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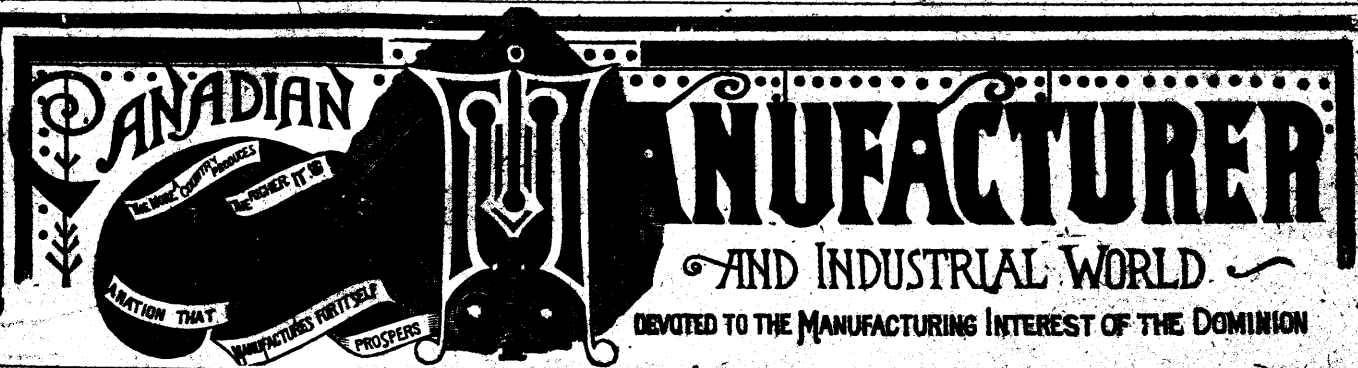
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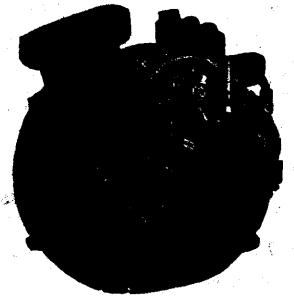
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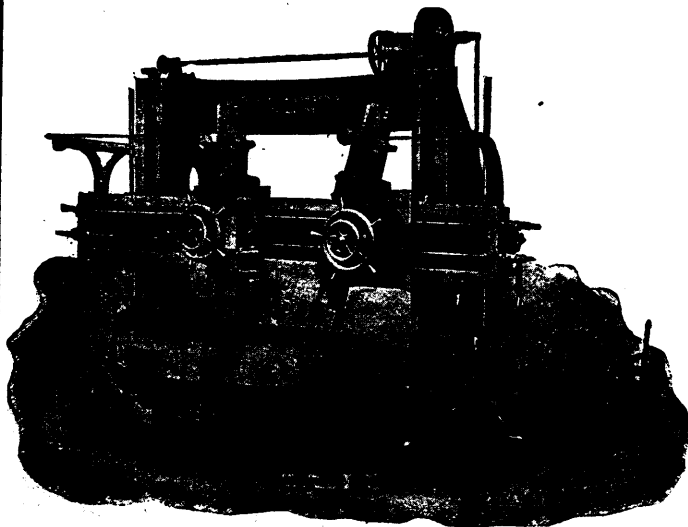
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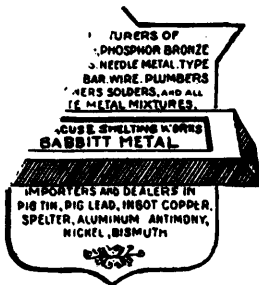
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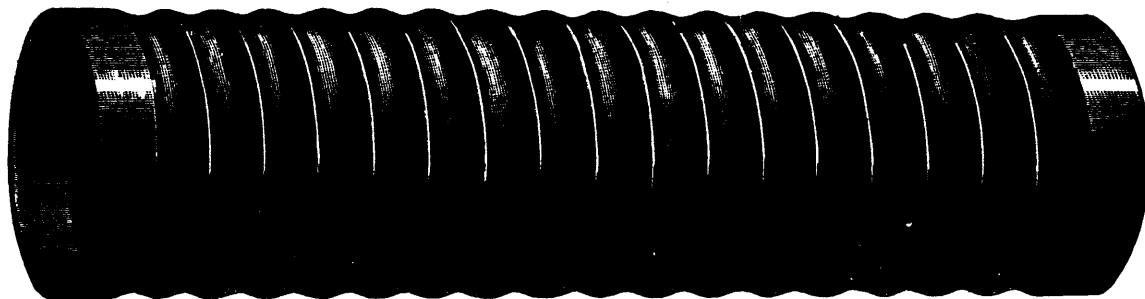


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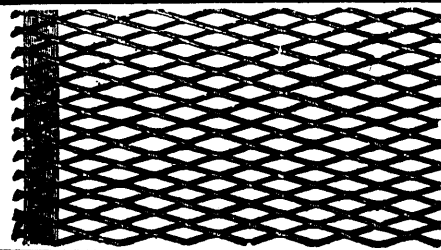
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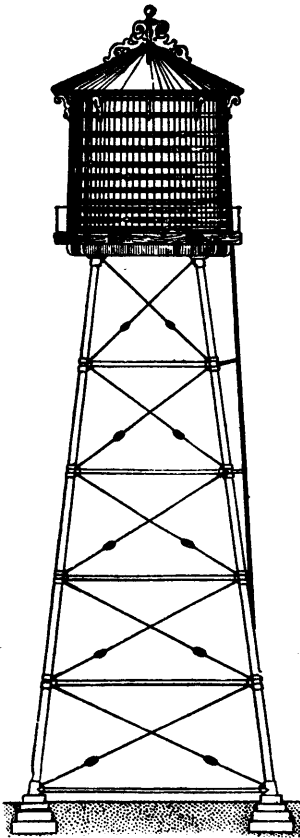
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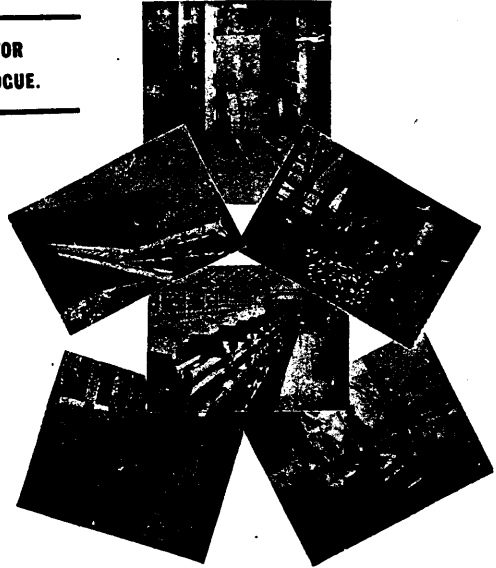
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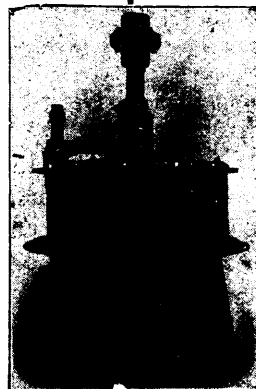
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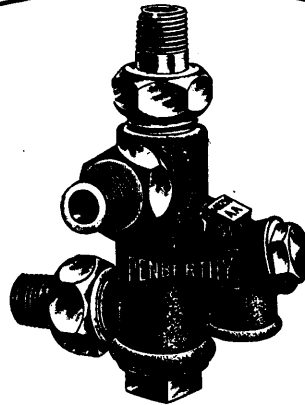
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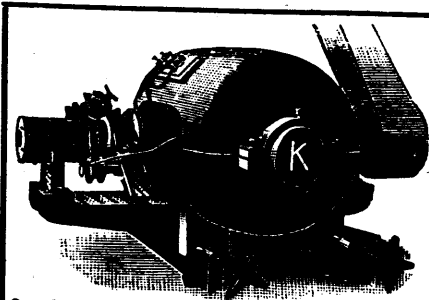
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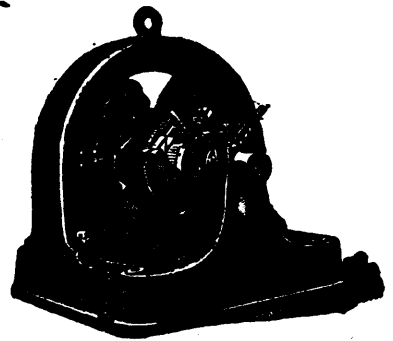
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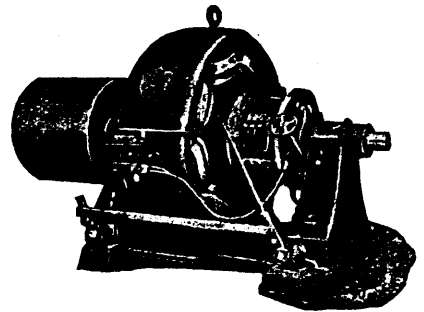
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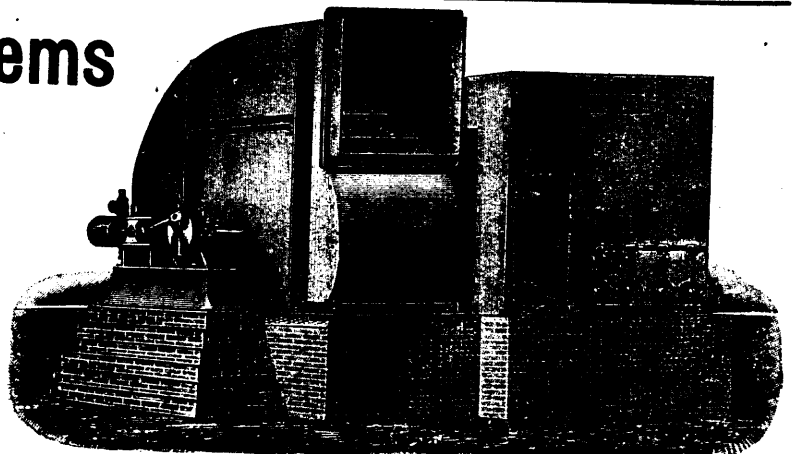
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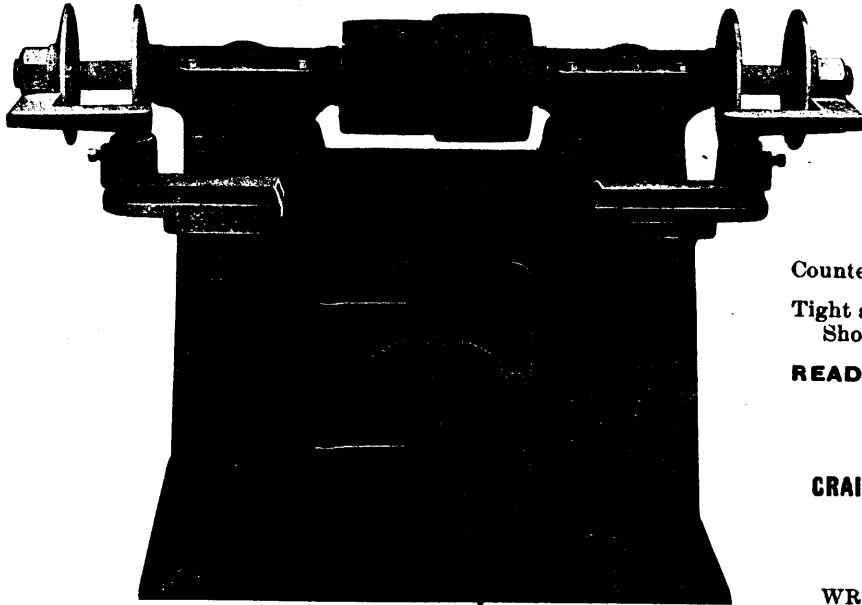
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J. J. CASSIDEY, Editor and Manager.

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THE OLD RECIPROCITY ARRANGEMENT.

In 1854 a commercial treaty was negotiated between the Canadian Provinces and the United States, which was ratified by the proper authorities in both countries and became operative. It was, by its terms, to continue in force for the period of ten years and continually thereafter until twelve months after the government of either country gave notice to the other of its desire to terminate it. Either government could give such notice at any time after the expiration of the ten year period. The treaty was in force for almost twelve years, when in 1865, by direction of the Congress of the United States the President gave such notice, and the treaty was terminated in 1866. In this treaty no provision was made for fixing the duty on any dutiable articles imported by either country from the other, but simply provided that certain articles, the growth or product of either country, should be admitted into the other free of duty.

These articles were enumerated in the treaty as follows:

- Grain, flour and bread stuffs of all kinds.
- Animals of all kinds.
- Fresh, smoked and salted meats.
- Cotton wool, seeds and vegetables.
- Undried fruits and dried fruits.
- Fish of all kinds.
- Products of fish and of all other creatures living in the water.
- Poultry and eggs.
- Hides, furs, skins or tails, undressed.
- Stone or marble, in its crude or unwrought state.
- Slate.
- Butter, cheese and tallow.
- Lard, horns, manures.
- Ores of metals of all kinds.
- Coal.
- Pitch, tar, turpentine, ashes.
- Timber and lumber of all kinds, round, hewed and sawed, manufactured in whole or in part.
- Firewood.
- Plants, shrubs and trees.
- Pelts, wool.
- Fish oil.
- Rice, broom, corn and bark.
- Gypsum, ground or unground.
- Grindstones and burr stones, wrought or unwrought.

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- Dyestuff.
- Flax, hemp and tow.
- Tobacco—unmanufactured.
- Rags.

It is difficult to comprehend the reason of the United States Government for abrogating their treaty. It was just at the close of the war between the North and the South, and the principal reason assigned by the Congress was, that with its enormous debt the Government was in need of all the revenues it could possibly raise, and must have those which would be derived from duty on imports from Canada. It has been and is asserted by some that the treaty worked unfavorably to the United States, based mainly upon the fact that the last year it was in operation the balance of trade was largely against that country; but that was for but a single year of its operation, and therefore should not be considered conclusive. On the other hand many in Canada contend that the operation of the treaty was not favorable to this country. The treaty was certainly very favorable to the United States, which secured to it free coal, free wheat and free lumber from Canada; and it was, reciprocally, of benefit to Canada in that we had free access for the enumerated articles to the United States market. Previous to the adoption of free trade in Great Britain in 1846 a system of preferential treatment encouraged trade between the Mother Country and her colonies; but the repeal of the Corn Laws altered all that, by which Canada was thrown into a long season of painful commercial depression. The population of the country was sparse, and the governments of the different colonies, now included in the Dominion, were frequently not in harmony with each other. There was but little intercourse between the provinces and the United States. There were no railroads, and the modes of communication between the two countries, and also between the provinces, were inadequate—in many instances entirely lacking. Such were some of the conditions at the time of the ratification of the reciprocity treaty of 1854. With the ratification of that treaty trade between the two countries increased at a phenomenal rate, and this prosperous condition continued. During the war the interchange of commodities showed about as much in favor of one country as the other, but during the war period, owing to the curtailment of production in the United States and the increase of consumption, the so-called balance of trade was in favor of Canada. During a period of a little less than the twelve years that the treaty was in force, the

balance of trade in favor of the United States was nearly \$40,000,000, which was more than double the entire trade between the two countries during any year prior to the ratification of the treaty.

A commercial war with reprisals and retaliation on the part of Canada against the United States is proposed by some in this country as an offset against the excessively high duties imposed by the United States tariff, aimed in an ungenerous spirit against Canadian products. The average duty on dutiable goods going from Canada into the United States is about 50 per cent. ad valorem, while the average duty on dutiable goods imported into Canada from the United States is about 25 per cent. It cannot be expected that Canada, as a self-respecting nation, can forever tolerate such a condition. It has been tolerated thus far in the hope that the business judgment of the American people would sooner or later assert itself; and without doubt the expectation of the occurrence of a more generous policy, and that they were desirous of bringing about a reciprocal trade arrangement which would be satisfactory to both countries, has, until now, prevented the enactment of retaliatory measures. Canada is now at the parting of the ways when more generous tariff treatment must be accorded her, or the United States will have to confront a much higher obstacle to its Canadian trade than now exists. How disastrous this may be to the trade of the United States may be imagined.

RECIPROCITY OR RETALIATION—WHICH?

Elsewhere in these pages is given a list of natural products which were admitted duty free into Canada and the United States under the reciprocity treaty between the two countries which went into effect in 1854, and was abrogated by notice from the United States in 1866. For many years since that time Canada endeavored to bring about a substantial renewal of that treaty, but finding the United States in an unwilling mood, has sought her destiny in another direction. Canada, however, entertains the feeling that it is not objectionable to have more than one string to her commercial bow, and is now willing, under certain circumstances, to enter upon as amicable a trade policy with the United States as existed under the treaty. The march of events since that time, however, has placed Canada in a much more independent commercial position than she then occupied, and she is not wooing the United States any more. Her eggs are not all in the same basket now as then; and if the United States really desires to renew the old condition, the proposition must come from that country.

It may be interesting to learn what was the interchange of such products during the fiscal year 1903 as were mentioned in the reciprocity schedule. The values were as follows:

| | Imports into Canada from United States in 1903. | Exports from Canada to United States in 1903. |
|---|--|---|
| Grain, flour and breadstuffs of all kinds..... | \$1,344,401 | \$1,014,432 |
| Animals of all kinds..... | 1,507,196 | 1,907,426 |
| Fresh, smoked and salted meats..... | 1,082,178 | 40,270 |
| Cotton, wool (raw cotton)..... | 5,936,725 | none. |
| Seeds and vegetables..... | 2,231,736 | 307,678 |
| Undried and dried fruits.. | 1,738,778 | 154,848 |
| Fish of all kinds and fish products..... | 558,815 | 3,758,113 |
| Poultry and eggs..... | 180,237 | 24,594 |
| Hides, furs, skins, etc., un- dressed..... | 3,837,253 | 2,635,154 |
| Stone and marble, rough.. | 69,696 | 106,170 |
| Slate..... | 15,578 | none. |

| | Imports into Canada from United States in 1903. | Exports from Canada to United States in 1903. |
|--|--|---|
| Butter, cheese and tallow | 171,197 | 35,444 |
| Lard, horns and animal manures..... | 51,852 | 130 |
| Ores of metals, all kinds.. | 598,921 | 23,118,908 |
| Coal..... | 15,225,698 | 4,640,064 |
| Pitch, tar, turpentine, ashes..... | 478,790 | 104,394 |
| Timber and lumber, all kinds..... | 4,918,253 | 16,751,185 |
| Firewood..... | 67,212 | 115,634 |
| Plants, shrubs and trees... | 42,590 | 6,279 |
| Pelts, wool—unwashed... | 307,672 | 417,630 |
| Fish oil..... | none. | 28,905 |
| Rice, brown corn and bark | 165,231 | 74,973 |
| Gypsum..... | 2,415 | 314,090 |
| Grindstones..... | 44,644 | 11,725 |
| Dyestuffs..... | 981,142 | 6,582 |
| Flax, hemp and tow..... | 453,587 | 179,186 |
| Tobacco—unmanufactured | 2,241,297 | 13,844 |
| Rags..... | none. | none. |
| Total..... | \$44,243,094 | \$55,767,658 |

The value of all merchandise imported into Canada for consumption, from the United States in 1903 was:

| | |
|---------------|---------------|
| Dutiable..... | \$68,538,323 |
| Free..... | 69,066,872 |
| Total..... | \$137,605,195 |

The total value of merchandise, the produce of Canada, exported to the United States in 1903 was \$67,766,367.

