff of 25 per cent. ad valorem, same as the Canadian tariff, \$24,806. Our best customers for our boots and shoes included Newfoundland, \$52,360; New Zealand, \$17,704, and British West Indies, \$12,922.

EDITORIAL NOTES.

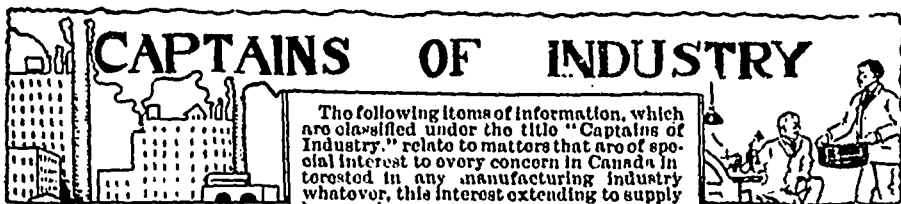
"Canada," a popular weekly published in London, England, under date of December 1, is a special engineering issue, which is one of the most interesting of this publication which we have seen. A pleasing feature of it is the appearance as advertisers of many British firms who have hitherto seemed indifferent regarding the advantage of making Canadian buyers familiar with their names and the merits of their product by advertising. It has been stated many times on the floors of the Canadian House of Parliament that a strong reason for the Canadian preference for many lines of United States goods over British, is the insistent advertising done by the Americans. It is, we repeat, a pleasing sign to note that British advertisers are becoming alive to this condition, and we trust that they will see the wisdom of continuing to give more attention to the Canadian market in this way. If they do, their business in Canada will show satisfactory expansion.

The Canadian postal authorities have abrogated the convention with the United States for the exchange of second-class mail matter, thereby making a beginning toward the settlement of an old dispute. Many years ago it was agreed by the Governments of the two countries that each should handle all the newspapers and other second-class mail matter, originating in the other country, free of charge. This arrangement operated decidedly to the disadvantage of Canada, for not only did the United States offer Canada ten times the weight of newspapers Canada offered the United States, but the Americans threw open their second-class to printed matter that in Canada was treated as advertising merchandise, and only carried at the rate of eight cents a pound. As it originated in the United States it came to Canada as second-class matter, and was carried at the rate of one cent or half a cent a pound, according to circumstances. This was regarded as giving the Americans a privilege in Canada from which Canadians themselves were excluded, and it allowed a flood of advertising matter to come in which had the effect of diverting a considerable quantity of trade which should go to Canadians, to firms on the other side of the line. Efforts to get the United

States authorities to change the second-class were not successful. It was therefore decided that Canada would cancel the convention after May 1 next. This will give the two countries an opportunity to make necessary changes in the classification of their second-class matter, and it is expected that an agreement will again be made for the exchange of newspaper mail matter on a more equitable basis. If the new agreement is not reached before the first of May all United States publications will pay postage of eight cents a pound to enter Canada, and Canadian publications will be at the same charge for admission to the United States.

The printed conditions for the guidance of architects in preparing competitive designs for the proposed new Departmental and Justice Buildings at Ottawa have been issued. As already announced, the new buildings will be composed of two groups, one for the Department of Justice and the other for the departmental purposes. The cost of the Justice building is not to exceed 35 cents per cubic foot, and that of the departmental building 30 cents per cubic foot. The competition is limited to Canadian architects who have been resident architects for a year or more. Each design must be accompanied by a declaration signed by the competitor to the effect that the design is his own, and that the drawings were prepared in Canada under his own supervision. Any style of architecture may be submitted, but it is suggested that some phase of Gothic would better harmonize with existing structures. The Departmental Building is to be five storeys above the basement on the Major's Hill Park side, and the total floor area 300,000 superficial feet. The Justice Building may be three or more storeys in height on the park side.

A stated case from G. M. Glenn, police magistrate of St. Thomas, Ont., came before Chief Justice Falconbridge of the Ontario High Court of Justice a few days ago. The crown had proceeded against Frank H. Ferguson, owner of a building in St. Thomas, charging him with not providing necessary sanitary necessities for the premises. Information was laid by James T. Burke, Ontario Inspector of Factories. The place is used as a tailor shop by Beal & Martin, who employ six men and eight women. Police Magistrate Glenn refused to record a conviction against Ferguson. The crown appealed, and was represented in the hearing by the Deputy-Attorney General. "In my opinion," says the magistrate, "a merchant tailor is not a manufacturer, within the meaning of the Ontario Factories Act." He further gives his definition of a manufacturer as "A person who produces goods from the raw state by manual skill and labor." A tailor, he says "merely cuts and fashions." The magistrate points out that "if the business carried on in this case can be said to be a clothing factory, the defendant is not the owner of the factory—Beal & Martin are the owners." He also refers to the fact that if the owner of the property went upon it, except to view repairs, he would be a trespasser.



The premises of the Canadian Folding Paper Box Co., Brantford, Ont., were damaged by fire December 8. Loss about \$2,000.

Mr. Adam Clark, plumber, Hamilton, Ont., has ordered a feed pump and receiver from The Smart-Turner Machine Co., Hamilton, Ont.

The premises of J. R. Myers, plumber, Stratford, Ont., were damaged by fire December 9. Loss about \$2,000.

The brick block owned by the Campbellford Despatch Printing Co., Campbellford, Ont., was destroyed by fire December 9.

Elevator D of the Canadian Pacific Railway Co., Fort William, Ont., was destroyed by fire December 6. Loss about \$135,000.

The building of the Owen Sound Advertiser, Owen Sound, Ont., was destroyed by fire December 6. Loss about \$1,000.

The Smart-Turner Machine Co., Hamilton, Ont., have received an order for a steam driven jib crane from the Laidlaw Bale Tie Co., Hamilton.

The car barns of the Galt, Preston & Hespeler Electric Railway Co., and the Preston and Berlin Railway Co., Preston, Ont., were destroyed by fire recently. Loss about \$150,000.

The Dominion Carbonic Co., Toronto, have been incorporated with a capital of \$40,000, to manufacture gas, chemicals, apparatus, machinery, etc. The provisional directors include H. W. Allen, Buffalo, N.Y.; J. J. MacLennan and A. A. Adams, Toronto.

The Calumet Cobalt Mining Co., Haileybury, Ont., have been incorporated with a capital of \$500,000, to carry on a mining, milling and reduction business. The provisional directors include J. F. Gillies, Haileybury, Ont., J. McKay, Sault Ste Marie, Ont., and J. F. H. McCarthy, Toronto.

Messrs. Barber & Bros., Georgetown, Ont., have placed an order with the Smart-Turner Machine Co., Hamilton, Ont., for a Duplex, outside packed plunger pump with pot valves.

The Norfolk County Telephone Co., Waterford, Ont., have been incorporated with a capital of \$40,000, to carry on the business of a telephone company. The provisional directors include S. L. Squite, P. G. Pearce, Waterford, Ont., and H. Bartholomew, County of Norfolk, Ont.

The Esperanza-Cobalt Mines Co., Windsor, Ont., have been incorporated with a capital of \$1,000,000, to carry on a mining, milling and reduction business. The provisional directors include W. E. Parker, F. S. Osborne, and A. M. Holden, Detroit, Mich.

Elliott-Fisher, Limited, Toronto, have been incorporated with a capital of \$40,000, to manufacture filing machines, book writers, office appliances, etc. The provisional directors include J. D. Montgomery, E. R. Lynch, and J. P. Crawford, Toronto.

Cobalt Silver Ores, Limited, Toronto, have been incorporated with a capital of \$1,000,000,

to carry on a mining, milling and reduction business. The provisional directors include J. R. L. Starr, J. H. Spence and J. M. Heat, Toronto.

The Smart-Turner Machine Co., Hamilton, Ont., have received an order for a duplex bronze liquor pump from D. Morton & Sons, Hamilton.

The McCann-Knox Milling Co., Toronto, have been incorporated with a capital of \$100,000, to manufacture cereals, food articles, etc. The provisional directors include W. McCann, J. E. Knox and J. N. Noble, Toronto.

The Latchford Silver Mining Co., Toronto, have been incorporated with a capital of \$100,000, to carry on a mining, milling and reduction business. The provisional directors include P. J. Montague, F. Pottage and F. N. Tennant, Toronto.

The Ross Cobalt Silver Mines Co., Cobalt, Ont., have been incorporated with a capital of \$1,500,000, to carry on a mining, milling and reduction business. The provisional directors include D. Ford, W. T. Ross, Montreal, and P. O'Reilly, Ottawa.

The expansion of Canada is the greatest event in the British Empire to-day.

—The London Times.

The Elgie & Jarvis Lumber Co., Toronto, have been incorporated with a capital of \$40,000, to manufacture lumber, timber, etc. The provisional directors include R. B. Elgie, J. B. Jarvis and E. P. Brown, Toronto.

The National Car Co., Toronto, have been incorporated with a capital of \$300,000, to manufacture cars, railway equipment and appliances, etc. The provisional directors include A. Stewart, T. H. Kilgore and J. L. Duncan, Toronto.

The Davis Leather Co., Newmarket, Ont., have ordered a standard duplex pump from the Smart-Turner Machine Co., Hamilton, Ont.

The Cuyahoga Silver Cobalt Mines, Toronto, have been incorporated with a capital of \$1,000,000, to carry on a mining, milling and reduction business. The provisional directors include H. S. Pritchard, G. C. Campbell and F. C. Jarvis, Toronto.

The Coniagas Mines, Limited, St. Catharines, Ont., have been incorporated with a capital of \$4,000,000, to carry on a mining, milling and reduction business. The provisional directors include H. S. Osler, M. L. Gordon and G. C. Loveys, Toronto.

The Southern Belle Cobalt Silver Mining Co., Cobalt, Ont., have been incorporated with a capital of \$1,000,000, to carry on a mining, milling and reduction business. The provisional directors include T. Langton, M. J. O'Neill and R. D. Irwin, Cobalt, Ont.

The ratepayers of Elmira, Ont., voted

favorably on a by-law to expend \$25,000 for a waterworks system.

The brick block owned by J. Livingstone, Listowel, Ont., was destroyed by fire recently.

J. McGrath, Toronto, will erect a three storey hotel on the corner of Sheridan and Dundas streets, at a cost of about \$10,000.

Messrs. Smallman & Ingram, London, Ont., will erect a five storey block of stores.

The Smart-Turner Machine Co., Hamilton, Ont., are supplying one of their double suction, centrifugal pumps to the Roberts Mfg. Co., Philadelphia, Pa.

Messrs. Walter Davidson & Co., Toronto, will erect a warehouse on Front Street at a cost of about \$19,400.

The Dominion Government will give grants of 30 per cent. of cost of cold storage plants throughout Canada or \$100,000 in all.

The United States Steel Co., may erect a factory on their site near Sandwich, Ont.

L. A. DeLaplante, Toronto, lumber merchant, is erecting a large warehouse and office at East Toronto, Ont.

The shops of the Grand Trunk Railway Co., Stratford, Ont., will be enlarged at a cost of about \$200,000.

Messrs. Morlock Bros., Guelph, Ont., will erect on addition to their factory at a cost of about \$18,000.

P. O'Connor, Richmond, Carleton County, Ont., will erect a large hotel there.

W. R. Telley, Peterborough, Ont., will erect a large brick building there.

The ratepayers of Amherstburg, Ont., will vote on a by-law to grant concessions to the Canadian Tanners, provided the company erect a two storey building 100x40 feet.

The Galt Malleable Iron Works, Galt, Ont., have placed an order for a 3½ ton travelling crane with the Smart-Turner Machine Co., Hamilton, Ont.

Pavements will be laid in Acton, Ont., at a cost of about \$4,000.

The ratepayers of Berlin, Ont., will vote on a by-law to raise \$4,500 for extension to the sewerage system.

The sewerage system will be extended and a pumping station erected at Brantford, Ont., at a cost of about \$40,000.

The ratepayers of Thornbury, Ont., will vote on a by-law to expend \$5,000 for cement pavements.

The ratepayers of London, Ont., will vote on a by-law to expend \$570,000 for additional water supply.

A new Oddfellows' Hall will be erected on Broadview Avenue, Toronto, at a cost of about \$10,000.

The Government have decided to erect life saving stations along the coast of Prince Edward Island.

The Bridge & Terminal Co., Owen Sound, Ont., are applying for incorporation and will construct a bridge over Owen Sound Bay.

The Smart-Turner Machine Co., Hamilton, Ont., are supplying one of their duplex outside packed pumps to the Stanley Smelting Co., Sydenham, Ont.

New Liskeard, Ont., will invite tenders for the erection of a new bridge over the Wahbi River. It will be a steel span for a bridge seventy-five feet long, driveway twenty-two feet, and a walk on each side five feet wide.

The Anima-Nipissing Silver Mines, Limited, Cobalt, Ont., have been incorporated with a capital of \$300,000, to carry on a mining, milling and reduction business. The provisional directors include W. Black, Sudbury, Ont., H. Donisthorpe, and J. Loudon, Cobalt, Ont.

The congregation of the Sherman Avenue Presbyterian Church, Hamilton, Ont., will erect a new edifice.

The parish of Our Lady of Lourdes Catholic Church, Toronto, will erect a new edifice corner of Winchester and Sackville Streets.

A technical School will be established at Hamilton, Ont.

The congregation of the Methodist Church, Meaford, Ont., will erect a church building at a cost of about \$18,000.

The Public School Board, Dresden, Ont., invite tenders up to December 28 for the construction of a ten room school building.

An eight room school building will be erected at Collingwood, Ont., at a cost of about \$18,000.

A gas lighting system will be installed at Millbrook, Ont.

The London Fence Co., London, Ont., have ordered a standard duplex pump, from the Smart-Turner Machine Co., Hamilton, Ont.

The Macdonald Mfg. Co., Toronto, will erect a four storey addition to their factory at a cost of about \$18,000.

Messrs. West, Taylor, Bickle & Co., Norwich, Ont., broom manufacturers, have moved their head office to Toronto, and will erect an extensive addition to their factory at Norwich.

The National Cement Co., Durham, Ont., will erect a storage building 250x50 feet.

The Canadian Pacific Railway Co. have decided to make London, Ont., their divisional headquarters for District No. 1.

Messrs. Button & Trevett, Lucknow, Ont., are asking a loan of \$4,000 to assist in erecting a new machine shop.

The factory of the Typograph Co., Windsor, Ont., was damaged by fire recently.

The Frank E. Walker Co., Hamilton, Ont., have purchased a site and will erect a five storey warehouse.

Thomas Ogilvie & Sons, wholesale woolen merchants, Aberdeen, Scotland, are erecting a five storey structure on the corner of Bay and Wellington Streets, Toronto, for their Canadian headquarters.

The Grand Trunk Railway Co. will erect a large hotel and depot at Ottawa.

The Grand Trunk Railway Co. have ordered a 20-ton electric transfer crane from the Smart-Turner Machine Co., Hamilton, Ont.

H. Weinberg, Toronto, will erect an apartment building at a cost of about \$35,000.

Messrs. Reitz & Stanford of the Rogers Mfg. Co., Toronto, who have secured the plant of the Goderich Engine Co., Goderich, Ont., request a loan of \$35,000 from the town. They will erect an addition to the building there.

The congregation of St. Peter's Lutheran Church, Berlin, Ont., will erect a Sunday School building.

The congregation of St. John's Presbyterian Church, Toronto, will erect a church and Sunday School building at a cost of about \$50,000.

The ratepayers of Woodstock, Ont., will vote on a by-law to raise \$10,500 for surface drainage.

The Smart-Turner Machine Co., Hamilton, Ont., have received an order from Geo. Oakley & Sons, Toronto, for a 10 ton hand power travelling crane.

The Grand Trunk Railway Co. will build a railway from Kingston, Ont., to Ottawa.

The Temiskaming and Northern Ontario Railway Co., Ottawa, are procuring rolling stock and equipment for the extension of the road to the junction of the Grand Trunk Pacific.

The Canadian Pacific Railway Co. will build a new line from Campbellsford, Ont., to Toronto, and will pass through all the chief towns between these points, entering the city further east than the Grand Trunk Railway line.

A large addition is being erected to the paper mills of Miller Bros., Glen Miller, Ont.

The electric plant, Ottawa, will be extended at a cost of about \$50,000.

The Ontario Iron & Steel Co. have placed an order for a No. 4 centrifugal pump, direct connected to an electric motor, with the Smart-Turner Machine Co., Hamilton, Ont.

The ratepayers of North Toronto, Ont., will vote on a by-law to expend \$10,000, for incandescent lighting.

The new Y.M.C.A. building to be erected in Ottawa will be 120x95 feet and five storeys high.

Messrs. C. Ormsby & Co., Toronto, have been incorporated with a capital of \$50,000, to manufacture metal roofing, sheeting, etc. The provisional directors include C. E. Ormsby, V. J. Cook and G. A. Gram, Toronto.

Purdy Mansell Limited, Toronto, have been incorporated with a capital of \$100,000, to manufacture sprinklers, gas stoves, electric fixtures etc. The provisional directors include A. S. Purdy, C. P. Mansell and D. Glynn, Toronto.

The Smart-Turner Machine Co., Hamilton, Ont., are supplying one of their standard duplex pumps to Wallace & Sturtevant, Bessemer, Ont.

