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Vol. 42. TORONTO, FEBRUARY 15, 1901. No. 4



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UNSURPASSED IN STRENGTH BY SWEDISH, RUSSIAN
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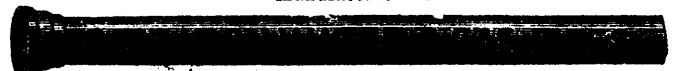
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Highest Awards at the World's Fair, Chicago, upon

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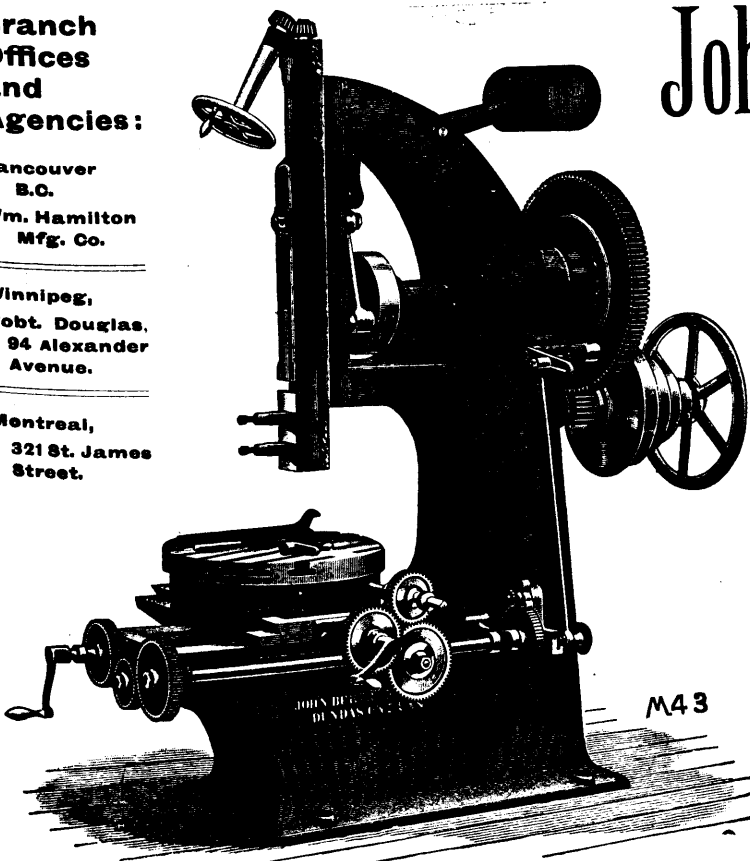
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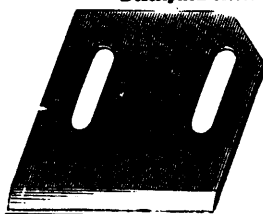
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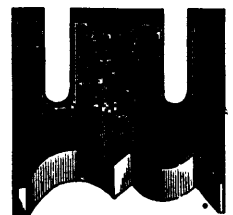
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60% to 77%.



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ABSOLUTELY PURE

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THE BEST EQUIPPED BOILER AND ENGINE WORKS IN CANADA.

We Manufacture—

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The BROWN AUTOMATIC ENGINE, MARINE ENGINES (SINGLE, COMPOUND AND TRIPLE), Hoisting and Mining Engines

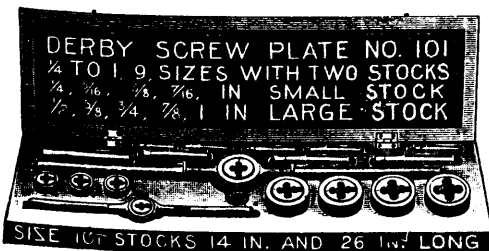
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STEAM YACHTS AND LAUNCHES.

GET OUR PRICES BEFORE ORDERING.

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Calcined Plaster

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Patent Rock Wall Plaster

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Manufacturers of

Square and Hexagon

HOT PRESSED NUTS.

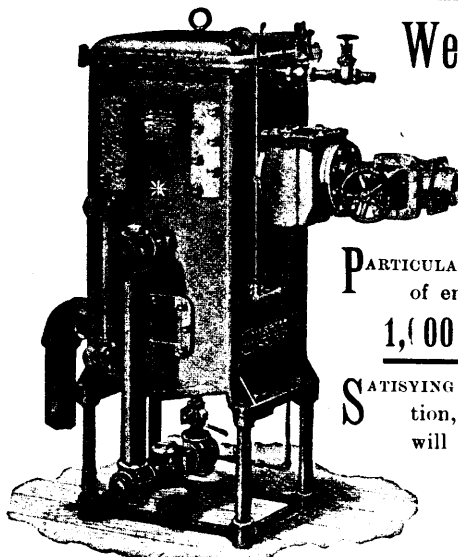
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Mfrs. of Set, Cap and Special
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Webster Feed Water Heater AND PURIFIER

BEFORE PURCHASING ELSEWHERE
ENTERTAIN A BID FROM US.

PARTICULAR experience for ten years in this department
of engineering, and the fact that over

1,000 WEBSTER HEATERS are in use, is
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SATISFYING particulars, embracing details of construc-
tion, materials, operation and exclusive results,
will be sent on application.

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Reliance Works, MONTREAL.

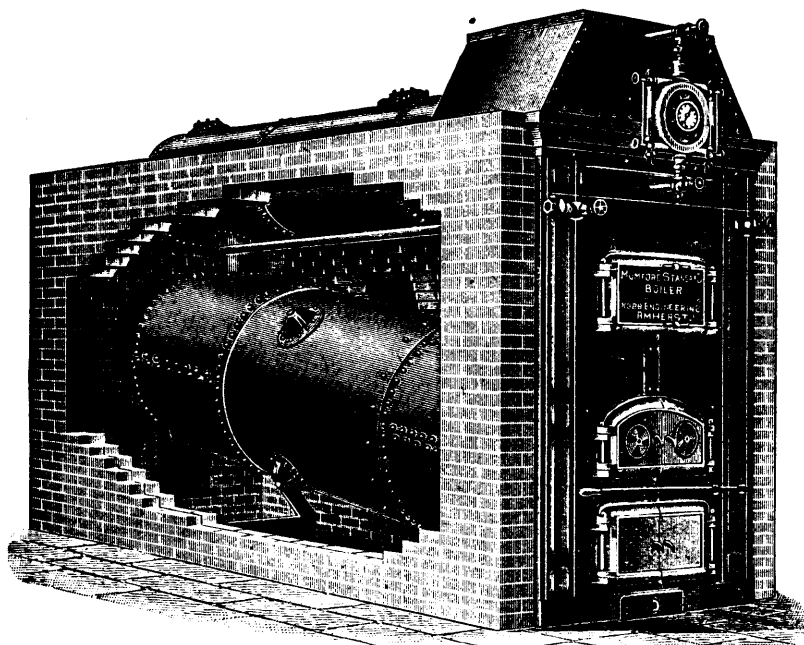
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DELIVERY MADE AT NEW YORK, MONTREAL OR HAMILTON.

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THE "MUMFORD" BOILER



Is built for brick casing, or with sheet steel case, as desired by purchaser. Uses 10 to 25
per cent. less coal than a return tubular boiler.

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HAVE YOU HEARD
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STEEL POINTED
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 CUTS ANY ROCK. NO DIAMONDS.
Davis Calyx Drill Co.

Canadian Rand Drill Co.
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"The large 28-inch driving belt you made for us is the admiration of everyone."
 THE CONGER LUMBER Co.,
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THE CANADIAN RUBBER CO.
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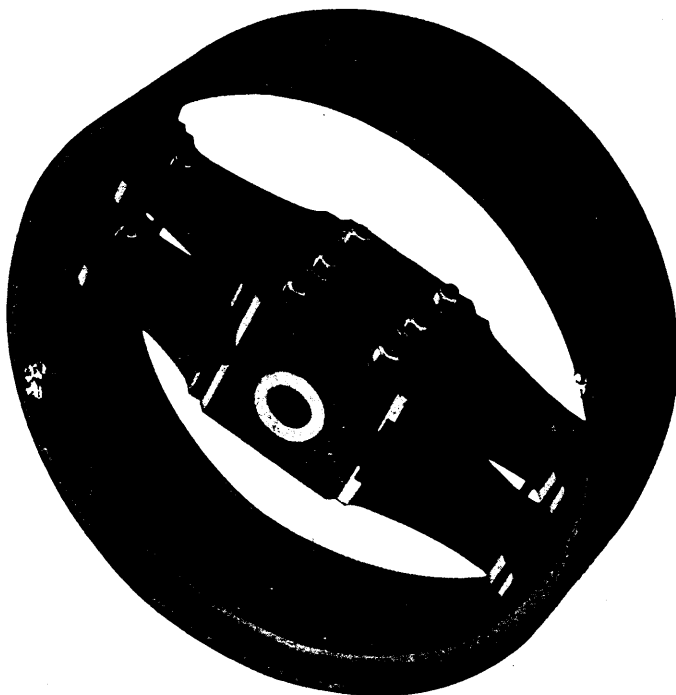
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Book 8 x 10 inches. 488 Pages.
 Price, - \$5.00

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See particulars in Advertisement in page 35.



DODGE PATENT WOOD SPLIT PULLEYS

WITH INTERCHANGEABLE BUSHING SYSTEM.

Standard of Excellence Everywhere.

OVER 2,000,000 IN DAILY USE

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"FOR ALL DUTIES"

We invite enquiries from engineers in need of any description of Pumping Machinery. We manufacture over five hundred varieties and sizes of Steam and Power Pumps for stationary and marine purposes. We will be pleased to furnish plans and specifications for any special types. Our Catalogue, giving a good idea of our standard patterns, sent free to all enquirers.

Northey Gas and Gasoline Engines

To anyone requiring a compact, thoroughly reliable engine, especially suited for users of intermittent power, we recommend our Gas and Gasoline Engine. We shall be glad to furnish estimates for Gas or Gasoline operated pumps, electric light plants, etc., etc. Explanatory Booklet free on request.

Northey Mfg. Co., Limited, 1000 KING ST. SUBWAY, **Toronto, Ont.**

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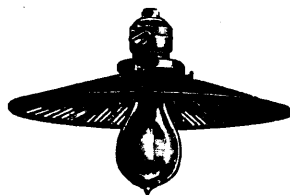
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Temple Bldg., - TORONTO.
Long Distance Telephone.



Reflectors, Shades, Lamps

We Stock a Large Variety of SHADES and REFLECTORS in

ALUMINUM, MIRROR, CELLULOID, PAPER, PORCELAIN,
FOR FACTORY AND OFFICE.

Imperial Lamps and Helios Upton Enclosed Arcs Give **BEST LIGHT** with **LEAST CURRENT**
ELBRIDGE Sparking Dynamos, SAMSON Batteries and IMPERIAL Salts, for Gas or Oil Engines.

Write us about Lighting
your Factory or Office.

JOHN FORMAN, 708 and 710 Craig St., MONTREAL

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ESTABLISHED IN 1890.