The balance of trade in favor of the United States in 1903 was \$69,838,828.

The value of the trade between Canada and the United States in 1903 in the articles enumerated in the free list under the reciprocity treaty which was terminated in 1866 was as under:

| | |
|-----------------------------------|---------------|
| From Canada to United States..... | \$55,767,658 |
| From United States to Canada..... | 44,243,094 |
| Total..... | \$100,010,752 |
| Balance in favor of Canada..... | \$11,524,564 |

The following shows the total value of Canadian exports to the United States in 1903, nearly all of which paid duty when entering that country, and the value of the articles included in that total, which, under reciprocity would have entered duty free:

| | |
|------------------------------|--------------|
| Total value..... | \$67,766,367 |
| Under reciprocity, free..... | 55,767,658 |
| Dutiable..... | \$11,999,709 |

Which means that of the nearly \$68,000,000 worth of Canadian exports to the United States in 1903, under reciprocity less than \$12,000,000 would have been liable to duty in that country, and nearly \$56,000,000 would have been admitted duty free.

It is true that Canada imposes comparatively light duties upon some of the natural products of the United States imported into this country, but the duties imposed upon similar products by the United States upon imports from Canada are exorbitant and almost prohibitive. Following are some of the duties imposed by the United States tariff:

Rate per bushel on grain, vegetables, fruits, etc.—Wheat, 25 cents; barley, 30 cents; Malt, 45 cents; oats and buckwheat, 15 cents; Rye, 10 cents; beans, 45 cents; peas, 40 cents; Onions, 40 cents; potatoes, 25 cents; apples, peaches, cherries, plums and pears, 25 cents. Turnips and garden vegetables, 25 per cent.; cabbages, 3 cents each; berries, 1 cent per pound; hay, \$4 per ton; lumber, \$2 per M; ties,

posts and poles, 20 per cent. ; cattle under one year old, \$2 each ; cattle over one year old, 27½ per cent. ; hogs and sheep, \$1.50 each ; lambs, 75 cents each ; horses, \$30 each ; hams and bacon, 5 cents per pound ; fresh meats and lard, 2 cents per pound ; dressed poultry, 5 cents per pound ; lead ore, 1½ cents per pound upon the product of lead ; iron ore, 75 cents per ton ; brick, 25 per cent. ; cement, 8 cents per cwt. ; lime, 5 cents per cwt. ; plaster of Paris, \$1 per ton ; calcined plaster, \$1.25 per ton ; stone and granite, rough, 12 cents per cubic foot ; marble, rough, 50 cents per cubic foot ; salt water fish, fresh, ¼ cent per pound.

In view of the fact of these abnormally high duties, it is not surprising that against Canada's export of grain, flour and breadstuffs of all kinds to the United States in 1903, valued at only \$1,014,432 her exports of grain alone to Great Britain in that year should amount to \$25,430,000.

If the United States desires to renew the old reciprocity arrangement based substantially upon the same lines that before prevailed—reciprocity in the natural products of the two countries, it can be had, but the United States must first ask for it ; and if it is not asked for, and that in the near future, Canada will certainly institute a reciprocity of tariffs. Canada is a large consumer of American manufactured products, our imports of such in 1903 amounting in value to more than \$68,500,000 of dutiable goods the duty upon which averaged about 25 per cent. or more than \$17,000,000. Twice that amount, or 50 per cent. would be about \$34,000,000 which American manufacturers would have to pay to export the same value of products to Canada that they exported to Canada in 1903.

THE NEW ZEALAND PREFERENTIAL TARIFF.

Some details are available respecting the New Zealand Preferential Tariff which was recently adopted by the New Zealand House of Representatives. The articles which will receive preferential treatment and the new rates are as follows :

| | British rates. | Foreign rates. |
|--|----------------|----------------|
| Bicycles | 20 p.c. | 30 p.c. |
| Bicycle fittings | Free. | 20 p.c. |
| Canvas | Free. | 20 p.c. |
| Carriage timber (dressed), per 1,000 sup. ft. | 4s. | 6s. |
| Carriages and Carts | 20 p.c. | 30 p.c. |
| Cement, per barrel | 2s. | 4s. |
| Cordage (except iron and steel) .. | 20 p.c. | 30 p.c. |
| Cordage, iron and steel | Free. | 20 p.c. |
| Fancy goods | 20 p.c. | 30 p.c. |
| Fish, preserved, per lb | 2d. | 3d. |
| GLASS AND GLASSWARE : | | |
| Milk testing glasses | 5 p.c. | 7½ p.c. |
| Infants' feeding bottles and seltzogenes | 15 p.c. | 22½ p.c. |
| Glass, crown, sheet, and common window, bent or not, per 100 sup. ft. | 2s. | 3s. |
| Bent carriage glass (other than common window glass) | 20 p.c. | 30 p.c. |
| Plate glass, bevelled or silvered .. | 25 p.c. | 37½ p.c. |
| Lamps and lanterns ; globes and chimneys for lamps | 20 p.c. | 30 p.c. |
| Mirrors and looking-glasses framed or unframed | 25 p.c. | 37½ p.c. |
| Other plate glass and glass polished or colored ; and all glass-ware n.e.i.* | 20 p.c. | 30 p.c. |

*The free list includes empty bottles of plain glass, not cut or ground, except at the neck and stopper ; jars with mouths up to 3 in. dia. ; antique glass in sheets for ornamental window making ; glass for making railway lanterns, engine lamps, and hand lamps ; lenses for magic lanterns, microscopes, telescopes, and ships, sidelights ; and glass roofing tiles.

| | British rates. | Foreign rates. |
|---|----------------|----------------|
| Hardware | 20 p.c. | 30 p.c. |
| Iron pipes and fittings, including main cocks | 5 p.c. | 7½ p.c. |
| Nails, per cwt | 2s. | 3s. |
| Paperhangings | 15 p.c. | 22½ p.c. |
| Paper, wrapping, per cwt | 5s. | 7s. 6d. |
| Pianos | 20 p.c. | 30 p.c. |
| Rails, for railways and tramways | Free. | 20 p.c. |

It is understood that the Act under which these duties are levied is now law, but the duties do not come into force immediately. The duties quoted are taken from the latest statistical returns for New Zealand, and the "Colonial Import Duties" of the British Board of Trade. The preferential tariff is not applicable to goods imported before March 31 next, provided it can be shown that they were ordered before November 16. All invoices for goods mentioned in the schedule imported after June 30 next must have on them a certificate that they are bona fide produce or manufacture of some part of the British Dominions. In the absence of such certificate the ordinary duty will be payable. While the certificate is not obligatory until after June 30, it would greatly assist the Customs' officers and importers if all invoices for goods ordered since November 16 contained certificates of origin.

Below is a statement showing the imports into New Zealand in 1902 of the goods coming under the provision of the new tariff :

| | Total. | From Foreign Countries. | From United States. |
|--|------------|-------------------------|---------------------|
| Bicycles | £52,633 | £16,648 | £16,532 |
| Bicycle fittings (dutiable) | 40,477 | 6,979 | 5,049 |
| Canvas | 39,202 | 11,499 | 11,499 |
| *Carriage timber, dressed | 15,525 | 3,968 | 3,928 |
| Carriages | 9,592 | 3,600 | 3,600 |
| Carts | 2,853 | 2,663 | 2,663 |
| Cement | 53,053 | 360 | |
| Cordage | 14,117 | 1,972 | 1,889 |
| " iron and steel | 25,640 | 3,923 | 3,851 |
| Fancy Goods | 145,720 | 34,000 | 8,742 |
| Fish, preserved | 47,224 | 14,663 | 13,802 |
| Glass (dutiable) : | | | |
| Mirrors and looking glasses .. | 6,342 | 736 | 151 |
| Plate, bevelled, etc | 5,335 | 989 | |
| Plate, other kinds | 9,348 | 347 | |
| Window | 31,866 | 4,638 | |
| Glassware (dutiable) | 36,785 | 15,971* | 5,986 |
| Hardware (including hollow-ware and ironmongery) | 277,721 | 57,799 | 46,470 |
| Iron pipes and fittings | 112,291 | 17,133 | 15,661 |
| Nails | 44,114 | 29,558 | 21,640 |
| Paperhangings | 33,327 | 5,318 | 798 |
| Paper, wrapping | 5,887 | 1,791 | |
| Pianos | 84,841 | 51,868 | 895 |
| Rails (railway and tramway) | 62,735 | 25,633 | 21,793 |
| | £1,147,645 | £312,051 | £181,149 |

*Carriage and cart makers' materials.

It will be seen from these figures that with but few exceptions the greater part of the imports is already derived from Great Britain and British possessions. Of the goods obtained from foreign countries, says Commercial Intelligence, by far the greater proportion is obtained from the United States. Germany's trade is practically confined to pianos (£50,973), fancy goods (£17,288), hardware (£10,103), glassware (£7,055) and nails (£2,263). It is not clear at present whether the preference on hardware is also extended to hollow ware and ironmongery, but the probabilities are that it is. In the above lines France supplied less than £1,000 worth of goods in 1902. The total value of the trade in these lines in foreign hands was £312,851, of which the United States had £184,949, Germany £91,586, and Belgium £20,412.

CANADIAN—UNITED STATES TRADE.

The Bureau of Statistics of the United States Department of Commerce has published a statement having reference, in a general way to the trade of that country with Canada during the Calendar year 1903. It shows that the year's commerce aggregated nearly \$200,000,000 against less than \$100,000,000 in 1893. The increase occurs both in imports into the United States from Canada and exports from the United States to Canada. United States imports from Canada, which in 1893 amounted to only \$34,000,000, in 1903 reached about \$55,000,000. The exports to Canada, which in 1893, were \$57,000,000, in 1903 aggregated about \$130,000,000. The total commerce with Canada has thus grown from \$91,000,000 in 1893 to approximately \$185,000,000 in 1903. The total commerce of the United States, in the calendar year 1893 was \$1,652,000,000 and in 1903 will aggregate about \$2,460,000,000. Thus the total commerce of the United States from 1893 to 1903 increased about 50 per cent., while its commerce with Canada has more than doubled. On the import side the increase in United States purchases from Canada has been much more rapid, proportionately, than from other parts of the world. The total imports of the United States in 1893 were \$776,000,000, and in the calendar year 1903 will aggregate about \$1,000,000,000, an increase of about 30 per cent.; while the imports into the United States from Canada meantime show an increase of about 60 per cent. The total exports from the United States, which in 1893 were \$876,000,000 will in 1903 approximate \$1,460,000,000, an increase of 66 per cent., while in exports to Canada the increase is about 125 per cent.

The above figures are for calendar years in all cases, and are necessarily estimates so far as they relate to the month of December, 1903.

The table which follows shows the total value of the imports into the United States from Canada and the exports from the United States to Canada in each calendar year from 1893 to 1903, the month of December, 1903, being estimated :

| | Imports into the U.S. from Canada. | Exports from the U. S. to Canada. |
|-----------|---|--|
| 1893..... | \$34,492,332 | \$57,121,178 |
| 1894..... | 32,146,069 | 51,294,199 |
| 1895..... | 40,748,940 | 58,398,009 |
| 1896..... | 37,355,905 | 62,335,303 |
| 1897..... | 38,899,873 | 72,627,690 |
| 1898..... | 30,500,693 | 90,388,065 |
| 1899..... | 35,395,448 | 86,336,310 |
| 1900..... | 40,441,820 | 102,896,697 |
| 1901..... | 45,326,134 | 107,492,743 |
| 1902..... | 52,524,173 | 111,153,035 |
| 1903..... | 55,000,000 | 131,000,000 |

The principal articles which form United States commerce with Canada are shown by the tables which follow. They represent the value of the more important articles imported, and exported in 1893 and 1903, the figures being for fiscal years as those for the calendar year 1903, by articles, are not yet available.

Principal imports into the United States from Dominion of Canada :

| Articles: | Years ending June 30th. 1893 | 1903 |
|------------------------------|---------------------------------|-----------|
| Cattle..... | \$17,537 | \$344,884 |
| Horses..... | 467,474 | 442,825 |
| Sheep..... | 1,652,349 | 1,008,685 |
| Asbestos..... | 243,763 | 709,604 |
| Fish..... | 2,475,624 | 2,769,180 |
| Furs and fur skins undressed | 354,142 | 862,939 |
| Hides and skins..... | 458,546 | 1,906,433 |
| Iron Ore..... | 17,186 | 320,263 |

| Articles. | Year ending June 30. 1893. | 1903. |
|------------------------------|-------------------------------|--------------|
| Nickel ore and matte..... | 280,712 | 1,107,530 |
| Silk, raw..... | 3,741 | 103,482 |
| Wood: | | |
| Lumber..... | 10,704,659 | 13,785,894 |
| Timber..... | 65,792 | 41,082 |
| Total of above articles..... | \$16,741,525 | \$23,402,801 |
| Total..... | \$30,790,916 | \$54,781,418 |

Domestic exports from the United States to Canada :

| | | |
|--|--------------|--------------|
| Agricultural implements.. | \$145,503 | \$4,022,772 |
| Animals..... | 410,435 | 3,682,217 |
| Books, maps, etc..... | 309,935 | 1,608,749 |
| Breadstuffs, wheat..... | 4,083,843 | 4,021,571 |
| Coal..... | 7,023,757 | 16,294,329 |
| Cotton, raw..... | 2,803,326 | 5,932,429 |
| Cotton, manufactures..... | 1,992,680 | 2,907,096 |
| Fibre, manufactures..... | 193,030 | 2,252,819 |
| Iron and steel manufactures | 3,685,343 | 24,681,870 |
| Paper manufactures..... | 211,132 | 1,348,710 |
| Provisions (including dairy produce)..... | 2,415,270 | 2,773,081 |
| Seeds..... | 691,148 | 999,218 |
| Total..... | \$23,895,402 | \$70,524,861 |

These figures, taken from the statistics of the United States are substantially though not absolutely in accord with those published in the Trade and Navigation returns of the Dominion.

CANADIAN-GERMAN TRADE.

An Order-in-Council has been passed by the Dominion Government confirming the provisional regulations in regard to the surtax on German goods.

No changes have been made in the regulations or in the certificates required to be made on invoices. But a clause has been added to the regulations defining and interpreting the clause in the Act respecting the surtax, which provides for its application to articles, the chief value of which was produced in Germany, although they may have been enhanced in value by the labor of another country, notwithstanding the provisions of the British preferential tariff.

The defining clause in the regulations reads as follows: "In determining whether or not any article imported into Canada which has been produced, improved, or advanced in value by the labor of any country other than Germany, is subject to the surtax by reason of a portion of the value thereof having been produced in Germany, the fair market value of an article or material grown, produced or manufactured in Germany, which has entered into the manufacture of the article imported into Canada shall be held to be the value produced in Germany within the meaning of the Tariff Act respecting the surtax."

An illustration given is the case of articles made in Great Britain or any country from silk fabric manufactured in Germany. If the market value of the fabric to the importer represents more than 50 per cent. of the value of the complete article, then these complete are subject to the surtax.

Mr. Franz Bopp, Imperial Consul-General of Germany in Canada, discussing the general features of the new German tariff, says: "The principal feature is a slight general increase, and there will be a still greater difference between the rates of the general and the conventional tariffs. On account of the latter difference, Canada will be even more unfavorably affected by the new tariff than by the old. The manner in which Canada will be most affected is that, if the old duty was almost a prohibitive one, the new rates will be somewhat

more so. Up to the present time the difference between what Canada had to pay, on wheat, for example, and the rate for nations having a conventional tariff, was one and a half marks, while under the new tariff it will be two marks. Besides, the rate for general tariff has been increased two marks. While there has been a general increase in the tariff it is not nearly as high as that of the United States. It would however, be impossible to give any average of the percentage of the increase that has been made, for the system followed is entirely different from that of Canada. Unlike the Canadian system, there is not any fixed duty on such and such an article. It is regulated, rather, on the quantities of other articles or materials that are brought in. The tariff will, therefore, have to be in force for some time before the value of the difference can be calculated. There are, besides, some ad valorem duties.

"All the trade treaties that Germany has expire at the end of the year 1903 and new ones will have to be made under the conditions of the new tariff."

LABOR UNION FINED AS A CORPORATION.

One thousand dollars' fine for illegal acts as a corporate body was imposed upon Franklin Union No. 4, Chicago press feeders by Judge Holdom December 12. The court found the union as a corporation guilty of contempt of court for violating an injunction restraining it as an organization from interfering with the business or employes of ten printing firms, members of the Chicago Typothetae. Judge Holdom severely condemned the acts of pickets and union members which followed the press feeders strike. "Such warfare cannot and will not be tolerated by the courts in a land of peace, where the people are governed by law, and the law would be lacking in one of its most necessary attributes if it was impotent to punish for such violation."

Judge Holdom, in his opinion, reviewed the details of the strike, declared September 27, and of the terms of the injunction granted October 10, and then recited various acts of violence brought out in court as having been committed by the strikers.

"From the affidavits in evidence in this case," said the judge, "it appears that more than 50 people have been, since the inception of the difficulties set forth in the bill, assaulted, intimidated, called opprobrious epithets and threatened with harm, simply because they worked in a place vacated voluntarily by members of Franklin Union No. 4, all of the alleged aggressors, with the exception of John Mucher, being members of the union, and John Mucher, condemned twice for assault and unlawful picketing in company with members of the union, in violation of the injunction, has been defended by the lawyer of the union.

"Bearing in mind that the charge in the bill is that of conspiracy, and that the acts enjoined were those used in furtherance of such conspiracy, it would seem from the evidential facts that the actions of the union at the meeting of September 27, in the establishment of the strike headquarters on Custom House court, the assault and intimidation by Assistant Sergeant-At-Arms Kavanagh, and by Visiting Committeeman Hagbeig, the payment of strike benefits at the strike headquarters by the union treasurer with the union money, and the fact that no discrimination was made against the members of the union known to be guilty of acts in themselves criminal, establish the union as a co-conspirator with its offending members, party and privy to the violations of the injunction of which some of its members stand convicted, and therefore guilty of violation of the injunction and amenable to discipline

for such violation, providing it can be so disciplined under the law."