The Lisheard Light, Heat & Power Co., New Lisheard, Ont., have been incorporated with a capital of \$200,000, to carry on an electric light and power business. The provisional directors include K. Farah, J. Armstrong, and J. J. Grills, New Lisheard, Ont.

The Brown Co., Elora, Ont., have been incorporated with a capital of \$40,000, to manufacture furniture, etc. The provisional directors include J. D. Brown, U. Richardson, and A. Hobbs, Elora, Ont.

The Standard Instrument & Chemical Co., Toronto, have been incorporated with a capital of \$40,000, to manufacture chemicals, dental and surgical instruments, etc. The provisional directors include J. D. Spence, G. A. Walker and A. Clark, Toronto.

The Safety Door Hanger Co., Hamilton, Ont., have been incorporated with a capital of \$40,000, to manufacture door hangers, hardware, etc. The provisional directors include J. W. Nesbitt, J. G. Gauld and J. Dickson, Hamilton, Ont.

The Baxter Oil Co., Thamesville, Ont., have been incorporated with a capital of

\$50,000, to carry on a mining, milling and reduction business. The provisional directors include J. W. Baxter, J. Dea., and J. H. Thomas, Pittsburg, Pa.

The corporation of Bracebridge, Ont., have ordered a triplex power pump from the Smart-Turner Machine Co., Hamilton, Ont.

The Union Standard Furnace Co., Toronto, have been incorporated with a capital of \$100,000, to manufacture stoves, ranges, furnaces, radiators, pipes, etc. The provisional directors include C. A. Ryerson, C. L. Rosevear and G. M. Arnold, Toronto.

The Nipissing Construction Co., Toronto, have been incorporated with a capital of \$40,000, to carry on a general contracting and constructing business. The provisional directors include J. W. Bain, G. B. Strathy and R. R. Perry, Toronto.

The Ore Contracting Co., Bessemer, Ont., have been incorporated with a capital of \$40,000, to carry on a mining, milling and reduction business. The provisional directors include G. W. Wallace, Detroit, Mich., H. B. Sturtevant, Delavan, Wis., and F. Pottage, Toronto.

The Smart-Turner Machine Co., Hamilton, Ont., are supplying the Georgian Bay Lumber Co., Waubaushene, Ont., with one of their duplex outside packed plunger pumps with pot valves.

The Cobalt-Bullion Mines, Haileybury, Ont., have been incorporated with a capital of \$1,000,000, to carry on a mining, milling and reduction business. The provisional directors include A. T. Budd, Haileybury, Ont., H. P. Glidden, Cobalt, Ont., and J. MacKay, Renfrew, Ont.

The Clifton Sand, Gravel & Construction Co., St. Catharines, Ont., have been incorporated with a capital of \$250,000, to manufacture stone, gravel, gas, oil, etc. The provisional directors include P. I. Price, H. Yale and G. F. Peterson, St. Catharines, Ont.

Ballantyne's, Limited, Stratford, Ont., have been incorporated with a capital of \$200,000, to manufacture goods, wares, merchandise, etc. The provisional directors include P. M. Ballantyne, Montreal, W. W. Gray and K. C. Turnbull, Stratford, Ont.

A. A. Barthelmes & Co., Toronto, have ordered a standard duplex pump from the Smart-Turner Machine Co., Hamilton, Ont.

The Northland Mining Co., London, Ont., have been incorporated with a capital of \$250,000, to carry on a mining, milling and reduction business. The provisional directors include T. H. Smallman, G. H. R. Harris and G. S. Gibbons, London, Ont.

The Algoma Steel Bridge Co., Sault Ste. Marie, Ont., have been incorporated with a capital of \$40,000, to manufacture and erect steel bridges, etc. The provisional directors include A. B. Hillier, Sault Ste Marie, Mich., A. Y. Bayne and C. L. Brown, Minneapolis, Minn.

The Smart-Turner Machine Co., Hamilton, Ont., are supplying the Collingwood Ship-building Co., Collingwood, Ont., with one of their duplex pumps for boiler feeding, also a duplex sanitary pump.

The British-American Cobalt Mines, Toronto, have been incorporated with a capital of \$3,000,000, to carry on a mining, milling and reduction business. The provisional di-

Directors include J. Black, Cobalt, Ont., A. G. F. Ross, Montreal, and J. S. Booth, Toronto.

The Canadian Steam Boiler Equipment Co., Limited, Toronto, have removed from 75 Adelaide Street West to 36-38 Lombard Street, Toronto. This company, under the management of Mr. Durst, is steadily increasing its business connections.

The Economic Light, Heat & Power Co., Toronto, have sold a 110 h.p. producer gas plant to the Brantford Screw Co., Brantford, Ont.

Messrs. Douglas Bros., Toronto, have been incorporated with a capital of \$50,000, to manufacture sheet metal, roofing, etc. The provisional directors include T. Douglas, E. Hogan and F. E. Neal, Toronto.

The Walkerville Carriage Goods Co., Walkerville, Ont., have been incorporated with a capital of \$10,000, to manufacture carriages, vehicles, etc. The provisional directors include T. E. Crocker, F. H. Galusha and H. W. Acason, Detroit, Mich.

Messrs. Richard Hall & Son, Peterborough, Ont., have been incorporated with a capital of \$150,000, to manufacture goods, wares, merchandise, etc. The provisional directors include R. Hall, S. D. Hall and R. H. Ross, Peterborough, Ont.

The Canadian Clothes Pin Mfg. Co., Arnprior, Ont., have been incorporated with a capital of \$40,000, to manufacture lumber, timber, boxes, barrels, clothes-pins, etc. The provisional directors include W. M. Howe, W. A. Cameron and S. R. Rudd, Arnprior, Ont.

The Cobalt Silver Prince, Limited, Cobalt, Ont., have been incorporated with a capital of \$1,000,000, to carry on a mining, milling and reduction business. The provisional directors include S. D. Maddin, Cobalt, Ont., D. Crawford and H. Campbell, New Liskeard, Ont.

The Cobalt Chief Silver Mining Co., Toronto, have been incorporated with a capital of \$600,000, to carry on a mining, milling and reduction business. The provisional directors include J. W. McDonald, G. J. Valin and T. Brown, Toronto.

The Vulcan Co., London, Ont., have been incorporated with a capital of \$100,000, to manufacture furnaces, stoves, etc. The provisional directors include R. W. Shaw, J. W. Hyman and E. W. M. Flock, London, Ont.

The Cobalt Bloom Newspaper Co., Cobalt, Ont., have been incorporated with a capital of \$40,000, to carry on a printing and publishing business. The provisional directors include J. A. MacMurchy, F. B. Mesure and J. C. Ritchie, Toronto.

The Old Chap Mining Co., Cobalt, Ont., have been incorporated with a capital of \$1,000,000, to carry on a mining, milling and reduction business. The provisional directors include W. H. Francis, F. W. Libby and R. C. Coan, Cobalt, Ont.

The Algoma Custom Smelting & Refining Co., Sault Ste. Marie, Ont., have been incorporated with a capital of \$250,000, to carry on a mining, milling and reduction business. The provisional directors include J. Hermann, Calumet, Mich., W. H. Green, Marquette, Mich., and A. Dunsmore, St. Benedict, Pa.

The Stellar Silver Cobalt Corporation, Sudbury, Ont., have been incorporated with a capital of \$1,000,000, to carry on mining,

milling and reduction business. The provisional directors include J. F. Black, J. H. Morin and C. McCrae, Sudbury, Ont.

The Delany & Pettit Sand Paper Co., Toronto, have been incorporated with a capital of \$50,000, to manufacture sand paper, carborundum, emery, corundum, etc. The provisional directors include C. Delany, Philadelphia, Pa., C. S. Pettit and F. W. Burke, Toronto.

The Anthony Blum Gold Mines, Toronto, have been incorporated with a capital of \$100,000, to carry on a mining, milling and reduction business. The provisional directors include J. G. Shaw, J. Montgomery and J. G. Strong, Toronto.

The Coleman & Quebec Mining Co., Ottawa, have been incorporated with a capital of \$1,000,000, to carry on a mining, milling and reduction business. The provisional directors include D. O'Connor, R. Masson and J. Wilson, Ottawa.

The Electric Publishing Co., Toronto, have been incorporated with a capital of \$40,000, to carry on a printing and publishing business. The provisional directors include G. P. McGinn, P. F. Cronin and T. L. Monahan, Toronto.

The St. Paul Cobalt Mining Co., Cobalt, Ont., have been incorporated with a capital of \$600,000, to carry on a mining, milling and reduction business. The provisional directors include A. G. Terrill, S. F. Nelson and C. M. Landon, Cobalt, Ont.

The Dufferin Silver Cobalt Mining Co., Ottawa, have been incorporated with a capital of \$1,000,000, to carry on a mining, milling and reduction business. The provisional directors include J. A. Helmer, J. E. Hutcheson, and E. A. Larmouth, Ottawa.

The Gundy-Clapperton Co., Toronto, have been incorporated with a capital of \$40,000, to manufacture cut glass, silver, jewelry, etc. The provisional directors include N. F. Gundy, H. G. Clapperton and W. H. Wise, Toronto.

The Berlin Electrical Mfg. Co., Toronto, have been incorporated with a capital of \$50,000, to manufacture tools, machinery, gasoline engines, etc. The provisional directors include E. D. Brand, L. Pollock and W. M. Cram, Berlin, Ont.

The Dominion Heating & Ventilating Co., Hesper, Ont., have been incorporated with a capital of \$40,000, to manufacture iron, brass, machinery, etc. The provisional directors include E. M. Nally, W. J. Irving and M. A. Secord, Galt, Ont.

The Canadian Hardware Mfg. Co., Toronto, have been incorporated with a capital of \$50,000, to manufacture machinery, hardware, etc. The provisional directors include W. S. Harrison, W. H. Alderson and W. J. McManus, Toronto.

Messrs. Boulter, Davies & Co., Toronto, have been incorporated with a capital of \$100,000, to manufacture boots, shoes, rubbers, etc. The provisional directors include A. Bicknell, J. W. Rain and G. B. Strathroy, Toronto.

The Iroquois Pipe Lime Co., Chatham, Ont., have been incorporated with a capital of \$100,000, to produce electricity, light, heat and power. The provisional directors include W. E. Woodruff, J. T. O'Keefe, Chatham, Ont., H. D. Symmes, Niagara Falls, Ont.

The Canadian Druggists Syndicate, London, Ont., have been incorporated with a capital of \$40,000, to manufacture drugs, chemicals, medicines. The provisional directors include J. E. Sutton, London, Ont., G. A. Inouson, Ingersoll, Ont., and W. T. Rapley, Strathroy, Ont.

Canada Pulverizer, Limited, Toronto have been incorporated with a capital of \$100,000, to manufacture grinding, reduction and pulverizing machinery, etc. The provisional directors include J. N. Lewis, Ann Arbor, Mich., J. N. Leslie and S. H. Bradford, Toronto.

The office of the Ingersoll Packing Co., Ingersoll, Ont., was destroyed by fire December 13. Loss about \$4,000.

The premises of Matthew Towers & Co., manufacturers furnishings, Canadian Underwear Co., Dreyfus Importing Co., bookbinders, Thomas May & Co., wholesale dry goods, Yorkshire Importing Co., and the canning factory of M. C. Galarneau, Montreal, were destroyed by fire December 9. Loss about \$400,000.

The Canadian Northern Railway Co. have awarded contracts for over \$4,500,000. They include 75 locomotives, 2,015 freight cars, and 59 passenger, sleeping, dining and parlor cars. In addition to this, they are now negotiating for 525 more freight cars at an estimated cost of \$537,000, bringing the total cost of the new equipment up to \$4,825,000, all for 1907 delivery. The Rhodes Curry Co., Amherst, N.S., have the contract for 1,500 cars and 22 passenger and baggage cars. The balance of the equipment has been awarded to the Crossen Car Co., Cobourg, Ont., and the Canada Car Co., Montreal.

The premises of the Excelsior Cloak Mfg. Co. and several adjoining buildings, Montreal, were damaged by fire December 3. Loss about \$100,000.

The Canadian Pacific Railway Co. have purchased the power plant of the Capital Power Co., Deschenes, Que., for the sum of \$240,000.

The United Photographic Stores, Limited, Montreal, have been incorporated with a capital of \$100,000, to manufacture photographic supplies, typewriters, carbon paper, etc. The charter members include C. P. Rice, V. R. H. Johnston and W. E. Gladwish, Montreal.

The H. R. Richey Co., Montreal, have been incorporated with a capital of \$20,000, to manufacture gas and electrical supplies, machinery, etc. The charter members include H. R. Richey, C. H. Richey and G. W. Elliott, Montreal.

The Montreal Brewing Co., Montreal, will extend their plant at a cost of about \$30,000.

The Canadian Pacific Railway Co. will erect an addition to the Chateau Frontenac, Quebec, Que., at a cost of about \$1,000,000.

The Grand Trunk Railway Co. are being petitioned to erect a new station at Lachine, Que.

The Montreal Park and Island Railway Co., Montreal, will build many miles of new track during the coming year.

The Quebec Railway, Light & Power Co., Quebec, Que., are installing a new storage battery, which will give an additional 600 horse power.

The premises of the Belmont Hotel, Ste. Agathe, Que., were destroyed by fire. Loss about \$15,000.

The Catholic School Board, Montreal, have acquired the school property in St. Joseph's parish on which they will erect a school building.

The Canadian Pacific Railway Co. will build a double track from Vaudreuil, Que., to Smith's Falls, Ont.

Public Works Department, Ottawa, invite tenders up to January 7 for the construction of a pier at Doucet's Landing, Que.

The Lake Champlain & St. Lawrence Ship Canal Co., Montreal, have been organized with a capital of \$3,000,000, for the purpose of making a short waterway to give direct connection from Montreal to New York. S. H. Ewing, Montreal, is interested.

A new town hall will be erected in Westmount, Que.

The Montreal Dispensary, Montreal, are asking \$10,000 to expend in remodelling their premises.

B. Quinn, Windsor Mills, Que., is erecting a saw mill.

Messrs. D. Rattray & Sons, Montreal, have been incorporated with a capital of \$500,000, to manufacture syrup, wines, liquors, etc. The charter members include D. Rattray, Quebec City, D. J. Rattray, and J. Lafave, Montreal.

The spice mill of Messrs. T. Lefebvre & Co., Montreal, was damaged by fire December 16. Loss about \$30,000.

The Dominion Marble Co., Montreal, have been incorporated with a capital of \$50,000, to manufacture minerals, machinery, implements, etc. The charter members include F. A. Johnson, R. T. Hopper and F. H. Markey, Montreal.

The Shedrick Rigby Co., Montreal, have been incorporated with a capital of \$20,000, to manufacture machinery, electric appliances etc. The charter members include C. E. Shedrick, J. S. Rigby and P. C. Ryan, Montreal.

The Valleyfield Cobalt Mining Co., Valleyfield, Que., have been incorporated with a capital of \$1,000,000, to carry on a mining, milling and reduction business. The charter members include T. Belanger, O. P. Prieur, and J. Cossette, Valleyfield, Que.

The Mount Royal Color & Varnish Co., Montreal, have been incorporated with a capital of \$100,000, to manufacture paints, oils, colors, varnishes, glue, gasoline, etc. The charter members include H. Lamontagne, N. Morency and H. Lapierre, Montreal.

An addition will be erected to the Barker House, Fredericton, N.B.

The congregation of the Presbyterian Church, St. John, N.B., will erect a new edifice at a cost of about \$50,000.

The premises of the Commercial Hotel, Campbellton, N.B., were destroyed by fire recently. Loss about \$9,500.

The congregation of the German Street Baptist Church, St. John, N.B., will erect an addition to their church.

It is stated that the Canadian Pacific Railway Co. will erect an overhead bridge over the Fairville Crossing, St. John, N.B.

The Saunderson Mfg. Co., who were organized at Sydney, N.S. some months ago, have had their plant in operation for the past three or four weeks. They already have large orders from different parts of the province.

The Boot & Shoe Co., Amherst, N.S., will erect an addition to their plant.

The offices, drafting room and a portion of the machine shop of the Robb Engineering Co., Amherst, N.S., were destroyed by fire recently. Loss about \$25,000.

The hall of the Knights of Pythias, and several adjoining buildings, Londonderry, N.S., were destroyed by fire recently. Loss about \$20,000.

An electric light system will be installed in Wolfville, N.S., at a cost of about \$15,000.

The forge building of the Nova Scotia Steel & Coal Co., New Glasgow, N.S., was destroyed by fire December 16.

The Intercolonial Railway Co. will invite tenders for motor cars for their branch lines in Prince Edward Island.

The Manitoba Cartage & Warehousing Co., Winnipeg, Man., are applying for authority to increase their capital from \$150,000 to \$250,000.

The Winnipeg Ceiling & Roofing Co., Winnipeg, Man., have applied for increase of capital to \$100,000.

The Canada Lighting Fixtures, Limited, Winnipeg, Man., have been incorporated with a capital of \$100,000, to manufacture electric motors, dynamos, machinery, lighting fixtures, tools, etc. The provisional directors include J. Stuart, R. H. Mainer and E. C. White, Winnipeg, Man.

The Provincial Government have granted \$125,000, to Winnipeg, Man., and St. Boniface, Man., for the building of a bridge between the two cities.