PUBLISHED ON THE FIRST AND THIRD FRIDAYS OF EACH MONTH

SUBSCRIPTIONS:

CANADA AND UNITED STATES, - - - \$1.00 PER YEAR.
ALL OTHER COUNTRIES IN POSTAL UNION, EIGHT SHILLINGS
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The Canadian Manufacturer Publishing Co., Limited.

McKinnon Building, Cor. Melinda and Jordan Sts., Toronto.

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MESSRS. DAVISON & CO.,

335 Washington Street, - Boston, Mass.

AGENTS FOR UNITED STATES.

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J. J. CASSIDEY, Editor and Manager.

A NATIONAL POLICY.

We respectfully recommend to the Executive Committee of the Canadian Manufacturers' Association the immediate consideration of a National Policy which will commend itself to all classes of the community, and which should become the keynote and cornerstone of the dominant political party of Canada. The Committee should agree, tentatively, upon a platform which should be, through the machinery of their office, submitted not only to every member of their Association, but to every manufacturer in Canada, obtaining from them their views in the matter, from which consensus a platform should be constructed which would show that whatever other ideas might be embraced in the creed of any political party this should not be omitted therefrom. It was the necessity for such united action that brought the Association into being in 1876, and which led to the adoption of that National Policy which did so much for the manufacturing industries of Canada. Times and circumstances have changed since then, but the necessity for tariff protection to Canadian manufacturing industries has not abated. Canada needs a National Policy as much now as ever, but with some modifications and amendments, among which we include:

A fiscal policy based on Imperial federation and preferential trade, and on protection to Canadian industries, that is to say: Reciprocity of trade preferences between the various members of the Empire, a reciprocity of tariffs as between Canada and outside nations who tax Canadian products, and export duties sufficient to compel the manufacture in Canada of Canadian logs, woods, pulp, ores, metals, etc.; also customs duties or bounties sufficient to build up a great iron industry in Canada.

State-owned cables between Britain and Canada, and between Canada and Australia.

Nationalization of the Canadian telegraph and telephone systems as a part of the post office.

A national fast Atlantic service between the nearest available Canadian and British ports.

Canadian railways to have their Atlantic terminals in Canadian ports.

Maintenance of the independence of the Intercolonial railway and its gradual extension westward.

A Railway Commission to regulate rates, the relations of railways one with the other and with municipalities and individuals.

No railway subsidies without corresponding control and ownership of the roads subsidized.

The extension of the principle of public ownership and control of public franchises within provincial and municipal jurisdiction.

No political party in Canada to-day has formulated such a concise policy as this, and there is no reason why the Canadian Manufacturers' Association should not be the first to take such action as will force one or the other existing parties to adopt their policy and with which it would co-operate in permanently establishing it for a long, long time to come.

SOUTH AMERICAN TRADE

In our last issue, writing of South American trade, we enumerated the money standards in the different States in that country, and the values of the coin and currency in vogue there compared with American and British standards. Having thus shown the relative values of money, we supplement that information by showing the different measures of length, areas, capacity and weights in vogue in the South American States and Mexico, their values in those measures with which we are most familiar, and in the metrical system.

By law the metrical system of weights and measures is established in all the countries of South and Central America and in Mexico, but many of the old Spanish and local units are still in use. The following information will therefore be of service for reference: -

Measures of Length.—Vara, Chili, 36 pulgadas equal 32½ inches equals 0.836 metres. Vara, Buenos Ayres, equals 3 pies equal 36 pulgadas equals 34.12 inches equal 0.866 metres. Vara, Central America, equals 3 pies equals 36 pulgadas equal 32.87 inches. Vara, Mexico, equals 33 inches. Vara, Paraguay, equals 34 inches. Vara, Venezuela, equals 33.384 inches. Cuadra, Chili, equals 150 varas equal 138 yards equal 125.40 metres. Cuadra, Argentina, equals 150 varas equal 141.65 yards equals 129.60 metres. Cuadra, Uruguay and Colombia, equals 100 varas. Cuadra, Paraguay, equals 86 varas equals 78.9 yards. Milla equals one-third league. Legua, Chili, equals 36 cuadras equal 5,400 varas equal 4,968 yards equal 4,513 metres. Legua, Argentina, equals 40 cuadras equals 6,000 varas equal 5,196 metres. Legua, Argentine National, equals 5,000 metres. In Chili the practice has been adopted as follows: 100 metres equal 118 varas, 100 yards equal 108 varas.

Measures of Superficies.—Square Cuadra, Chili, equals 3.99 acres equals 15,725 square metres. Square Cuadra, Argentina, equals 4.2 acres equal 16,897 square metres. Square Cuadra, Uruguay, equals 2 acres. Manzana of Land, Central America, equals 1 5-6 acres. Manzana of Land, Argentina, equals 1.85 acres. Square League, Buenos Ayres equals 6,270 acres (in practice usually 2,700 hectares or 7,000 acres.) Square League, Argentine National Territories equals 2,500 hectares equals 6,160 acres. Square League, Paraguay, equals 4,340 acres. Suerte of Land, Uruguay, equals 2,700 cuadras equals 5,400 acres.

Measures of Capacity.—Fanega, dry measure, Chili, equals 12 almuds equals 97.08 litres equals 2.674 bushels. - Arroba, for wines, etc., Chili, equals 4 cantaros equals 16 cuartillos equals 35.55 litres equals 1.04 gallons. Fanega, dry, Central America, equals 1.575 bushels. Fanega, Mexico, equals 1.557

bushels. Fanega, Venezuela, equals 1.599 bushels. Fanega, Uruguay, single, equals 3.888 bushels. Fanega, Uruguay, double, 7.777 bushels. Barril, Argentina and Mexico, equals 20.079 gallons. Arroba (liquid), Cuba, Spain and Venezuela equals 4.263 gallons.

Weights.—Pound (libra), Chili, equals 1.0143 lbs. avoirdupois. Pound, Argentina, equals 1.0127 lbs. avoirdupois. Pound, Central America, equals 1.043 lbs. avoirdupois. Pound, Mexico, equals 1.0146 lbs. avoirdupois. Pound, Peru, equals 1.0143 lbs. avoirdupois. Pound, Uruguay, equals 1.0143 lbs. avoirdupois. Pound, Venezuela, equals 1.0161 lbs. avoirdupois. Arroba equals 25 lbs. Spanish equals 25.36 lbs. avoirdupois equals 11.527 kilog. Quintal equals 100 lbs. Spanish equals 101.43 lbs. avoirdupois equals 46.108 kilog. Quintal, Brazil, equals 130.06 lbs. avoirdupois. Ton equals 20 quintals equal 2,028.6lbs. avoirdupois equal 922.16 kilos. Marc of Silver, Bolivia, equals 0.507lbs. Cajon, Minerals, Bolivia, equals 50 quintals.

NOTE.—We are indebted to "South America as a Field for Enterprise" for many of the facts above given.

A QUEER CONDITION OF THINGS.

A press despatch from Hamilton, Ont., a few days ago stated that a representative of the T. Eaton Company, Toronto, was in that city with a view to making arrangements looking to a removal of the manufacturing department of that concern from Toronto to Hamilton. We do not observe that the local branch of the Manufacturers' Association are doing anything to prevent what would be a sad blow to Toronto, should the removal be made. The dissatisfaction of the Eaton Company had its inception with the persistent and idiotic fight of the Retail Merchant's Association in endeavoring to drive the company out of business because it runs a departmental store. Aside from the other lines of merchandise handled by the T. Eaton Company, they maintain a large factory for the manufacture of white goods, etc., in which they give employment to about twelve hundred hands all of which goods are sold in their departmental store. The fight is being made by the Retail Merchants' Association, of which Mr. Rogers, a furniture dealer, is or was president, and is now and was a member of the Manufacturers' Association, another active and aggressive fighter against the Eaton Company being E. M. Trowern, secretary of the Retail Merchants' Association. The Toronto city council has contributed considerable sums of money, we are informed, to the Retail Merchants' Association to enable them to carry on their fight against the Eaton Company, and it was in supporting them in this warfare that Mayor Howland, in his inaugural speech, spoke of the injury the departmental stores worked on the streets because of the traffic of their delivery wagons. A couple of years ago when the president and some of the members of the Canadian Manufacturers' Association advanced the idea that members thereof should be given something for the money they paid to the Association as membership fees, on the recommendation chiefly of a number of the executive, Mr. Trowern was employed to interview manufacturers and induce them, if possible, to become members. This gentleman in his letter of recommendation spoke of Mr. Trowern as his friend whom he had known for more than twenty years, and it was a remarkable fact that, while this man was taking pay from the Association, he was spending time and energy in endeavoring to destroy the business of one of the largest manufacturing concerns in Canada. We do not observe

that the managing committee of the local branch of the Association are making any exertion to remove or abate the cause that will probably drive an industry from Toronto in which is invested large capital and gives employment to more than a thousand hands.

METRICAL DENOMINATIONS AND VALUES IN CANADA.

Without doubt the time is rapidly approaching when the use of the metric system of weights and measures will be compulsory in Canada—it is now optional, and we therefore reproduce the tables as they have been made law by the Dominion Parliament and known as the Weights and Measures Act, Chap. 104 of 49 Vic., 1886. It would be well for those interested in this most important matter to preserve the tables here given.

Tables of the values of the principal denominations of measures and weights of the metric system, expressed in terms of the standard measures and weights of Canada :

1.—MEASURES OF LENGTH.

Metric Denominations and Values.	Equivalents expressed in terms of the Standard of Canada.			
	Metres.	In Standard yards and decimal parts of a yard.	In feet and decimal parts of a foot.	In links and decimal parts of a link.
Miriametre.	10000	10939.444444	32818.333333	49724.74747
Kilometre.	1000	1093.944444	3281.833333	4972.47475
Hectometre	100	109.394444	328.183333	497.24747
Decametre .	10	10.939444	32.818333	49.72475
Metre	1	1.093944	3.281833	4.97247
Decimetre.	$\frac{1}{10}$	.109394	.328183	.49725
Centimetre.	$\frac{1}{100}$	.010939	.032818	.04972
Millimetre .	$\frac{1}{1000}$	.001094	.003282	.00497

2.—MEASURES OF SURFACE.

Metric Denominations and Value.	Equivalents expressed in terms of the Standard of Canada.			
	Square Metres	In square yards and decimal parts of a square yard.	In square links and decimal parts of a square link.	
Hectare	100 ares.	10000	11967.1444	247255.0511
Decare	10 "	1000	1196.7144	24725.5051
Are	1 "	100	119.6714	2472.5505
Centiare	$\frac{1}{100}$ "	1	1.1967	24.7255

3.—WEIGHTS.

Metric Denomination and Value.	Equivalents expressed in terms of the Standard of Canada.		
	Grams.	In pounds Avoirdupois and decimal parts of a pound.	In grains and decimal parts of a grain Troy.
Millier	1000000	2204.62125	
Quintal	100000	220.46212	
Myriagramme	10000	22.046212	
Kilogramme	1000	2.204621	
Hectogramme	100	.220462	
Decagramme	10	.022046	
Gramme	1	.002204	15.4323487
Decigramme	$\frac{1}{10}$	.0002204	1.5432349
Centigramme	$\frac{1}{100}$	.0000220	.1543235
Milligramme	$\frac{1}{1000}$	.0000022	.0154323

4.—MEASURES OF CAPACITY.