Recounting the acts of the strikers, Judge Holdom said: "Punishment is meted out in accordance with the gravity of the offence committed. The consequences of violation of the injunction by the union have been many assaults on innocent persons seeking to work under contracts satisfactory to themselves and their employers. There has been no discrimination between the sexes. Women have been assaulted and terrorized and followed to their homes and their families intimidated. Murder has even resulted from the unlawful acts of the union and its striking members. The complainants have been interfered with and arrested in the prosecution of their lawful affairs and business and have been put to great expense, annoyance and anxiety in asserting their rights before the law and in seeking the protecting arm of this court.

"The court is impressed," the judge said, just before imposing the fine, "with the utter impossibility in this particular case of attaining the ends of justice by the imposition of a nominal fine, and that the duty resting upon the court impels a fine somewhat measured by the gravity of the offenses committed, the continued disregard of the injunction and the persistent persecution of honest wage-earners who are entitled to the protection of the law in the pursuit of their daily vocation. To the courts they have a right to look for protection, with confidence that such rights shall be maintained in their integrity."

The union will carry the case to a higher court.

THIS IS CORRECT.

The Executive Council of the Canadian Manufacturers' Association, believing that the position of the Association with regard to the tariff has been and is being misunderstood, held a special meeting in Toronto on December 17 at which they re-affirmed their position as follows:

The Canadian Manufacturers' Association is absolutely non-political.

It has declared itself during the past two years in favor of an early and thorough revision of the Canadian tariff.

It has advocated such revision: (a) In order that manufacturing in Canada may keep pace with the changed conditions and the needs of our market; (b) in order that capital and labor in Canada may be properly protected from the specialized and heavily protected industries of foreign countries, which use the Canadian market as their dumping ground; (c) in order that Canada's resources may be developed and Canadian industries built up; (d) in order that the surplus requirements of the Canadian market may be supplied from British rather than foreign sources.

The Association does not advocate the adoption of the United States tariff. Some lines of manufacture in Canada may require as much protection as the same lines receive in the United States, many may require less. What we believe to be necessary is a tariff framed from a national standpoint, primarily for Canadian interests, and also to build up an increased trade with other parts of the British Empire. Above all, however, it must enable Canadian products to meet the competition of foreign labor on fair and equitable terms.

The Association believes that it will be in the true interest of every citizen of the Dominion to revise the tariff so as to extend to every Canadian industry—mining, fisheries, agriculture and manufacturing, the same efficient protection against foreign competition.

In the absence of the president of the Association, Mr.

George E. Drummond, the Ontario president, Mr. Harry Cockshutt, Brantford, presided at the meeting.

EDITORIAL NOTES.

"I expect to pass through this world but once; any good thing, therefore, that I can do, or any kindness that I can show to any one, let me do it now. Let me not defer nor neglect, for I shall not pass this way again."

The last issue of this journal contains a selected list of 200 enumerated dutiable articles imported into Canada in 1903 for home consumption, in which it is shown the origin of them. In the list are the names of 41 articles, of which the United States supplied us to the value of \$5,162,368, and Great Britain not one cent. There are also 51 articles of which the United States supplied us to the value of \$5,276,734 and Great Britain only \$5,763. The articles mentioned in these 92 items are of prime necessity in Canada, the United States supplying us to the value of \$10,439,102 and Great Britain only \$5,763. Hurrah for preferential trade!

No doubt our friends of the American Tariff League, of New York, and the Boston Home Market Club are feeling exceedingly disgruntled over the ratification by the United States Senate of the Cuba Reciprocity Treaty. No doubt it indicates the direction of the wind. A spirit of reciprocity is now prevailing in the United States that will either cause its adoption by the Republican party, or place the Democratic party in control of the Government. The handwriting on the wall is quite legible.

Commercial Intelligence says: "The Average Canadian gets very little opportunity of studying English literature, and therefore little opportunity of keeping in touch with British ideas. Owing to a most short-sighted policy on the part of British statesmen, very few English papers and periodicals are sent to Canada, the postal rates being prohibitive. On the other hand American magazines are to be had everywhere. . . . Two things stand in the way—the postage and the tariff on printed papers. If Canadian statesmen wish to cultivate an Imperial sentiment, we cannot suggest a better line for them to begin on than to allow British newspapers to go into the country in bulk free." Canada should not be expected to pay for British stupidity. United States newspaper literature comes into Canada under a mutual postal arrangement with that country which places the postage at a low rate payable by office of publication, and Great Britain could enter into a similar arrangement with Canada if she desired to do so. Both Canadians and United States postal laws are much more favorable to the dissemination of newspaper and magazine literature than those of Great Britain. If British statesmen wish to cultivate an imperial sentiment we suggest that they make it possible for British newspapers to circulate abroad at as low rates as do those of Canada and the United States.

In the case of Irvin vs. The Rushville Co-operative Telephone Co., recently decided by the Supreme Court of Indiana, the appellant sued to recover penalties from the telephone company for its refusal to connect him with other subscribers while his telephone bill was unpaid. It appeared that the appellant, who was a lawyer, declined to pay on the ground that the company owed him some money on a little claim assigned to him by one of his clients. He had been delinquent before and the company had given him time in which to pay, and thirty-five other subscribers who were also behind in their

rents were being served at the time he was disconnected. The court held that the appellant's refusal to pay except by setting off the bill for labor against the unpaid rent justified the company in its treatment of him, and that the company was not bound to take unpaid labor claims in satisfaction of telephone rentals.

United States Consul F. D. Hale, at Coaticook, Que., reporting to his government, says:

Since coming here I have not seen a disk plow. The farming lands are extensive, smooth and free from stones and the disk plow would work to good advantage. I have suggested the same to some farmers and local dealers in agricultural implements, giving them the names of American manufacturers. The progressive farmers here are desirous of using those machines which can prove their superiority. Their utility in ditching, gardening and orcharding, with light draft, is an advantage to be noted, in comparison with the plows of local manufacture. If the right man could secure a live local agent and in the coming spring give the farmers an opportunity of seeing what can be accomplished with this plow, I see no reason why a satisfactory trade could not be worked up. Advertisement by circulars is of little value to overcome competition.

Canadian manufacturers of disc plows neglect an important portion of the home market; and there are some who want the tariff increased on the article because the Yankees are supplying the demand.

THE CANADIAN MANUFACTURER is in receipt of a letter from Mr. H. B. Walker, secretary of the Charter Towers Chamber of Commerce and Mines, Charter Towers, Queensland, as follows:

Editor, CANADIAN MANUFACTURER,
Toronto, Canada.

DEAR SIR,—I have, by direction, to own receipt of your letter of September 4 advising the despatch of your issue of that date containing the tariffs of Canada, United States, Great Britain, the Commonwealth of Australia and British South Africa, which came to hand by same mail. I laid both before the Committee of the Chamber; and I was specially instructed to convey to you the thanks of the Chamber for this valuable and useful publication, which will be very carefully preserved for reference by our members and others who may be interested.

New Zealand has followed the lead of Canada and South Africa, and adopted a preferential tariff in favor of Great Britain, Premier Seddon's bill passing its third reading in the House of Representatives on November 19. Additional duties will be put on foreign goods, amounting to 100 per cent. on cement and from 50 to 20 per cent. on 38 other articles. The duty on tea grown in British dominions is abolished, and one of 20 per cent. imposed on foreign teas. The bill also contains provisions for concluding reciprocal trade agreements with foreign countries. It is stated that the increased duties will amount to between \$450,000 and \$400,000, against which the remission of the tea duty will, it is estimated, involve a loss to the revenue of \$200,000. The New Zealand Trade Review contains an interesting article on the subject of preferential trade. It deals with the imports of beer, boots and shoes, cement, chemicals and drugs, cotton piece goods, cutlery, confectionery, glass and glassware, hardware, iron and steel, rails, jams, preserves, leather, leather manufactures, machinery, spirits, and woolen goods. These constitute the chief imports, and of a total of \$22,500,000 the United Kingdom supplies to the value of \$18,000,000, and other British possessions \$1,500,000. American imports aggregate \$2,300,000, German half a million, and the small remainder

is from other countries. In nearly every case the United Kingdom has a commanding lead. The proportion drawn from "other British possessions" comes chiefly from the Australian States, but includes India, Hong Kong, and Canada. The proportions are:—British sources 85.8 per cent., American 10.6, German 2.5, and other foreign countries 1.1 per cent.

If all the sheep's wool grown each year throughout the world was divided equally among the inhabitants outside of the torrid zone, says The Textile World Record, each person would receive about 19 ounces; this made into cloth for winter clothing would give each one a piece about a yard square. It is needless to show how inadequate such a patch is to properly clothe any human being for 12 months. The use of cotton and shoddy to supplement the supply of wool is a blessing to mankind. Shoddy is woolen stock which has previously been used in the manufacture of cloth. It is rags ground up. The fact that each person's share of new wool is but 19 ounces demonstrates without further argument the vital necessity for other material for clothing and the great benefit that shoddy is to the human race. It is far more necessary to society than is coal. We had a taste of a coal famine last winter. A strike of the miners would cause but slight inconvenience compared with the distress and suffering resulting from a prolonged strike of the ragman.

Recently in the course of business we corresponded with an old and well known manufacturing concern established in Great Britain in 1857 relative to advertizing their products in Canada. It was stated to them that the value of the imports of such goods from the United States was large and increasing, and that in view of the concession in duty granted under the preferential tariff, if put in the hands of a reliable agent or dealer in such goods they would probably enjoy a fair portion of the trade. The reply to our letter contained these enquiries:—"Are there not manufacturers of such goods in Canada?" "And there is the competition of the United States with their cheap supplies—do you think we could sell our goods in Canada?" "We may say that we cannot trace having sent any of our goods to Canada during the last twenty-five years." It is quite evident that as far as our British correspondent is concerned, he throws up the sponge in favor of his Yankee competitor, and the preferential tariff has no charm for him. It had better be abandoned.

An esteemed Canadian contemporary devoted to the mining industries of the Dominion publishes the following:

Wm. Stewart, chief statistician in the United States department of commerce, has prepared a preliminary report on the mining industry for the year ending December 31, 1902. He states that there are four asbestos mines in the United States which employ 90 wage earners at these mines and that the total output of asbestos is valued at \$250 per year. Of course in this connection, that the vast bulk of the asbestos in this country comes from Quebec and is not included in these figures.

There are 24,000 wage earners who are paid \$8,250 per year, or less than 35 cents per year each, and these 24,000 wage earners produce to the value of \$46,200 or about \$1.92½ each per year. Certainly the asbestos mining industry in the United States is not in a very flourishing condition.

The Iowa Homestead reports what has followed unionizing of farm labor in some localities: "The rules sought to be enforced constitute a most comprehensive code. It is provided

that wages shall not be less than \$2 to \$3 per day. The employing farmer not being permitted to be a member of the union, is forbidden to ride a reaper or to do any other work under penalty of being boycotted as 'unfair.' The same prohibition applies to his wife and minor children. The work on the farm is stated to belong to the members of the union, and owners and their families are not allowed to touch it, just as employers of union labor in factories are not permitted to give personally one productive turn to the machines which they own. It is the idea of the hired man union that the farm owner shall sit idly on the front porch with his family, while hired men at union wages do all the work."

The New York Times recalls that in the name of D. E. Leow & Co., of Danbury, hat manufacturers, who had been seriously injured in their inter-state trade by a boycott against their hats, the American Anti-Boycott Association brought two suits at the same time against the same defendants for the same boycott, one in the State Court and one in the United States Circuit Court for the District of Connecticut. In both suits the plaintiff attached the same property of all the individual defendants, consisting of their bank accounts and individual holdings of real estate. The suit in the State Court was based upon the ground that a boycott is a conspiracy at common law, and in it the plaintiffs asked for \$100,000 damages done to their business, and also for an injunction to restrain the further prosecution of the conspiracy. The suit in the Federal Court was based upon the ground that the same acts of the defendants constituted a conspiracy in restraint of interstate trade under the Sherman Anti-Trust Act, for which the defendants were liable to be sued in that court for treble damages, as provided in that act. Property of all the defendants amounted in the aggregate to \$175,000 was attached in both suits. Application was made to both courts to substitute bonds in place of the property attached, and the defendants were required to give bonds amounting in the aggregate to \$180,000 which they failed to obtain. The defendants then pleaded in abatement in the State Court the pendency of the other action in the Federal Court, on the ground that they were not liable to be sued for the same acts at the same time in both courts. This plea, after elaborate argument by counsel for both sides, has been overruled by Judge Thayer of the State Court, and the defendants are now required to face the case on its merits. This decision establishes the principal that the individual members of labor unions indulging in boycotts which interfere with the interstate trade of their victims are liable to be sued and have their property attached to secure the damages claimed, in both the State and Federal courts, at the same time.

Among the things which Canadian marine interests are now agitating is one which has to do with the enlargement of the Welland canal to accommodate the 6,000 ton steamer. It is pointed out that ocean freights to Europe have generally been, and from geographical reasons and other conditions will probably continue to be, somewhat lower from United States ports than from Montreal. Canadians believe that the wonderful advantage that the United States possesses is the cheapness in which grain can be taken to Buffalo in large steamers. It is claimed that if the steamers could extend the full voyage to Lake Ontario the greater part of this disadvantage would be done away with. The comparative facilities would then be: By the United States route a steamer of 6,000 tons for 900 miles to Buffalo and barge of 1,000 tons for 450 miles to New York. By the Canadian route a steamer of 6,000 tons for 1,100 miles to the east end of Lake Ontario and barge of 2,000 tons for every 170 miles to Montreal. This presentation of the case certainly appears to place the advantage with Canada. Complete abolition of canal tolls is also advocated.

CAPTAINS OF INDUSTRY.

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

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

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

Messrs. Douglas & Ratcliffe, Limited, Toronto, have been incorporated with a capital of \$40,000, to acquire the business of Douglas & Ratcliffe, and to manufacture paper, etc. The provisional directors include S. J. Douglas, F. L. Ratcliffe and Geo. Powley, Toronto.

The Jones & Moore Electric Co., Toronto, have been incorporated with a capital of \$100,000, to manufacture machinery and electrical appliances. The provisional directors include J. W. Jones, F. B. Moore and Wm. R. Pearce, Toronto.

Messrs. May & Lang, Ottawa, Ont., are considering the erection of a tannery in that city.

The ratepayers of Waterloo, Ont., will vote on a by-law to raise \$10,000 for installing another pumping engine and making improvements to the waterworks system.

The Cameron-Dunn Mfg. Co., are asking the town of Strathroy, Ont., for a \$5,000 bonus to rebuild their works.

Mr. A. P. Holden, the well-known machinist and mechanical expert, 107-109 Adelaide Street West, Toronto, has just installed a new No. 5 Becker-Brainard vertical milling machine with which he has one of the best equipped machine shops for handling first-class work.

Mr. A. C. Douglass, after overcoming most difficult obstacles in driving his construction tunnel, has started under the centre of the Horseshoe Falls at Niagara Falls, Ont., to drive the power tunnel of the Electrical Development Co. of Ontario (Toronto & Niagara Power Co.). This tunnel will be 22,000 feet long, 23 feet 6 inches wide, and 28 feet high, extending from the power house at Dufferin Islands to the foot of the falls, the whole distance under the wildest part of the rapids.

The Ontario Government will set aside another forest reserve. It is north-west of the present Temagami Reserve, and will take in an area of 3,700 square miles.

The Canada Brake & Supply Co., Toronto, have been incorporated with a capital of \$60,000, to manufacture brakes and supplies for use in the construction of cars, trucks, etc. The provisional directors include S. C. Smoke, Toronto; J. L. Peacock, Buffalo, N.Y.; and Wm. H. Belson, Grenfell, N.W.T.

The Grand Trunk Railway Co. will enlarge their repair shops at Stratford, Ont., and will also instal their own waterworks plant.

The \$100,000 plant of the Saginaw Salt & Lumber Co., Sandwich, Ont., is said to be gradually sinking into the marsh ground upon which it is erected.

The site on the north-east corner of King and Bay Streets, Toronto, now occupied by the Molsons' Bank, has been acquired by the Canada Life Assurance Co., who will extend their present building to Bay Street.

W. C. Buck, Peterborough, Ont., recently visited Toledo, Ohio, looking over ground with a view of organizing a company for the manufacture of the Buck electric air lift force pump. Mr. Buck is the inventor of the pump, and controls the patents in both Canada and the United States. The new company will have a capital of \$20,000, and will be known as the Toledo Electric Pump Co.

The George Matthews Co., Peterborough, Ont., have increased their capital from \$200,000 to \$500,000.

The Ottawa Forwarding Co., Ottawa, have increased their capital from \$50,000 to \$100,000.

Mr. P. H. Wilby, 27½ Front Street East, Toronto, announces that he is sole Canadian agent for the sale of the celebrated "Teon" belting "made in England" by Messrs. Fleming, Birkby & Goodall, of Halifax. Mr. Wilby has been long and most favorably known to belting users in Canada, particularly in Ontario, and knows as well as anyone just what is required of belting under any and all circumstances. "Teon" belting, he says, is unequalled for work in steam, acids, for in-doors and out-doors; in cold weather, such as we are now experiencing, and in hot weather when it prevails. Write him for particulars.

Permits have been issued in Toronto to James Lindala for a tenement house to cost \$24,000; and to Connery & Hillam for a pair of houses to cost \$1,600.

The Anderson Hotel at Petrolea, Ont., was destroyed by fire December 28. It will be reconstructed at once.

The ratepayers of Arnprior, Ont., are considering the purchase of the electric light plant now owned by Messrs. McLachlin Bros.

Charles Norman's feed and planing mill at Aurora, Ont., was destroyed by fire December 26.

The Canada Paper Co. are reconstructing their boiler house at Windsor, Ont.

Messrs. N. M. Cantin, B. Tombyll and Thos. Tombyll, St. Joseph, Ont., and F. M. Hamelce, Ottawa, representing capitalists in New York, Buffalo, Montreal, Quebec and Ottawa, were in Stratford, Ont., recently, proposing to build an electric railway from St. Joseph, on Lake Huron, to Stratford, through Zurich, Hensall, Chiselhurst, Cromarty, Staffa, Russelliate, Fullarton's Corners, Carlingford and Avonton. They ask exemption of taxes on plant within that city for 20 years, and the right to furnish light and power and a 50-year franchise. The work to be commenced on May 1 and finished on December 31, 1904. The Railway Committee of Stratford City Council and of the Board of Trade will meet the promoters in conference.

At a meeting of the Oakville, Ont., Town Council a few days ago, a by-law was passed granting the Hamilton Radial Electric Railway the privilege of operating an electric railway through that town, to be commenced by July 1, 1904, and to be completed by July 1, 1905. The company are to build a bridge over Sixteen Mile Creek, subject to the consent of the Government, and are also to light the streets along which the cars run, build a switch 150 feet long, carry small package freight and supply the town of Oakville with 500 h.p. of electric current.

New municipal buildings will be erected at Ingersoll, Ont., at a cost of \$20,000.