The boiler room of the repair shops of the Canadian Northern Railway Co., Winnipeg, Man., was destroyed by fire recently. Loss about \$7,000.

The ratepayers of Boissevain, Man., are considering the installation of a waterworks and sewerage system at a cost of about \$115,000.

The Western Rubber & Apparatus Co., Winnipeg, Man., have been incorporated with a capital of \$25,000, to manufacture rubber goods, fire apparatus, etc. The provisional directors include R. M. McLeod, A. A. Andrews, and J. H. Anderson, Winnipeg, Man.

The G. W. Murray Co., Winnipeg, Man., have been incorporated with a capital of \$200,000, to manufacture lumber, timber, etc. The provisional directors include G. W. Murray, G. M. Elliott and E. Newell, Winnipeg, Man.

The Fire, Water and Light Committee, Winnipeg, Man., invite tenders up to December 31 for supply of water pipe and specials, gates, hydrants, etc.

Messrs. W. R. Noble & Co., Winnipeg, Man., have been incorporated with a capital of \$20,000, to manufacture jewelry, jewelers' tools, etc. The provisional directors include D. F. Clark, H. W. Read and W. R. Noble, Winnipeg, Man.

The Northern Coal & Coke Co., Winnipeg, Man., have been incorporated with a capital of \$1,000,000, to manufacture coal, coke, oil, gas, etc. The provisional directors include J. S. Hough, A. C. Ferguson and C. Williams, Winnipeg, Man.

The Manson-Campbell Co., and the Chatham Carriage Works, Chatham, Ont., will

erect a large warehouse in Saskatoon, Sask., with a frontage of 150 feet.

The Lineham Lumber Co., has been organized at High River, Alta., to manufacture lumber, timber, etc.

The Hamilton Separator Co., Hamilton, Ont., have purchased a site in Edmonton, Alta., and will erect a new factory and warehouse.

The builders have now finished work on the new grist mill of the Farmers' Milling & Elevator Co., Prince Albert, Sask. The structure is of solid brick, on a concrete foundation, and is four storeys high. The inside measurement of the main building is 56x35 feet, and this, with the one-storey engine house, gives the mill a total floor space of approximately 8,000 square feet. The mill will for the present have a capacity of 200 barrels per day, but ample room is provided for the installing of additional machinery, which will double the output, as soon as business warrants.

The Smart-Turner Machine Co., Hamilton, Ont., are supplying the Hill Crest Coal & Coke Co., Frank, Alta., with one of their standard duplex pumps.

The oil house of the Canadian Northern Railway Co., North Battleford, Sask., was destroyed by fire recently.

The premises of the Trop Laundry, Edmonton, Alta., were destroyed by fire recently.

Calgary, Alta., invites tenders up to December 31 for cement lead pipe, cast iron water pipe, sewer pipe, etc., for the waterworks.

The Wascana Hotel, Regina, Sask., was destroyed by fire recently. Loss about \$100,000.

The Public Works Department, Ottawa, invite tenders up to December 27 for the construction of a heating system for the immigration building, Edmonton, Alta.

The Fraser River Sawmills Co., New Westminster, B.C., have taken an option on a large block of land on Vancouver Island.

The Elk Lumber Co., Fernie, B.C., have closed their mill for the winter. Work will be commenced shortly on improvements to the power plant, large boilers being put in and other improvements made.

A. D. McDonald, Calgary, Alta., is erecting a lumber mill near Fernie, B.C.

A new hospital will be erected in New Westminster, B.C., at a cost of about \$50,000.

The Steger Canadian Sand Brick Co., who have just been organized, at Vancouver, B.C. with a capital of \$100,000, will enter largely into the manufacture of Steger brick.

Mrs. J. Anderson, Victoria, B.C., will erect a six storey hotel there.

The Majestic Wire Fencing Co., Detroit, Mich., will erect a factory at Victoria, B.C. for the manufacture of concrete reinforcements at a cost of about \$40,000.

The premises of the Marine Iron Works Co., Victoria, B.C., were damaged by fire to the extent of about \$5,000.

A charter has been secured to build a ten mile tunnel under Belle Isle straits to connect Newfoundland with Canada. The franchise allows 20 years for its construction and the Newfoundland government will contribute \$75,000 annually for the work.

FINANCIAL.

The Northern Bank have opened a branch at High River, Alta.

A branch of the Imperial Bank has been opened at Athabasca Landing, Alta.

The Union Bank of Canada purposes opening a branch in Vancouver, B.C., about February 1.

The Imperial Bank has purchased a lot in North Battleford, Sask., and will erect an office building.

A site has been secured by the Royal Bank of Canada in Dalhousie, N.B., and a bank building will be erected thereon.

The Canadian Bank of Commerce have opened a branch at Delorimier, near Montreal, Que.

The Bank of Montreal have purchased a site in Saskatoon, Sask., and will erect a bank building.

The Crown Bank have recently opened a branch at Mallorytown, Ont., also on Spadina Avenue, Toronto.

The Canadian Bank of Commerce have opened branches at Watson and Wadena, Sask., and Bawlf, Alta.

The Canadian Bank of Commerce have secured a site in Wingham, Ont., and will erect a bank building.

Messrs. J. M. Sinclair, O. A. Stone, F. F. Rogers, W. C. Tolton and H. Brann, Toronto, desire to be incorporated as the Manufacturers' Bank of Canada.

PERSONALS.

K. L. Aitken, Consulting Electrical Engineer, has moved his office from 164 Bay Street to 1033 Traders Bank Building, Toronto.

BEGINNING MECHANICAL VENTILATION AND HEATING.

The history of heating and ventilating engineering in this country commences with Joseph Nason, who, upon his return from England in the latter part of 1842, began the introduction into this country of the Perkins system of hot-water heating, with which Mr. Nason was thoroughly familiar, having been for some years, while in England, in the employ of Mr. Perkins, writes R. T. Crane in the Valve World.

In 1846 a radical departure in the method of heating—in this country at least—was made by the warming of the Boston custom-house by means of mechanical propulsion of air. A large coil of three-quarter inch pipe was massed in the basement, and from it to the several registers were run ducts of sufficient capacity to carry the warmed air. This plan of warming, while not new in France, was entirely novel in this country, and was the beginning of all subsequent systems in which fans were employed for distributing air. The fact that this plan of warming had already been employed in France does not detract from the credit due to Mr. Nason, as there is no evidence that, while abroad he went to France, and it is highly probable that he was not familiar with the progress that had been made in that country.

In 1855, in which year extensive altera-

tions of and additions to the United States Capitol at Washington were in progress, Mr. Nason, at the request of General Meigs, then in charge there, went to Washington and planned a system of ventilating and heating for the Capitol. This was the first really scientific and complete job of the kind done in this country. Mr. Nason, as this job at the Capitol shows, had a thorough knowledge of the business as it was then well known, and was at the time unquestionably the best informed and most experienced person on heating and ventilating in the United States.

The apparatus installed under Mr. Nason's direction consisted primarily of a heating surface of wrought-iron pipe, over which air was forced by means of two specially designed centrifugal fans, and conducted through ducts to the rooms to be heated and ventilated.

This plan of having a large amount of heating surface located in one place and the air blown through it, the heated air being then conducted to such places as it was needed, was for some years the favorite mode of heating. Some years after a job of this kind was put in the new post office at Washington. It was also placed in several insane asylums.

In the late fifties B. F. Sturtevant began his work in Boston, Mass., which eventually led to his building up the largest blower business in the world. In the course of ten years he developed the blower and its uses to such an extent that it became a recognized factor in satisfactory ventilation. He replaced the United States Capitol fans with others of more modern design, and about 1870 entered the market with a unit combination of fan and steam heater. From the somewhat crude design of that day has been evolved the present type of fan blower heating apparatus to be found in every important public building and in thousands of industrial plants throughout the world.

AN IMMENSE IRON ORE DEPOSIT IN ONTARIO.

The discovery of one of the most remarkable hematite deposits in Canada, containing, according to conservative estimate, some 200,000,000 tons of high-grade iron ore, is announced from Port Arthur, Ont. This deposit lies about 20 miles to the north-east of Port Arthur, the area averaging about three miles in width and six miles in length, and comes within 1,000 feet of the shore of Lake Superior. It reaches back to the Canadian Pacific Railway, which here is about three miles from the shore.

This deposit lies in sheet formations, much of it is without covering, and all of it can be quarried, no underground work being required. Nearly 100 test pits have been sunk over the property, which amounts to nearly 10,000,000 acres, and tests have shown a thickness of stratified vein running from 3 to 35 feet, and some of the deeper pits do not even penetrate through the ore.

There are many places on the property, it is said, where a high-grade Bessemer blue hematite is exposed for acres, and with the exception of trap dikes, which penetrate through the strata in places, there seems to be no place where the ore does not show up within a few feet of the surface.

This discovery is believed to be the largest

body of accessible high-grade ore outside of the holdings of the United States Steel Corporation, and is the only known large body of high-grade Bessemer hematite in Canada. Until recently all this property was divided into small holdings, but now it has been gathered into one ownership or control.

The Canadian Northwest promises in the near future to be a magnificent market for iron and steel products, and much of this newly discovered ore some day will be manufactured into such products on the shore of Thunder Bay. Already a blast furnace of the first class is near completion at Port Arthur. Coal can be taken from lake ports as return freight at an expense not exceeding 25 cents per ton.

The grade of this ore is said to be equal to the best of the Superior district, running as high as 70 per cent. in metallic iron, far within the Bessemer limit on phosphorus and with barely a trace of sulphur. A further valued feature is the absence of moisture, the water amounting to only 1 per cent. in these ores against 8 to 10 per cent. in those of the Mesaba district, in Minnesota. A safe assumption would put the average iron content at 55 per cent., which should be equivalent to 60 per cent. of the wet ores of Mesaba.

Development work is now in progress, and plans are being laid for the building of an ore dock at Port Arthur, to be ready for operation on May 1, 1907. The ore will be quarried out of the face and carried to a crusher by aerial cable. From the crusher a light railway will convey the ore to the chutes on the dock, from whence it will be delivered directly to the vessel alongside. The plant is being designed with a tonnage capacity of 3,000 tons a day of 10 hours, and with loading capacity of 6,000 tons every 24 hours, which will mean that a vessel will remain at the dock only one day.

Work will be begun on the ore nearest the lake so that the workings will drain the country above as they proceed. The land rises in a slope of about 2 per cent. from the lake to the railroad, so that there is a gravity down haul to the dock from the workings at all parts of the property. A special estimate shows that the cost of quarrying the ore, crushing and putting in the vessel will not exceed 75 cents a ton, including stripping, or with a royalty added of 25 cents the cost in the vessel will be \$1. Most of the ore will be sold to Canadian furnaces, which are now buying high-grade ores from the Minnesota district.

On account of the bounty they will give the Canadian ores preference, and advantage is also had in the fact that Thunder Bay is 28 hours nearer the Soo than Duluth. There will also not be the \$0 cents freight a ton to pay that the railroad has charged for bringing the Mesaba ores to the lake shore, and as competing with the recently purchased Hill ores there will also be the saving of the heavy royalty charged by the Northern Pacific. Altogether, there should be a difference of some \$2 a ton average advantage over the Minnesota ores, so that even if ores were imported into this country the duty of 40 cents a ton could be easily paid.

The harbor facilities are not surpassed, the water being 30 to 40 feet deep within easy

distance of the shore, and protected by the natural breakwater in the form of Carriboo Island, a mountainous island two miles in length, extending half way across the head of Thunder Bay.

CANADA'S ZINC SUPPLY.

The report of the commission appointed by the Dominion Government to investigate the zinc resources of British Columbia and the conditions affecting their exploitation has just been issued. Walter Renton Ingalls, of New York, was appointed chief of staff, with Phillip Argall, M.E., of Denver, Col., and A.C. Carde, of Nelson, B.C., as his assistants. Dr. A. E. Barlow and Joseph Keele of the geological survey of Canada was associated with them and were detailed to investigate the undeveloped zinc deposits.

The investigation covered an examination of the development of the mines, of the methods of milling, of the adaptability of the ores to the new methods of concentration, marketing of the concentrate, including the question of smelting in the province and elsewhere and the possibility of special utilization of the zinc ore of high silver content.

The commission ascertained that zinc in large commercial quantities can be produced in British Columbia. The tonnage immediately available in the Ainsworth and Slocan districts was estimated to be approximately 30,000 tons of A1 zinc content of 50 per cent. corresponding to a production of upward of 12,000 tons of spelter ore or about four times the present consumption of the Dominion. Mr. Ingalls says a large portion of zinc ore or spelter produced in the Dominion will be exported.

The American tariff of 1.5 cents a pound prohibits export of spelter, and besides, the United States exports spelter. The greater part of spelter produced in Canada must be marketed in Europe. The prospects are with the employment of correct methods of milling, etc., that a stable zinc industry capable of meeting the wants of the Dominion for a long time will be established. The cost of mining was placed at \$250 for every ton of material taken from two of the largest mines.

At the present time an imperfect knowledge of the classes of ore dealt with was the cause of some of the mills, which were formerly operated in British Columbia, shutting down. If the details set forth in the report are followed these mills can resume business at a profit. Several business schemes for milling are set forth in the report.

The report also shows that the zinc ores of British Columbia can be highly concentrated by magnetic treatment, zinc concentrate in every case assaying upward of 40 per cent. zinc, in many cases 50 per cent. and in a few cases as high as 57 per cent. zinc.

In regard to marketing, it appears that up to 1905 the production of zinc ore in British Columbia was about 11,000 tons, which was chiefly exported to the United States, a small quantity being sent to Europe. Since the establishment of Canadian smelting works at Alberta, Canada has entered the market for these ores. The market is governed by the prevailing price of spelter at London and New York.

Accordingly, the London and New York

prices, together with the freight rates to the destined points, must be considered in determining where the ores shall be marketed to the best advantage. Another fact to be borne in mind is that the British Columbia ores, going to the United States are subject to a duty of 20 per cent. ad valorem, whereas no duty is imposed on these ores imported into Europe.

The question of smelting in British Columbia or elsewhere in Canada is minutely treated in the report. So far as fuel is concerned, British Columbia or Alberta is better situated for smelting than are the zinc smelters of the United States, for the reason that coal can be procured in either of the provinces named for between \$1 or \$2 a ton, a much lower price than can be obtained in the adjoining republic. And since one ton of ore requires approximately two tons of coal for smelting, it is no small item to be considered.

On the other hand, the cost of labor in the United States is somewhat cheaper than in Canada, and the former country also enjoys the advantage of already possessing skilled workers, while this country has yet to produce trained men. The investigation of this phase of the subject by the commission has demonstrated that the smelting of zinc ores is commercially feasible in Canada.

The high silver zinc ores, the report declares, are commonly considered not as material for the zinc smelters, but for the silver lead smelters to whom they are disposed of.

HOW TO TELL IF A GREASE OR OIL CONTAINS GRAPHITE.

Of late we have frequently been asked if there is any method of telling whether a grease or oil contains graphite.

We know of no method more simple or more thorough than to take a small quantity of any such grease or oil and put in on white blotting paper, says Graphite. The blotting paper will absorb the oil or grease while the graphite will remain on the outside.

To hasten the matter the oil or grease may be rubbed into the blotting paper with the finger.

Another way is to use a piece of filtering paper and if necessary warm the oil or grease. The paper will filter out the oil or grease and leave behind the graphite.

By this method it would be determined just how much graphite the oil or grease contains and it would also be determined whether the graphite is the flake or amorphous graphite, and often it would be determined if the oil or grease contains impure or gritty graphite.

HAVE ESTABLISHED CANADIAN BRANCH.

In order to cope with increasing Canadian business the Williams Gauge Co., Pittsburg, Pa., have found it advisable to open a branch factory in Montreal. This firm have been for some time represented in Montreal, their office being in the Temple Building. The new factory is to be located at 24 St. Peter Street, where they will manufacture Williams' steam specialties, safety feed water regulators, steam pump governors, high pressure steam traps, water gauges and gauge cocks. This factory, as well as the selling force, will now be under the management of Mr. William N. Courtenay.

AIR COMPRESSOR LUBRICATION.

One of the dangers in air compression, says Engineering Magazine, which has not been fully recognized until within a quite recent period, is the liability to explosion in air compressor cylinders when the heat of compression is caused to exceed the flashing-point of the oil used for cylinder lubrication. Several more or less serious accidents of this nature have been recorded within a period of three or four years.

With this statement in mind, and with an abundance of data to draw from, the Joseph Dixon Crucible Co., Jersey City, N.J., draw attention to the many striking advantages of Dixon's Ticonderoga flake graphite as a cylinder lubricant for air compressors.

Among other features Ticonderoga flake graphite is unaffected by high temperatures. It cannot be "carbonized" or ignited. It cannot possibly give off explosive vapors. It will not accumulate dust or grit. It does not clog discharge valves. It allows a great reduction of oil supply. It avoids the danger of receiver explosions. It improves piston fit and lowers friction. It saves oil, repairs, trouble and money.

A wealth of interesting data and information on the subject of air compressor and air drill lubrication is presented in a 24 page pamphlet, which is sent free of charge to all who are interested in the subject.

WILL ENLARGE THEIR WORKS.