Metric denominations and Value.	Equivalents expressed in terms of the Standard of Canada.		
	Cubic Metres.	Litres.	
		In Imperial gallons and decimal parts of an Imperial gallon.	
Kilolitre	1	1000	220.2443
Hectolitre	$\frac{1}{10}$	100	22.0244
Decalitre	$\frac{1}{100}$	10	2.2024
Litre	$\frac{1}{1000}$	1	.2202
Decilitre	$\frac{1}{10000}$	$\frac{1}{10}$	.0220
Centilitre	$\frac{1}{100000}$	$\frac{1}{100}$	.0022

THE MANUFACTURERS' ASSOCIATION AND THE WOOLEN INDUSTRY.

A few months ago the Canadian Manufacturers' Association appointed a committee to consider the effect of the preferential tariff on certain Canadian enterprises, and at the annual meeting in August a resolution of a perfunctory character was passed favorable to the preference, with the proviso that the minimum tariff should be high enough to afford adequate protection to Canadian industries.

It is evident that a rebate of one-third the duties imposed upon British merchandise has not served to transfer the purchases of Canada of articles of iron and steel from the United States to Great Britain, for, as has been heretofore shown in these pages, out of more than ten million dollars worth of certain articles of that character purchased by Canada in 1899, less than thirteen per cent. came from Great Britain, and more than eighty-seven per cent. from the United States. The fact is, and it cannot be disguised, taking into consideration all dutiable imports, despite the tariff preference our purchases from Great Britain are becoming smaller by degrees, while our purchases from the United States are increasing in even greater ratio.

But the Canadian woolen industry is a fearful sufferer because of the tariff preference. Under the previous conditions our woolen manufacturers found their industry fairly well protected. They were obtaining a reasonable return upon their investments, they were giving occupation to large numbers of employees, they were paying good wages to labor, they were supplying consumers with fabrics than which there was none better, and at reasonable prices, and their mills required all the wool Canadian farmers could produce. But the tariff preference has spoiled all that, and the woolen manufacturers are facing the fact that unless something is done to avert the calamity, they will have to go out of business. Under a thirty per cent. tariff their industry was fairly prosperous, and if it is to again enjoy that prosperity, either the tariff preference as affecting woolen goods must go, or, if the preference is to be maintained, the duty must be increased to say forty-five per cent.

Time was when the Canadian Manufacturers' Association took active interest in such things, and when, after a thorough digestion of any matter affecting the welfare of such an important industry as the manufacture of woolen goods, should a recommendation be made to the Government in the matter, it would be promptly recognized. The strength of the organization lay in its unshorn locks which bound together the different interests of the members, the unanimity with which they stood shoulder to shoulder in defending and supporting their

common interests, and in declining to consider merely local affairs. Time was that should such a condition as now presents itself regarding the woolen industry been brought to the attention of the Association, as it would have been, very quick and decided action would have been had, and in no uncertain tones the Government would have been informed that every manufacturer in the Association, and all the influences they possessed, were as one in the defence of their imperilled industry.

Is it so now? Hear what The Toronto Globe says about the recent action of the Association:

The report throws a good deal of light upon the question of the feasibility of a mutual preferential arrangement between Great Britain and the colonies, which in a sort of formal way the Association approved. Here are men who clearly think that a reduction of one-third on the general tariff is quite enough, and ought to be safe-guarded in various ways. What would they say to the removal of the entire duty, without which the question of a reciprocal preference would not even be considered? It is in vain to say that free trade is not essential to such an arrangement, but that by some commercial miracle a plan could be conceived which would please everybody. When a public man in Great Britain says that the free importation of British goods into Canada would be an essential part of any plan of mutual preferential trade he is not merely insisting on a theory. He means that there must be an assurance that British goods will be imported into Canada in far larger quantities than at present; and this, again, means the displacement, not only of American, but of Canadian goods. The intention of a mutual preference is to substitute, to a certain extent, colonial or Imperial trade for foreign trade. It is useless to enter upon the consideration of the subject with a hazy notion that we can keep a certain trade for the Canadian manufacturer, and hand over the same trade to the British manufacturer.

We do not observe that any general meeting of the Association has been called, or is even in contemplation, looking to that "united action" in behalf of an imperiled industry, which sentiment was its foundation stone at its inception in 1876. Why not? The woolen manufacturers, realizing that their industry is in an exceedingly precarious condition, held a meeting in January at which more than forty mills in Ontario alone were represented, at which such well-known men as James Kendrey, M.P., George Pattinson, James Wiley, E. J. Dufton, W. D. Van Egmond, W. R. Brock, M.P., J. P. Murray, James Stouffer, G. D. Forbes, J. B. Henderson, J. F. Morley, C. R. H. Warnock, and a number of other Ontario manufacturers, and also a number of others representing the industry in Quebec, at which preferential trade and its injurious effects upon their industry was discussed, the object being to endeavor to induce the Government to render some relief. Alluding to this meeting The Monetary Times says: "What chance of success they are likely to have, the presentation of some known facts may aid in the formation of an opinion. The question was fought out at the late election and decided in the negative. The leaders of the protectionist party, at the head of which was Sir Charles Tupper, attacked the preferential policy of the Government, during the campaign, making the increase of the amount last session one of the principal charges against the policy of the Government"; and declares that "the manufacturers did not appear prominent in this opposition to the policy of preference."

In other days the woolen manufacturers could always be found standing side by side in advocating and maintaining

protection for all other manufacturers. They knew that a blow struck at any one industry had an ultimately injurious effect upon all other industries. Now we find the Association, of which they are an element, passing resolutions in favor of an innovation most ruinous to their interests; but, in the language of an esteemed correspondent, who has been an active member ever since its institution, "the Association is much engaged in shadowy schemes of foreign trade, and neglectful of the home market, which is the daily bread of its members. British manufacturers have cheaper money, cheaper labor, cheaper freights to distributing points in Canada than Canadian manufacturers have, and the preference should be offset by higher duties."

What is the Association doing in the matter?

AUSTRALIA FOR AUSTRALIANS.

The opening of the Federal election campaign in Australia has called forth a speech from the Premier, Mr. Edmund Barton, dealing with the trade policy of the Commonwealth.

At a large public meeting recently held in Maitland, Mr. Barton said that the Federal elections would be held at the earliest possible date that the State machinery and statutes permitted, the Federal capital would early be decided on, and Parliament would soon desire to have a House of its own. He did not believe that Parliament could be carried on either in Melbourne or in Sydney successfully, as it must be removed from surrounding Provincial influences. The customs were taken over on January 1, and the defenses and postoffices would be transferred as soon as possible. Probably the railways would be acquired by the Commonwealth at an early date. Whether the debts of the several States would be taken over before the railways was a matter which had to be decided, and was now engaging the attention of the Treasurer. The Ministry would not consider the appointment of a Chief Justice of the High Court until Parliament had established that tribunal.

Coming to the questions of taxation, Mr. Barton said that when a uniform tariff had been agreed upon, the Commonwealth would have the exclusive power of imposing customs and excise duties, and it would, therefore, be necessary to preserve the States' power of direct taxation. There must be no direct taxation by the Commonwealth except under very great pressure. Free trade under the constitution was practically impossible; there must be a very large customs revenue. For the year just ended it had aggregated £7,500,000, and it was estimated that by the time the uniform tariff came into operation the revenue from this source would be £8,000,000 less £1,000,000 lost in consequence of inter-State free trade. The policy of the Government would be protective, not prohibitive, because it must be revenue-producing. No one colony could lay claim to the adoption of its tariff, whether high or low. The first tariff of Australia ought to be considerate of existing industries. The policy of the Government could be summed up in a dozen words. It would give Australia a tariff that would be Australian. Regarding a preferential duty on British goods, he would be glad to reciprocate where possible, but the question would have to receive very serious consideration before final action could be taken.

Among the legislation to be introduced at an early date, Mr. Barton continued, were a conciliation and arbitration bill in labor disputes, and a bill for a transcontinental railway, which would be of great value from the defence point of view. He was in favor of womanhood suffrage. Legislation to exclude Asiatics would be taken in hand, as a matter of course.

Australia, with which is included Tasmania, but not New Zealand, which is not yet a member of the new Commonwealth, is twenty-four times as large as the British Islands including England, Scotland and Ireland, and is the largest island in the world. But as regards population as compared with that of Great Britain, the United Kingdom is the home of some 42,000,000 inhabitants, while Australia has only 4,200,000. In the United Kingdom there is an average of 135 persons to the square mile, while in Australia there are only three persons to each two square miles.

The history of the country has been one long record of progress and growth. It was on January 19, 1788, that the Australian colonies had their birth. On that day Captain Arthur Phillip landed at Botany Bay and formally took possession of the country. A week later the city of Sydney was founded, and on the seventh of the following month New South Wales was proclaimed a colony. Captain Phillip brought with him an establishment of about 1,030 people all told. In 1861 the population had grown to one and a quarter millions, and now it is approaching five millions. Thus the population has increased nearly fourfold during these past forty years.

Comparing the population of the six colonies that compose the new Commonwealth of Australia, we find that New South Wales—the oldest of them—stands at the head. Victoria runs it pretty close, and, as it is comparatively small, it has by far the densest population of the island. Western Australia, which is the largest of the six colonies, has the fewest people, and is very sparsely inhabited.

From the earliest years of the Australian settlements there was a steady stream of immigrants, but in the fifties—the period of the wider discovery of gold—thousands of men flocked to the gold diggings, and the population grew at an astonishing rate.

The original inhabitants of Australia—the aborigines—are blacks of a very low order in the scale of humanity. For many years they have been steadily decreasing in numbers, not from hostile action on the part of the colonists, but from an inherent tendency to degenerate, and an apparent inability to endure the altered circumstances which surround them. The aboriginal population at this time number about 200,000.

There is also a considerable population—about 45,000—of Chinese and half-caste Chinese. The influx of this undesirable element became so alarming that within recent years the different colonies have enacted stringent laws to check it; and this applies also to the arrival there of large numbers of other Asiatic immigrants.

The increase of the white population, and of the prosperity which it has brought, is strikingly seen in the growth and development of the cities and larger towns. At the beginning of Queen Victoria's reign many of what are now the chief centres of population consisted merely of rough cabins and shanties scattered along the two sides of a cart track, whose places are now occupied by cities and towns equal in

every way to the most progressive examples to be found anywhere in the world.

The revenues of Australia in 1900 amounted probably to \$150,000,000, which is really one-third of that of the average of Great Britain, from which it is evident that, per capita, the people of Australia are three and a third times richer than those of the Mother Country.