The ratepayers of Collingwood, Ont., will vote on a by-law to raise \$30,000 for street improvements.

Mr. W. A. Preston, of The Rainy River Pulp & Paper Co., stated that his company intended to erect on the Sand Hill River a mechanical pulp mill with a capacity of thirty tons daily and a chemical pulp mill with a capacity of twenty tons, and also to raise the waters with which their mills would be operated by means of a large wooden dam, costing about \$12,000, in order to provide a head of forty feet. When this was completed they would then have at their disposal 8,000 h.p. In the near future a paper mill will be erected. The Canadian Northern main line is within five miles of the mill.

The erection of a new building at Ottawa at the corner of E. L. Horwood and the Ottawa River. The Sisters of the Sacred Heart, Kingston, Ont., are having plans prepared for alterations to their property at a cost of about \$10,000.

At a meeting of the Secular Priests of the Ottawa, Ont., archdiocese; it was decided to proceed at once with the erection of the theological seminary at that place at a cost of \$46,000.

A portion of the machine and boiler works of Messrs. John Inglis & Son, Toronto, were destroyed by fire December 26. Loss about \$40,000.

The National Table Co's factory at Owen Sound, Ont., was destroyed by fire December 25. Loss about \$60,000. The factory will be rebuilt at once.

The dry kiln of The Canada Cabinet Co. at Gananoque, Ont., was destroyed by fire December 26. Loss about \$8,000.

P. W. Ralph, North Augusta, Ont., is inviting tenders for the erection of a Methodist church building in that village.

Messrs. D. Aitchison & Co's planing mill, sash and door factory, Hamilton, Ont., were destroyed by fire December 25. Loss about \$20,000.

The Canadian Camera Co., Toronto, have been incorporated with a capital of \$60,000, to manufacture cameras, photographic supplies, etc. The provisional directors include F. L. Hallford, E. O. Weston and A. P. Gill, Toronto

The Canadian Consolidated Oil Co., Hamilton, Ont., have been incorporated with a capital of \$1,000,000, to manufacture refined petroleum, salt, etc. The provisional directors include E. R. Clarkson, Thos. Ramsay and H. P. Coburn, Hamilton.

The Novi-Modi Costume Co., Limited, Toronto, have been incorporated with a capital of \$99,000, to acquire the business of The Novi-Modi Costume Co., Quebec, and to manufacture clothing, etc. The provisional directors include H. C. Boulter, A. S. Bowers and J. J. Gibbons, Toronto.

Messrs. Walter Thomson & Son, London, Ont., have been incorporated with a capital of \$49,000, to carry on a milling business and to manufacture oatmeal, cereals, etc. The provisional directors include Walter Thomson, Mitchell, Ont.; W. W. Thomson, London; and J. H. Thomson, Seaforth, Ont.

The Ladies' Wear, Limited, Toronto, have been incorporated with a capital of \$100,000, to manufacture ladies' apparel, neckwear, etc. The provisional directors include J. P. Watson, G. F. Watson and F. P. Evans, Toronto.

The Automobile & Supply Co., Toronto, have been incorporated with a capital of \$40,000, to manufacture automobiles, motor cars, carriages, etc. The provisional directors include Geo. H. Gooderham, Wm. S. Smith and W. A. Littlejohn, Toronto.

Messrs. Jaffray Bros., Galt, Ont., have been incorporated with a capital of \$20,000, to carry on a lithographing and book-binding business, and to manufacture paper boxes, etc. The provisional directors include R. M. Jaffray, J. P. Jaffray and A. G. Donaldson, Galt.

The International Iron Mining Co., Port Arthur, Ont., have been incorporated with a capital of \$1,000,000, to carry on a mining, milling and reduction business. The provisional directors include J. F. McCarthy, L. Merritt and H. R. Spencer, Duluth, Minn.

Messrs. Whicher & Son, Limited, Warton, Ont., have been incorporated with a capital of \$5,000, to manufacture drugs, etc. The provisional directors include J. H. Whicher, H. L. Whicher and H. L. Cowan, Warton.

The Enterprise Hosiery & Underwear Co., Toronto Junction, Ont., have been incorporated with a capital of \$40,000, to manufacture knitted garments, white-wear, etc. The provisional directors include Thos. Prest, J. A. Ferson, Toronto, and Wm. Smith, Almonte, Ont.

Messrs. W. H. Lailey & Co., Toronto, have been incorporated with a capital of \$100,000, to manufacture clothing, woolen goods, etc. The provisional directors include Wm. H. Lailey, C. E. Lailey and Frank Maile, Toronto.

The Eastern Building Co., Barton, Ont., have been incorporated with a capital of \$80,000, to carry on a general building and contracting business. The provisional directors include J. J. Scott, R. K. Hope and J. D. Gausby, Hamilton, Ont.

The Empire Carpet Co., Dundas, Ont., have been incorporated with a capital of \$75,000, to manufacture carpets, yarns, cotton, jute, etc. The provisional directors include J. F. Morley, Hamilton, Ont.; Thos. Etherington, St. Catharines; and J. F. McAllister, Toronto.

The Chapman Double Ball Bearing Co. of Canada, Limited, a Nova Scotia incorporation have been licensed to manufacture their ball bearings, etc., in Ontario, with a capital of \$500,000. Wm. J. Murray, Toronto, is interested.

The Dominion Paper Box Co., Toronto, have been incorporated with a capital of \$395,000, to manufacture paper, paper boxes, etc. The provisional directors include A. Jephcott, W. C. Jephcott and Wm. Jephcott, Toronto.

The Dodge Mfg. Co. of Toronto, Limited, have completed their immense undertaking of furnishing special machinery and castings for the Harbor Commissioners' Million Bushel Elevator at Montreal. Some 250 tons of machinery and casting from the company's plant at Toronto Junction have been supplied and the work has been executed in a manner thoroughly satisfactory to the contractors, Government inspectors and engineers, and does credit to the Dodge Mfg. Co. The huge steel marine leg has been successfully hung in position in the tower and is said to be the largest in Canada. It was with a particular view of meeting the demands of jobs like this that extensive additions have been made to the company's plant, which with their modern foundry of 15 ton per hour, cupola capacity, travelling cranes, etc., the up-to-date machine shop and tool room, pattern shop and modern office and engineering department, is worthy of a visit.

Mr. Edward Ramage, of the Clyde Steel Works, Toronto, is at present engaged in Kingston, Ont., doing a big repair job on the Niagara Navigation Co's steamer Chicora, the well known passenger carrier between Toronto and ports on the Niagara river. About one hundred of the old plates of the hull are being removed and replaced by heavier ones, the stern is being straightened up, and some additional frames are being put in. It is not expected that the job will be finished before the middle of March next, when the machinery now being used by Mr. Ram-

age, in Kingston, will be returned to Toronto where he will resume business.

Messrs. Smith Bros. will erect a two-story factory building at Goderich, Ont., for the manufacture of ladies' mantles.

The ratepayers of Owen Sound, Ont., will vote on by-laws to raise \$10,000 to extend the electric light plant and \$15,000 for improvements to the gas plant.

The British American Hotel in Kingston, Ont., will be replaced by a modern six-story building as an annex to the Frontenac.

The National Club, Toronto, will erect a clubhouse on the site of the Robinson hotel.

The total traffic through the Soo ship canals for the year just closed shows a falling off of 1,286,709 net tons, all of which decrease occurred in the traffic through the United States canal, the Canadian record being 773,834 net tons in excess of last year. Last year there passed through the Canadian canal 4,728,351 net tons of freight, while this season's record was 5,502,185.

The Brompton Pulp & Paper Co., Bromptonville, Que., will erect a large paper mill next spring.

Messrs. Finley & Spence, architects, Montreal, have prepared plans for the new Y.M.C.A. building for McGill University, which will cost about \$92,000.

The Leeming Miles Co., Montreal, have been incorporated with a capital of \$100,000, to acquire the business of Leeming Miles & Co., and to manufacture drugs etc. The provisional directors include Henry Miles, Chas. S. Underhill and F. L. Benedict, Montreal.

The La Ferriere Lumber Co., Montreal, have been incorporated with a capital of \$120,000, to manufacture lumber, etc. The provisional directors include P. La Ferriere, S. P. Stearns, and D. Coyle, Montreal.

La Compagnie Electrique de Grand Mere, Grand Mere, Que., have been incorporated with a capital of \$20,000, to produce electricity for light, heat and power. The provisional directors include F. X. Gingras and Joseph Dufresne, Grand Mere.

V. Filteau & Cie, Chaudiere Curve, Que., have been incorporated with a capital of \$20,000, to carry on a general lumber business. The provisional directors include V. Filteau, and V. Ouellet, Chaudiere Curve.

The Singer Sewing Machine Co., New York City, will construct a branch works at St. John's, Que.

The directors of the Richelieu & Ontario Navigation Co., will construct a marine railway at their works at Sorel, Que.

The Dominion Cotton Mill Co's. premises Montreal, were partially destroyed by fire December 26.

A new morgue will be built in Montreal at a cost of about \$15,000.

The Hebertville, St. Bruno & Alma Railway Co., Hebertville, Que., are applying for incorporation to construct a railway in the county of Lake St. John, Que.

A. F. Vincent, St. Louis, Que., is inviting tenders for the construction of a town hall.

The Catholic Church building to be erected in Maisonneuve, Que., will cost about \$125,000. Rev. Father Dugas, is interested.

The Northern Industrial Co., Montreal have been incorporated with a capital of \$50,000, to manufacture charcoal, chemical products, pulp, paper, etc. The provisional directors include R. Prefontaine, and J. L. Perron, Montreal, and Louis Parent, St. Agathe des Monts, Que.

The Imperial Button Works, Limited, Montreal, have been incorporated with a capital of \$100,000, to acquire the business of The Imperial Button Works and to manufacture buttons, fasteners, braids, etc. The provisional directors include Thos. Lidstone, A. W. Belfry and R. H. Welden, Montreal.

The Consolidated Rubber Tile Co., of Canada, Montreal, have been incorporated with a capital of \$50,000, to manufacture rubber tiling, etc. The provisional directors include W. P. Kearney, Watson Jack, and Jean-Baptiste Pauze, Montreal.

Messrs. Dumont, Fontaine & Cie, Gentilly, Que., have been incorporated with a capital of \$10,000, to manufacture boxes, buckets, mouldings, etc. The provisional directors include L. Dumont, A. E. Dumont and R. Baril, Gentilly.

The Syracuse Smelting Works, Montreal, request us to announce that they are "Always in the Market for lead and copper concentrates." Advise particulars as above.

For the better distribution of its products, for which there is a steadily increasing demand, the Dodge Mfg. Co., of Toronto, Limited, manufacturers of the celebrated Dodge pulleys, and many other lines now prominently on the market, will open commodious quarters at 419 St. James Street, Montreal. This will be welcome news to many users of transmission machinery, in Montreal and the east, as the Dodge Company's well known reputation for carrying full and comprehensive stocks of their various lines and for making prompt shipments has always been appreciated both by the trade and the users. A competent staff will have the new branch in complete running order by January 15.

The Charles Fawcett Mfg. Co., Sackville, N.B., have been incorporated with a capital of \$100,000, to manufacture sheet ironware, tinware, etc. The provisional directors include Chas. Fawcett, H. E. Fawcett and C. W. Fawcett, Sackville.

The Nova Scotia Steel & Coal Co., New Glasgow, N.S., will probably purchase valuable and extensive iron deposits in Cuba. They have secured options on several properties there, and Mr. R. E. Chambers, chief mining engineer of the company, is now on the way to Cuba to examine and report on the properties. Cuban ore is largely used by this company to mix with ore from Bellisle, Nfld.

Messrs. Moirs, Limited, Halifax, N.S., have completed their new building and are now continuing the manufacture of candies.

The New Brunswick Government are inviting tenders for construction of the Boat Landing bridge in Victoria county, Soverville bridge in Victoria county, Somerville bridge in Queen's county, Calhoun's bridge in Westmoreland county, and Germantown Lake bridge in Albert county.

Kentville, N.S., will spend \$3,500 in improving and extending the water works system.

M. T. Flynn will build a sawmill at Mortier Bay, N.S., next spring.

The Adams Shoe Co., Brandon, Man., have been incorporated with a capital of \$40,000, to manufacture boots, shoes, saddlery, etc. The provisional directors include F. W. Adams, D. Creighton and C. F. Collins, Brandon.

The Norris Mfg. Co., Winnipeg, Man., have been incorporated with a capital of \$25,000, to manufacture machinery, farm implements, etc., and to acquire the business of The Canadian Thresher Supply Co. The provisional directors include J. R. Norris, G. E. Norris and E. E. Sharpe, Winnipeg.

A company is being organized at Winnipeg, Man., to carry on an electric light and power business and to manufacture elevators, etc. Messrs. Campbell, Pitblado, Hoskin & Grundy are solicitors for the incorporators.

The Winnipeg, Man. Government have purchased a site for the Agricultural College and Experimental Farm. The buildings will be erected in spring at a cost of \$100,000.

The Winnipeg & Selkirk Street Railway Co., are seeking power from the Provincial Legislature to build a radial railway encircling Winnipeg, Man.

The Moose Jaw Machine Works, Moose Jaw, N.W.T., were destroyed by fire December 25. Loss about \$5,000.

Messrs. Clare & Brockest, Winnipeg, Man., dealers in metal shingles, siding, etc., manufactured by the Metal Shingle & Siding Co., Preston, Ont., and who also handle Clare Bros' stoves and furnaces, will erect a building, which will have a frontage of 50 feet, and will be three or four stories and basement.

The Winnipeg Ceiling & Roofing Co., Winnipeg, Man., have been incorporated with a capital of \$50,000, to manufacture sheet iron ceilings, eave troughs, stoves, etc. The provisional directors include Wm. J. McMartin, M. J. McMartin, Duluth, Minn., and H. M. Howell, Winnipeg.

The Greenshields Western, Limited, Winnipeg, Man., have been incorporated with a capital of \$500,000, to manufacture dry goods, etc. The provisional directors include E. B. Greenshields, Montreal; A. W. Johnston and R. R. Gallagher, Winnipeg.

The Manitoba Composite Brick Mfg. Co., Winnipeg, Man., have been incorporated with a capital of \$100,000, to manufacture bricks, etc. The provisional

directors include Hugh Sutherland, Hon. R. P. Roblin and E. A. James, Winnipeg.

The Western Pulp & Power Co. will build a pulp mill in the interior of British Columbia at a cost of \$500,000.

William Skene, Vancouver, B.C., will receive tenders up to January 11 for erection of the superstructure of the Vancouver general hospital buildings, from plans prepared by Grant & Henderson, architects.

The Nicola Kamloops Samilkameen Coal & Railway Co. will build the projected railway, which will extend from Kamloops, B.C., to Nicola Lake, thence south-east to the American boundary, a distance of about 190 miles. C. H. Keefer, C.E., Ottawa, is engineer.

The Surrey Shingle Mfg. Co. have been incorporated at Victoria, B.C., with a capital of \$15,000, to manufacture lumber, shingles, etc.

The Spallumcheen Improvement Co. have been incorporated at Victoria, B.C., with a capital of \$25,000, to improve the Spallumcheen River, by constructing canals, dams, etc.

An order in council granting the statutory aid of 3 per cent. of the outlay for the construction of a dry dock and ship-building company at Vancouver, B.C., has been passed. The proposed structure will be a floating self-docking steel pontoon dock, the length will be 500 feet and bearing 85 feet, and it will have a lifting capacity of 11,000 tons. Work will be commenced at once.

Electricity generated by the waters of Trout Lake, on the north arm of Burrard Inlet, now illuminates Vancouver, B.C. This simple announcement and the illumination itself mark an important epoch in the completion of an undertaking that involves the expenditure of \$1,111,000, and includes the driving of a tunnel, large enough to drive a horse and buggy through, through a mountain of solid granite for a distance of more than a mile, this tunnel connecting the waters of Lake Beautiful, on one side of the range, with those of Trout Lake on the other.

The Canadian Timber & Sawmill Co., Trout Lake City, B.C., have let a contract for 100,000,000 feet of logs, which will mean an expenditure of about half a million dollars, to E. L. Kinnon. The manager, Mr. Henderson, stated that the mill will give employment to 100 men, and will have a capacity of 60,000 feet per day.

John D. Macdonald, general superintendent of the West Kootenay Power & Light Co., has returned from Fernie, B.C., where he installed two 3,000-light alterators at Coal Creek, five miles from Fernie, built lines connecting the mines with the city and started the lights in operation. The load was transferred to the new system and the old plant moved to Michel, B.C., where it will be put into operation. Next spring a 3,000-light plant will be installed at Morrissey Mines, B.C.

The Princess Royal Gold Mines, Limited, incorporated with a capital of \$2,250,000 at Rothesay, N.B., have been licensed to do a mining, milling and

reduction business in British Columbia, with headquarters at Victoria, B.C.

The Idaho-Alamo Consolidated Mines, Limited, incorporated in Scotland with a capital of £130,000, have been licensed to do business in British Columbia. Wm. S. Jenkins, Alamo, B.C., is representing the company there.

An important export order has just been closed with the Manila Construction Co., an American Corporation conducting operations in the city of Manila, P.I., for a complete power equipment for the city traction system. The order was secured through Westinghouse, Church, Kerr & Co., New York.

The English Government prize of £1,000 for a military tractor capable of traveling 40 miles an hour with a gross load of 25 tons without renewing fuel or water has been won by Messrs. R. Hornsby & Sons, Grantham, England. The prize engine is constructed on the lines of an ordinary traction engine, and is propelled by oil. Its weight is under 13 tons, and in a trial it traveled 58 miles without renewal, thereby earning an additional bonus of £180.

The increase in the output of the iron and steel trade in Canada is shown by the following statistics collected by the American Iron and Steel Association:

| Year. | Pig Iron Tons. | Steel Ingots Tons. | Rolled Iron and Steel Tons. |
|----------|----------------|--------------------|-----------------------------|
| 1895.... | 37,829 | 17,000 | 66,402 |
| 1896.... | 60,030 | 16,000 | 75,048 |
| 1897.... | 53,796 | 18,400 | 77,021 |
| 1898.... | 68,755 | 21,540 | 90,303 |
| 1899.... | 94,077 | 22,000 | 110,642 |
| 1900.... | 86,090 | 23,577 | 100,690 |
| 1901.... | 244,975 | 26,084 | 112,007 |
| 1902.... | 319,557 | 182,037 | 161,485 |

In the manufacture of cigars the condition of the atmosphere within the building is of vital importance. The air must be kept moist and at a constant warm temperature both in the winter and summer season. For maintaining an even, moist and warm temperature the fan system is peculiarly adaptable, because the quantity and quality of the air is under absolute control and may be varied at will. Fresh air is drawn from outside the building by means of a fan, is circulated through a moistening chamber and, in the winter season, between coils of steam pipes enclosed in a fire-proof steel plate jacket, and delivered under pressure to the work rooms, through distributing ducts. The speed of the fan regulates the quantity of the air, the amount of steam varies its temperature and it is evident that the amount of water sprayed through the moistening chamber varies its moisture. The fan is driven by a direct connected engine whose exhaust steam may be used in the heating pipes, or in the summer time when heating is unnecessary it may be by-passed and utilized for other purposes. It is readily seen that with this system the expense of operating is very low as no heat is wasted. The three factories of the American Cigar Co., located in Tampa, Florida, are provided with the fan system for heating, ventilating and moistening, and the results reflect credit upon the B. F.