On account of the growth and development of the business of the "Ideal" Concrete Machinery Co., South Bend, Ind., they have found it necessary to vacate their present factory building, and have leased the plant formerly occupied by the Bissel Plow Co., which will give them three times their present floor space, and other facilities which will materially assist in promptly taking care of the ever increasing demand for "Ideal" concrete machines.

THE A B C OF PATENTS.

In our reference to the "A B C of Patents," a 32-page treatise, giving practical pointers, including a synopsis of the patent, trademark, designs and copyright laws in Canada and the United States, with a short reference to patents in the principal foreign countries, credit was given to Frederic B. Fetherstonhaugh, M.E., as author. To avoid confusion we should mention that the author is senior member of the firm of Fetherstonhaugh & Co. Toronto, Montreal, Ottawa, Winnipeg, Vancouver and Washington, D.C.

THE SOUTHERN CALIFORNIA NEW TRAIN.—BEST ROUTE.

The Los Angeles Limited, electric lighted new from the Pullman shops, with all latest innovations for travel comfort, leaves Chicago 10.05 p.m. daily, arrives Los Angeles 4.45 p.m. third day via Chicago, Union Pacific & North-Western Line and The Salt Lake Route. Pullman drawing room and tourist sleeping cars, composite observation car dining cars, a la carte service. For rates sleeping car reservations and full particulars apply to your nearest agent or address B. H. Bennett, 2 East King St., Toronto.

PIG IRON PRODUCTION IN 1906.

We estimate the pig iron production of the United States in the calendar year 1906 at 59,000 tons either way from 25,300,000 gross tons, says the Metal Market. Our Pittsburg telegram of last Friday estimated 25,250,000 tons, but it has been concluded since to add 50,000 tons to the estimate. The official return will be made by the American Iron & Steel Association about February 1 next.

The production in the first half as officially reported by the association was 12,602,901 gross tons.

The Iron Age reports of coke and anthracite pig indicated a production of these grades in the third quarter of 5,911,100 tons. Its reports for October showed 2,196,808 tons. Assuming that production in the fourth quarter will bear the same relation to October production as was sustained in 1905, we estimate fourth quarter production of coke and anthracite pig at 6,590,424 tons.

Charcoal pig iron production in the first half was reported by the association at 204,135 tons.

Adding these figures together, and assuming, largely at random, an increase of 50,000 tons of charcoal pig in the second half, we reach a total of all kinds of pig iron in the second half of 12,705,474 tons, which added to the official returns for the first half gives 25,308,375 gross tons, and we accordingly estimate at the even 25,300,000.

It is well understood that numerous other factors enter into the problem. Old furnaces are blowing in and blowing out, and some new furnaces are being completed. The humidity of the atmosphere and other weather conditions make an important influence, and there may be important railroad blockades. The sum total of all contingencies are more likely than not to tend to balance each other.

Unless channels of production are radically upset in the last two months of the year our earlier predictions of pig iron production will be verified with remarkable closeness. It is not an easy matter; 1904 showed a drop of a million and a half tons from the previous year, 1905 showed a gain over 1904 of 6½ million tons, and 1906 is gaining more than two million tons over 1905. Last February we were making pig iron at the rate of 25,000,000 tons a year, but it was known we could not keep it up, on account of necessities of relining, except being aided by the new furnaces then being constructed; probably the majority in the trade expected a decided lull in demand in the second half which might easily have cut off a million tons or more; we predicted rather (January 26) that the lull would come nearer midsummer, followed by an upturn. The lull came, and just at the same time the many furnaces needing relining were relined; then when the great increase in demand came, the furnaces were ready for it, and production in October exceeded that in March, although August production was at a rate 3,000,000 tons a year less than the average production of March and October.

February 6 we said: "We now predict that 1906 pig iron production will be within a million tons either way of 25,000,000 tons." Six months later on August 6, we said: "It is now entirely safe to make the prediction that barring accidents, the production of this year will exceed 25,000,000 tons. Our

prediction for the year is 25,500,000 gross tons, and we expect to see it come, within say a quarter of a million tons." These two are the only predictions we have made regarding pig iron production in 1906. We now add a third, and we trust the three will make a favorable showing when compared with the official returns two or three months hence. Below are given the official figures for a number of years:

1873	2,560,963 (high record until 1879).
1876	1,868,961 (low record since 1871).
1890	9,902,703 (high record until 1897).
1894	6,657,388 (low record since 1888).
1899	13,620,703
1900	13,789,242
1901	15,878,354
1902	17,821,307
1903	18,009,252
1904	16,497,033
1905	22,992,380
1906	25,500,000 (estimated).

COBALT SILVER MINING.

Prof. W. C. Miller, Ontario provincial geologist has given much encouragement to the Cobalt mining operations by his opinion that the richest values of the silver yields in the Cobalt section extend through the so-called Lower Huronian rocks into the Keewatin beneath.

"Most of the Cobalt silver veins occur in what is called the lower Huronian," says Mr. Miller, in a recent report. "A few have been found in the diabase. There is no reason, as far as the writer can see, why the veins should not occur in the underlying Keewatin, and some of the more recently discovered ones appear to be in this group.

"The writer, on general principles, would not expect the values in the veins at Cobalt, except as regards their content in metallic silver, to change materially, so long as the veins continue in one series of rocks. That is, if a vein is worked in lower Huronian rocks, as the majority of them are, its value should not change materially until the bottom of the basin in which these rocks lie is reached.

"In the vicinity of Cobalt station the lower Huronian rocks are found on hilltops which stand about 500 feet above the low-water level of Lake Temiskaming, where similar outcrops are found. We have reason to say, therefore, that the lower Huronian conglomerates and other rocks associated with them may in some places have a thickness of at least 500 feet. In other places this series is entirely wanting, outcrops of the older Keewatin and lower diabase forming the surface."

The fact that he expects their veins to continue for 500 feet in depth is considered of very important, but the additional fact that the veins persist through the Keewatin, which actual mining has proved since Professor Miller made his report, shows that there is practically no limit to the possible depth.

More miles of railway will be built in Canada this year than in any previous year in her history, we are told by J. A. Macdonald, writing in Engineering News. Most of this is trunk line, except about 900 miles for the Canadian Pacific, and will afford work for some 20,000 men. This force will have employment, if present indications are accurate, for seven or eight years. Says Mr. Macdonald:—"The mere statement of

these facts is enough to convey some idea of the rapidity with which the country is developing, through the increasing application of labor and capital to the exploitation of its natural resources. It should be borne in mind that none of the enterprises thus financed are of a speculative character. The region through which the new railway lines are to be constructed are well known, and the great corporations which have undertaken to furnish them with transportation facilities are taking no chances of failure. The great increase in such facilities is made because it is urgently needed, and, so far as at present appears, the work will have to be kept in progress for many years to come. The natural resources of the country are vast, varied, and widely distributed, and the result of this development will be an incalculably great impetus to the prosperity and solidarity of the Dominion."

The Morris Machine Works, Baldwinsville, N.Y., manufacturers of centrifugal machinery, have sent us their very beautiful calendar for 1907.

BUSINESS SITUATION: SHORTAGE!

The distinguishing feature of the business situation at this time may be summed up in one word—shortage.

The supply is inadequate to the demand in these great basic things:

Copper.	Credit.
Iron.	Transportation.
Labor.	

Great as has been the increase in the supply of all these, the increase has not been equal to the enormous growth of demand, and this fact has produced a condition that amounts to a shortage.

In striking contrast to the inadequacy of supply in all these things are the big crops of grain, which are equal to the world's consumptive demand. It is due to the bountiful crops of grain in this country that business activity continues at such a pace as to produce the enormous consumptive demand for the products of iron and copper and labor and the facilities of transportation and credit. It will depend, however, upon the extent of the damage done by frost whether the cotton crop of the United States will be sufficient to meet the world's needs.

Now an excess of demand over supply is by no means as harmful as an excess of production over consumption. Nevertheless, shortage, like overproduction, has its elements of danger. Bricks cannot be made without straw, and things cannot be made and transported to the markets to supply the urgent needs of consumers unless there is an adequate supply of raw material, of labor, and of credit. The shortage in these things has not reached a point of danger as yet, although in the case of credit there has been a severe strain for nearly a year. The complaint about the lack of labor, the inability to get sufficient quantities of raw material, the scarcity of credit, and the insufficient supply of labor, are results of an amazing and overwhelming prosperity, a prosperity possessing such sweep and power that apparently nothing can check its progress except the inability to procure the necessary quantities of labor and credit and the raw materials with which to work.—Wall Street Journal.

OFFICE METHODS AND APPLIANCES.

A Review of the Latest Suggestions in Office Systems and Supplies for Manufacturers.

"Bills Receivable" Turned into Cash.

When a man has entered the manufacturing or jobbing business with comparatively small capital, most of which is invested in the business, the greater the immediate business that comes to him, the greater may be his anxieties and worries over his fortnightly pay-rolls, says the New York "Commercial."

This is one of the anomalies of the business world that may have been overlooked altogether by this man, who in many other ways has a ripe business experience. This man at the end of thirty days may have \$25,000 tied up in his plant; he may have \$1,500 on deposit at the bank; an unexpected volume of work coming upon his establishment may have forced him into employing a hundred more men than he had any idea of using; as a result he has \$50,000 worth of accounts outstanding and payable in 30 days.

But to-morrow he has a \$7,500 pay-roll that must be met without fail! The \$1,500 in the bank is not a drop in the figurative bucket. The \$50,000 worth of accounts due in thirty days is about as useless as a section of rich farming land at \$100 an acre. He hasn't any available collateral on which to get a bank loan. Even the \$5,000 worth of goods sold yesterday for cash is impossible in the emergency, for the reason that "cash" in business means ten days of grace.

What is the manufacturer going to do for the \$6,000 necessary to be raised before 5:30 o'clock to-morrow afternoon? Not so long ago there was little that he could do unless he had influential friends who might indorse his note for that amount drawn in favor of some bank in the city. To-day the manufacturer in such straits has recourse at once to the modern mercantile credit company. Looking back over a hundred years to the time when John Jacob Astor with his clipper fleet was operating all over the world, it is a striking fact that this modern selling of accounts almost is a duplicate of Astor's old bill of exchange on which he used to secure needed money. Yet it remained for twentieth-century business methods to bring out the mercantile credit company, which gives to the manufacturer and the jobber at once, the money upon which under usual methods of business he otherwise would need to wait from ten to thirty days.

Waiting even the full ten days upon the "cash" sale allows the manufacturer a margin of only four days between a sale and the next pay roll if the sale shall have been made the day after the last wage payments were made. If the "cash" sale has been made the fifth day after the pay-roll has been met, its proceeds must be one day short of utilizing for the next payment. This is suggestive of the part that the modern mercantile-credit company plays in the business of the small manufacturer and jobber.

In the processes of the credit company the ways and means are simple enough. When a bill of goods has been sold and shipped to the customer buying at ten days "cash" or thirty days credit, the manufacturer or jobber brings the invoice in duplicate to the credit company. The original invoice is stamped:

"This bill has been transferred and is payable to the Cashem Mercantile Credit Company."

This original invoice is sent to the customer who has bought the goods while the duplicate is retained by the credit company as evidence of the debt. The bill of lading for the shipment also is attached to the duplicate and the deal is closed at once, the manufacturer getting 80 per cent. of the account in cash, 20 per cent being withheld as margin until the bill finally is collected. Out of this final 20 per cent. the credit company in settlement retains only its own rate of discount.

In possession of these accounts, the purchasing credit company ordinarily reassigns them to a banking house as trustee, and issues its collateral notes at the rate of \$5,000 for each \$6,000 worth of these accounts deposited. At once these collateral notes become bankable paper, discounted readily by other banks at usual rates. The fact that the credit company has withheld 20 per cent. of the face of the bills and has left 20 per cent. of the remainder with the trustee banks ranks these notes high as collateral loans. The security is against well-rated concerns, covering actual exchange of commodities and guaranteed by the credit company. Also these accounts may be insured in a credit indemnity company and further backed by the capital and the surplus of the mercantile company credit, which is the first purchaser. These sales of commercial accounts have been held legal in the bankruptcy courts, and banks and credit men generally have accepted the processes without question.

TOOT; DON'T BE A CLAM.

The age of reserve is past. If you really have anything that is worth attention, if you really deserve success, you must tell people so.

The idea that professional folk should not advertise is exploded, says Charles E. Watt. Even M.D.'s have receded so far from that position that while they do not put "display ads. in the newspapers, yet they use every possible means of publicity, and they know that in the great cities at least notoriety helps a great deal in securing the highest paid work. When a physician lately allowed it to become public news that he had collected an enormous fee from the estate of a rich man who had died under his care, he did so knowing full well that this roundabout way of letting it be known that he was employed in that particular family was the way to insure that he would be employed in other families of great wealth.

The immense prestige of Paderewski and Kubelik is built upon newspaper notoriety quite as much as upon intrinsic worth, though the latter is great in both cases, and the successful schools and teachers of music are those that advertise. A continual giving of concerts is the surest way of keeping up a lively interest and growth in any school, and the idea advanced by some conservatives that this is in opposition to the plan of the really

artistic teachers "in Europe," is disregarded. Every school must and does appropriate a large share of its earnings to the purpose of advertising, and the care with which the advertisements are prepared, and the judgment with which they are placed, are the measure of the success of the school.

Do every legitimate thing to build up your reputation, stopping short only of the idea that vulgar notoriety is as good as legitimate repute, for, Barnum and some others to the contrary notwithstanding, it remains true that real worth always must stand back of what people say of you and the getting people to say "something anyway" always must be subservient to the thought that what they say must be both good and true.

On the occasion of her first metropolitan appearance some years ago a young actress came before the curtain in a Chicago theatre between the acts of her new play and recited a poem having the same title as this short article, and the burden of which was to explain the persistent noise made by a street merchant engaged in selling clams, and whose invariable success was attributed to this never tiring exertion. This particular actress had chosen a good theme for exploitation, and in the long run she made a brilliant success. The example and the lesson for all beginners, even in the most artistic of fields, is self-evident.

NO IS THE WORD.

People come to us under various guises and ask us to do things, which in our better judgment, we are loth to do, and too many of us haven't the backbone to say "No," says William C. Hunter.

The ability to say "No"—to refrain from going with the crowd, to decline to go down the stream, more than any other one thing is the mark of a man of strong character. Such a man is going to succeed. He may find it hard to withstand the gibes and jeers and criticisms of his actions.

Our old friend, the law of compensation, comes in here again, for in proportion as the man has the ability to say "No," and the courage of his convictions, he is singled out among the few chosen ones, and success already is within his grasp.

The manager of one of the biggest breweries in the United States has not tasted liquor of any kind for twenty years. There is a whole sermon in this statement.

The embezzler doesn't start out to do wrong. Some friend wants to borrow money, or he needs money temporarily, and either at the request of friends or because he has something he wishes to purchase and hasn't the nerve to do without, he borrows some money and puts a ticket in the drawer. He does this frequently, and it becomes a sort of habit. Some day he wakes up to find he has several tickets in the drawer, and he resorts to extreme measures trying to beat the races or to win money in gambling to pay his debts, and he gets in debt deeper than ever. Before long he finds he is about to be discovered, and takes some money and escapes. All because he could not say "No!"

Learn to say "No." Set your jaw firmly

and say "No." The friends who go back on you for refusing to do things that you know are hurtful to you are the ones who are unworthy of the name "friends," and are the persons you can well get along without.

Friends who ask you to do the things you shouldn't do are the ones who are of no service to you in time of need.

The individual who says "No," regardless of the flings and taunts that are thrown at him, is the one that eventually makes a success.

Character counts above all things in the business world. The banker extends a credit

To Understand Your Work, Study It.

One of the most advisable, one of the most beneficial habits a man with wide interests can acquire is to take fifteen minutes to an hour each day and devote it to sizing up things—to planning the day's work, to threshing the wheat from the chaff. This sizing up can be well done only in solitude. The benefits to be derived from this sizing up things in solitude are so great that it is a wonder more has not been written on the benefits of solitude.

Plants grow in darkness, yet the common understanding is that plants grow in sunshine. As a matter of fact, the sunshine absolutely is necessary to the growing of the plant, but the real growing is done in the quiet darkness.

A man's brain develops in solitude, yet the bustle and activity of business life are as necessary to a man as the sun is to the plant; but the real benefit the man gets and the real time his brain grows is in solitude.

Before retiring at night, or even during the day, says W. R. Hunter in the Chicago Tribune, every man should take a few moments to himself and carefully analyze the doings of the day. He should weigh the positive and the negative acts—the good and the bad, the wise and the foolish moves, the good and the bad impulses, and after having done this he should strike a balance, and if he sees that the bad and deterrent things outweigh the good and progressive things he should resolve to get a move on.

The man who goes along without this sizing up things in solitude is like the merchant who keeps no records, who doesn't look into anything pertaining to his business, who pays his bills from the cash drawer and takes what is left as his profit. He still will be running the little butcher shop in twenty years, while his competitor, who sizes up things systematically, will be in the wholesale business or retired.

There is one suggestion we can make that will result in more benefit to the reader than to set apart a few moments each day to sizing up the situation, for if you will size up the things in solitude each day all the truths we have written about will come to you.