Forty years ago the total amount on deposit in Australian banks was £16,000,000—in 1900 the total was £140,000,000. It is estimated that fifteen per cent. of the population of Australia possess £100 each, while in Great Britain only about nine per cent. possess that much. The savings of the people of Australia average £30 per capita, which is said to be the highest average in the world.

A very important indication of a nation's prosperity is seen in the development of its railways. This is particularly the case in a country like Australia, which is ill-supplied with navigable rivers. The first railway in the country—that from Sydney to Parramatta—was opened on September 26, 1855. It was only fourteen miles in length. At the present time the total railway mileage open amounts to about 15,000 miles.

During the last forty years the annual railway revenue has grown from £6,000,000 to £36,000,000—a sixfold increase.

Australia is very largely a pastoral country, immense tracts of prairie grassland being available for cattle raising, whenever roads and railways to the interior shall make them sufficiently accessible. But in addition there are vast areas of grass land that have been artificially sown, and these have immensely increased during the past forty years. In 1861 there were slightly over 200,000 acres of cultivated grass lands which have now increased to about 13,000,000 acres. In 1861 there were 1,337,000 acres under the plow, while at this time there are about 10,000,000 acres. During the forty years sheep in the Australian colonies increased from 20,000,000 to 100,000,000, and cattle from 4,000,000 to 12,000,000 head. The present total value of pastoral property, excluding land devoted to grazing, is about £240,000,000, and the value of animals is estimated at £115,000,000. Forty years ago Australia produced about 85,000,000 pounds of wool, while last year the production was about 700,000,000 pounds.

In 1825 the foreign commerce of Australia was valued at about £500,000, which has now reached the phenomenal figure of £140,000,000. In 1861 the total tonnage entered and cleared aggregated 2,800,000 tons increased in 1900 to 20,000,000 tons.

Although from the earliest days of the settlement of New South Wales it was said that gold was to be found there, it was in 1823 that the precious metal was discovered in considerable quantities near the town of Bathurst, and it was only about fifty years ago that the important discoveries at Ballarat and in Queensland caused the memorable rushes of gold seekers to the diggings in Australia. Since then to the present time the production of gold obtained in Australia has amounted to nearly £400,000,000.

Coal mining is an important and growing industry in New South Wales; in 1847 the production was 41,000 tons, while last year it was about 4,000,000 tons.

In 1861 the total output of wine in Australia amounted to 450,000 gallons, in 1900 to 6,000,000 gallons.

EDITORIAL NOTES.

It was recently announced in these pages that a book called "The Buyers' Guide of Canada" had been placed upon the market, and was available to any who desired to possess it. It contains some 488 pages, and is a complete index of Canadian manufacturing industries, including the addresses of every manufacturer in Canada, and the names of more than 22,000 different articles produced by them, alphabetically arranged, the names of the manufacturers being given under each article enumerated. The Buyers' Guide imparts accurate information regarding every manufacturing industry of Canada, and is not a collection of a few names chosen from a certain number of selected industries. By it the foreign merchant or buyer will be able to see at a glance what all the industries of Canada are, and with whom they may communicate when desiring to establish business relations. Having been prepared with the greatest care by an experienced and impartial compiler, it should be regarded with especial confidence by foreign merchants as a reliable record of all Canadian manufacturing industries; and that it is thus regarded by the Government of the Dominion of Canada is evidenced by the fact that it is being distributed by the Government to every Canadian commercial agent throughout the world. It is not promised to be sent at some future time, but is now—to-day—being thus placed.

In the February issue of this journal, allusion was made to the fact that "at this time the use of acetylene lighting plants is being discontinued, and the manufacture of them abandoned, simply because the necessary calcium carbide cannot be had." We are in receipt of a letter from the Willson Carbide Works Co., St. Catharines, Ont., in which they challenge our statement, and say that they "are prepared to fill, on short notice, any orders for carbide required for consumption in Canada." Our assertion regarding the scarcity of carbide was made upon representations made to us by the proprietors of several factories which had been employed in the manufacture of acetylene gas generators, who informed us that it was useless for them to continue making an article which could not be sold simply because the necessary carbide could not be had. We are told that at this time there are large numbers of acetylene machines in disuse simply because the owners do not know where to obtain carbide.

All the principal offices connected with the commercial departments of the Dominion Government at Ottawa, have been supplied with copies of the "Buyers' Guide of Canada," and copies have also been distributed to the office of the High Commissioner of Canada at London, and the Canadian branch of the Imperial Institute at London, to the offices of the managers of the Canadian sections of the Glasgow Exhibition and the Pan-American Exposition at Buffalo, and to every Canadian commercial agent throughout the world. This most important record of Canadian manufacturing progress is not a work promised for some future time, but is in existence and can be had now. It is not a selected list, but contains the addresses of every manufacturer in Canada, and the names of all the articles they produce.

The energetic management of the Canadian Manufacturers'

Association have embarked in the publishing business, and are getting out a book which will be offered to the trade at so much per copy. Industrial Canada, also published by the Association, tells us that the publication of the book is undertaken "not for the purpose of deriving revenue, but for the sole purpose of advancing Canadian industries," which evidently includes the publishing industry.

That the jewelry and kindred trades are pretty well represented on the executive of the Toronto Branch of the Canadian Manufacturers' Association may be judged from the fact that Mr. W. K. George, of the Standard Silver Co., was elected chairman (an honor he has well earned) and Mr. John Wanless, Jr., of the firm of John Wanless & Co., jewelers, and L. G. Amsden, of the Cohen Bros., Limited, as members of the executive.—The Trader.

The Toronto City Council last week dropped the recommendation of the Committee on Works and Legislation to apply to the Ontario Legislature to merge the Toronto Electoral District Society into the Toronto Industrial Exhibition Association. It was supposed that if the merging had been accomplished the dozen representatives of that Society would have been apportioned to some other bodies having representation in the Industrial. The old barnacles cling tenaciously.

Now that the farmers of Ontario are taking active steps looking to the establishment of the sugar beet industry, and as the establishment of the industry means the erection of many mills and plants for the conversion of the juice of the beets into sugar, the manufacturers should take equally active interest in the matter, and join hands with the farmers in demanding a bounty either upon the beets grown or upon the sugar produced from them. A convention of manufacturers should be called at an early day with this object in view. What are the Manufacturers' Section of the Toronto Board of Trade or the Canadian Manufacturer's Association doing to promote the establishment of a new and valuable industry?

At the recent annual meeting of the Toronto Board of Trade, A. E. Kemp, Esq., M.P., the retiring president, in his address, alluding to Canadian trade relations, said:

I hope this board will continue the work in which it has been so prominent in the past, of advocating preferential trade within the empire. It is to be hoped that the representations which the council made to the Prime Minister, in reference to Germany's discrimination, will have good results; we are discriminated against by Germany because this country saw fit to grant the Mother Country a preference in our markets. Our products are not allowed to enter Germany on fair terms, while she has the run of the British market, also every other British colony in the world, on equal terms with Great Britain. The whole situation in respect to the commercial relations between the different parts of the British Empire is one inconsistency after another. This country, however, in the matter of Germany, is able to retaliate by shutting out German products. German goods come into this country on equal terms with those of any foreign country.

Our total imports from Germany last year amounted to \$7,382,000; our exports only totalled \$2,220,000, of which \$1,120,000 represented the value of foodstuffs, two-thirds of which consisted of Indian corn from the United States, which

merely passed through Canada in transit. At one time we exported cattle to Germany, but we are not able now under the tariff to do so. It would seem that we have the matter in our own hands, and as our imports from Germany are so large in comparison with our exports to that country, we should be able, even without reference to the Imperial authorities, to stop this discrimination. No nation having any respect for itself would continue to submit to such an injustice without in some practical way showing its disapproval. I venture to think that if Germany discriminated in her tariff against the United States in like manner, it would not continue for a longer period than the time it would take for the United States Government to pass a retaliatory law. Under the United States tariff nearly double the rate of duty is exacted on importations from Germany than those which are levied by Canada; moreover, our imports from Germany are steadily increasing, yet the products of the United States have fair treatment by Germany, and we are discriminated against, doubtless on account of the recognized easy-going methods of British people in respect to trade matters when dealing with foreign countries.

It is fair to assume that the tariff of the Australian Commonwealth, when framed, will be protective. I deem it to be of the utmost importance that before the same comes into effect our Government should take active steps to secure a substantial preference for our products in the Australian market in return for a preference in our market. I can see that it would be a much easier matter to make such an arrangement before their new tariff comes into effect than after it has been working, and I see no reason why, if reasonable advances are made to the Commonwealth Government, that we should not succeed in making a mutually advantageous arrangement. It would be difficult to estimate the far-reaching influence which such an arrangement, if carried into effect, might have in creating preferences in other parts of the empire in the future, and would have an immediate beneficial effect upon this country. This should be a live question in Canada at the present time. Indications in Australia are not lacking that leading men would favorably consider this proposition.

At the annual meeting of the Lumbermen's Association of Ontario, held in Toronto a few days ago, President John Waldie, in his address, declared that the Association "must continue to insist that our Dominion Government shall adopt a tariff against lumber and all wood products entering into competition, remove them from the free list, and relieve the lumber industry from the unequal competition of lumber manufactured and freighted under more favorable conditions."

A London, Eng., firm, with a branch in Sydney, Australia, asks, through the Canadian Manufacturers' Association, to be put in touch with the manufacturers in Canada of carriage woodwork, or anything connected with the carriage building trade. Why not send them a copy of the Canadian Trade Index, which is supposed to give the addresses of Canadian manufacturers of carriage woodwork? It records the addresses of two such. The Buyers' Guide of Canada, however, gives the addresses of more than forty such manufacturers.

The committee controlling the local branch of the Canadian Manufacturers' Association, recently formed, consist of Messrs. W. K. George, of the Standard Silver Co., manufacturers of silver plate, chairman; A. W. Allen, of the Allen Mfg. Co., manufacturers of ladies' white wear, vice-chairman, George E. Martin, of G. E. Martin & Co., pork packers; John Wanless, of John Wanless & Co., retail jewelers; and L. G. Amsden, of Cohen Bros., manufacturers of jewelry.

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.

The manufacturers of the United States imported more raw material for use in manufacturing in the year 1900 than in any preceding year in the history of our import trade. The material of foreign production imported in a crude condition, during the year just ended, amounts in value to over \$275,000,000, and if to this is added the total of "articles wholly or partially manufactured for use as materials in manufacturing," the grand total of manufacturers' materials imported will amount to over \$360,000,000, or nearly 45 per cent. of the total importations. This statement is based upon eleven months' detailed figures already received by the Treasury Bureau of Statistics, to which is added an estimate for the twelfth month, December, based upon the figures of the preceding month. This statement puts the importation of raw material, in the year ending December, at \$276,628,000, against \$267,493,959 in 1899, \$162,172,736 in 1896, and \$160,523,494 in 1894. A comparison of 1899 and 1900 with preceding years shows an increase of over 35 per cent. in the importations of manufacturers' materials in these two years as compared with the entire period from 1890 to 1898, and an increase of nearly 70 per cent. as compared with the years 1894 and 1896.—Bradstreets.