Sturtevant Co., Boston, Mass., whose apparatus and system were used.

ONTARIO TANNERS' ASSOCIATION.

In his address at the recent annual meeting of the tanners' section of the Toronto Board of Trade, Mr. F.T. Daville the retiring chairman, declared that the trade had not had a very good year. There had been too much friction and jealousy, with the result that the business had not been profitable, and he urged that the tanners get together and devise some means of bettering their interests.

In regard to our special industry we cannot say that we have benefited to any great extent so far as profits are concerned in the general prosperity of the country," said Mr. Daville. "There is not the slightest doubt that we have been enabled to run up to our full capacity, there being a very active demand for all classes of leather.

Ontario has been prosperous without a doubt, factories manufacturing all classes of leather goods are springing up here and there. These new ventures, as well as those that have been longer established report large business.

The prospect for the coming season in the boot and shoe trade is very favorable. Some of the larger factories have recalled their travellers, as they have taken orders up to their full capacity for the coming season.

There is, and will be, an active demand for harness leather and leather used in the manufacture of harness and parts of harness. Factories are working on orders placed by Manitoba and the North-West Territories. This portion of the Dominion is filling up rapidly, and the newcomers must be supplied with requirements for opening up the country, and farming requirements must follow. We must look to the North-West for the consumption of goods produced in the factories of the eastern provinces.

The demand from Great Britain, we may say our only export market, has not been as active as it might have been. Reports from the manufacturing centres there where leather is used agree that the trade is not making the stride that it should. All agree that business has improved, and is likely to further improve, if labor troubles can be avoided. We may look forward to a great increase in our business with Great Britain should the change in the fiscal policy of that country favoring the colonies, be carried out, but it would not at present pay us to bank on the change being a certainty.

Tanners have paid prices for hides and sold the finished leather on terms that pretty nearly preclude any adequate profit, and when the annual inventory has been taken it has been shown, if not an actual deficit, that the business has not been profitable. The great obstacle to placing the production of upper leather on a more substantial and profitable basis is the utter lack of harmony and cohesion. Tanners seem to be pulling against each other, rather than trying to devise means whereby they could act jointly. There is too much friction and petty jealousy, and just as long as such conditions exist

there is little prospect of the tanner making his path easier and generally bringing about a more satisfactory state of affairs.

Officers were elected as follows:

Chairman, John C. Breithaupt, Berlin; vice-chairman, R. M. Beal, Lindsay; executive committee, W. D. Beardmore, Geo. C. H. Lang, A. R. Clark, F. T. Daville, G. P. Beal; secretary-treasurer, Mrs. Agnes C. Gray; inspection and arbitration committee, C. J. Millar, L. J. Breithaupt, W. D. Beardmore, S. K. Wickett, and George McQuay; transportation committee, L. J. Breithaupt, C. J. Marlatt, S. K. Wickett, W. D. Beardmore, Geo. C. H. Lang and R. M. Beal.

MANGANESE ANTI-FRICTION METAL.

The Syracuse Smelting Works, Montreal, who have been manufacturing babbitt metals for 22 years, are placing upon the market a new bearing metal which they call "Manganese Anti-Friction Metal."

Some years ago this concern discovered that by adding a certain percentage of manganese to a combination of other metals they obtained results which were phenomenal. By careful manipulation of the ingredients of this formula, they succeeded in obtaining a bearing metal that is so near the perfect point that to add anything to it or deduct from it would be they say, to get to a point when utility would cease to be a virtue.

Actual tests made of Manganese Anti-Friction Metal showed that the longer it was used the better it would become. This statement sounds paradoxical but is, they say, an absolute fact. This metal is not an experiment, but has been in use some years and its unqualified success has led the company to make a specialty of it.

There is no work too light or too severe for which anti-friction metal cannot be used. It has no temper line and can be remitted as often as desired without sustaining any deterioration.

It is uniform in mixture and upon being poured will not contain blow or pin holes but settle around the journal in solid compact mass. The company guarantee the adaptability of this metal to all classes of work.

NEWFOUNDLAND TRADE.

The imports into Newfoundland from the United Kingdom are positively declining, those from Canada have increased but very slightly, while those from the United States have increased nearly 50 per cent. during the last three fiscal years, as will be seen by the following official figures:

| Whence Imported. | 1901. | 1902. | 1903. |
|-----------------------|-------------|-------------|-------------|
| United Kingdom..... | \$2,329,621 | \$2,208,605 | \$2,147,827 |
| Canada..... | 2,489,499 | 2,609,155 | 2,880,897 |
| United States..... | 2,088,465 | 2,500,088 | 2,930,914 |
| All other countries.. | 568,917 | 508,650 | 541,306 |
| Total..... | \$7,476,502 | \$7,826,585 | \$8,479,944 |

American capitalists are among the foremost in developing the wealth of Newfoundland. Of such interests may be mentioned the York Harbor copper

mine, the Benoit chrome mine, the Valley Island and the Bay Vert pyrites mines. The York Harbor deposits are the richest copper beds in the world, and the present owners are spending \$250,000 in their development.

In the lumber industry the company headed by H. M. Whitney, Boston, has acquired several large properties in the colony and is operating them on a hitherto unequalled scale. George J. Barker, Boston, has also acquired a large grant and is developing it extensively. An American syndicate are now negotiating for forest tracts on the west coast for charcoal manufacture as well as for ordinary lumbering.

There is room for the sale of large quantities of machinery for lumbering and pulp making. Harmsworth, the great London publisher, has secured a large forest area and is now arranging for the establishment of a pulp and paper making plant to cost \$2,500,000. The United States practically controls the trade in agricultural machinery.

NAVAL STATION AT ESQUIMALT, B. C.

The strength of the British fleet at Esquimalt naval station has been reduced, so that now, besides the flagship Grafton—a first-class cruiser—only two second-class cruisers and two steam launches for use of engineers are stationed there. In consequence of this reduction, on the term of the present admiral expiring in December, he will then be succeeded by a commodore, who has already been appointed and is expected to assume his duties when the admiral vacates. But while the fleet has been reduced, the strength of the station has really been increased. Large 9.2 guns, weighing, with their equipment, 30 tons each, arrived lately from England and were placed in position at top of Signal Hill, which commands the whole harbor. These guns are said to throw a 380-pound projectile 5 miles, and with an elevation of 15 feet they have a range to exceed 7 miles. The guns are said to have cost \$26,000 each. They throw the projectile from the muzzle at the rate of 2,347 feet per second and punch a hole in 18 inches of wrought iron at a range of 3,000 yards.

Another work to improve the Esquimalt defences, now approaching completion, is the installation of a battery of quick-firing guns in the navy-yard, and covering the entrance to Esquimalt harbor, where extensive mines have been laid. It is reported that the work of constructing a fort on the high bluff overlooking "Royal Roads" (as the approach to the harbor is called), which was planned some years ago by a royal engineer, is soon to be commenced. Recently, additional ground was purchased by the imperial authorities and plans were prepared for large and modern magazines, in a sheltered and concealed location, separate from the other buildings. This shows the intention to keep a still larger supply of munitions on hand. Reports are also current that an enlargement of the naval dry dock is contemplated. The present dock will barely accommodate the present

flagship and is entirely too small to dock a modern battle ship.

CANADA'S NEW LAKE MARINE.

While the progress of Canada in almost every line during the past few years has been remarkably great, there has been no way in which it has been more marked, especially during the past three years, than in the almost phenomenal growth of the merchant marine trade on the upper lakes. This growth can be said to have commenced in the spring of 1901, and since that time has been so rapid that the fleet travelling between Lake Superior and the lower lake ports has doubled in number, while the carrying capacity is about three times that which it was at the beginning of this three-year period, a fact of which Canada can justly be proud.

Two years ago shippers found it necessary to petition for a temporary suspension of the Canadian coasting laws, so that the American vessels might engage in the trade, and relieve the blockade at the ports of Fort William and Port Arthur, where all the grain from the west is transhipped on its way to the markets of the east. Since that time, however, there have been enough boats added to the Canadian fleet to handle the grain, although the shipments being offered are increasing very fast, and it will be necessary for the vessel owners to keep continually adding to the carrying capacity of their fleets on the lakes.

The first of the new companies to go extensively into the lake carrying business during the past few years was the Algoma Central Steamship Line, one of the companies organized by F. H. Clergue.

They brought a fleet of carriers out from England and placed them on the inland lakes during the season of 1901. They were the steamers Paliki, Leafield and Theano. To these they added the schooners H. A. Barr and J. J. Barlum, purchased from United States concerns, and the tow barge Agawa, which was built at Collingwood. The Agawa is 379 feet in length, and is one of the finest boats of her type on the lakes. The Barr was subsequently lost on Lake Erie. It was the intention of the Algoma Central people when they put the ocean type of boats on the lakes to take them to the ocean and engage in the trade there during the winter months. This was tried the first winter, but was accompanied by so much trouble and so little fortune, in competition with the other lines operating continuously on the Atlantic, that the idea was given up the first season.

Last year the Canadian Lake & Ocean Navigation Co., with headquarters at Toronto, entered the trade, and they also went to England for their boats, for the double reason that they could get them there somewhat cheaper, and use them in bringing over cargoes, and because they could not wait for the Canadian shipyards to supply their demand. The boats were not constructed to order in England, but were purchased from the companies operating them. This company brought the four boats which comprise what is known as the Turret fleet. They are of a type distinctly different from anything on the lakes, their construction

being somewhat like a combination of the whaleback and the ordinary steam-barge, with the engine rooms amidships. These boats were the Turret Court, Turret Chief, Turret Crown and Turret Cape. Three more were added by the Canadian Lake & Ocean Navigation Co. this season, being the J. H. Plummer, A. E. Ames and H. M. Pellatt. The Turret boats have a carrying capacity of about 105,000 bushels of wheat each. The other three are intended principally for the package freight business. All vary in size from 250 to 260 feet. Boats larger than this cannot pass through the Welland Canal.

The Mackays of Hamilton, R. O. & A. B. Mackay, have four vessels in the trade, the Strathcona, Donnacona, Wahcondah and Neepawah, the latter two being recently purchased in England, where they were constructed for this firm. The Mackays, although they are better known thus, operate their boats under the name of the New Ontario Steamship Co. They are largely interested in the New Ontario Dock & Coal Co. at the Soo.

Other steamers newly placed on the lakes during the last two seasons are the Neebing, owned by Marks & Co., Port Arthur; the Tadousac, owned by the Victoria Harbor Lumber Co.; the Wexford, owned by the Western Steamship Co.; the Newmount, owned by the Farrar Transportation Co.; the Simla, owned by the Calvin Co., Kingston, and the Midland King and the W. D. Matthews, owned by the Midland Transit Co. The Montreal Transit Co. have the steamers Fairmount and Westmount, and the tow barges, Hamilton and Quebec. The Matthews and Midland King, both of which came out late this season, are the largest and finest Canadian-owned carriers on the lakes. They compare favorably with the best of the American-owned, and have a carrying capacity each of 5,500 tons.

In approximate figures the total carrying capacity of the boats in the upper lake trade is now something more than 4,000,000 bushels of wheat. Previous to 1900 it was but a little more than 1,250,000, and the increase in that time of 2,750,000 shows the rapid growth in the trade, and that it has almost trebled in the carrying capacity of the boats engaged in it. The number of boats has more than doubled. Those now in commission, not including three Canadian Pacific Railway and four Sarnia passenger steamers, which go up Lake Superior and also carry grain, number fifty. Of these thirty-two have been added during the last three seasons, and of the thirty-two nine have been built in Canada, namely, the barges Agawa, Hamilton and Quebec, and the steamers Iroquois, Simla, W. D. Matthews, Midland King, Tadousac and Advance.

Seven passenger boats on the routes between Owen Sound and Fort William and Sarnia and Fort William, and which are not included in the figures above given, can carry wheat to a combined capacity of about 350,000 bushels. Besides this they control by far the larger part of the passenger traffic on the upper lakes. It is a fact that most of the passengers who go through the American Soo canal are taken by Canadian-owned steamers.

One noteworthy feature about the Canadian-owned boats is their substantial construction. Those built in Canada and England are in this regard somewhat ahead of the product of the American shipyards, where there seems to be a tendency to sacrifice seaworthiness for carrying capacity. The reason so many of the Canadian boats are not larger than they are is because it is impossible for a boat of more than 360 feet in length to pass through the Welland Canal, and it is evident that one of the first things necessary in the improvement of the Canadian waterway is the enlargement of this canal. Until that is done it will be imperative to construct boats much smaller than they are otherwise required, and therefore not as profitable as might be.

TO STUDY ELECTRIC SMELTING.

The Dominion Government have, upon the recommendation of Hon. Clifford Sifton, appointed a commission to go to Europe to inspect the various plants that use the thermo-electric process for the smelting of iron ores and the making of steel. The commission consists of Dr. Haanel, superintendent of mines, and Mrs. C. E. Brown, assistant and works engineer for the Canadian General Electric Co. of Peterboro'. A steel expert and a draughtsman will be added to the commission, but they will be selected in Europe. There are five establishments in Europe where pig and steel are commercially produced, the firms being Keller, Paris; Harmet, St. Etienne, France; Heroult, La Praz, France; Capt. Stassano, Turin, Italy; and Benedicks, Gysinge, Sweden. The electric process is especially adapted to the production of the different ferros which are used in the manufacture of steel, such as ferrochrome, ferro-manganese, ferro-silicon, ferro-titanium, etc. Capt. Stassano at Turin operates for the Italian Government. Sweden regularly turns out two and one-half tons of tool steel by the electric process. Ordinary tool steels are worth from \$120 to \$240 a ton, self-hardening steels from \$1,000 to \$1,200 a ton, and high speed tool steels \$1,500 a ton. This gives some idea of the enormous profits in connection with the manufacture of special tool steels, for which the electric process is especially adapted. The Heroult firm at La Praz have been producing steel by this process on a commercial scale since 1901. The Canadian commission have been given permission to visit the several factories alluded to, and their tour will probably occupy two months. The investigation which is to be undertaken bids fair to result in untold benefit to Canada, where we have immense deposits of iron ore, and numerous water powers where electricity can be cheaply developed.

THE ONTARIO LUMBER INDUSTRY.

A few years ago, when the regulations governing the manufacture of lumber from Crown timber permitted the export of sawlogs from this province, there was a general closing up of sawmills along the

north and east shores of the Georgian Bay. Until the validity of the regulation prohibiting the towing of logs to sawmills in the United States was established, by judicial finding the enactment had little effect on the lumber industry, but for several years past all the Canadian mills have been in full operation, and some of a high class have been moved over from various localities in Michigan and Wisconsin. For better or for worse, it is now the universal practice to turn the logs into sawn lumber in this province instead of towing them to mills in a foreign country.

The great majority of those who have witnessed this change going on from year to year, says *The Globe*, are pleased with it, and they regard with renewed pleasure every announcement of the transfer of another mill from Michigan to Ontario. Whether there is or is not for the province more money in cutting up the logs at home than in selling them without restrictions may be open to question; there can be no two opinions as to the encouragement and hopefulness imparted to the residents of the Georgian Bay district by the revival of the sawmilling industry. There are now two large mills at Blind River, where there was formerly only a single small one. New mills have been erected at Thessalon and Byng Inlet, and old ones have been revived and improved at Cutler, Little Current, Collingwood, Midland, Parry Sound and other points. Comparatively speaking, the Georgian Bay Shore, from having all the appearance of depression and decay, has taken on an aspect of bustling industrial activity.

The latest case of the transfer of a sawmill from Michigan to Ontario involves its re-erection at Massey on the Spanish River, one of the great Canadian water-courses. On the timber limit purchased by the company there is pine enough to keep the mill running for about twenty years, and possibly before that period expires other lots of standing pine may be secured. One of the incidental advantages resulting from the adoption of this policy is the premium it puts on the careful selection of the trees to be cut and the watchful protection of the young pines from destruction by vandalism and fire. Under the towing system everything that could be converted into lumber at all was swept into the mill, even if most of it had to be carried on to the incinerator. In twenty years pine now too young to cut will make fairly good sawlogs.

The chief cause of regret to the tourist who visits the Georgian Bay shore is the absence of wood-working machinery at the places where mills are established. The operators seem content to go on converting logs into lumber and selling the latter, either green or seasoned, instead of running it through planers or other machinery for the purpose of making more profit by employing more labor and more capital. In all probability if one firm were to imitate the exceptional organizing enterprise of the late Mr. Cargill, who acted on this idea and found it immensely profitable to do so, others would speedily follow the example. On both sides of the Georgian Bay there has

been during the past few years a great development of agriculture in both variety and extent; it is to be hoped that the present crude methods of preparing the lumber for market will be supplemented by others requiring the use of higher skill and more varied appliances.

BRIDGE OF CEMENT.

What is claimed to be the first solid cement bridge of its kind in the Province of Ontario was that erected in August last about a mile east of Tavistock, Ont., over a small creek on the boundary of Perth and Oxford counties. It has a span of thirty feet with absolutely no support underneath between the abutments at each end, and yet the thickness of the floor is only fourteen inches. Seven days after this bridge was built it allowed of the passage over it of a twenty ton load without a tremor. The abutments at each end are 3½ feet thick at the base and 2½ feet at the top. Like the rest of the bridge, they are solid cement. A railing about three feet high is also of solid cement. The bridge cost \$635. Extremely interesting is the manner of its construction. A wooden substructure is first built. Upon this the floor of the bridge is laid. Upon four inches of cement, inch and three quarter steel rods are laid, running lengthwise and ten inches apart. Three inches more of cement are laid on this, then a layer of woven wire is put on. Over this another coating of cement is laid, then another layer of wire, and on top of all enough cement to make up the total thickness of fourteen inches. The railing, which is also strengthened with wire, is an important factor, as it helps to bind the bridge together and increase its strength. This is by reason of heavy bolts run downward through the railing and fastened firmly to the floor. This bridge was built under the supervision of councillors Herold and Mountain, of the Perth County Council, and so successful did it prove that another has been erected by them near Harmony.

INDUSTRIAL PUBLICATIONS.

The Wm. Powell Co., Cincinnati, Ohio, who manufacture everything for the engine and boiler room, have sent us a very neat circular having reference to their Sight Feed Lubricators, Glass Oilers and Grease Cups. These articles are very fully described and illustrated, and price lists given.