The success of an institution depends largely upon the example set by the boss. If he is careless in little things, if he is sharp in his practice, if he does mean acts he may rely upon it his employees will copy him, and later on, when some blow strikes the business he will find it has happened through the practices of the employees, who got their cue from the boss.

Kindness wins kindness; love wins love. If the boss is generous and charitable, if he

to the individual who is able to say "No."

A man's credit and character are most important in business success, and many a man without security has attained magnificent success absolutely through his unflinching ability and sterling character.

You don't have to advertise your good qualities. They will be found out soon enough. If you have learned to say "No," to mean "No," in proportion as you are strong in this respect will the temptations to say "Yes" lessen in number.

Exercise your backbone and your jaw bone so you can say "No," and stick to it.

sets a good example, he will have an esprit de corps among his employes that is of incalculable value.

There isn't one chance in a thousand for a boss to make a notable success unless he has risen to the position of boss and is acquainted with the work of those he employs. If you wish to be successful as a boss, you must know how to do the things you hire others to do. The boss who can show an employe his error in a kindly manner and point out the better method leaves a good feeling in the heart of that employe.

The boss who shows his heart to the employe, and is concerned in things not necessarily business, will be repaid a thousand fold in loyalty and willingness on the part of the employe to help make the business a success.

The boss should not be too far aloof; he should be just head and shoulders above those working for him. He should be willing to grant an audience to his employes at any time. He should work with them. He should should say "we" rather than "I." He should make every employe feel that he is part of the institution and an element in its success.

Remember—employes watch the boss. Where you find loyal and hard-working employes it is because they have a boss that has set them the right example.

The boss cannot run the whole business himself. He is dependent upon willing hands, and in order to get willing hands he must have willing hands—for like begets like.

If the boss is alert and discovers wastes and leaks the employe will follow his example and business will receive double benefit.

Every one knows about the law of compensation. The law of compensation means you pay for what you get. The law of compensation says if a horse can run fast it cannot pull a good load, and vice versa.

The law of compensation says that for every sorrow there is a compensating joy. The law of compensation means that for every positive thing there is something negative to compensate it—to balance it.

The law of compensation says that while evil exists, there is corresponding good to offset it. The law of compensation is the measure optimists use.

You cannot get away from this law of compensation, which is that you must pay for what you get, or that you get what you pay for. Or, as it was expressed centuries ago, "Whatsoever a man soweth, that shall he also reap."

You may eat your dinner first and work for it after, or you may work for it first and eat after—that's the law of compensation.

You may spend your income now and run in debt, but the pay day will come.

You may work hard now, play as you go, have happiness each day, and your whole life will be well worth living. Happiness will be your compensation for work. No work, no joy.

AN AID TO MODERN BUSINESS.

There was a time when personality ruled business and gave it an imperishable tradition, when vast commercial enterprises sprang from one man's efforts and generations plucked the rich fruits of his endeavors. It was the era of the business men of the old school, the forerunners of the builders of our empire of industry. Perhaps it was some shipping prince whose fleet of clipper ships touched at far-away wharves to exchange Yankee products for the treasure of the storied East; perhaps it was a merchant king who turned cheese into dollars, and ruled a dusty counting-room with an iron hand; or perhaps it was some mill lord from whose myriad looms was spun the glittering fabric of a great fortune. But whether the old master of trade moved with stately mein and ponderous gait through ship, mill, or store, his business was conducted, says Isaac F. Marcossin in the Business Man's Magazine, after the very simple and unwritten law and in the good old way.

"Why bother about frills and secretaries?" said these old merchants as they made their way serenely amid the changing tides of men and affairs. Personality and integrity were the very Gibraltar upon which the unyielding structure of their fortunes was reared. There was dignity and glamour about their calling. It was a very great honor to be a great merchant. These men merged their names into the history of their times, and they turned "keen, untroubled" faces upon the dangers that hurled lesser men to their ruin. When they died, their sons succeeded them. Sons came and sons went, and old businesses seemed destined to go on forever.

But as these old merchants faded from the market-place swift changes were shaking the foundations of the regime that long years of fidelity had builded. A wonderful commercial expansion swept the country, uprooting all business traditions. It followed a marvelous development, the annexing of every state and country to the growing empire of business. Invention had come to the aid of business and sped it on with tingling leaps. A fleet of steel steamers succeeded every old-time clipper ship, pulsing factories rose where the ancient looms had whirred, and towering skyscrapers reared their roofs where musty warehouses had stood. Commerce followed the flag, and the nation was rushed into the thrilling race for world-trade. Fierce competition succeeded the dignified calm of the old business days, and the game was to the swift and to the quick.

But what of the character of business? Business underwent a complete evolution, and the last vestige, save honor, of the old order of things was swept away, with few exceptions. The time had gone when one man could steer a great business through the swift eddies of competition and progress to devious paths that touched at many lands.

What happened? Business became organized as never before. It became as

consummate a plan of action as ever Napoleon wielded to crush the allies of Europe. In short, business became a science that had for its aim the elimination of failure and the complete enhancement of financial success.

The old-time business man carried much of the plan and detail of his undertakings in his head. His business developed itself, and he merely guided it. It was a tradition that certain volumes of business, like history, repeated.

THE NEW SCIENCE OF BUSINESS.

But with the new science of business came the business engineer. He was the concrete symbol of an era of organization and system; a business doctor who prescribed for a business that was ill and failing, who applied strenuous remedies. He laid out business campaigns as a civil engineer laid out the route of a railroad for a syndicate. The parallel was easy. On the one hand was an untilled business field ready to be broken for a golden harvest; on the other was a virgin country to be linked with bonds of steel.

What did the business engineer do? First of all, he revolutionized business methods. He showed men how to conduct their business better than they had done before. He showed them where waste was eating up their profits; where energy was going to naught; where concentration might increase output; and how worry, that eternal menace of prosperity and health, could be vanquished. Best of all, he did

away with the old-time theory that a man had to wait six months to find out how his affairs stood. "Know how you stand every day at the close of business," said the business engineer. And he proved it. He introduced systems for the use of loose-leaf ledgers and card catalogues, by which a man at 5 o'clock every day knew just what his profits and his losses were. What is the result? No more illusions about being on the sunny side of the business street when you are in reality verging on the edge of bankruptcy.

But the business engineer did more than this. He organized great industrial enterprises so that system ruled them just as the personality of the old-time business man dominated his establishment. He took a great manufacturing company, for example, that had eighty branch stores all over the United States. He made a series of charts that covered comprehensively every phase of the business. By their use the head of the great business could sit at his desk in the morning and have spread before him the very vitals of his whole vast business. He could see what every department was doing—just how the line of output paralleled the line of sale (and this was a vastly important thing to know); he could observe at a glance just what his supply of raw material was; how many men were at work, and how they did their work. In brief, he sat there with his finger on a business pulse that throbbed in every State.

building materials right away, and for some unknown reason his plans may be altered. He might have a death in his family, or sell his place, and buy another, or for a hundred and one reasons change his plans, but the point is, that having once received an inquiry from a man he should not be lost track of till you receive a definite understanding or order from him.

Inquiries cost money. Every postcard you receive saying "send catalogue and best prices" costs money, much more than you imagine, very much more. For instance, the "ads" we are now carrying cost \$500 per month. Suppose all told we get ten inquiries per day or three hundred per month (and we don't) that is to say \$1.50 that each inquiry costs. One dollar and a half to get an inquiry. It's a lot of money, but it pays provided the inquiry is properly handled after received. It's all right for one to say that such and such a postal received is N.G., and calls for nothing more than a reply, and then to be passed up and forgotten. That's wrong. I have tried it myself and was very much surprised later on to get an order from the same man, who in the beginning inquired in the tone of a school boy. There is no rule to follow except the correct one, of treating them all as if they were from the largest concern in the world. One is very apt to slight a reply to a man rated at nil, while giving minute attention to a man of position. Nevertheless, one is just as apt as the other to use some goods. A "Follow Up" system is simple, and while involving some trouble—like anything else that's worth while—it pays without a doubt.

If you have not got a small card index let me know and I will get you one. If you have this is being written first with an idea of giving you some slight idea of the cost of each inquiry, and second with the idea of impressing you with the importance of following up thoroughly. The most profitable business you can get is the business that comes in by mail. It's also the best, because you can write twenty letters a day at the expense and time of going personally to one man, and while the chances for orders solicited by mail are not to be compared with the chances of getting an order by personal solicitation, still the cost is not so great.

LETTERS SHOULD BE ORIGINAL.

The form in which letters are written is the basis of all successful mail order propositions. Every one agrees that the live business man of to-day avoids entirely the stereotyped form of business letter of fifty and even a dozen years ago. Don't say "Yours of the 6th inst. received and in reply beg to say." That's antiquated and does not serve the purpose. Throw it right into a man from the first word. Go right at your subject on the first line.

Ninety-nine inquiries give you some clue as to what the man had in mind when writing and if it does, go after that particular point on the jump. People are not interested now in anything that pertains to dead wood, they want the meat.

Another thing. Don't trust to your memory. You may have the best memory of anybody in the world, but you will forget. Besides it doesn't pay. A man to make a success of his business now-a-days has enough to think of without cramming his head full of details. Who ever heard of the president of any company keeping his cash book in his head? It could not be done, and done correctly, neither can a "Follow Up" system.

Follow Up Systems Bring Results.

"KEEPING EVERLASTINGLY AT IT BRINGS SUCCESS." By GEO. H. PEDLAR, JR.

The general idea of the "follow up," either by letter or by personal solicitation, over the counter or otherwise, is now recognized by all live business people, as being the essence of salesmanship. No up-to-date business man would think that he had served a customer fully, when in answer to a question as to the price of a cake of soap, a pair of boots or a sixty-six foot tape, he should say 5c., \$3.00 or 75c., as the case might be, and let it go at that. That would have answered, perhaps, once upon a time, because there may have been no other cake of soap, pair of boots or sixty-six foot tape carried in stock nearer than Hog's Hollow, seven miles down the pike.

To-day, however, conditions are different—so very much different that one has to say much more than the mere giving of prices, and the things you say, determine even more than the price quoted, whether your customer purchases or not, because it is sure true, that almost anyone will pay 25 cents or 50 cents, or even more, in addition to the price he figured on paying, provided what is told him by the salesman, sounds good to him.

Every business house must determine for itself, what is proper to say in a follow-up, as well as how and when to say it. We adopted a crude follow-up, as long ago as ten years which, as time has passed, has been closely watched as to results, until now we are as perfect as we know how, though always looking for better results.

FOLLOWING UP LETTERS.

With the receipt of a letter, we make our answer, as far from the general stereotyped style as possible. The letter gives the clue. In two days' time, we take up the same letter

and go after the prospective customer again, from another point of view, but still on the same subject. Then, if, after a reasonable time, we have no response, we present the subject from some other point of view, because, while one argument might interest one man, it might take a much different one to interest another. Failing to get a reply of any kind, to this effort, we write a straight appeal, asking a reply. Generally, we have a response to this and it gives us a new chance for continuing the subject.

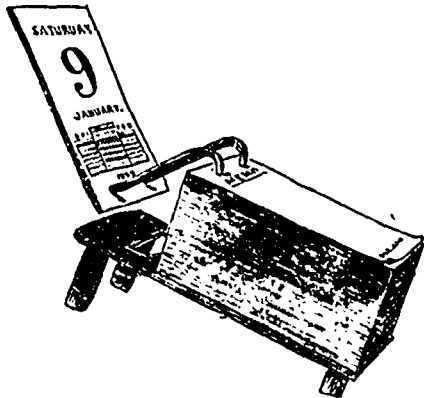
Sometimes, however, even this remains unanswered, but we do not stop there. Oh, no! The man may have gotten married in the meantime, and forgotten, for the time, that his barn ever needed a new roof. So we file his and our letters away—to give him a chance—and, in three months, take up the subject again. We get many orders, from people after the "second round," and as our business motto is, "Keeping everlastingly at it brings success," we could not very well drop any communication, until something definite had resulted.

Our customers in Canada are served from our warehouses located in most of the principal cities, necessitating our maintaining a follow-up system in each office. But they all work as a unit, each adopting the same general scheme as outlined.

We believe in the follow-up idea so much however, that a weekly letter is sent from this office, to all agencies on one subject or another, appertaining to the business, and our letter on the follow-up system was.

In our business a man may write for prices with the intention of ordering some kind of

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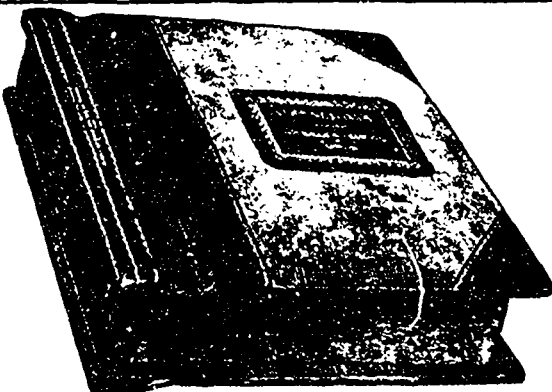
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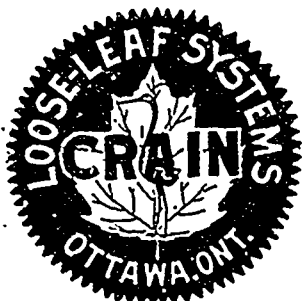
Is usually in the office or counting house. The successful business man to-day is not the man who burns the midnight oil toiling over his books. It is the man

who is putting system into his business and applying it at every turn.

THE CRAIN CONTINUOUS SYSTEMS

Are up-to-the-minute for the wholesaler, manufacturer or retail trader. Can you get a statement in an hour's notice, or does a clerk have to stay up all night to dig it out of antiquated records?

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Methods of Making Collections.

The subjects of collections is one of vital interest to all branches of trade, affecting alike the manufacturer, jobber and retailer, says The Tradesman. The question of credit is equally important, but without a proper and satisfactory method of securing collections few, if any, houses could long maintain their prestige in the commercial world.

While the question of credit is exceedingly important, experience will demonstrate the fact that a satisfactory method of collecting will accomplish greater results. In other words, if a collection system is properly handled, credit can be extended to a greater extent than would otherwise be possible. Again, mistakes in granting credit could be more easily remedied if the credit man or collection department have their methods of making collections on a satisfactory basis.

In order that all three branches of the trade may be enabled to profit by the experience of others, the subject will be treated under three headings:

First—On the subject of collections from a manufacturers' standpoint.

Second—Collections from a jobber's point of view.

Third—The retailer's difficulties in making collections, and suggestions as to how to remedy these troubles.

THE MANUFACTURER.

If the manufacturer confines his business to the jobbing trade—and it is generally conceded that this is in the main the most satisfactory and proper plan—the work of the credit man in granting the jobbers a line of credit in proportion to their needs is very light, and the same may be said of the collection department, if it is conducted upon the proper basis—but if the system of effecting collections after a line of credit is granted is faulty, then two results will develop: the customers who are good and entirely solvent will either take offence at the methods adopted and transfer their business to other manufacturers or they will overlook and ignore the manufacturer's wishes.

It is very generally conceded that the jobbers of hardware, supplies and machinery are desirable risks in the granting of credit. Very, very few of this class of the trade find it impossible to promptly meet their obligations. In other words, they are good for their requirements, and the only difficulty which may arise is slowness in meeting their obligations as they mature. To successfully handle this class of the trade the collection department must have a more or less personal knowledge of the jobbers. Some of them can be handled one way, others must be handled another. In a general way, the jobbing trade as a whole must be impressed with the fact that the manufacturer's obligations must be promptly met at maturity. If not, good and sufficient reasons must be given to the manufacturers, showing why delay in settlement has been made.

CARRYING CUSTOMERS.

In some sections the jobbers are compelled to carry their customers from one season to another—but fortunately this custom is rapidly being dispensed with. Under such conditions the manufacturer must understand these conditions, and when proper explanation is given, the manufacturer will be only

too glad to extend to the jobber such indulgence as the conditions may warrant. A great deal of the trouble which now exists develops through the negligence or oversight of the manufacturer. He does not properly impress upon the jobber the necessity of promptness, and the jobber, in turn, does not feel called upon to insist upon the retailers—his customers—to promptly meet their obligations as they mature. Leniency begets slowness and negligence. If the manufacturer will carefully keep after his collections—promptly as they mature—the jobber in turn will go after his customers—the retailers—and the retail dealers in turn will see that their customers promptly meet their obligations as they mature. There is a mutuality of interests in such an arrangement that prevents friction and engenders the most cordial relationship.

To the manufacturer who attempts to market his product direct to the retailers or consumers the question of credits and collections is one of such vast proportions that it would be difficult—if not impossible—to diagnose the case. It is difficult to see how it would be possible for a large manufacturer to market his product direct to the retailers or consumers and derive anything like satisfactory results from their credit and collections departments. The jobbers—as will be shown later on in this article—are confronted with great difficulties in handling their credit and collection departments. This in the face of the fact that they have traveling salesmen visiting all of their customers, and again they only cover a very limited territory. The manufacturer who seeks the consuming trade must shoulder the combined responsibility of both jobber and retailer. Experience has demonstrated the fact that the fewer the accounts—whether of manufacturer, jobber or retailer—the less danger there is from losses, not only from bad accounts, but from other sources. The office expense is also much less and the worry incident to a multiplicity of accounts is of such moment that no manufacturer—who has given the plan a trial—would recommend a similar course to a brother manufacturer.