Messrs. W. A. Fleming & Co., 771 Craig Street, Montreal, have recently secured an order from the Canadian Electro Chemical Co., Sault Ste. Marie, Ont., for fire hose, hand hose carts, branch pipes, shutoffs, etc. They have also fitted up the works throughout with "Camel" brand hair belting, for which they are sole agents in Canada.

Contracts have been let for the building of a number of steam launches to guard the

fisheries at the mouth of the Fraser River, and for a steam cruiser to patrol the coast of British Columbia. The contract for the former, which will cost between \$7,000 and \$8,000, has been awarded to the Albion Iron Works, Victoria, B.C. The launches will be sixty feet long. A. Wallace, Vancouver, B.C., has obtained the contract for building the cruiser, the expenditure upon which will be between \$60,000 and \$70,000. The vessel will be a three-masted schooner, 130 feet in length, and will have a guaranteed speed of twelve knots an hour.

The Herbertville Electric Co., Herbertville, Que., has applied for incorporation with a capital stock of \$6,000. The applicants include A. Tremblay, E. Ouellet, both of Herbertville, Que., and Wm. Larouche, Dorval, Que.

The Desjardins Co., St. Andre de Kamouraska, Que., has applied for incorporation with a capital stock of \$100,000, to manufacture agricultural implements, etc. The applicants include C. A. Desjardins, J. P. A. Desjardins and J. Ouellet, all of St. Andre de Kamouraska, Que.

The Lithographed Tin & Can Co., Toronto, has been incorporated with a capital stock of \$200,000, to manufacture sheet metal and lithographing decorating and enamelling on tin and other sheet metal. The provisional directors include A. E. Kemp, W. A. Kemp and Richard Austin, all of Toronto.

The Brome Lake Electric Power Co., Waterloo, Ont., has been incorporated with a capital stock of \$50,000, to furnish electricity for lighting and other purposes.

Messrs. W. A. Fleming & Co., 771 Craig Street, Montreal, have secured the order from the Sault Ste. Marie Pulp & Paper Co., Sault Ste. Marie, Ont., for fitting up their sulphite mill with "Camel" brand hair belting, and their heavy "Empire" brand rubber belting.

The Strathy Wire Fence Co., Owen Sound, Ont., has been incorporated with a capital stock of \$200,000, to manufacture wire and wire goods, etc. The provisional directors include R. L. F. Strathy, D. M. Butchart and W. P. Telford, all of Owen Sound.

The W. W. Chown Co., Belleville, Ont., has been incorporated with a capital stock of \$75,000, to manufacture stamped tinware, lanterns, stoves, etc. The provisional directors include W. W. Chown, W. A. A. Chown and Henry Pringle, all of Belleville.

The Peter Hamilton Co., Peterborough, Ont., has been incorporated with a capital stock of \$250,000, to manufacture agricultural implements. The provisional directors include Peter Hamilton, James Hamilton and G. M. Hamilton, all of Peterborough.

The Ontario Graphite Co., has been granted an Ontario license to carry on their business, H. H. Williams, Ottawa, being their attorney.

The Gould Mfg. Co., Smith's Falls, Ont., has been incorporated with a capital stock of \$100,000, to manufacture agricultural implements, stoves, furnaces, etc. The provisional directors include J. H. Gould, J. S. Gould and W. H. Gould, all of Smith's Falls.

The Petrolea Combination Rack Co., Petrolea, Ont., has been incorporated with a capital stock of \$20,000, to manufacture boxes for wagons, hay and stock racks, etc. The provisional directors include J. W. McCutcheon, Thos. Kelly and J. A. Esson, all of Petrolea.

The Canadian Oak Belting Co., Brockville, Ont., has been incorporated with a capital stock of \$50,000, to manufacture leather belting, etc. The provisional directors include John McLaren, J. D. McArthur and C. A. McNaughton, all of Brockville.

The new Gault mill at Valleyfield, Que., belonging to the Montreal Cotton Co., will contain about 900 looms. The output of the mill will consist of fine cotton for ladies' wear and mercerized goods. The machinery recently purchased in England cost about a quarter of a million dollars.

INGERSOLL-SERGEANT Rock Drills

FOR MINES, TUNNELS AND QUARRIES

PISTON INLET Air Compressors

STRAIGHT LINE
 DUPLEX and
 COMPOUND.

FOR ALL DUTIES.

... COMPLETE MINE EQUIPMENT ...

JAMES COOPER MANUF'G CO., Limited, - 299 St. James St., Montreal.

Other Offices - - - ROSSLAND, B.O. RAT PORTAGE, ONT. HALIFAX, N.S.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

Messrs. G. & J. Esplin, box manufacturers, Montreal, have recently purchased a thirty-inch main drive "Camel" brand hair belt from Messrs. W. A. Fleming & Co., sole agents in Canada for Messrs. R. Reddaway & Co., Manchester, England.

The Nipissing Lumber Co., Hamilton, Ont., has been incorporated with a capital stock of \$44,000. The provisional directors include H. S. Brennen, A. S. Brennen and M. S. M. Long, all of Hamilton.

The Dominion Cordage & Mfg. Co., has changed its corporate name to the Canadian Cordage & Mfg. Co.

The Quebec Pulp & Paper Co., Lorette, Que., has been incorporated with a capital stock of \$350,000. The solicitors are Hon. Chas. Fitzpatrick, and Hon. Mr. Parent, Montreal.

The P. R. Corson Co., Toronto, has been incorporated with a capital stock of \$50,000, to manufacture perfumery, toilet soap, etc. The provisional directors include P. R. Corson, Toronto, W. D. Corson, Brantford, Ont., and H. W. McCurdy, Hamilton, Ont.

The Defiance Lantern & Stamping Co., Toronto, has been incorporated with a capital stock of \$60,000, to manufacture lanterns, lamps, etc. The provisional directors include W. H. F. Russell, Wau-

bashene, Ont., W. W. Chown and J. H. Hill, both of Belleville, Ont., and W. C. Embury, Toronto.

The Klondike Lumber & Fuel Co., Winnipeg, Man., has applied for incorporation with a capital stock of \$100,000, to manufacture lumber, etc. The applicants include W. F. White, J. W. Good, both of Winnipeg, Man., and P. W. Ireland, Toronto.

The Manchester, Robertson & Allison Co., St. John, N.B., are applying for incorporation with a capital stock of \$800,000, to generate electric light, power and heat.

The Cobb Mining & Developing Co's property on Dog Lake, Frontenac County, Ont., is reported to be now showing some 400,000 tons of emery in sight. The company intend to erect a mill to supply the European and home demands.

The United States Navy Yard at Bremerton, Washington, were recently equipped with Cross Oil Filters manufactured by the Burt Mfg. Co., Akron, Ohio.

Messrs. Price Bros. & Co., Montreal, are promoting a company with \$200,000 capital to erect a pulp mill on the Du Sud river, Que.

The woolen mills of David Graham & Sons, near Owen Sound, Ont., were destroyed by fire Jan. 28.

Messrs. Sadler & Haworth, manufacturers of leather belting, Montreal and Toronto, have sent in a very beautiful office calendar covering the year 1901 and 1902. The figures indicating the dates of the month are sufficiently large to be recognized across a large room, and there is an injunction—"See Price List on the other side,"—which, being observed, shows a list of prices per running foot for all widths of belting from a half inch to seventy-two inches, and for different diameters of round solid and round twist and of cut belt lacing. A description is also given of the different grades of belting manufactured by the concern, the trade names of which are given. The calendar before us is mounted upon an embossed card, is green as the Shamrock of Ireland with red coloring which reminds one of an Irishman's nose on St. Patrick's day late in the evening. Georgie evidently knows the proper caper as regards calendars.

Mackenzie & Mann will erect a 1,500,000 bushel elevator at Port Arthur to cost \$350,000.

The Chandiere Falls Pulp Co., City of Quebec, has applied for incorporation with a capital stock of \$200,000, to manufacture pulp and paper. The applicants include W. A. Marsh, and Hon. L. P. Pelletier, both of Quebec.

Transfer Ornaments, AMERICAN MADE.

TRADE MARKS, DECORATIONS, NAME PLATES, ETC.

For HARDWARE, BICYCLES, VEHICLES, POTTERY, FURNITURE, etc.

Sketches and samples submitted free of charge. Being American manufacturers enables us to make prompt delivery. Write us

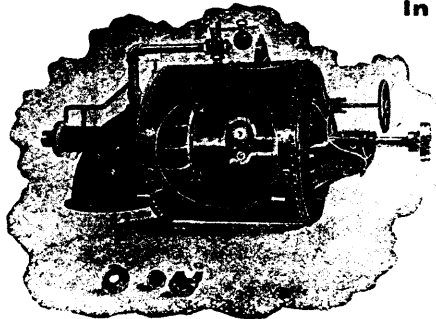
THE MEYERCORD CO., Inc., —MAIN OFFICE—

Canadian Travelling Representative,
CHAS. H. JAGGER, Hamilton, Ont.

Largest Makers in the World of Guaranteed Decalcomania Transfers.

THE Crocker Patent Turbine

In Horizontal Setting, with Quarter Turn Elbow.



Where the nature of the location will permit its use this type has many advantages. It is very suitable for direct connection to dynamos, and many are in operation in this class of service.

Notice how complete and compact this arrangement is, and how easily it may be installed. Can you use anything of this kind? Your inquiries will receive prompt attention.

WATER POWERS examined and
Reports made. Estimates
submitted for Complete Equip-
ments.

The JENCKES MACHINE CO.,

42 Lansdowne St., Sherbrooke, Que.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

At the Dominion Bridge Works, Lachine, Que., the "Camel" brand hair belting, for which Messrs. W. A. Fleming & Co., Montreal, are sole agents in Canada, is in general use throughout the several shops, driving all kinds of machinery. On lathes and machinery where tight and loose or reversible pulleys, and the D. & A. ball-bearing shifter are used, their superintendent reports that he gets better results out of the "Camel" brand, and a more uniform and steady power.

Messrs. Evans, Coleman & Evans, Vancouver, B.C., will erect large cement works on the boundary line between British Columbia and Washington State, at a cost of a quarter of a million dollars. The firm has long been the largest importer of cement in the province, and expended large sums in prospecting the coast for a mineral substance carrying all the necessary ingredients for first-class cement. Efforts recently made have resulted in the location at Sumas of an extensive marble quarry, carrying 98 1/2 per cent. of lime and all the needed compounds for excellent cement. The property is situated on Bellingham Bay, and the British Columbia Railway extension, within easy access of the C.P.R. and Great Northern, and thirty miles from Mission City on the Fraser River. It was immediately secured, and samples of rock sent to England, Germany, San Francisco and other centres of the cement trade for testing, and the result has confirmed the opinion that it contained all the ingredients for the manufacture of cement equal to any in the world. Five hundred thousand dollars capital has been secured, and the property will immediately be developed. Marble quarrying and polish-

ing plant and lime kilns will be established on the spot, and cement works, with an output of 300 barrels a day and costing \$200,000, will be erected at Mission City to enable the manufactured product to be shipped by water as well as by rail.