The Cassella Color Co., New York, have sent us a very useful and neatly bound volume having reference to "Garment dyeing" in which is given some instructions for the employment of the dyestuffs made by them in garment dyeing, based upon experience collected in practical working. The dyeings shown in the book were all produced on materials in the grey, to which alone the receipts apply. The contained samples show the admirable effects of the dyeings.

Circular No. 1032 issued by the Westinghouse Electric Mfg. Co., illustrates and describes their No. 56 railway motor, which is of a size well suited for city, suburban or interurban service, and its

design and construction are such as to meet the most rigid requirements of any of these classes of service.

The Jeffrey Mfg. Co., Columbus, Ohio, are sending out a circular relating to their elevators. These, they say, are designed and built to suit the conditions. They can handle materials of all kinds in bulk or package, hot or cold, wet or dry, up, down, straight along, or sideways, any size, any distance. Their catalogue No. 72 illustrates and describes their elevating machinery.

The Pusey & Jones Co., Wilmington, Del., have sent us a circular having reference to the McCorkindale slitter, in which paper manufacturers will be interested. It is stated that these slitters are different from others in this important respect; the blades never have to be removed from the spindles to which they are secured, until they are entirely worn out. The spindles are of steel and have good centres in each end. They can be easily removed from their bearings in the slitter frame, placed in a lathe or grinding machine, revolved upon centres and the blades turned or ground perfectly true. The combined spindle, washer and blade may then be returned to their place in the slitter frame without being separated. Those who use slitters will appreciate the advantage of having a blade that runs perfectly true at all times and an arrangement that does not necessitate the removal of the blade from the spindle at any time, excepting when new blades are substituted for old ones.

The Electric Club, of Pittsburg, Pa., announces that they will issue an illustrated monthly magazine to be styled. The Electric Club Journal, the first number of which will appear February 1. The immediate purpose is to put into permanent form the engineering papers and technical discussions that form a regular part of the work of The Electric Club. Many of the papers will be written by the engineering staff of a leading electric company, and much of the material will pertain to the latest apparatus and to the newest problems in engineering work. This matter will be published in a form suited to the needs of intelligent young men. The journal will also publish other material of special interest and value to members of the club.

The Pittsburg Coal Co., Pittsburg, Pa., have sent us a circular in which it is shown that their sales of coal in eleven months in 1903, ending with November, amounted to \$590,583 against \$4,124,069 during the same months in 1902, showing a net increase of \$56,939.

The Geo. L. Squire Mfg. Co., Buffalo, N. Y., have sent us a very handsome 1904 calendar surmounted by an attractive design in seven colors. They inform us that they are also preparing a large and elaborate souvenir in fourteen colors of an "American Beauty." They are manufacturers of sugar, coffee and rice machinery.

Ever noted for its out-and-out Canadian sentiment, the Farmer's Advocate of London, Ont., in its Christmas number, sustains its old-time reputation. Canadian artists, Canadian writers, Canadian

agriculturists speak from its every page, the result being a number in the highest degree creditable to its publishers, and useful and entertaining to its readers. That the army of the latter is by no means inconsiderable may be judged from the fact that over 28 tons of paper, we are told, was required in making up the number. The Farmer's Advocate will hereafter be issued weekly instead of monthly.

Canada's Industrial Blue Book,—The publishers, the Manufacturer's List Co., Montreal and Toronto, have favored us with an exceedingly handsomely bound copy of their Fourth edition of their Manufacturer's List Buyers' Guide, of Canada. It constitutes an index to articles manufactured in Canada, with a classified list of the eminent concerns who manufacture the articles alluded to, alphabetically arranged for the use of buyers throughout the world. Part I. is an index to articles, not one of which is mentioned unless it is made in Canada. Part II. includes an alphabetical list of 200 industrial cities and towns in Canada, enumerating the names of the principal manufacturers whose works are there, and showing the character of such works. Part III. gives classified article headings with names and addresses of manufacturers of such articles. Part IV. is an alphabetically arranged list of manufacturers throughout entire Canada: and it is to be observed that the names mentioned in this department—do not include some 3,000 concerns which appear properly under article headings in Part III., in which are enumerated more than 8000 important manufacturing establishments. The compiler informs us that besides the more than 10,500 of the more important manufacturing establishments in operation in Canada, whose names and addresses are given, there are a large number of smaller concerns—the extent of whose business does not extend beyond their immediate neighborhoods, whose names are not mentioned in the book. The Buyers' Guide is not published in the interest of any association or guild, nor is it restricted in any manner to giving information to the membership of any such, and it includes the names and occupations of about 9,000 more bona fide Canadian manufacturers than any other similar publication issued in Canada.

With the regularity of the coming of the New Year comes the calendar regarding it from the B. Greeing Wire Co., Hamilton, Ont. In this as in all other business offices that it reaches it is always acceptable, and is always accorded a conspicuous position. To the trade it serves as a constant reminder of the excellence of the products of one of the oldest and most reliable manufacturing concerns in Canada. The company publish a series of catalogues of their products, one for each line, which they will send on application.

The Amyville-Youghinghem Gas Coal Co., Pittsburg, Pa., have issued a neat vest pocket card case, calling attention to their well known fuel, which has large sale in Ontario.

The Canadian General Electric Co., Toronto, have sent us a very handsome

souvenir in which is shown beautiful half tone representations of some of the industrial works in which they are interested, with brief descriptions of them. These include their works at Peterboro, Ont., and at Montreal: and those of the Davenport works of the Canada Foundry Co., and the ornamental iron department at King street subway, Toronto.

The Office Specialty Mfg. Co., Toronto, have sent us a Christmas card to which is attached a stick pin representing the Canadian beaver, the emblem of industry.

The Thorn Cement Co., Buffalo, N. Y., have sent us a dainty little calendar for the current month. They are manufacturers of high grade Lehigh Portland cement, of which we are informed, more than 10,000 barrels were used in the construction work at Niagara Falls, Ont., of the Canadian Niagara Power Co., at that place.

The Trump Mfg. Co., Springfield, Ohio, have favored us with a copy of their new catalogue relating to their celebrated Trump "Model" turbine for low and medium heads of water; also Trump High Grade Turbine for heads ranging from 30 to 300 feet. These turbines are used very extensively in pulp and paper mills, and for generating electrical energy in many parts of the world, and should find large demand in Canada, the land of innumerable water powers. The book is printed in three languages, contains detail views of the machinery described, and also views of some of the many works where Trump machinery is the motive power.

The Jeffrey Mfg. Co., Columbus, Ohio, have sent us their catalogue No. 69, which has reference to their screening machinery, especially adapted to handling bone ash, coal, trap rock, chemicals, clay, coke, plaster, slate, marble, ores, quartz, Portland cement clinker, carbon, sand, blood, phosphate rock, graphite, limestone, acid phosphate, fullers earth, chrome ore, fire clay and all sharp and gritty materials. The book is intended to give some idea of what the company are doing in the screening line, and it does it. Many illustrations and full descriptions are given, and a list of well-known concerns who use the Jeffrey vibrating screen.

OPPORTUNITIES.

The following enquiries have been received at the offices of the High Commissioner for Canada in London, and at the Canadian Section of the Imperial Institute, London, England.

NOTE.—Those who may wish to correspond with any of these enquirers can obtain the names and addresses by applying to the CANADIAN MANUFACTURER, Toronto. No charge for giving information. When writing refer to the numerals opposite the enquiries, and enclose 2c. postage stamp for reply.

1143. A box manufacturing company at Cardiff, Wales, asks to be placed in touch with Canadian makers of box shooks who are advantageously located for shipping direct to Cardiff.

1144. A firm in Brussels, Belgium, wishes to represent a Canadian packer of canned salmon and also a packer of lobsters.

1145. A London, England, firm would be pleased to hear from Canadian manufacturers of vinegar.

1146. An enquiry has been received

from a fruit importer at Sheffield, England, who is in a position to import about two hundred barrels of apples a week, and requires fresh sources of supply in Canada.

1147. A manufacturing firm in London, England, using a quantity of pig iron in their business have made enquiry

respecting Canadian supplies of this article.

1148. Application has been received from a maker of dog and poultry foods for names of Canadian tallow merchants and refiners, tallow and fat melters, soap manufacturers and canned meat packers, the object being to arrange for a regular supply of the by-product known as "greaves."

1149. A firm in the "last" manufacturing trade, in a position to purchase large quantities of hard maple wood blocks, are desirous of getting into touch with Canadian exporters able to meet their requirements.

1150. Enquiry has been received for names of wholesale grocers and drysaltery establishments in Canada who would be likely to open up business arrangements with an English maker of blacklead, laundry blues, etc.

1151. The same parties would be prepared to undertake the grinding and packing in tins or packets of any goods shipped by a Canadian house requiring such treatment in England.

1152. An engineering company seeks the co-operation of some first-class Canadian manufacturer prepared to take up the manufacturing agency of their brick and tile machinery.

1153. A timber manufacturing firm in a position to place considerable orders wishes to hear from Canadian shippers of box shooks.

1154. Enquiry has been made for the address of Canadian manufacturers of carpets.

1155. A Bristol manufacturer of fire bricks for furnaces who can ship advantageously from Avonmouth, England, would like to hear from Canadian buyers of these goods.

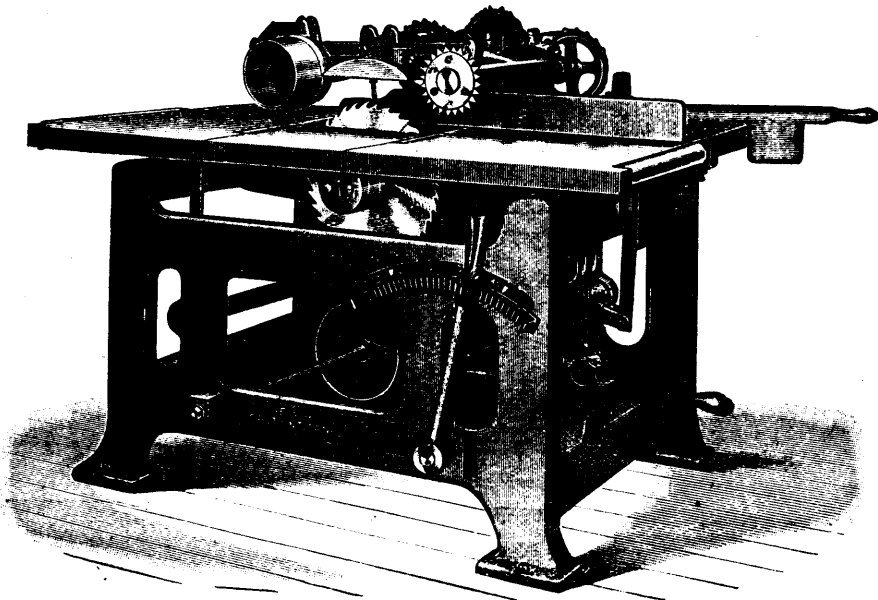
1156. A Liverpool firm of commission and general merchants, offering good references, are seeking the representation of a good Canadian exporter.

1157. Enquiry is made respecting the nature of the encouragement offered by any municipal authority in Canada in the event of a company or group of capitalists starting a new industry by erecting a factory for the manufacture of a staple article not at present being produced in the Dominion.

1158. An Irish dairy society desires to get into touch with parties in Canada

SELF-FEEDING RIPPING SAW.

Furniture manufacturers will be interested in the accompanying illustration of a Self-Feeding Ripping Saw made by The Goldie & McCulloch Co., Limited, Galt, Ont. This saw is the very latest of this class of machines. Their standard machine will cut 16 inches wide, and the table will drop 6 inches, but the machine shown in the illustration is one designed especially for furniture work, and will cut 16 inches wide, the table drops 3 inches, and will cut short lengths of 14 inches. The feed is



under the control of the operator at all times, and can be changed from 0 to 200 feet per minute without stopping the saw. This is only one of the many machines that this old and well-known firm are turning out for the wood-working trade, and they are very busy in this department. Their shipments extend from coast to coast. They issue a very attractive catalogue of wood-working machines, which should be on the desk of every furniture manufacturer and which they will have pleasure in sending on application.

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Steam Geared or Electrically Driven.

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Dust, dirt and grit are effectually repelled.

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TEON COMPARED WITH LEATHER

It is stronger.

It is much more durable.

It is lighter in weight.

It has a superior driving surface.

It is much more pliable.

It will transmit more power and slip less.

P. H. WILBY, - Sole Agent for Canada - 27 1/2 Front St. East, TORONTO

who can supply them with small cut up boards, suitable for nailing into butter boxes.

1159. A provision and produce broker in the North of England desires to get in communication with a first-class packer of provisions in Canada.

1160. Application has been made for the addresses of iron-works (blast furnaces) or steel works in Canada, by a firm desiring to bring before them propositions concerning the utilization of slags.

1161. A Vienna commission agent, with English experience and good references, is anxious to hear from Cana-

dian exporters starting a Continental connection.

1162. The names of parties in different parts of Canada, willing to act as buying agents for a large manufacturer of sauces and other similar grocers' sundries, have been applied for.

1163. A West of England firm have asked to be furnished with the name of a large Canadian canning house requiring representation in Great Britain.

PERSONALS.

The annual meeting of the Canadian Press Association will be held in Toronto on February 4 and 5.

G. F. Argetsinger, Esq., managing director of the L. B. Eddy Co., Rochester N.Y., and Mr. A. A. Mosher, of that city, visited the office of this journal a few days ago.

Andrew Pattullo, Esq., a member of the Ontario Legislature died in London, England, December 29, aged 53 years. In 1875 Mr. Pattullo entered upon a newspaper career with The Woodstock Sentinel. In 1880 he assumed control of that paper, which afterwards became The Sentinel-Review. For twenty years he was recognized as one of the ablest editors in Ontario. He was president of The Canadian Press Association in 1890,



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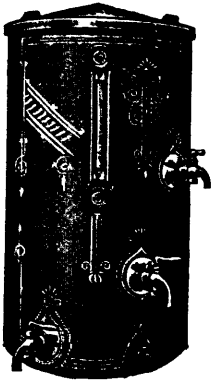
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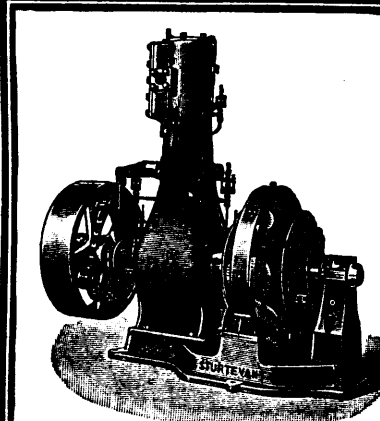
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High speed, and high grade.
We build both engine & generator.*



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 - Ventilating
 - Drying Apparatus
 - Mechanical Draft

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'91 and '92. For years he was a power in the Reform party in the political campaigns in Oxford county, and was a very able platform speaker. In 1898 he succeeded the late Sir Oliver Mowat as the member of the provincial legislature for North Oxford, and has since represented the riding in the Ontario house. Three months ago Mr. Pattullo proceeded to England as an observer of the Chamberlain campaign. There he entered upon the work of assisting Mr. Chamberlain, and for the past month has been addressing meetings in support of the fiscal policy advocated by Mr. Chamberlain.

Mr. Graham Fraser assumed control of the Dominion Iron & Steel Works on January 1, as Director of Works. It is understood that on that day also Mr. Hiram Donkin will sever his connection with the Nova Scotia Coal & Steel Co., to be succeeded by James Pierre, C.E., of North Sydney. Mr. Fraser has expressed unbounded con-

fidence in the future of the steel works at Sydney. "The plant at Sydney," he says, "is all right and its future prospects are unquestionably good."

Senator Forget, of Montreal, has resigned as vice-president of the Dominion Coal Co., and will be succeeded by Mr. F. L. Wanklyn.

ONTARIO ARCHITECTS' CONVENTION.

The annual meeting of the Ontario Association of Architects will be held in Toronto, in the association rooms, on Tuesday and Wednesday, January 12 and 13, and the election of officers will take place on Wednesday afternoon. Registrar W. R. Gregg has issued the following programme, which contains many features of interest to the profession: Tuesday, 11.00 a.m., meeting of Council; 2.30 p.m., president's address, reports and business of the convention; 4.00

p.m., paper by Prof. R. C. Carpenter, of Cornell University, Ithaca, N.Y., on "Heating," discussion led by Prof. C. H. C. Wright; 8.00 p.m., opening of exhibition. Wednesday, 11.00 a.m., paper by P. E. Nobbs, A.R.I.B.A., Professor of Architecture, McGill University, Montreal, on "The Delineation of Architecture," discussion led by Mr. E. Burk, Toronto; 2.30 p.m., paper by Prof. James Mavor, of Toronto University, on "Recent Developments in the Planning and Improvement of Cities in Europe and America," discussion led by Mr. S. G. Curry; 3.30 p.m., paper by Mr. F. G. Todd, of Montreal, on "The Advantages of a Park System," discussion led by Mr. John Chambers; 4.30 p.m., election of officers and meeting of new council; 8.00 p.m., banquet at the King Edward Hotel. All architects and others interested in architecture are invited to attend the convention during the reading and discussion of papers.