THE JOBBER.

Credit and collections are, perhaps, even more important to the jobber than to the manufacturer or retailer, for the reason that his large number of customers present more opportunities for losses in bad accounts and poor collections. When the manufacturer has one hundred accounts, the jobber has, perhaps, one thousand—of all sizes and in different sections and territory. The retailer has as many customers as the jobber, but as a rule the accounts are all in local people and usually of small amounts. On the other hand, the jobber's accounts are large, and, as the jobbing profit is comparatively small, it is very essential that prompt and full collections be made.

Different sections are confronted with different conditions, and the collection department must keep in close touch with these conditions. Additional time must sometimes be allowed, and circumstances will also arise when leniency must form a very decided part of the credit department's make-up. Credit can often be granted where the basis for a large line is fully adequate; however, cir-

cumstances may develop necessitating much longer time for the payment of an account than was first agreed upon. It is, therefore, impossible, to outline and make effective any positive plan for the handling of past due accounts, and even in making prompt collections as the invoices mature.

THE TRAVELLING SALESMAN.

As the travelling salesman is often—and should be—of great assistance to the credit man in determining the line of credit a customer is entitled to, and further is expected to keep the credit man posted as to any change in the customer's affairs which might have a tendency to enhance or jeopardize his credit, some jobbers have adopted the plan of turning past due accounts over to their salesman in order that they may take the matter up with the delinquents when next they call upon them. Some jobbers claim that such a plan has proven satisfactory to them and continue this practice. On the other hand, other jobbers who have tried the plan have abandoned the same, believing that such a practice is injurious to their best interests.

According to the opinion of many successful jobbers, the collection of delinquent accounts should not be forced upon the traveling salesman. In the first place there is a world of difference between a salesman and a lawyer. The salesman's province is to sell goods—the lawyer to plead, argue and sue. "A jack of all trades" could, perhaps, persuade a few delinquent customers to pay their accounts and then turn around and sell the same parties bills of goods, but the jobber has long since found out, by extensive and expensive experience, that the services of one good salesman are more to be desired than indifferent results realized from several "jack of all trades" varieties of salesman.

Aside from the inefficient manner of making collections through the travelling salesman, the jobber must fully consider what effect the salesman's efforts to collect a past due account will have upon the customer. In the first place, the customer would not have been sold had not the credit department ascertained, from investigations that he was all right and entirely responsible for his requirements.

The customer may have good and sufficient reasons for not paying the account. It may be true that this same customer should have promptly replied to the jobber's repeated requests for settlement or an explanation as to why delay has occurred; however, it must be remembered that not all the retail dealers have stenographers, typewriters and many other conveniences so desirable—and, in fact, necessary—for the prompt and satisfactory conduct of a jobbing business. The retailer has his daily work to perform and correspondence is often indefinitely postponed.

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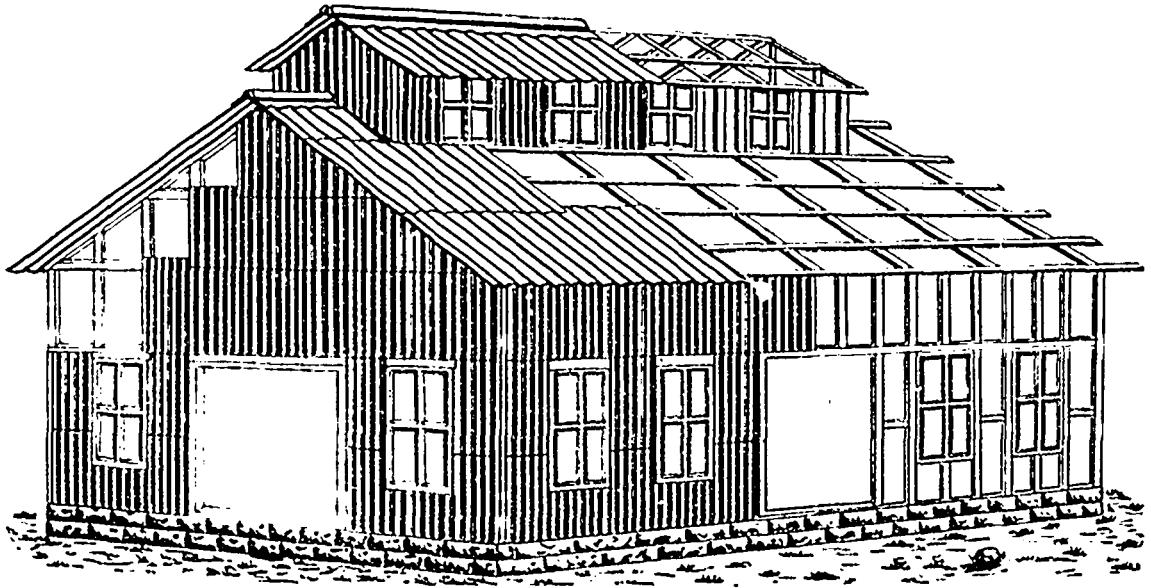


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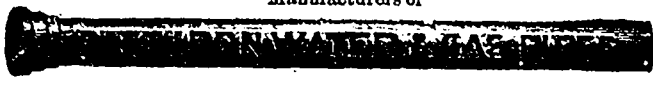
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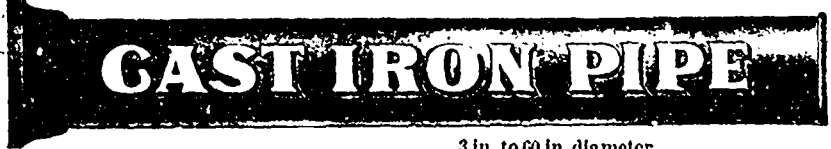
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TALK TO "THE MAN WHO BUYS" WITH A SMALL "AD." ON THIS PAGE

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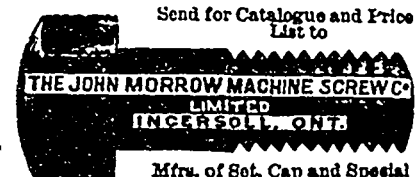
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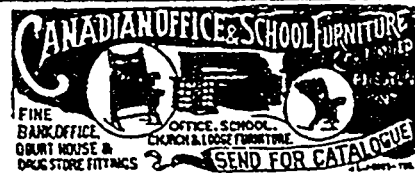
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THIS is the day of by-products. In many important lines of business the profit now lies in what used to be thrown away.
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WEBSTER FEED WATER HEATERS and HEATING APPLIANCES have made economy a fine art. In many businesses their saving has swung the balance over from the "Loss" side to the "Profit" side.

Webster Steam Appliances now hold undisputed the highest place in steam engineering economy.

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OR ANY CLASS OF ENGRAVING FOR ADVERTISING PURPOSES, CATALOGUES, MAGAZINES, &c

J.L. JONES ENG. CO.
 168 BAY ST - TORONTO

Classified Index for Lines Sold by Advertisers

All advertisers are invited to send in full list of lines sold by them. We desire to keep this index thoroughly up-to-date, but this will be impossible unless each advertiser sees to it that he is represented under each heading he is entitled to.

<p>Abrasives Williams, A. R. Machinery Co., Toronto.</p> <p>Accountants Neff & Postlethwaite, Toronto. Viau, Henri, Montreal.</p> <p>Acids Canada Chemical Co., London, Ont. Nichols Chemical Co. of Canada, Montreal.</p> <p>Air Compressors Allis-Chalmers-Bullock, Limited, Montreal. Canada Foundry Co., Toronto. Canadian Rand Drill Co., Sherbrooke, Que. Darling Bros., Montreal. Smart-Turner Machine Co., Hamilton, Ont.</p> <p>Alumina Nichols Chemical Co. of Canada, Montreal.</p> <p>Aluminum Northern Aluminum Co., Pittsburg, Pa. Syracuse Smelting Works, Montreal.</p> <p>Angles, Beams and Girders Bourne-Fuller Co., Cleveland, Ohio. Canada Foundry Co., Toronto. Hopkins, F. H. & Co., Montreal. Nova Scotia Steel & Coal Co., New Glasgow, N.S.</p> <p>Aniline Colors and Dyewood Extracts Benson, W. T. & Co., Montreal. Brunner, Mond & Co., Norwich, England. Canada Chemical Mfg. Co., London, Ont. Cassella Color Co., New York City. McArthur, Corneille & Co., Montreal. Nichols Chemical Co. of Canada, Montreal. Winn & Holland, Montreal.</p>	<p>Annealing Muffles and Furnaces (Wire) Leslie, A. C. & Co., Montreal. Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.</p> <p>Antimony Syracuse Smelting Works, Montreal.</p> <p>Anvils and Vises Hopkins, F. H. & Co., Montreal. Leslie, A. C. & Co., Montreal.</p> <p>Architects Parke, R. J., Toronto. Vogel, C. H., Ottawa.</p> <p>Automatic Gear Cutting Machines Baker-Brainard Milling Machine Co., Hyde Park, Mass.</p> <p>Axles Hopkins, F. H. & Co., Montreal. Nova Scotia Steel & Coal Co., New Glasgow, N.S.</p> <p>Babbitt Metal Petrie, H. W., Toronto. Syracuse Smelting Works, Montreal.</p> <p>Banks Bank of Hamilton, Hamilton, Ont.</p> <p>Bar Iron and Steel Bourne-Fuller Co., Cleveland, Ohio. Hopkins, F. H. & Co., Montreal. Leslie, A. C. & Co., Montreal. London Rolling Mills, London, Ont. Union Drawn Steel Co., Hamilton, Ont.</p> <p>Belt Dressing Petrie, H. W., Toronto. Sadler & Haworth, Montreal and Toronto. Williams, A. R. Machinery Co., Toronto.</p>	<p>Belt Fasteners Bristol Co., Waterbury, Conn. McLaren, D. K., Montreal and Toronto. Petrie, H. W., Toronto. Sadler & Haworth, Montreal and Toronto. Williams, A. R. Machinery Co., Toronto.</p> <p>Beltting (Cotton) Dominion Belting Co., Hamilton, Ont. McLaren, D. K., Montreal and Toronto. Petrie, H. W., Toronto. Sadler & Haworth, Montreal and Toronto.</p> <p>Beltting (Leather) McLaren, D. K., Montreal and Toronto. Petrie, H. W., Toronto. Sadler & Haworth, Montreal and Toronto. Williams, A. R. Machinery Co., Toronto.</p> <p>Beltting (Rubber) Gutta Percha & Rubber Mfg. Co., Toronto. McLaren, D. K., Montreal and Toronto. Petrie, H. W., Toronto. Sadler & Haworth, Montreal and Toronto.</p> <p>Beltting and Supplies Bristol Co., Waterbury, Conn. Dominion Belting Co., Hamilton, Ont. Gutta Percha & Rubber Mfg. Co., Toronto. Jeffrey Mfg. Co., Columbus, Ohio. McLaren, D. K., Montreal and Toronto. Petrie, H. W., Toronto. Williams, A. R. Machinery Co., Toronto.</p> <p>Blast Furnace Brick Dunbar Fire Brick Co., Pittsburgh, Pa. Elk Fire Brick Co., St. Mary's, Pa. Hamilton Facing Mill Co., Hamilton, Ont. Harbison-Walker Refractories Co., Pittsburg, Pa. Pennsylvania Fire Brick Co., Beech Creek, Pa. Queen's Run Fire Brick Co., Lock Haven, Pa. Stove-Fuller Co., Cleveland, Ohio.</p>
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1591 ONTARIO STREET EAST, MONTREAL

CLASSIFIED INDEX.

(CONTINUED).

Blowers

Hamilton Facing Mill Co., Hamilton, Ont.
Sheldons, Limited, Galt, Ont.
Sturtevant, B. F. Co., Boston, Mass.

Boiler Compounds

Canada Chemical Mfg. Co., London, Ont.
Hamilton Facing Mill Co., Hamilton, Ont.

Boiler Inspection

Boiler Inspection & Insurance Co., Toronto.
Canadian Casualty & Boiler Insurance Co., Toronto.

BOILERS (See Engines and Boilers)**Bolts and Nuts**

London Rolling Mills, London, Ont.
Morrow John Machine Screw Co., Ingersoll, Ont.

Brass Founders

Hamilton Brass Mfg. Co., Hamilton, Ont.

Building and Paving Brick

Dunbar Fire Brick Co., Pittsburgh, Pa.
Hamilton Facing Mill Co., Hamilton, Ont.
Harbison-Walker Refractories Co., Pittsburgh, Pa.
Pennsylvania Fire Brick Co., Beech Creek, Pa.
Queen's Run Fire Brick Co., Lock Haven, Pa.
Stowe-Fuller Co., Cleveland, Ohio.

Building Iron and Steel

Bourne-Fuller Co., Cleveland, Ohio.
Canada Foundry Co., Toronto.
Expanded Metal & Fireproofing Co., Toronto.
Metallic Roofing Co., Toronto.
Pedlar People, Oshawa, Ont.

Builders' Materials

Albert Mfg. Co., Hillsboro, Ont.
Canada Foundry Co., Toronto.
Conduits Company, Limited, Toronto.
Expanded Metal & Fireproofing Co., Toronto.
Gartshore, John J., Toronto.
Hopkins, F. H. & Co., Montreal.
Metallic Roofing Co., Toronto.
Pedlar People, Oshawa, Ont.
Sheldons, Limited, Galt, Ont.

Burlap (Decorative)

Dominion Oil Cloth Co., Montreal.

Business Methodizers

Viau, Henri, Montreal.

Cables

Dominion Wire Rope Co., Montreal.
Greening, B. Wire Co., Hamilton, Ont.
Phillips Eugene F. Electrical Works, Montreal.

Canada Plates

Leslie, A. O. & Co., Montreal.
Nova Scotia Steel & Coal Co., New Glasgow, N.S.

Caps

McCullough-Dalsell Crucible Co., Pittsburg, Pa.

Card Clothing

McLaren, D. K., Montreal and Toronto.

Cast Iron Pipe

Canada Foundry Co., Toronto.
Montreal Pipe Foundry Co., Montreal.
McDougall, John, Caledonian Iron Works Co., Montreal.

Castings (Grey Iron, Malleable Iron and Brass)

Jenckes Machine Co., Sherbrooke, Que.
Kerr Engine Co., Walkerville, Ont.
McDougall, John, Caledonian Iron Works Co., Montreal.
McKinnon Dash & Metal Works Co., St. Catharines, Ont.
Maxwell, David & Sons, St. Mary's, Ont.
Smart-Turner Machine Co., Hamilton, Ont.

Cement Machinery

Allis-Chalmers-Bullock, Limited, Montreal.
Bradley Pulveriser Co., Boston, Mass.
McDougall, John, Caledonian Iron Works Co., Montreal.

Centrifugal Pumping Machinery

Morris Machine Works, Baldwinsville, N.Y.
Smart-Turner Machine Co., Hamilton, Ont.

**Chain Making Machinery
(Welded Coil Chain)**

Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

Channels

Bourne-Fuller Co., Cleveland, Ohio.
Canada Foundry Co., Toronto.
Leslie, A. O. & Co., Montreal.
Nova Scotia Steel & Coal Co., New Glasgow, N.S.

Charcoal Pig Iron

Canada Iron Furnace Co., Montreal.
McDougall, John, Caledonian Iron Works Co., Montreal.

Chemicals

Canada Chemical Co., London, Ont.
Nichols Chemical Co. of Canada, Montreal.

Chemists

Heys, Thomas & Son, Toronto.

Clay Working Machinery

Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

Coal, Coke and Charcoal.

Bourne-Fuller Co., Cleveland, Ohio.
Hamilton Facing Mill Co., Hamilton, Ont.

Coal Cutting Machines

Allis-Chalmers-Bullock, Limited, Montreal.
Canadian Rand Drill Co., Sherbrooke, Que.
Jeffrey Mfg. Co., Columbus, Ohio.

Coal Tipples

Jeffrey Mfg. Co., Columbus, Ohio.
Jenckes Machine Co., Sherbrooke, Que.

Coil Chains

Greening, B. Wire Co., Hamilton, Ont.
Leslie, A. O. & Co., Montreal.

Coke Oven Brick

Dunbar Fire Brick Co., Pittsburgh, Pa.
Stowe-Fuller Co., Cleveland, Ohio.

Collection Agency

Petrie, H. D., Hamilton, Ont.

Concrete Mixers

Hopkins, F. H. & Co., Montreal.

Condensers

Smart-Turner Machine Co., Hamilton, Ont.

Conduits (Interior)

Conduits Company, Limited, Toronto.

Contractors' Machinery

Allis-Chalmers-Bullock, Limited, Montreal.
Gartshore, John J., Toronto.
Hopkins, F. H. & Co., Montreal.
Jenckes Machine Co., Sherbrooke, Que.
McDougall, John, Caledonian Iron Works Co., Montreal.
Smart-Turner Machine Co., Hamilton, Ont.

Contractors' Plants

Allis-Chalmers-Bullock, Limited, Montreal.
Hopkins, F. H. & Co., Montreal.
Jenckes Machine Co., Sherbrooke, Que.
Petrie, H. W., Toronto.
Smart-Turner Machine Co., Hamilton, Ont.
Williams A. R. Machinery Co., Toronto.