The keel of the new palace passenger steamer for the Richelieu & Ontario Navigation Co., is being laid at Bertram's shipyards, Toronto. The steamer when completed will cost between \$450,000 to \$475,000, and promises to be the finest passenger steamboat on the continent. The boat, like the Kingston and Toronto, and other new vessels of the Richelieu Line, has been designed by Mr. A. Angstrom, marine architect. She will be 340 feet long, over all. The Kingston is 290 feet long. The new vessel will be sixty per cent. larger in accommodation throughout than the Kingston.

The first annual report of Mr. Robert Glockling, secretary of the Ontario Labor Bureau, has been issued. It covers 1899 and eight months of 1900 up to September 1 last. In that period there were thirty-five strikes and two lockouts. Of these thirteen were successful, eight were settled by compromise or arbitration, eight are still undecided; five were unsuccessful, two were partly successful, and in one case no settlement has been reached. No more than 1,300 workers were in all affected. Mr. Glockling reports general contentment and improvement in the condition of labor since 1895.

The first blast furnace of the Dominion Iron & Steel Co., at Sydney, C.B., was started on February 2, and the full battery

of four furnaces will be running within two months. The given capacity of the works will be 1,000 tons a day, but when thoroughly seasoned they will be capable of producing 500,000 tons yearly.

Crombie's planing mill, Toronto, was destroyed by fire February 9, to the extent of \$500.

A by-law will be submitted to the electors of Aurora, Ont., to raise \$10,000 to bonus Underhill & Sisman's boot and shoe factory now at Markham, Ont. In consideration the firm are to employ from 75 to 100 hands and erect a three storey factory 100x40 feet.

It is estimated that the cut of pine saw-logs in the northern Ontario woods this present winter will amount to 750,000,000 feet, board measure. This is one hundred millions more than a year ago, which was slightly less than 650,000,000 feet. The cut during the last few years has been as follows: 1898, 513,000,000; 1898, 570,000,000; 1897, 503,000,000; 1896, 920,000,000.

The main building of the Stanley Piano Co's works at Peterborough, Ont., was destroyed by fire February 2. Loss about \$18,000.

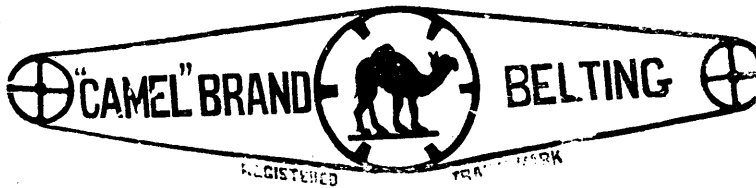
John Irwin's grist mill at Warton, Ont., was destroyed by fire February 5. Loss about \$18,000.

The pulp mills of the Chicoutimi Pulp Co., Chicoutimi, Que., are producing 300 tons of pulp per week, which is of such a satisfactory character that this company will, early in the coming spring, erect another mill there to have a capacity of sixty tons per day.

W. A. FLEMING & CO.,

771 CRAIG STREET, - - MONTREAL.

THE STRONGEST AND MOST DURABLE



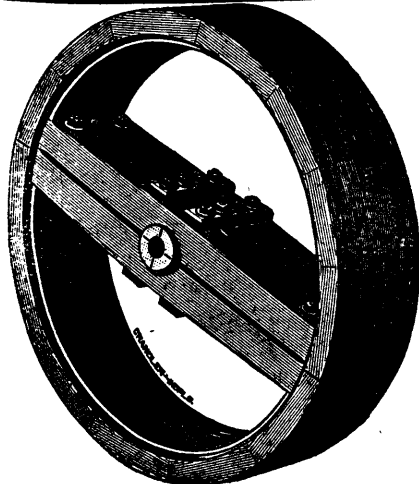
NOT AFFECTED BY DAMPNESS, HEAT OR STEAM
MOST DURABLE THE BEST FOR MAIN DRIVES

"REDDAWAY"

BALATA BELTING

STRONG, DURABLE AND NOT AFFECTED BY DAMPNESS.

WRITE FOR SAMPLES AND PRICES



"The Reeves" A HIGH GRADE
Wood-Split **PULLEY**
BUILT HONESTLY
BUILT RIGHT

It Does the Work. No Trouble. No Worry.

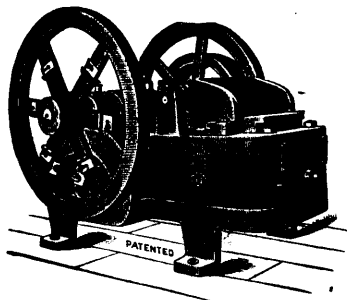
SEND FOR CATALOGUE

REEVES PULLEY MANUFACTURING CO., Limited

14 Pearl Street, - Toronto, Ont.

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ROLL JAW CRUSHER.



Crushes Large Rock to 4 inch.

Send for Circular.
STURTEVANT MILL CO.,

104 Clayton St.
 Boston, - Mass.

Messrs. W. A. Fleming & Co., 771 Craig Street, Montreal, have this year added to their extensive line of beltings, a full stock in all weights of Balata belting of the best grade, which, with their large stock of the celebrated "Camel" brand hair belting, for which they are sole agents in Canada, and rubber, stitched cotton, leather and solid cotton belting, make them among the best equipped concerns in the Dominion as a general mill supply house. The "Camel" brand hair belting is justly accorded first place as among the best saw, pulp and paper belts in use, it being particularly durable and free from stretch, and it also possesses the great advantage of not being affected by dampness, heat or steam. Messrs. Fleming & Co. also carry a stock of wood-split pulleys, and complete lines of fire hose and fittings for mills, fire protection, corporations, etc.

The Publishers' Pulp & Paper Co., is, according to The Paper Mill, a new concern with head offices in New York City, which proposes to sell the produce of their mills, when erected, to its publisher-stockholders at \$33 a ton. The men whose names are most prominently mentioned as associated with the company are Joseph Pulitzer, whose stock holdings in the corporation are said to amount to \$1,000,000; Alfred Harmsworth, of the London Daily Mail, and Thos. Wanamaker, of the Philadelphia North American. The English stockholders, of whom there are many, are to be supplied with paper from a plant to be built in Nova Scotia, and a 100-ton sulphite plant is also to be erected in Nova Scotia at an estimated cost of \$300,000.

As a result of the Paris Exposition, the Canadian paper manufacturers have received numerous inquiries from France for news paper. France is almost depleted of pulp wood, and the future supply of paper there is becoming a serious question. At the pre-

sent time, however, the price of paper in France is very little higher than it is in England, and the import duty is so large that the Canadian manufacturers have found it impossible to accept any of the contracts offered. Frenchmen are evidently facing the question of a decreased duty or an increased price. It is understood that M. Menier is leading the way in France in an agitation for the lowering of the paper duties.

It is stated that as soon as spring opens the Spanish River Pulp & Paper Co. will push work rapidly on their projected mill near Webbwood. It is said that they will need about 500 men to go on with the work of constructing a mill and cutting pulpwood for it.

A unique mechanical draft arrangement consisting of two fans was recently installed at the works of the Diamond Rubber Co., Akron, Ohio, by the B. F. Sturtevant Co., Boston, Mass. Of its operation the owners write that, "with the forced draft at one end and the induced draft at the other, we are enabled to produce a terrific draft, and can make steam very rapidly indeed. We have been able to produce a pressure of 1.7 oz. by the forced draft fan and maintain a water column at the extremity of our underground breeching or at the inlet of the fan. The construction of the fans is neat and workman-like, and the engines run cool and practically noiseless. Taking all into consideration we are very well pleased."

The Canada Linseed Oil Mills, Montreal, has applied for incorporation with a capital stock of \$180,000, to manufacture linseed and other oils, etc. The applicants include J. O. Gravel, Hugh M. Allan, John Bailie and John J. McGill, all of Montreal.

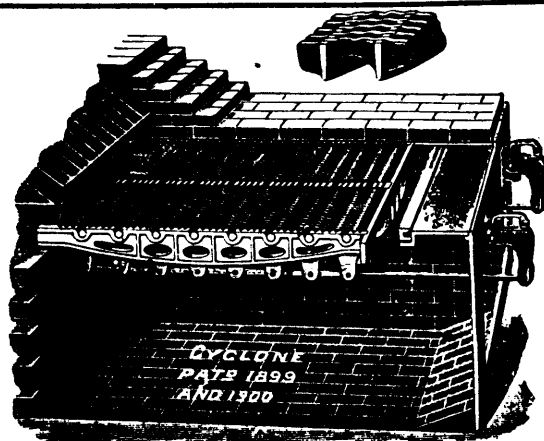
Messrs. F. E. Myers & Bro., Ashland, Ohio, have sent us copies of several circulars which they are mailing to the trade which

comprise a condensed form of their No. 35 Catalogue, which was recently issued. They illustrate their lines of domestic pumps, spray pumps, power pumps, hay tools, store ladders, stayon door hangers, lawn swings and gate hangers as well as the celebrated Imperial plough, harrows, etc. They will on request forward their No. 35 Catalogue illustrating their complete lines.

The Government of Nova Scotia has ordered another diamond drill for the purpose of exploring mineral areas in that province. That there are very many valuable territories which are as yet unknown from the standpoint of mineral development, is well-known to all persons who have been connected with this branch of provincial enterprise, and the fact that the Government is endeavoring to help along the progress of systematic examination of these grounds is most encouraging. This will make the third drill owned by the province. The demand for the loan of these machines is very great.

Mayor Silver, of Collingwood, Ont., was in Toronto last week in connection with some additional water lots which the town proposes giving the Cramp Ontario Steel Co. Work on the company's ore docks will be commenced immediately, and it is said that when completed they will be superior to the best ore docks at Cleveland, Ohio. Mr. Silver says that the town is booming. Work is being carried on at the steel ship yard on the new steel ship for the Beatty Line. This ship will be one of the finest on the great lakes. The Cramp Ontario Steel Co. intend doing as much as possible in excavating the ground for their furnaces this winter. They expect to blow in the first furnace in October next.

The McClary Mfg. Co., London, Ont., will include the manufacture of hardware. They will increase their capital stock to \$3,000,000.



USE CYCLONE GRATE BARS AND PRODUCE

CHEAPER STEAM

No individual consumer can regulate the price of coal, but you can regulate the amount of coal burned for a given power by installing **Grate Bars** that will produce **perfect combustion**. Write us for particulars.