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FOR Strictly High Class Steam Plants for Electric Light, Manufacturing and other purposes

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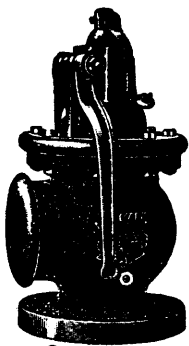
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A VALVE YOU CAN RELY ON — SEND FOR PRICES

CROSBY STEAM APPLIANCES EXCEL

Steam Engine Indicators.
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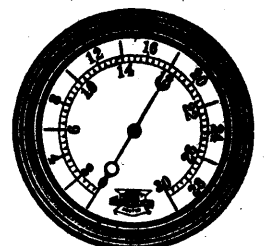


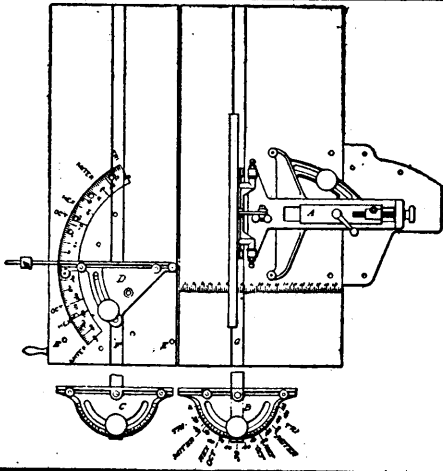
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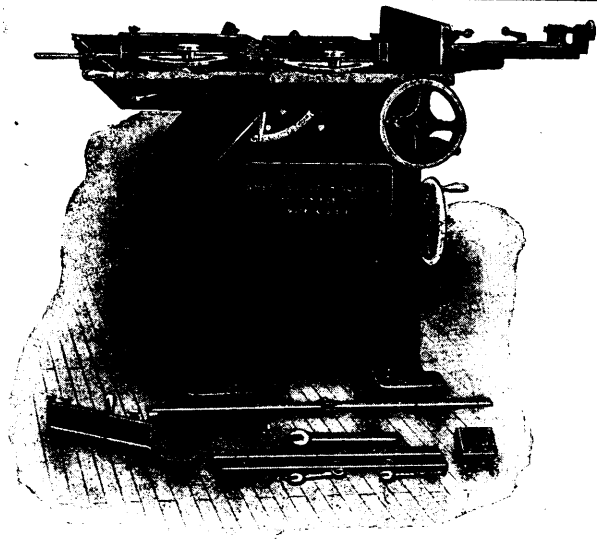
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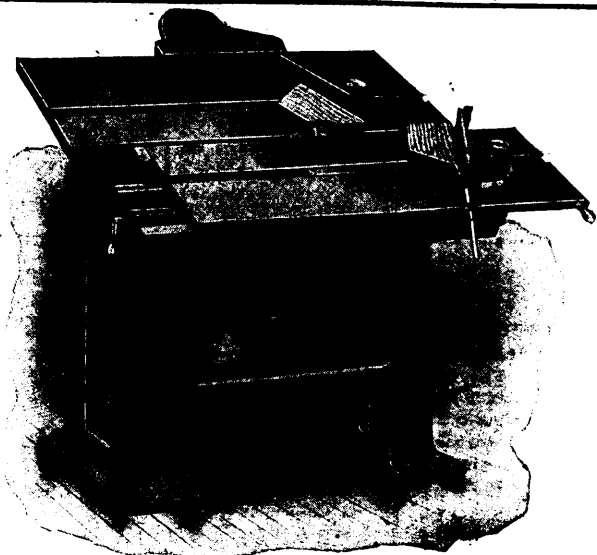




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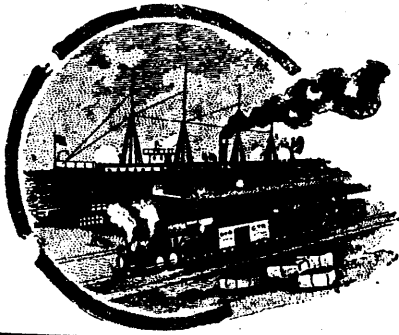
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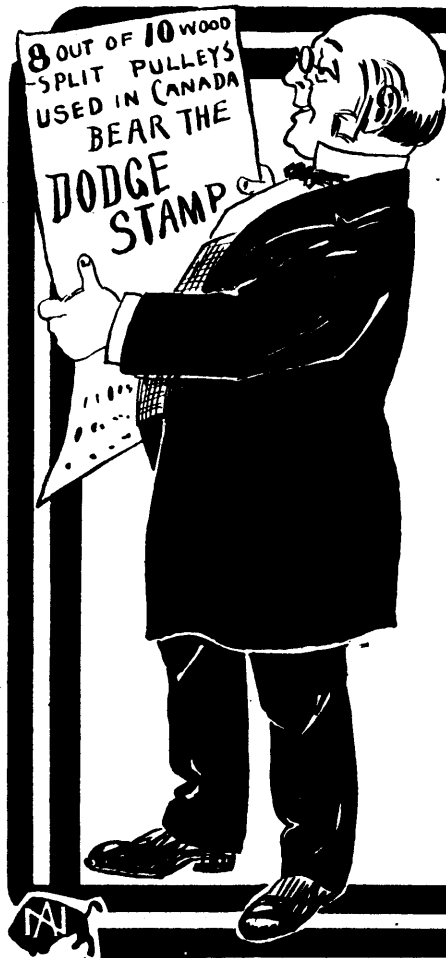
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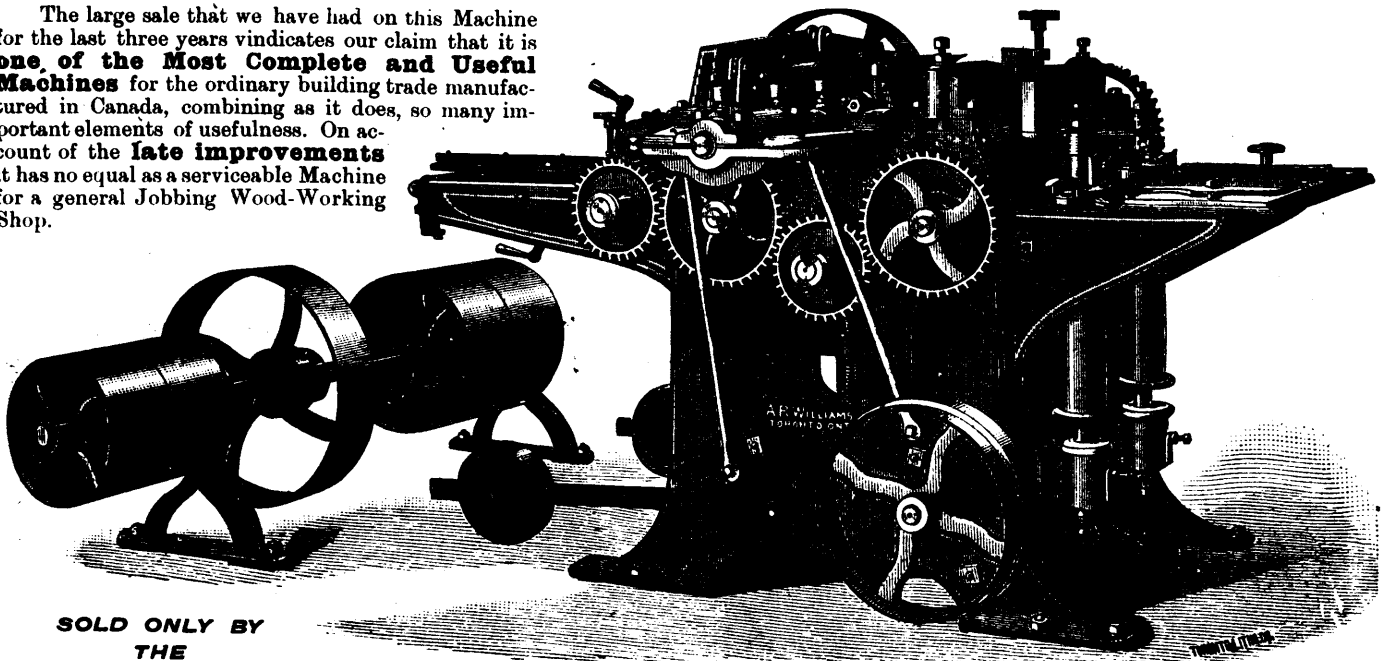
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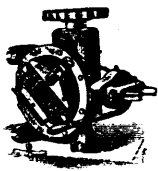
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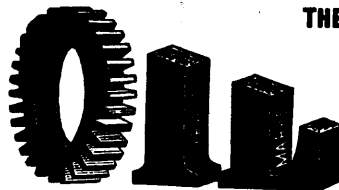
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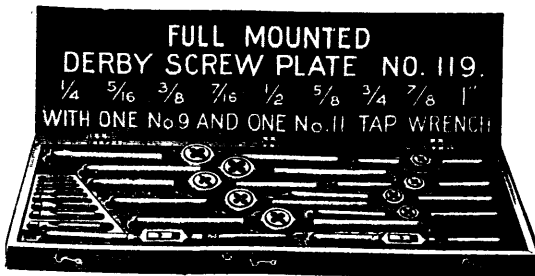
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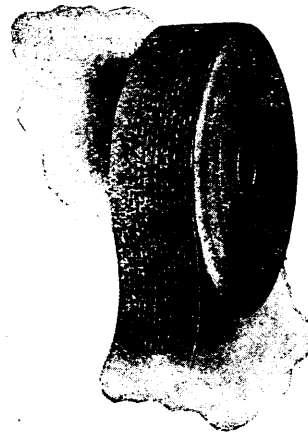
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"Please permit us to state that Mr. ——— is incorrect in making a statement of this kind, privately or publicly, and evidently speaks without full knowledge, or, in fact, without any knowledge whatever on the matter, and in correcting this mis-statement permit us to assure you and the public that our Company came here on account of the natural advantages of Peterborough, which are the geographical location, railways, the water power, and the Trent Canal, which, we were assured, would be shortly completed, and which, when finished and in operation, will, in our opinion, secure to Peterborough all the industries that your city can comfortably take care of."

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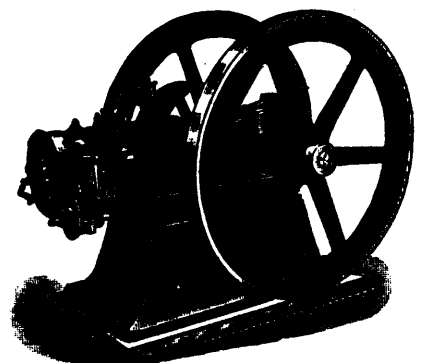
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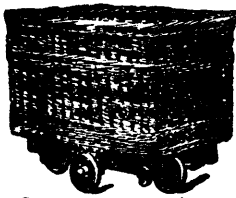
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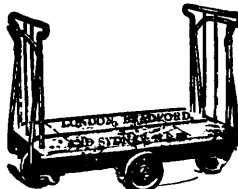
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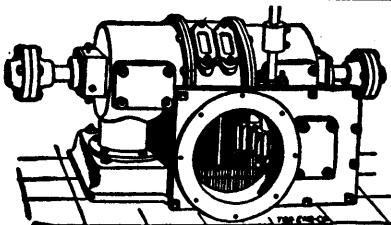
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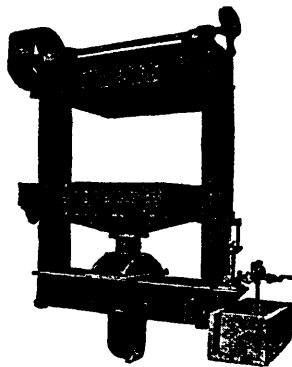
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Milnes, James H., & Co., Toronto.
Pittsburgh Coal Co., Pittsburgh, Pa.

Coal Cutting Machines

Jeffrey Mfg. Co., Columbus, Ohio.

Coal Tipples.

Jeffrey Mfg. Co., Columbus, Ohio.
Scaife, Wm. B. & Sons Co., Pittsburg, Pa.

Coil Chains.

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

Collection Agency

Ontario Collection Association, Toronto.

Continuous Rolling Mills

Morgan Construction Co., Worcester, Mass.

Contractors' Machinery

Carlin's, Thomas Sons Co., Allegheny Pa.

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Conveying Machinery

Dodge Mfg. Co., Toronto.
 Jeffrey Mfg. Co., Columbus, Ohio.
 Perrin, William R., & Co., Toronto.
 Stevens, Alfred J., Toronto.

Copper Materials

Greening, B. Wire Company, Hamilton, Ont.
 Samuel, M. & L. Benjamin & Co., Toronto.
 Syracuse Smelting Works, Montreal.
 Wire & Cable Co., Montreal.

Corrugated Iron and Steel.

Scalfe, Wm. B. & Sons Co., Pittsburg, Pa.

Corundum.

Canada Corundum Co., Toronto.

Corundum Wheels.

Canadian Corundum Wheel Co., Hamilton, Ont.
 Hart Corundum Wheel Co., Hamilton, Ont.
 Rice Lewis & Son, Toronto.

Covers.

McCullough-Dalzell Crucible Co., Pittsburg, Pa.

Crayons

Lowell Crayon Co., Lowell Mass.

Crucibles

Dixon, Joseph, Crucible Co., Jersey City, N.J.
 McCullough-Dalzell Crucible Co., Pittsburg, Pa.
 Samuel, M. & L. Benjamin & Co., Toronto.
 Syracuse Smelting Works, Montreal.

Crucible Caps and Nozzles

McCullough-Dalzell Crucible Co., Pittsburg, Pa.

Crucible Covers and Stoppers

McCullough-Dalzell Crucible Co., Pittsburg, Pa.

Dies

Hamilton Stamp & Stencil Works, Hamilton, Ont.

Dies (Socket, Sewer Pipe and Tile)

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

Directories

Kelly's Directories, Limited, Toronto.

Draw Benches (Wire.)

Morgan Construction Co., Worcester, Mass.
 Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

Drills

Bertram, John, & Sons Co., Dundas, Ont.
 Canadian Rand Drill Co., Sherbrooke, Que.
 Jeffrey Mfg. Co., Columbus, Ohio.
 London Machine Tool Co., London, Ont.

Dry Kilns.

Sheldon & Sheldon, Galt, Ont.
 Stevens, Alfred J., Toronto.
 Sturtevant, B. F. Co., Boston, Mass.

Dust and Shavings Separators

Sheldon & Sheldon, Galt, Ont.
 Sturtevant, B. F. Co., Boston, Mass.

Electric Mine Locomotives

Jeffrey Mfg. Co., Columbus, Ohio.

Electrical Supplies

Canadian General Electric Co., Toronto.
 Electrical Construction Co., London, Ont.
 Forman, John, Montreal.
 Jones & Moore Electric Co., Toronto.
 Kay Electric Dynamo & Motor Co., Toronto.
 Packard Electric Co., St. Catharines, Ont.
 Phillips, Eugene F., Electrical Works, Montreal.
 Toronto & Hamilton Electric Co., Hamilton, Ont.
 United Electric Co., Toronto.
 Worth & Martin, Toronto.

Electro-Plating

Brantford Plating Co., Brantford, Ont.

Elevators

Canadian Otis Elevator Co., Toronto.
 Darling Bros., Montreal.
 Jeffrey Mfg. Co., Columbus, Ohio.

Emery and Emery Wheels.

Canadian Corundum Wheel Co., Hamilton, Ont.
 Forman, John, Montreal.
 Hart Corundum Wheel Co., Hamilton, Ont.

Employers' Liability Insurance

Maryland Casualty Co., Toronto.

Engineers (Cement).

Wentz, R. F. Engineering Co., Toronto.

Engineers (Chemical.)

Heys, Thos. & Son, Toronto.

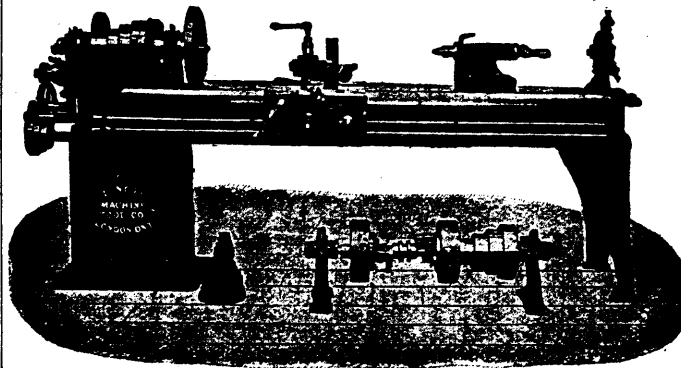
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Kelsch, R. S., Montreal.
Parke, R. J., Toronto.
Vogel, C. H., Ottawa.

Engineers (Consulting)

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Electrical Construction Co., London, Ont.
Kelsch, R. S., Montreal.
Morgan Construction Co., Worcester, Mass.
Parke, R. J., Toronto.
Perrin, Wm. R. & Co., Toronto.
Simpson, T. T., Deschenes, Que.
Vogel, C. H., Ottawa.
Wentz, R. F. Engineering Co., Toronto.

Engineers (Contracting)

Darling Bros., Montreal.
Electrical Construction Co., London, Ont.

Engineers (Electrical)

Canadian General Electric Co., Toronto.
DeLano-Osborn Engineering Co., Toronto.
Electrical Construction Co., London, Ont.
Electric Engineering & Supply Co., Montreal.
Jones & Moore Electric Co., Toronto.
Kay Electric Dynamo & Motor Co., Toronto.
Toronto & Hamilton Electric Co., Hamilton, Ont.
United Electric Co., Toronto.
Worth & Martin, Toronto.

Engineers (Mechanical)

Carrier, Laine & Co., Levis, Quebec.
Darling Bros., Montreal.
DeLano-Osborn Engineering Co., Toronto.
Electrical Construction Co., London, Ont.
Kelsch, R. S., Montreal.
Kerr Engine Co., Walkerville, Ont.
Morgan Construction Co., Worcester, Mass.
Robb Engineering Co., Amherst, N.S.
Sheldon & Sheldon, Galt, Ont.
Wentz, R. F. Engineering Co., Toronto.

Engineers (Mill and Hydraulic)

Vogel, C. H., Ottawa.

Engineers (Mining)

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

Engineers and Contractors.

Jeffrey Mfg. Co., Columbus, Ohio.
Scaife, Wm. B. & Sons Co., Pittsburg, Pa.

Engines and Boilers

Babcock & Wilcox, Limited, Montreal.
Canadian Heine Safety Boiler Co., Toronto.
Cowan & Co., Galt, Ont.
Goldie & McCulloch Co., Galt, Ont.
Hamilton, Wm. Mfg. Co., Peterborough, Ont.
Hyde Bros. & Co., Pittsburg, Pa.
Leonard, E. & Sons, London, Ont.
McDougall, R. Co., Galt, Ont.
Robb Engineering Co., Amherst, N.S.
Scaife Wm. B. & Sons Co., Pittsburg, Pa.
Stratford Mill Building Co., Stratford, Ont.
Williams, A. R., Machinery Co., Toronto.

Engravers

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

Exhaust Heads

Burt Mfg. Co., Akron, Ohio.
Darling Bros., Montreal.

Exporters

Canadian Export Co., Toronto.

Factory Sites

Central Ontario Power Co., Peterboro, Ont.

Files

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

Financial

Bradstreet's, New York City.
Dun, R. G. & Co., Toronto.
Neff & Postlethwaite, Toronto.
Ontario Collection Association, Toronto.

Filters

Burt Mfg. Co., Akron, Ohio.
Darling Bros., Montreal.
Perrin, Wm. R. & Co., Toronto.
Scaife, Wm. B. & Sons Co., Pittsburg, Pa.

Fire Brick

Hamilton Facing Mill Co., Hamilton, Ont.
Pennsylvania Fire Brick Co., Lock Haven, Pa.
Scioto Fire Brick Co., Sciotoville, Ohio.

Founders

Canada Foundry Co., Toronto.
Cowan & Co., Galt, Ont.
Gartshore-Thomson Pipe & Foundry Co., Hamilton, Ont.

Hamilton, Wm. Mfg. Co., Peterborough, Ont.
Karch, H. W., Hespeler, Ont.
McDougall, The R. Co., Galt, Ont.

Foundry Facing

Hamilton Facing Mill Co., Hamilton, Ont.

Galvanized Iron and Steel.

Leslie, A. C. & Co., Montreal.
Scaife, Wm. B. & Sons Co., Pittsburg, Pa.

Galvanizing

Brantford Plating Co., Brantford, Ont.
Ontario Wind Engine & Pump Co., Toronto.
Scaife, Wm. B. & Sons Co., Pittsburg, Pa.