Conveying Machinery

Allis-Chalmers-Bullock, Limited, Montreal.
Babcock & Wilcox, Limited, Montreal.
Canada Foundry Co., Toronto.
Jeffrey Mfg. Co., Columbus, Ohio.
McDougall, John, Caledonian Iron Works Co., Montreal.
Perrin, William R. & Co., Limited, Toronto.
Smart-Turner Machine Co., Hamilton, Ont.

Copper Materials

Greening, B. Wire Co., Hamilton, Ont.
Phillips, Eugene F. Electrical Works, Montreal.
Syracuse Smelting Works, Montreal.

Corrugated Iron

Metallic Roofing Co., Toronto.
Pedlar People, Oshawa, Ont.

Covers

McCullough-Dalsell Crucible Co., Pittsburg, Pa.

Cranes (Electric and Hand Power)

Smart-Turner Machine Co., Hamilton, Ont.

Crayons

Lowell Crayon Co., Lowell, Mass.

Crucibles

Dixon, Joseph, Crucible Co., Jersey City, N.J.
Hamilton Facing Mill Co., Hamilton, Ont.
McCullough-Dalsell Crucible Co., Pittsburg, Pa.
Syracuse Smelting Works, Montreal.

Crucible Caps

Hamilton Facing Mill Co., Hamilton, Ont.
McCullough-Dalsell Crucible Co., Pittsburg, Pa.

Crucible Covers

McCullough-Dalsell Crucible Co., Pittsburg, Pa.

Cutter Grinding Machines

Becker-Brainard Milling Machine Co., Hyde Park, Mass.

Dashes

McKinnon Dash & Metal Works Co., St. Catharines, Ont.

Dies (Socket, Sewer Pipe and Tile)

Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

Directories

Kelly's Directories, Limited, Toronto

Draw Benches (Wire)

Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

Dredges

Allis-Chalmers-Bullock, Limited, Montreal.

Drill Chucks

Krug & Crosby, Hamilton, Ont.

Drills

Allis-Chalmers-Bullock, Limited, Montreal.
Canadian Westinghouse Co., Ltd., Hamilton, Ont.
Petrie, H. W., Toronto.

Drills (Pneumatic and Rock)

Allis-Chalmers-Bullock, Limited, Montreal.
Canadian Rand Drill Co., Sherbrooke, Que.
Jeffrey Mfg. Co., Columbus, Ohio.

Drop Forgings

Globe Machine & Stamping Co., Cleveland, Ohio.

Drop Forging Dies

Globe Machine & Stamping Co., Cleveland, Ohio.

Dry Kiln Apparatus

Sheldons, Limited, Galt, Ont.
Sturtevant, B. F. Co., Boston, Mass.

Dust and Shavings Separators

Sheldons, Limited, Galt, Ont.
Sturtevant, B. F. Co., Boston, Mass.

Dye Stuffs and Chemicals

Benson, W. T. & Co., Montreal.
Brunner, Mond & Co., Northwich, England.
Canada Chemical Mfg. Co., London, Ont.
Casella Color Co., New York City.
McArthur, Corneille & Co., Montreal.
Nichols Chemical Co. of Canada, Montreal.
Winn & Holland, Montreal.

DYNAMOS (See Motors and Dynamos)**Electric Meters and Transformers**

Packard Electric Co., St. Catharines, Ont.

Electric Mine Locomotives

Canadian General Electric Co., Toronto.
Canadian Westinghouse Co., Ltd., Hamilton, Ont.
Jeffrey Mfg. Co., Columbus, Ohio.

Electric Transformers

Allis-Chalmers-Bullock, Limited, Montreal.

Electrical Repairs

Keystone Engineering Co., Toronto.

Electrical Supplies

Bristol Co., Waterbury, Conn.
Canadian General Electric Co., Toronto

CLASSIFIED INDEX.

(CONTINUED).

Canadian Westinghouse Co., Ltd., Hamilton, Ont.
Electrical Construction Co., London, Ont.
Forman, John, Montreal.
Jones & Moore Electric Co., Toronto
Keystone Engineering Co., Toronto.
Packard Electric Co., St. Catharines, Ont.
Toronto & Hamilton Electric Co., Hamilton, Ont.

Elevators and Conveyors

Darling Bros. Montreal.
Jeffrey Mfg. Co., Columbus, Ohio.
Jenckes Machine Co., Sherbrooke, Que.

Elevator Insurance

Canadian Casualty & Boiler Insurance Co., Toronto.

Emery and Emery Wheels

Forman, John, Montreal.
Hamilton Facing Mill Co., Hamilton, Ont.
Petrie, H. W., Toronto.

Engineers (Chemical)

Heys, Thomas & Son, Toronto.
Hunt, Robert W. & Co., Chicago, Ill.

Engineers (Civil)

Parke, R. J., Toronto.
Vogel, C. H., Ottawa.

Engineers (Consulting)

Aitken, K. L., Toronto.
Electrical Construction Co., London, Ont.
Fensom, C. J., Toronto.
Hunt, Robert W. & Co., Chicago, Ill.
Keystone Engineering Co., Toronto, Ont.
Marion & Marion, Montreal.
Parke, R. J., Toronto.
Perrin William R. & Co., Limited, Toronto.
Vogel, C. H., Ottawa.

Engineers (Contracting)

Babcock & Wilcox, Limited, Montreal.
Canada Foundry Co., Toronto.
Darling Bros., Montreal.
Electrical Construction Co., London Ont.
Fensom, C. J., Toronto.
Keystone Engineering Co., Toronto.
McDougall, John, Caledonian Iron Works Co., Montreal.
Robb Engineering Co., Amherst, N.S.

Engineers (Electrical)

Aitken, K. L., Toronto.
Allis-Chalmers-Bullock, Limited, Montreal.
Canadian General Electric Co., Ltd., Toronto.
Canadian Westinghouse Co., Ltd., Hamilton, Ont.
Crocker-Wheeler Co., St. Catharines, Ont.
Electrical Construction Co., London, Ont.
Fensom, C. J., Toronto.
Jones & Moore Electric Co., Toronto.
Keystone Engineering Co., Toronto.
Marion & Marion, Montreal.
Toronto & Hamilton Electric Co., Hamilton, Ont.

Engineers (Mechanical)

Allis-Chalmers-Bullock, Limited, Montreal.
Babcock & Wilcox, Limited, Montreal.
Darling Bros., Montreal.
Electrical Construction Co., London, Ont.
Fensom, C. J., Toronto.
McDougall, John, Caledonian Iron Works Co., Montreal.
Hunt, Robert W. & Co., Chicago, Ill.
Kerr Engine Co., Walkerville, Ont.
Marion & Marion, Montreal.
Robb Engineering Co., Amherst, N.S.
Sheldons, Limited, Galt, Ont.
Smart-Turner Machine Co., Hamilton, Ont.

Engineers (Mill and Hydraulic)

Fensom, C. J., Toronto.
Smart-Turner Machine Co., Hamilton, Ont.
Vogel, C. H., Ottawa.

Engineers (Mining)

Heys, Thomas & Son, Toronto.
Mills, S. D., Toronto.

Engineers and Contractors

Jeffrey Mfg. Co., Columbus, Ohio.
Jenckes Machine Co., Sherbrooke, Que.
Smart-Turner Machine Co., Hamilton, Ont.

Engines and Boilers

Allis-Chalmers-Bullock, Limited, Montreal.
Babcock & Wilcox, Limited, Montreal.
Canada Foundry Co., Toronto.
Goldie & McCulloch Co., Galt, Ont.

Hopkins, F. H. & Co., Montreal.
Jenckes Machine Co., Sherbrooke, Que.
Morris Machine Works, Baldwinville, N.Y.
McDougall, John, Caledonian Iron Works Co., Montreal.

Petrie, H. W., Toronto.
Robb Engineering Co., Amherst, N.S.
Sheldons, Limited, Galt, Ont.
Smart-Turner Machine Co., Hamilton, Ont.
Sturtevant, B. F. Co., Boston, Mass.
Williams, A. R. Machinery Co., Toronto.

Engravers

Canadian Manufacturer, Toronto.
Jones, J. L. Engraving Co., Toronto.

Exhaust Fans

Hamilton Facing Mill Co., Hamilton, Ont.
Sheldons, Limited, Galt, Ont.
Sturtevant, B. F. Co., Boston, Mass.

Exhaust Heads

Darling Bros., Montreal.
Sheldons, Limited, Galt, Ont.
Sturtevant, B. F. Co., Hyde Park, Mass.

Exhaustors

Sheldons, Limited, Galt, Ont.
Sturtevant, B. F. Co., Hyde Park, Mass.

Factory Sites

(See Factory Locations, page 31.)

Feed Water Heaters

Babcock & Wilcox, Limited, Montreal.
Darling Bros., Montreal.
McDougall, John, Caledonian Iron Works Co., Montreal.
Pittsburg Filter Mfg. Co., Pittsburg, Pa.
Robb Engineering Co., Amherst, N.S.
Smart-Turner Machine Co., Hamilton, Ont.

Feed Water Purifiers

Pittsburg Filter Mfg. Co., Pittsburg, Pa.

Files

Spence, R. & Co., Hamilton, Ont.

Fillet (Pattern)

Hamilton Facing Mill Co., Hamilton, Ont.
Sadler & Haworth, Montreal and Toronto.

Filters (Oil)

Babcock & Wilcox, Limited, Montreal.
Darling Bros., Montreal.
McDougall, John, Caledonian Iron Works Co., Montreal.
Perrin William R. & Co., Limited, Toronto.

Filters and Filtering Systems (Water)

Babcock & Wilcox, Limited, Montreal.
Jenckes Machine Co., Sherbrooke, Que.
McDougall, John, Caledonian Iron Works Co., Montreal.
Pittsburg Filter Mfg. Co., Pittsburg, Pa.

Financial

Bradstreet's, New York City.
Dun, R. G. & Co., Toronto.
Neff & Postlethwaite, Toronto.
Petrie, H. D., Hamilton, Ont.

Finials

Metallic Roofing Co., Toronto.
Pedlar People, Osawa, Ont.

Fire Brick and Clay

Dunbar Fire Brick Co., Pittsburgh, Pa.
Elk Fire Brick Co., St. Mary's, Pa.
Hamilton Facing Mill Co., Hamilton, Ont.
Harrison-Walker Refractories Co., Pittsburgh, Pa.
Pennsylvania Fire Brick Co., Beech Creek, Pa.
Queen's Run Fire Brick Co., Lock Haven, Pa.
Stowe-Fuller Co., Cleveland, Ohio.

Fire Escapes

Darling Bros., Montreal.

Fireproof Partitions

Metallic Roofing Co., Toronto.
Pedlar People, Osawa, Ont.

Flour Mill Machinery

Allis-Chalmers-Bullock, Limited, Montreal.
Goldie & McCulloch Co., Galt, Ont.

Forges and Blowers

Canada Foundry Co., Toronto.
Hamilton Facing Mill Co., Hamilton, Ont.
Sheldons, Limited, Galt, Ont.
Sturtevant, B. F. Co., Boston, Mass.

Founders

Canada Foundry Co., Toronto.
Goldie & McCulloch Co., Galt, Ont.
Hamilton, Wm. Mfg. Co., Peterborough, Ont.
Jenckes Machine Co., Sherbrooke, Que.
McDougall, John, Caledonian Iron Works Co., Montreal.
Robb Engineering Co., Amherst, N.S.
Smart-Turner Machine Co., Hamilton, Ont.

Foundry Facings and Supplies

Hamilton Facing Mill Co., Hamilton, Ont.

Fuel Economisers

Babcock & Wilcox, Limited, Montreal.
Sturtevant, B. F. Co., Hyde Park, Mass.

Furniture (Lodge, Opera and School)

Canada Office & School Furniture Co., Weston, Ont.

Galvanizing

Ontario Wire League & Pump Co., Toronto.

Galvanizing and Tinning Machinery and Furnaces (Wire)

Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

Gas and Gasoline Engines

Economic Power, Light & Heat Supply Co., Toronto.
Morrison, T. A. & Co., Montreal.
Smart-Turner Machine Co., Hamilton, Ont.

Gauges (Recording Pressure)

Bristol Co., Waterbury, Conn.

Gauges (Steam)

Petrie, H. W., Toronto.
Williams, A. R. Machinery Co., Toronto.

Gauges (Water)

Babcock & Wilcox, Limited, Montreal

Generating Sets

Sturtevant, B. F. Co., Hyde Park, Mass.

Generators

Allis-Chalmers-Bullock, Limited, Montreal.
Canadian General Electric Co., Toronto.
Canadian Westinghouse Co., Ltd., Hamilton, Ont.
Electrical Construction Co., London, Ont.
Forman, John, Montreal.
Jeffrey Mfg. Co., Columbus, Ohio.
Jones & Moore Electric Co., Toronto.
Phillips, Eugene F., Electrical Works, Montreal.
Toronto & Hamilton Electric Co., Hamilton, Ont.

Gloves, Mittens and Moccasins

Storey, W. H. & Son, Aton, Ont.

Government Notices

Factory Inspectors.
Minister of Agriculture.

Graphite

Dixon, Jos. Crucible Co., Jersey City, N.J.
Hamilton Facing Mill Co., Hamilton, Ont.
McCullough-Dalsell Crucible Co., Pittsburg, Pa.

Hack Saws

Krug & Crosby, Hamilton, Ont.

Hammers

McKinnon Dash & Metal Works Co., St. Catharines.

Hardware

Butterfield & Co., Rock Island, Que.
Gartshore, John J., Toronto.
Globe Machine & Stamping Co., Cleveland, Ohio.
Hopkins, F. H. & Co., Montreal.
Morrow John Machine Screw Co., Ingersoll, Ont.

Heating and Ventilating Apparatus

Darling Bros., Montreal.
Sheldons, Limited, Galt, Ont.
Sturtevant, B. F. Co., Boston, Mass.

Holding Engines

Allis-Chalmers-Bullock, Limited, Montreal.
Jenckes Machine Co., Sherbrooke, Que.

Hoists (Chain and Pneumatic)

Canadian Rand Drill Co., Sherbrooke, Que.
Hopkins, F. H. & Co., Montreal.

Hose (Fire and Pneumatic)

Gutta Percha & Rubber Mfg. Co., Toronto.

Hydrants

Kerr Engine Co., Walkerville, Ont.
Jenckes Machine Co., Sherbrooke, Que.
McDougall, John, Caledonian Iron Works Co., Montreal.

Hydraulic Accumulators

Jenckes Machine Co., Sherbrooke, Que.
McDougall, John, Caledonian Iron Works Co., Montreal.
Smart-Turner Machine Co., Hamilton, Ont.

Hydraulic Machinery

Allis-Chalmers-Bullock, Limited, Montreal.
Canada Foundry Co., Toronto.
Darling Bros., Montreal.
Jenckes Machine Co., Sherbrooke, Que.
McDougall, John, Caledonian Iron Works Co., Montreal.
Perrin, William R. & Co., Limited, Toronto.
Petrie, H. W., Toronto.
Smart-Turner Machine Co., Hamilton, Ont.

Hydro-Electric Plant

Allis-Chalmers-Bullock, Limited, Montreal.

HARBISON-WALKER REFRACTORIES CO.
 PITTSBURGH, PA.

Manufacturers of
 Highest Grade
 Refractories.

Importers of
 Chrome Ore.

Sole Agents for
 Carl Spector Magnesite.

**Fire Clay, Silica,
 Magnesia, Chrome
 BRICK.**

Blast Furnace Linings. Stove
 Brick. Open Hearth Furnace
 Brick. Cupola Linings. Brick
 for Gas Furnaces. Brick for Mill,
 Forge and Heating Furnaces.
 Brick for Copper, Nickel, Brass
 Furnaces, etc. Rotary Cement
 Linings. Brick for Lime Kilns, etc.

7,500 Regular Customers. Write for Booklet K. 1,100,000 Daily Capacity.

A LTHOUGH we talk crucibles oftenest, we make other plumbago articles, such as stoppers, nozzles, covers, phosphorizers, etc., with the same care and good materials that have made our crucibles famous. Write for prices.

McCULLOUGH-DALZELL CRUCIBLE COMPANY, PITTSBURGH, PA.

The Howe-Fuller Co.
 CLEVELAND, O.

FIRE BRICK

SILICA FIRE CLAY
 ALUMNITE
 SILICA CEMENT

MACHESITE BURNT MACHESITE

Our factories are the most complete in the country. Located in Pennsylvania, Ohio, and Kentucky—and controlling the largest known bodies of Refractory materials for different work. Operated by experienced managers. We manufacture material for all heat work—second to none. Capacity over 200,000 Brick and Special Shapes per day. Write for catalogue.

TO THE VARNISH BUYER

the most serious considerations are quality, reliability and uniformity, and these qualifications are of special importance to the dealer who is trying to build up a permanent varnish trade.

Berry Brothers' label or brand may be safely relied upon as ensuring the above conditions.

Our Varnishes are the safest goods to handle and the surest and most reliable goods to use.

BERRY BROTHERS, Limited

VARNISH MANUFACTURERS

WALKERVILLE, ONT.

Write for our 100 page illustrated catalogue. Every dealer should have a copy for reference.

CLASSIFIED INDEX.

(CONTINUED).