E. J. PHILIP, Manager,

404 TEMPLE BUILDING, - - TORONTO, ONT.

PHONE 8682

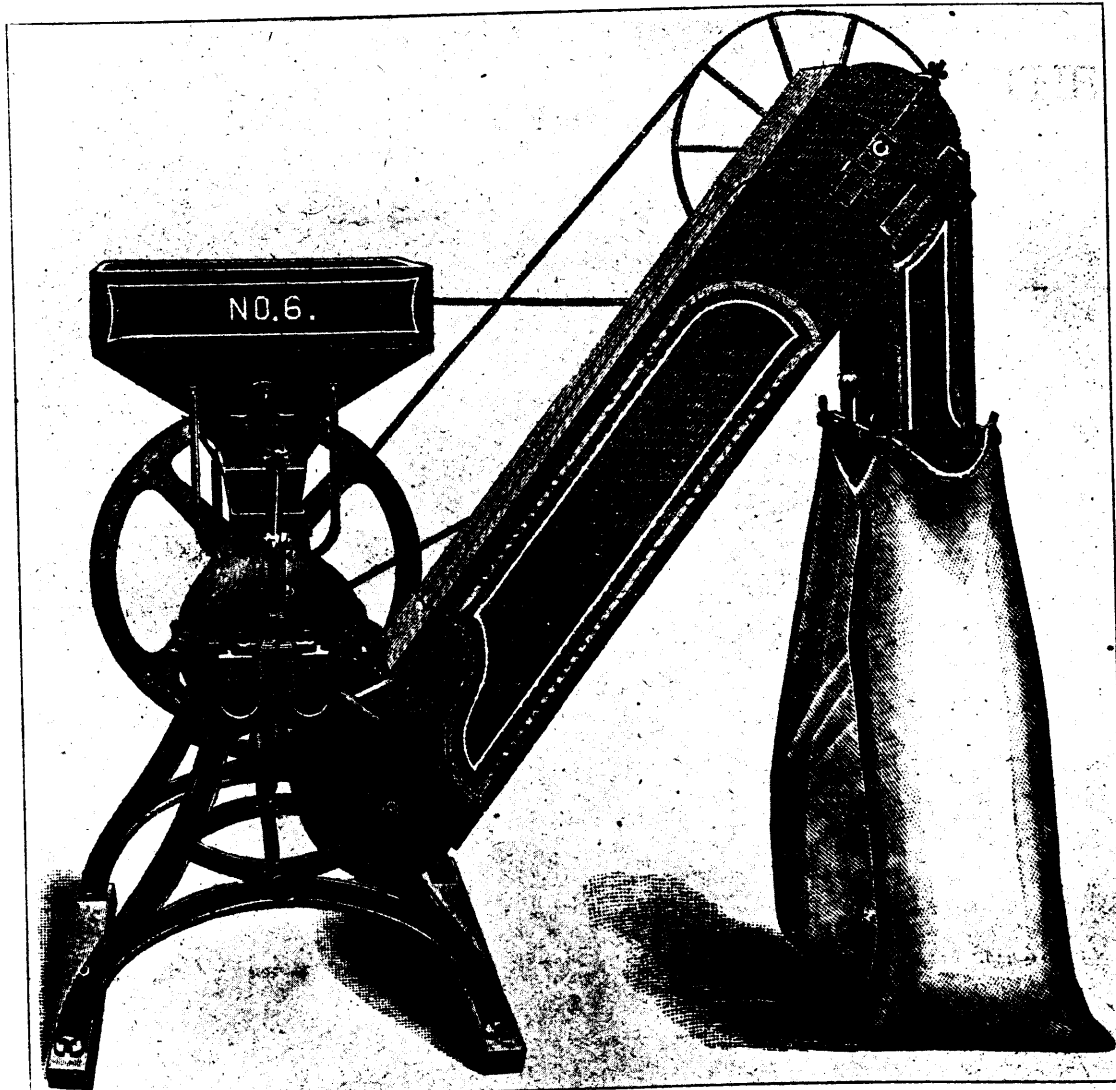
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THE STRATFORD MILL BUILDING CO.

STRATFORD, ONT.

Manufacturers of all kinds of.....

FLOUR MILL MACHINERY



The King of Feed Mills...

WITH SACKING ELEVATOR



This illustration shows our **No. 6 Double Pulley Mill with Sacking Elevator**. The elevator is 5 feet long, 9 inches wide inside, and is arranged for two sacks, and is regulated by a gate.



PLATE CHOPPERS, ROLL CHOPPERS

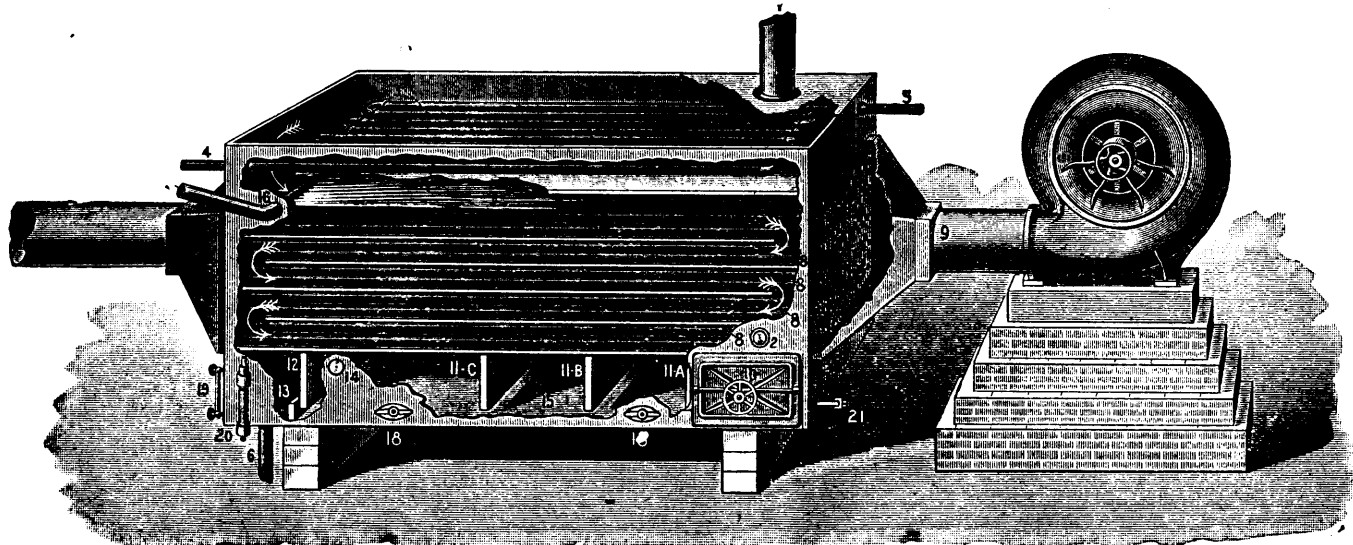
Brown Automatic Engines, Etc.

**THE
CUMMER
DRYERS.**

**FOR
Mechanically Drying Everything**

**THE F. D. CUMMER & SON CO.,
HUNDREDS IN OPERATION. CLEVELAND, OHIO.**

THE KELLER COMBINATION FEED-WATER HEATER, PURIFIER, CONDENSER, AND HOT-AIR BLAST DEVICE.



The accompanying engraving shows a compact device for heating feed-water, purifying it, condensing the exhaust steam and producing a powerful blast of hot air. The whole device is very simple in construction, and is a departure from the old style of heaters.

It will be noticed that in the construction of the apparatus there are three chambers. The exhaust enters the upper chamber in which there is a superheating coil. The plate upon which this coil rests is shortened a few inches at one end, allowing the exhaust steam to pass to the middle chamber, which is the hot air and condensing department, into which all added feed water is admitted through spray pipes.

There are baffle-plates in this chamber cut away at alternate ends, allowing the

water and exhaust steam to pass from the top to the bottom, over the plates, and if any vapor remains uncondensed, it escapes to the atmosphere, through an open pipe. Between these baffle-plates is a system of two inch tubes, proportioned in number to the amount of hot air required, the ends of which are expanded into the end plates.

The lower compartment is the settling and pump chamber, and is designed in volume and construction to arrest all impurities and prevent their passage to the boiler. It is divided by vertical plates, which reach nearly to the bottom of the chamber, and one narrow plate at the left resting upon the bottom as shown. As the exhaust enters the device in the upper chamber, it passes over the super-heating pipes, to the middle department, over the air tubes, circumvent-

ing the baffle plates, and heats the feed-water sprayed from the pipe to practically its own temperature and also heats the tubes, through which by the medium of a blower, a blast of air is forced absorbing the heat. The exhaust steam coming in contact with the tubes cooled by the air passing through them, and with the water spray, is rapidly condensed so that no back pressure is produced. The condensed and spray water commingle, and after passing over the lower baffle-plate fall to the settling tank.

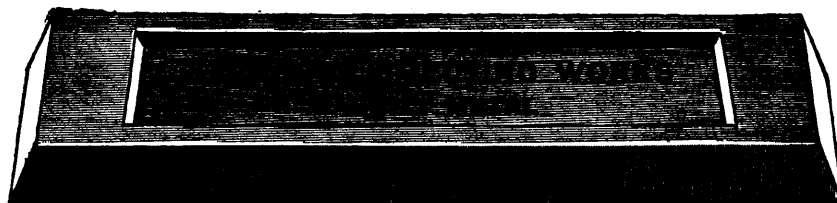
As the water line in the tank is above the bottoms of the vertical plates, the water necessarily passes under them to get to the pump. This operation quiets the water, cools it a few degrees and the impurities are precipitated.

By the time the water reaches the fina

THE BEST IS NONE TOO GOOD.

The largest machinery builders in Canada and United States use our Babbitt Metal. Is this not sufficient proof of its superiority over other anti-friction metals? If the largest users are satisfied with our Babbitt Metals, why should it not suit you? We can furnish you with numbers of testimonials.

Importers and Dealers in
**PIG TIN, ANTIMONY
INGOT COPPER
ALUMINUM
NICKEL, BISMUTH
IRON AND STEEL
SCRAP**



**SYRACUSE
BABBITT
BEATS
THEM ALL**

Manufacturers of
**BABBITT METALS, SOLDER
TYPE METALS
COLUMBIA PHOSPHOR TIN
AND
ALL OTHER WHITE METAL MIXTURES**

SYRACUSE SMELTING WORKS

WILLIAM AND ST. THOMAS STREETS, - - MONTREAL

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

COAL JAS. H. MILNES & CO. COKE

WHOLESALE DEALERS IN
Best Grades of STEAM COALS.
Best Grades of BLACKSMITHS COALS.
Best Grades of FOUNDRY COKES.
 Shipments made direct from Mines to any point in
 Canada. Write for quotations.
Head Office: 78 QUEEN ST. EAST, TORONTO. Docks: Esplanade, Foot of Yonge.

chamber it is cooled down to about 200 degrees. As the water line is above the bottom of the last plate and as the narrow plate extends above the bottom of the one near it, the oil is held back in the adjoining chamber in which an overflow pipe is attached through which the oil is carried off.

From the last chamber of the settling tank, from which the sediment as well as the oil is excluded, the pump takes the water and forces it through the superheating pipes in the upper chamber, where, being subjected to the entering exhaust, it again becomes heated to 212 degrees, at which temperature it enters the boiler.

In the tank there are hand-holes, a man-hole and a blowoff, so that it can be cleared in a few minutes without interfering with the running of the machinery.