Galvanizing and Tinning Machinery and Furnaces (Wire)

Morgan Construction Co., Worcester, Mass.
Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

Gas and Gasoline Engines

Dominion Motor & Machine Co., Toronto.
Goldie & McCulloch Co., Galt, Ont.
Morrison, T. A. & Co., Montreal.
Stratford Mill Building Co., Stratford, Ont.

Gas Plants

Siche Gas Co., Toronto.

Gas Producers.

Morgan Construction Co., Worcester, Mass.

Generators

Canadian General Electric Co., Toronto.
Electrical Construction Co., London, Ont.
Forman, John, Montreal.
Jeffrey Mfg. Co., Columbus, Ohio.
Jones & Moore Electric Co., Toronto.
Kay Electric Dynamo & Motor Co., Toronto.
Phillips, Eugene F., Electrical Works, Montreal.
Toronto & Hamilton Electric Co., Hamilton, Ont.

Government Notices

Factory Inspectors.
Minister of Agriculture.

Grease Cups

Penberthy Injector Co., Detroit, Mich.

Grinding Machinery

Canadian Corundum Wheel Co., Hamilton, Ont.
Hart Corundum Wheel Co., Hamilton, Ont.

Grinding Pans

Carlin's, Thomas Sons Co., Allegheny, Pa.

Hand Traveling Cranes

Morgan Construction Co., Worcester, Mass.

Hardware

Butterfield & Co., Rock Island, Que.
Cooper, James, Montreal.
Empire Machine & Metal Stamping Co., Toronto.
Gartshore, John J., Toronto.
Morrow, John, Machine Screw Co., Ingersoll, Ont.
Rice Lewis & Son, Toronto.
Samuel, M. & L. Benjamin & Co., Toronto.

Heating and Ventilating

Darling Bros., Montreal.
Leonard, E. & Sons, London, Ont.
Sheldon & Sheldon, Galt, Ont.
Stevens, Alfred J., Toronto.
Sturtevant, B. F., Co., Boston, Mass.

Hydraulic Accumulators

Morgan Construction Co., Worcester, Mass.

Hydraulic Cranes

Morgan Construction Co., Worcester, Mass.

Hydraulic Machinery

Darling Bros., Montreal.
Hamilton, Wm. Mfg. Co., Peterborough, Ont.
Jenckes Machine Co., Sherbrooke, Que.
Morgan Construction Co., Worcester, Mass.
Perrin, Wm. R. & Co., Toronto.
Wilson, J. C., & Co., Glenora, Ont.

Iron and Steel Specialties

Abbott, William, Montreal.
Armstrong Mfg. Co., Bridgeport, Conn.
Bourne-Fuller Co., Cleveland, Ohio.
Brown & Co., Paris, Ont.
Dodge Mfg. Co., Toronto.
Karch, H. W., Hespeler, Ont.
Leslie, A. C. & Co., Montreal.
Meadows, Geo. B. Wire, Iron & Brass Works Co., Toronto.
McDougall, R. Co., Galt, Ont.
Nova Scotia Steel & Coal Co., New Glasgow, N.S.
Rice Lewis & Son, Toronto.
Samuel, M. & L. Benjamin & Co., Toronto.
Scaife, Wm. B. & Sons Co., Pittsburg, Pa.

Lamps—Electric

Forman, John, Montreal.
Packard Electric Co., St. Catharines, Ont.

Lathes

Bertram, John, & Sons Co., Dundas, Ont.
London Machine Tool Co., London, Ont.
McDougall, R., Co., Galt, Ont.
Williams, A. R., & Co., Toronto.

Leather Belting

Canadian Oak Belting Co., Brockville, Ont.
Fleming, W. A. & Co., Montreal.
McLaren, D. K., Montreal.
Rice Lewis & Son, Toronto.
Williams, A. R. Machinery Co., Toronto.

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Penberthy Injector Co., Detroit, Mich.

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Machinists.

Worth & Martin, Toronto.

Machinists' Supplies

Armstrong Mfg. Co., Bridgeport, Conn.
Butterfield & Co., Rock Island, Que.
Cooper, James, Montreal.
Goldie & McCulloch Co., Galt, Ont.
Jeffrey Mfg. Co., Columbus, Ohio.
Morrow, John, Machine Screw Co., Ingersoll, Ont.
Worth & Martin, Toronto.

Machine Tools

Abbott, William, Montreal.
Bertram, John, & Sons Co., Dundas, Ont.
Darling Bros., Montreal.

Malleable Iron Castings

McKinnon Dash & Metal Works Co., St. Catharines, Ont.
Ontario Malleable Iron Co., Oshawa, Ont.
Smith's Falls Malleable Castings Co., Smith's Falls, Ont.
Walkerville Malleable Iron Co., Ltd., Walkerville, Ont.

Metal Shears

Morgan Construction Co., Worcester, Mass.

Metal Specialties

Brantford Plating Co., Brantford, Ont.

Metal Stamping

Empire Machine & Metal Stamping Co., Toronto.

Metallurgists.

Mills, S. D., Toronto.
Wentz, R. F. Engineering Co., Toronto.

Mill Machinery and Supplies

Armstrong Mfg. Co., Bridgeport, Conn.
Cooper, James, Montreal.
Cowan & Co., Galt, Ont.
Darling Bros., Montreal.
Fleming, W. A. & Co., Montreal.
Gartshore, John J., Toronto.
Goldie & McCulloch Co., Galt, Ont.
Hamilton Brass Mfg. Co., Hamilton, Ont.
Hamilton, Wm. Mfg. Co., Peterborough, Ont.
Hay, Peter Knife Co., Galt, Ont.
Jeffrey Mfg. Co., Columbus, Ohio.
Jenckes Machine Co., Sherbrooke, Que.
Karch, H. W., Hespeler, Ont.
Leonard, E. & Sons, London, Ont.
London Machine Tool Co., London, Ont.
McDougall, R. Co., Galt, Ont.
Morrow, John, Machine Screw Co., Ingersoll, Ont.
Penberthy Injector Co., Detroit, Mich.
Rice Lewis & Son, Toronto.
Robb Engineering Co., Amherst, N.S.
Samuel, M. & L. Benjamin & Co., Toronto.
Spence, R. & Co., Hamilton, Ont.
Stratford Mill Building Co., Stratford, Ont.
Wilson, J. C. & Co., Glenora, Ont.

Mining Machinery

Canadian Rand Drill Co., Sherbrooke, Que.
Cooper, James, Montreal.
Hamilton, Wm. Mfg. Co., Peterborough, Ont.
Jeffrey Mfg. Co., Columbus, Ohio.
Jenckes Machine Co., Sherbrooke, Que.
Perrin, Wm. R. & Co., Toronto.
Williams, A. R. Machinery Co., Toronto.

Motors and Dynamos

Canadian General Electric Co., Toronto.
Electrical Construction Co., London, Ont.
Forman, John, Montreal.
Jeffrey Mfg. Co., Columbus, Ohio.
Jones & Moore Electric Co., Toronto.
Kay Electric Dynamo and Motor Co., Toronto.
Toronto & Hamilton Electric Co., Hamilton, Ont.
United Electric Co., Toronto.

Novelty Manufacturers.

Worth & Martin, Toronto.

Nozzles.

McCullough-Dalzell Crucible Co., Pittsburg, Pa.

Office Furniture and Supplies

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

Oils and Lubricants

Dixon, Jos., Crucible Co., Jersey City, N.J.
Fleming, W. A., & Co., Montreal.
Imperial Oil Co., Petrolia, Ont.
Queen City Oil Co., Toronto.

Oil Cups

Penberthy Injector Co., Detroit, Mich.

Oil Filters

Burt Mfg. Co., Akron, Ohio.
Darling Bros., Montreal.

Paints and Colors

Bellhouse, Dillon & Co., Montreal.
Fleming, W. A., & Co., Montreal.
Geigy Aniline & Extract Co., New York City.
Klipstein, A., & Co., New York City.
McArthur, Corneille & Co., Montreal.

Paper Manufacturers

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

Patents

Budden, Hanbury A., Montreal.
Case, Egerton R., Toronto.
Fetherstonhaugh & Co., Toronto.
Patent Exchange & Investment Co., Toronto, Ont.

Pattern Shop Equipments

American Machinery Co., Grand Rapids, Mich.

Perforated Metals

Greening, B. Wire Co., Hamilton, Ont.

Phosphorizers.

McCullough-Dalzell 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.
Samuel, M. & L. Benjamin & Co., Toronto.
Syracuse Smelting Works, Montreal.

Pipe Threading Machines

Armstrong Mfg. Co., Bridgeport, Conn.
Rice Lewis & Son, Toronto.

Pipe (Riveted Iron and Steel.)

Scaife, Wm. B. & Sons Co., Pittsburg, Pa.

Pipes and Tubes

Abbott, William, Montreal.
Bourne-Fuller Co., Cleveland, Ohio.
Canada Foundry Co., Toronto.
Gartshore-Thomson Pipe & Foundry Co., Hamilton, Ont.
Montreal Pipe Foundry Co., Montreal.
Rice Lewis & Son, Toronto.
Samuel, M. & L. Benjamin & Co., Toronto.

Plaster

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

Plates

Bourne-Fuller Co., Cleveland, Ohio.
Nova Scotia Steel & Coal Co., New Glasgow, N.S.
Rice Lewis & Son, Toronto.
Samuel, M. & L. Benjamin & Co., Toronto.
Scaife, Wm. B. & Sons Co., Pittsburg, Pa.

Plating

Brantford Plating Co., Brantford, Ont.

Plumbago

McCullough-Dalzell Crucible Co., Pittsburg, Pa.

Pneumatic Tools

Chicago Pneumatic Tool Co., Chicago, Ill.
Jenckes Machine Co., Sherbrooke, Que.

Pointer Rolls (For Rods and Wire.)

Morgan Construction Co., Worcester, Mass.
Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

Portland Cement

Canadian Portland Cement Co., Deseronto, Ont.
Owen Sound Portland Cement Co., Owen Sound, Ont.
Rathbun Co., Toronto.
St. Lawrence Portland Cement Co., Montreal.

Power—Electric and Water

Central Ontario Power Co., Peterboro, Ont.

Power Plants—Equipments

Canadian General Electric Co., Toronto.
Darling Bros., Montreal.
DeLano-Osborn Engineering Co., Toronto.
Electrical Construction Co., London, Ont.
Goldie & McCulloch, Galt, Ont.
Hamilton, Wm. Mfg. Co., Peterborough, Ont.
Jeffrey Mfg. Co., Columbus, Ohio.
Jenckes Machine Co., Sherbrooke, Que.
Jones & Moore Electric Co., Toronto.
Kay Electric Dynamo & Motor Co., Toronto.
Leonard, E. & Sons, London, Ont.
Perrin, Wm. R. & Co., Toronto.
Phillips, Eugene F. Electrical Works, Montreal.
Robb Engineering Co., Amherst, N.S.
Stevens, Alfred J., Toronto.
Sturtevant, B. F. Co., Boston, Mass.
Toronto & Hamilton Electric Co., Hamilton, Ont.
United Electric Co., Toronto.
Wilson, J. C., & Co., Glenora, Ont.

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

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Darling Bros., Montreal.
Dodge Mfg. Co., Toronto.
Goldie & McCulloch Co., Galt, Ont.
Hamilton, Wm. Mfg. Co., Peterborough, Ont.
Jeffrey Mfg. Co., Columbus, Ohio.
Wilson, J. C., & Co., Glenora, Ont.

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Cowan & Co., Galt, Ont.
Goldie & McCulloch Co., Galt, Ont.
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Chicago & North-Western Ry., Toronto & St. Paul, Minn.

Quebec Central Railway, Sherbrooke, Que.

Railway Supplies

Algoma Steel Co., Sault Ste. Marie, Ont.

Cooper, James, Montreal.

Gartshore, John J., Toronto.

Greening, B. Wire Co., Hamilton, Ont.

Nova Scotia Steel & Coal Co., New Glasgow, N.S.

Phillips, Eugene F., Electrical Works, Montreal.

Rivets

Bourne-Fuller Co., Cleveland, Ohio.

Roll Lathes

Morgan Construction Co., Worcester, Mass.

Rolling Mills

Morgan Construction Co., Worcester, Mass.

Rolling Mill Engineers

Morgan Construction Co., Worcester, Mass.

Roofing

Metallic Roofing Co., Toronto.

Scaife, Wm. B. & Sons Co., Pittsburg, Pa.

Rubber Goods

Gutta Percha & Rubber Mfg. Co., Toronto.

Rubber Washing Tubs

Turner, Vaughn & Taylor, Cuyahoga Falls, Ohio.

Shafting

Bourne-Fuller Co., Cleveland, Ohio.

Jeffrey Mfg. Co., Columbus, Ohio.

Nova Scotia Steel & Coal Co., New Glasgow, N.S.

Shear Knives

Carlin's, Thomas Sons Co., Allegheny, Pa.

Hay, Peter Knife Co., Galt, Ont.

Sheets (Iron and Steel.)

Abbott, William, Montreal.

Bourne-Fuller Co., Cleveland, Ohio.

Leslie, A. C. & Co., Montreal.

Samuel, M. & L. Benjamin & Co., Toronto.

Scaife, Wm. B. & Sons Co., Pittsburg, Pa.

Smoke Stacks.

Scaife, Wm. B. & Sons Co., Pittsburg, Pa.

Softening Systems (Water.)

Scaife, Wm. B. & Sons Co., Pittsburg, Pa.

Solder

Syracuse Smelting Co., Montreal.

Stamps & Stencils

Hamilton Stamp & Stencil Works, Hamilton, Ont.

Stand Pipes.

Scaife, Wm. B. & Sons Co., Pittsburg, Pa.

Steam Gauges

American Steam Pump Co., Battle Creek, Mich.

Crosby Steam Gauge & Valve Co., Boston, Mass.

Penberthy Injector Co., Detroit, Mich.

Williams, A. R., Machinery Co., Toronto.

Steam Pumps

American Steam Pump Co., Battle Creek, Mich.

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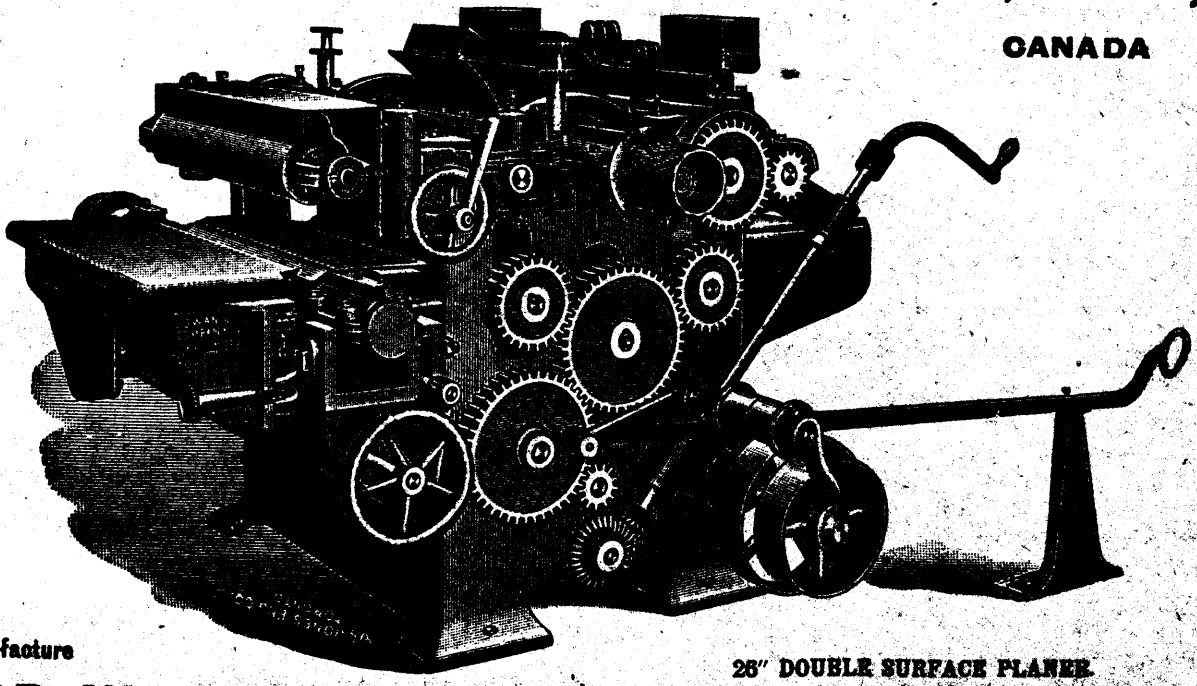
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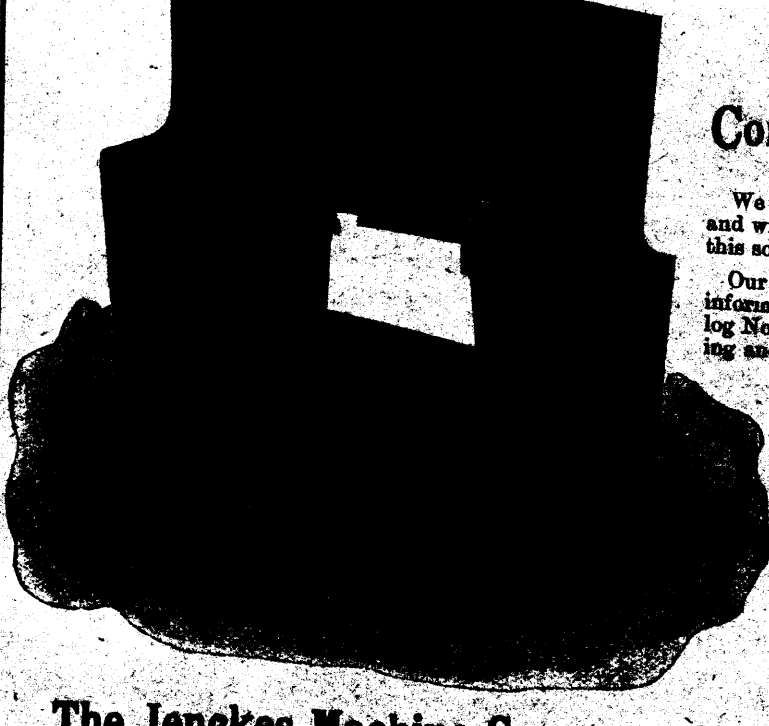


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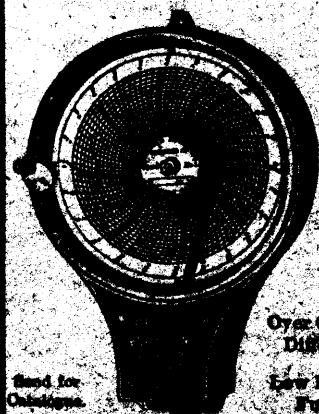
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