Insulated Wires and Cables

Phillips, Eugene F., Electrical Works, Montreal.

Iron and Steel Specialties

Armstrong Mfg. Co., Bridgeport, Conn.
Bourne-Fuller Co., Cleveland, Ohio.
Canada Foundry Co., Toronto.
Leslie, A. C. & Co., Montreal.
London Rolling Mill Co., London, Ont.
Lysaght, John, Limited, Bristol, England and Montreal.
Metallic Roofing Co., Toronto.
Nova Scotia Steel & Coal Co., New Glasgow, N.S.
Pedlar People, Oshawa, Ont.
Petrie, H. W., Toronto.
Union Drawn Steel Co., Hamilton, Ont.

Injectors

Canada Foundry Co., Toronto.
Hamilton Brass Mfg. Co., Hamilton, Ont.
Williams A. R. Machinery Co., Toronto.

Iron and Steel Inspection

Hunt R. W. & Co., Chicago, Ill.

Lamps—Electric

Allis-Chalmers-Bullock, Limited, Montreal.
Canadian General Electric Co., Toronto.
Canadian Westinghouse Co., Ltd., Hamilton, Ont.
Forman, John, Montreal.
Packard Electric Co., St. Catharines, Ont.

Lathes

Petrie, H. W., Toronto.
Williams, A. R. Machinery Co., Toronto.

Lathes (Wood-working)

Goldie & McCulloch Co., Galt, Ont.
Petrie, H. W., Toronto.
Williams, A. R. Machinery Co., Toronto.

Linoleum

Dominion Oil Cloth Co., Montreal.

Lubricators

Hamilton Facing Mill Co., Hamilton, Ont.

Machinists

Goldie & McCulloch Co., Galt, Ont.
Krug & Crosby, Hamilton, Ont.
Robb Engineering Co., Amherst, N.S.
Smart-Turner Machine Co., Hamilton, Ont.

Machinists' Supplies

Armstrong Mfg. Co., Bridgeport, Conn.
Butterfield & Co., Rook Island, Que.
Goldie & McCulloch Co., Galt, Ont.
Gutta Percha & Rubber Mfg. Co., Toronto.
Hopkins, F. H. & Co., Montreal.
Jeffrey Mfg. Co., Columbus, Ohio.
Morrow, John, Machine Screw Co., Ingersoll, Ont.
Petrie, H. W., Toronto.

Machine Tools

Becker-Brainard Milling Machine Co., Hyde Park, Mass.
Darling Bros., Montreal.
Petrie, H. W., Toronto.

Malleable Castings

McKinnon Dash & Metal Works Co., St. Catharines, Ont.
Smith's Falls Malleable Castings Co., Smith's Falls, Ont.

Marine and Stationary Engines and Boilers

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Jencks Machine Co., Sherbrooke, Que.
Smart-Turner Machine Co., Hamilton, Ont.

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Sturtevant, B. F. Co., Boston, Mass.

Metal Doors

Metallic Roofing Co., Toronto.
Pedlar People, Oshawa, Ont.

Metal Stamping

Globe Machine & Stamping Co., Cleveland, Ohio.
Metallic Roofing Co., Toronto.
Pedlar People, Oshawa, Ont.

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Mills, S. D., Toronto.

Mill Machinery and Supplies

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Armstrong Mfg. Co., Bridgeport, Conn.
Becker-Brainard Milling Machine Co., Hyde Park, Mass.
Darling Bros., Montreal.
Gartshore, John J., Toronto.
Goldie & McCulloch Co., Galt, Ont.
Gutta Percha & Rubber Mfg. Co., Toronto.
Hamilton Brass Mfg. Co., Hamilton, Ont.
Hay, Peter Knife Co., Galt, Ont.
Hopkins, F. H. & Co., Montreal.
Jeffrey Mfg. Co., Columbus, Ohio.
Jencks Machine Co., Sherbrooke, Que.
Morrow, John, Machine Screw Co., Ingersoll, Ont.
McDougall, John, Caledonian Iron Works Co., Montreal.
McLaren, D. K., Montreal and Toronto.
Petrie, H. W., Toronto.
Robb Engineering Co., Amherst, N.S.
Sadler & Haworth, Montreal and Toronto.
Smart-Turner Machine Co., Hamilton, Ont.
Spence, R. & Co., Hamilton, Ont.

Milling Cutters and Machines

Becker-Brainard Milling Machine Co., Hyde Park, Mass.

Mining Machinery

Allis-Chalmers-Bullock, Limited, Montreal.
Canadian Rand Drill Co., Sherbrooke, Que.
Gartshore, John J., Toronto.
Hamilton, Wm. Mfg. Co., Peterborough, Ont.
Hopkins, F. H. & Co., Montreal.
Jeffrey Mfg. Co., Columbus, Ohio.
Jencks Machine Co., Sherbrooke, Que.
McDougall, John, Caledonian Iron Works Co., Montreal.
Perrin, William R. & Co., Limited, Toronto.
Petrie, H. W., Toronto.
Williams, A. R. Machinery Co., Toronto.

Motors and Dynamos

Allis-Chalmers-Bullock, Limited, Montreal.
Canadian General Electric Co., Toronto.
Canadian Westinghouse Co., Ltd., Hamilton, Ont.
Electrical Construction Co., London, Ont.
Forman, John, Montreal.
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Jones & Moore Electric Co., Toronto.
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Hamilton Facing Mills Co., Hamilton, Ont.

Moulders Supplies.

Hamilton Facing Mill Co., Hamilton, Ont.

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Pittsburg Filter Mfg. Co., Pittsburg, Pa.

Nickel

Canadian Copper Co., New York, N.Y.
Orford Copper Co., New York, N.Y.

Nozzles

McCullough-Dalsell Crucible Co., Pittsburg, Pa.

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Canadian Office & School Furniture Co., Preston, Ont.

Oils and Lubricants

Dixon, Jos. Crucible Co., Jersey City, N.J.
Hamilton Facing Mill Co., Hamilton, Ont.
Imperial Oil Co., Petrolia, Ont.
Queen City Oil Co., Toronto.

Oil Cloth

Dominion Oil Cloth Co., Montreal.

Paints and Colors

Barry Bros., Walkerville, Ont.
McArthur, Cornelle & Co., Montreal.

Paper Manufacturers

Barber, Wm. & Bros., Georgetown, Ont.
Toronto Paper Mfg. Co., Cornwall, Ont.

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Budden, Hanbury A., Montreal.
Fetherstonhaugh & Co., Toronto.
Marion & Marlon, Montreal.

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Maxwell, David & Sons, St. Mary's, Ont.

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Globe Machine & Stamping Co., Cleveland, Ohio.
Greening, B. Wire Co., Hamilton, Ont.
Metallic Roofing Co., Toronto.
Pedlar People, Oshawa, Ont.

Personal Accident

Canadian Casualty & Boiler Insurance Co., Toronto.

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McCullough-Dalsell Crucible Co., Pittsburg, Pa.

Pig Iron

Bourne-Fuller Co., Cleveland, Ohio.
Canada Iron Furnace Co., Montreal.
Nova Scotia Steel & Coal Co., New Glasgow, N.S.
Syracuse Smelting Works, Montreal.

Pipe (Riveted, Iron and Steel)

Babcock & Wilcox, Limited, Montreal.
McDougall, John, Caledonian Iron Works Co., Montreal.

Pipe Threading Machines

Armstrong Mfg. Co., Bridgeport, Conn.
Butterfield & Co., Rook Island, Que.
Petrie, H. W., Toronto.

Pipes and Tubes

Bourne-Fuller Co., Cleveland, Ohio.
Canada Foundry Co., Toronto.
Montreal Pipe Foundry Co., Montreal.

Plaster

Albert Mfg. Co., Hillsborough, N.B.

Plates

Bourne-Fuller Co., Cleveland, Ohio.
Nova Scotia Steel & Coal Co., New Glasgow, N.S.

Plumbago

Hamilton Facing Mills Co., Hamilton, Ont.
McCullough-Dalsell Crucible Co., Pittsburg, Pa.

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Allis-Chalmers-Bullock, Limited, Montreal.
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Babcock & Wilcox, Limited, Montreal.
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Canadian Westinghouse Co., Ltd., Hamilton, Ont.
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Electrical Construction Co., London, Ont.
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Smart-Turner Machine Co., Hamilton, Ont.
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Toronto & Hamilton Electric Co., Hamilton, Ont.

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Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

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Darling Bros., Montreal.
Goldie & McCulloch Co., Galt, Ont.
Jeffrey Mfg. Co., Columbus, Ohio.
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Producer Gas Plants

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Canada Foundry Co., Toronto.

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Morris Machine Works, Baldwinsville, N.Y.
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Ontario Wind Engine & Pump Co., Toronto.
Petrie, H. W., Toronto.
Smart-Turner Machine Co., Hamilton, Ont.

Punches and Shears
Globe Machine & Stamping Co., Cleveland, Ohio.
Petrie, H. W., Toronto.

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Babcock & Wilcox, Limited, Montreal.
Goldie & McCulloch Co., Galt, Ont.
McDougall, John, Caledonian Iron Works Co., Montreal.

Purifying and Softening Systems (Water)
Babcock & Wilcox, Limited, Montreal.
Darling Bros., Montreal.
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Railroads
Chicago & North-Western Ry., Toronto and St. Paul, Minn.

Railway Supplies
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Allis-Chalmers-Bullock, Limited, Montreal.
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Greening, B. Wire Co., Hamilton, Ont.
Gutta Percha & Rubber Mfg. Co., Toronto.
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Rock and Ore Crushers
Allis-Chalmers-Bullock, Limited, Montreal.
Bradley Pulverizer Co., Boston, Mass.

Rolling Mill Engineers
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Roofing
Bourne-Fuller Co., Cleveland, Ohio.
Metallie Roofing Co., Toronto.
Pedlar People, Oshawa, Ont.

Rubber Goods
Gutta Percha & Rubber Mfg. Co., Toronto.

Rubber Packing
Gutta Percha & Rubber Mfg. Co., Toronto.

Rubber Washing Tubs
Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

Rural Mail Boxes
Globe Machine & Stamping Co., Cleveland, Ohio.

Saddlery Hardware
McKinnon Dash & Metal Works Co., St. Catharines, Ont.

Safes and Vaults
Goldie & McCulloch Co., Galt, Ont.

Saw Mill Machinery
Allis-Chalmers-Bullock, Limited, Montreal.

Screws
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Globe Machine & Stamping Co., Cleveland, Ohio.
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Globe Machine & Stamping Co., Cleveland, Ohio.
Metallie Roofing Co., Toronto.
Pedlar People, Oshawa, Ont.

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Hamilton Facing Mill Co., Hamilton, Ont.

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Globe Machine & Stamping Co., Cleveland, Ohio.
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Allis-Chalmers-Bullock, Limited, Montreal.

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Steel Rails

Algoma Steel Co., Sault Ste. Marie, Ont.
Drummond, McCall & Co., Montreal and Toronto.
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Hopkins, F. H. & Co., Montreal.

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Stocks and Dies

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Butterfield & Co., Rock Island, Que.
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Stoppers

McCullough-Dalsell Crucible Co., Pittsburg, Pa.

Structural Steel

Bourne-Fuller Co., Cleveland, Ohio.
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Sulphate of Alumina

Nichols Chemical Co. of Canada, Montreal.

Suspension Furnaces

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Switchboards

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McDougall, John, Caledonian Iron Works Co., Montreal.
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Dominion Oil Cloth Co., Montreal.
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Thermometers (Recording)

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Tin

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Syracuse Smelting Works, Montreal.

Tool Steel

Bourne-Fuller Co., Cleveland, Ohio.
Hopkins, F. H. & Co., Montreal.
Leslie, A. C. & Co., Montreal.

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Hopkins, F. H. & Co., Montreal.
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Trucks (Railway)

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Trucks (Wire Mill Supplies)

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Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

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Babcock & Wilcox, Limited, Montreal.
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Varnishes

Berry Bros., Walkerville, Ont.

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Darling Bros., Montreal.
Metallie Roofing Co., Toronto.
Pedlar People, Oshawa, Ont.
Sheldons, Limited, Galt, Ont.
Sturtevant, B. F. Co., Boston, Mass.

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Hore, F. W. & Son, Hamilton, Ont.

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Vogel C. H., Ottawa.

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Canada Chemical Mfg. Co., London, Ont.

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Wheelbarrows.

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Ontario Wind Engine & Pump Co., Toronto.

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Dominion Wire Rope Co., Montreal.

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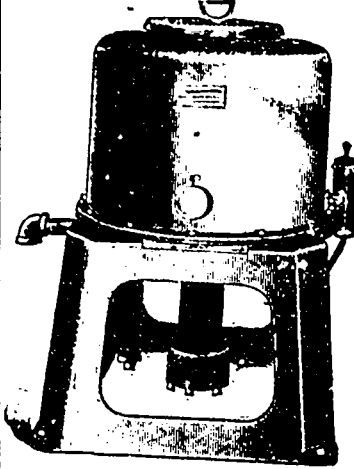
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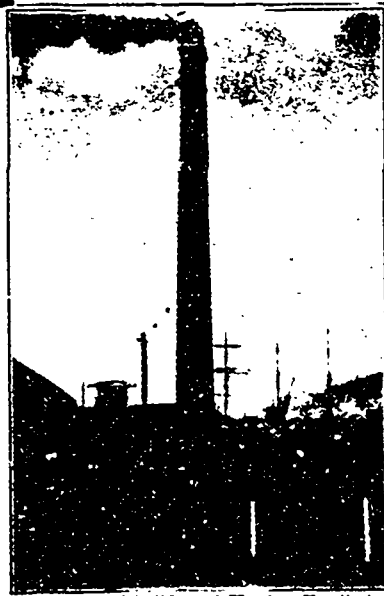
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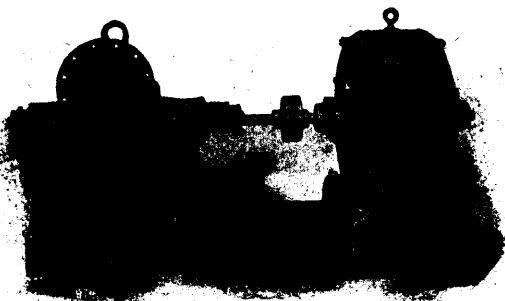
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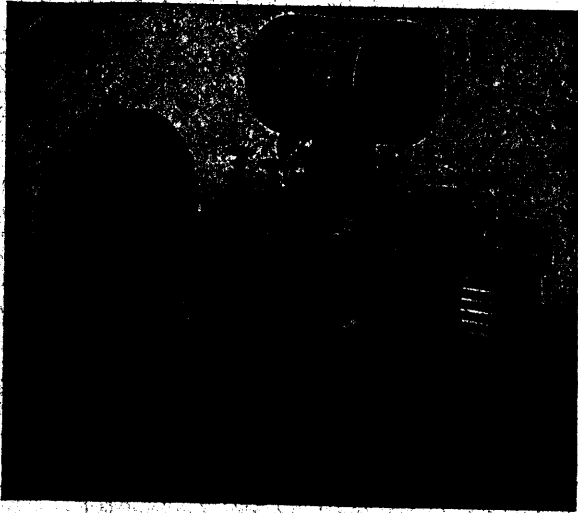
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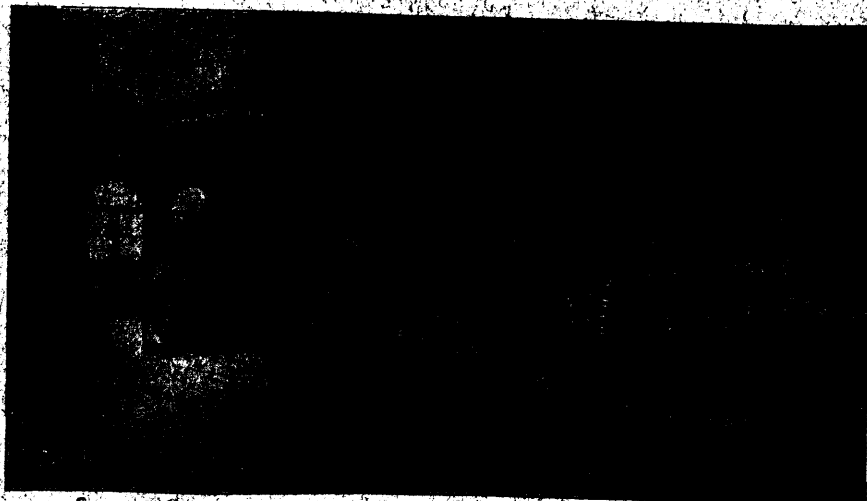
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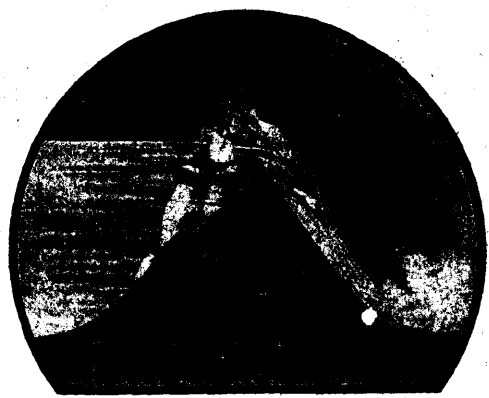
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