A great advantage with this heater for heating of air, is that the temperature can be regulated to a degree with a single valve, thereby greatly reducing the complication and cost of steam piping, and increasing the efficiency. As to durability, the heater is almost indestructible; it cannot be affected inside by rust, as the grease is not extracted from the steam until after it has passed through the heater. The steam

joints are all exposed to view, and being an expanded joint, it is a great deal more reliable than a threaded joint would be. The air heating surface is very liberal and all the surface is equally effective.

The hot air blast feature is very valuable, as in this way nearly every unit of heat in the exhaust steam, not otherwise saved, may be utilized for simply the cost of driving the blower, and the air can be used not only for the consuming of smoke and saving of fuel, by a hot forced draft under the boilers, and for heating of buildings, but it has been installed with great success for drying lumber, paper, and terra-cotta, and is adapted to any purpose for which hot air can be used.

Mr. J. L. Legein, representing the Keller Syndicate, is a guest at the Rossin House, promoting a company to take over the Canadian patents on the Keller devices and manufacture them in this country. He would be pleased to give further information on application.

A wire fence factory 120 feet long and two storeys high to cost about \$200,000, will be erected at Owen Sound, Ont., by R. Strathy.

THE RONALD STEAM FIRE ENGINE.

The Ronald Fire Engine Works, Brussels, Ont., have sent us a circular having reference to the steam fire engines built by them in which they say:

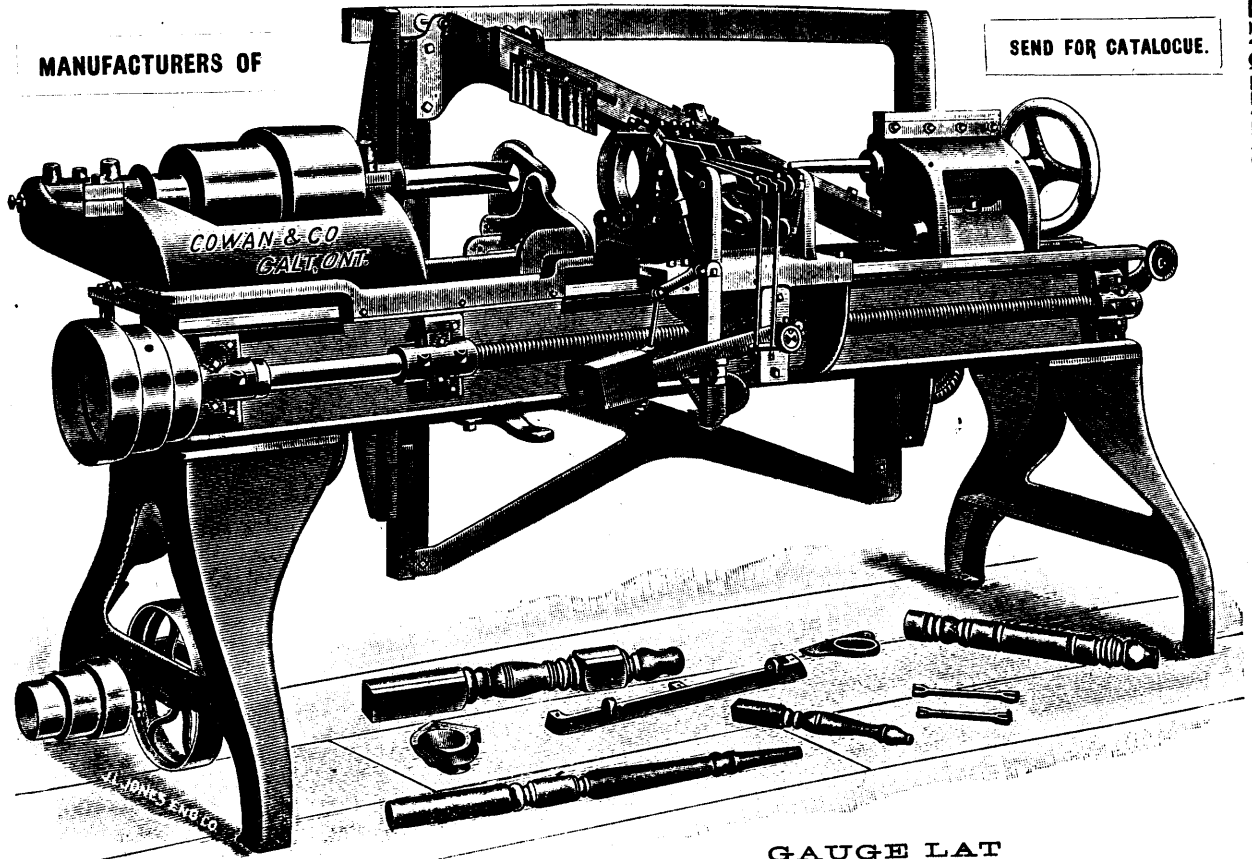
Last fall we sold three fire steamers in British Columbia, and issued a small circular containing the full report of the judges—two practical engineers—showing the great satisfaction the public tests had given to the judges, the public, and other engineers. Since then we have had an entirely voluntary letter of testimony from Mr. James Petrie, the engineer appointed to run our steamer at Grand Forks, B.C., a man of large practice in handling all the mine pumping and other machinery out there. Under date of December 1, 1899, he says:

I must say that of all the machinery I have ever handled your steamer is the finest and best—first-class in every particular. We have had three different calls, two of them at our large Yale Hotel. I took the engine out and had steam up before they got the nozzles on; carried easily 160 pounds water pressure. The council and citizens were all tickled to see how smoothly everything worked, without a hitch or jar, and the fire quickly extinguished.

COWAN & CO., GALT, ONT.

WOOD-WORKING MACHINERY, Patent Feed Water Heaters & Purifiers

MANUFACTURERS OF



SEND FOR CATALOGUE.

ENGINES AND BOILERS, SAW MILL MACHINERY ETC., ETC.

GAUGE LAT

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

THE BOURNE-FULLER CO.
IRON, STEEL
 AND
PIG IRON

CLEVELAND, OHIO, U.S. A.

Shipping Tags. Invoice Tags.
DUPLICATING BOOKS

HEAD OFFICE:
AUTOMATIC CHECK BOOK COMPANY
 46 & 48 Richmond St. W., Toronto.
 We are the largest manufacturers of Shipping Tags in Canada. We make all the standard sizes and a great variety of special sizes.
 Branch Office: 260 St. JAMES ST., MONTREAL

A testimonial is also published written by Thomas Graham, ex-chief of the Toronto Fire Department in which he says:

I beg to say that the Ronald Fire Engine while under my control and charge has proven to be a most reliable, quick and powerful steamer of large capacity and power and great simplicity. It never failed to do excellent fire duty work at all times of the most reliable kind.

And a letter from John Thompson, present chief of the Toronto Fire Department says:

The fire engine sold by you to this department about four years ago has given up to the present time general satisfaction.

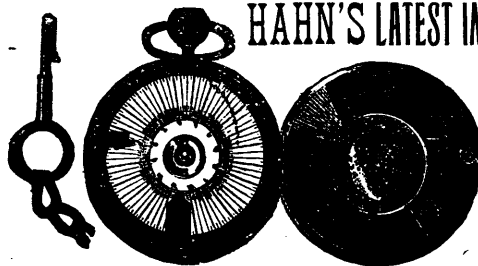


COLD PRESSED NUTS.

(Finished, Semi-Finished, etc.)

Machine Screws and Special Milled Work.

The Diamond Machine and Screw Co., Limited, - Toronto.



HAHN'S LATEST IMPROVED WATCHMAN'S TIME DETECTOR

This Clock is adapted for six or twelve stations, and the keys are all different, ranging from 1 to 6, and 1 to 12, instead of as in the old style Time Detectors, which mark either by holes or an impression on the dial, being the same for all stations.

For circulars, prices and further information address

A. NANZ & CO., Room No. 45, Graham Building, 127 Duane St. **NEW YORK**

This Clock received the First Prize at World's Fair

THE ONTARIO LUMBER INDUSTRY.

At the recent meeting of the Ontario Lumbermen's Association in Toronto, the Secretary, Mr. Tindall, read the following statistical report:

I beg to submit herewith the following statistical information based upon the best replies received to circular letter of January 12, 1901.

Production, white pine lumber—The total production of mills in northwestern Ontario, embracing all mills on Georgian Bay, Northern Division of Grand Trunk Railway to Calendar and C.P.R., North Bay to Rat Portage:

	Feet.
Total quantity produced, 1900..	476,000,000
Total quantity produced, 1899..	351,000,000

Increase..... 125,000,000

The decrease in production of mills in Saginaw valley and Lake Huron shore of Michigan hitherto supplied by Canadian logs, 92,282,000 feet; net increase 32,718,000 feet, entering into markets usually supplied by these mills. The decrease of United States mills in the northwest district of Michigan, Wisconsin and Minnesota, which competes in the same market for 1900 was 478,603,000 feet.

Stocks on hand, white pine lumber, principally—
 On hand—

	Feet.
Dec. 31, 1900.....	216,349,000
Dec. 31, 1899.....	120,000,000

Increase..... 96,349,000
 of the stock on hand on Dec. 31, 1900, there was:

	Feet.
Sold waiting delivery.....	92,109,000
Unsold.....	124,240,000
In the year 1896 the stock at mills in pile (exclusive of Rat Portage) was.....	406,000,000

Effect of these figures on prices—Taking into consideration the large decrease in the United States mills and also the fact that the increase in production is offset by the reduction of the output of the Michigan mills hitherto supplied by Canadian logs, one naturally comes to the conclusion that workings of the law of supply and demand should tend to a maintaining of present prices firmly, if not an increase, particularly as it is likely that large demands on the source of supply referred to will be made from the English market.

Trade of 1901—in regard to the volume of next year's trade the estimated production of 1901 501,900,000 feet, the production of 1900 476,000,000 feet, increase 25,900,000 feet.

Zanzibar Anti-Rust Paint

FOR — **ROOFS OF ALL KINDS**
STRUCTURAL IRON WORK
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- A Paint** that is GUARANTEED.

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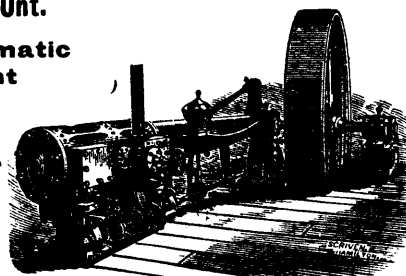
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The following figures are given of the volume of trade in the United States:

Northwestern mills—The highest year was 1892, the production being 8,594,222,802 feet.

For the years.	Production.	Stocks on hand.
1896.....	5,725,763,035	4,033,937,435
1899.....	6,056,508,000	2,728,271,000
1900.....	5,485,261,000	2,839,705,000

NOVA SCOTIA STEEL AND IRON.

A statement from Sydney, N.S., is to the effect that after full and exhaustive practical tests of the coking qualities of Cape Breton coal, the officials of the Dominion Iron & Steel Co., are of the opinion that when the new washing plant is in operation the coke produced will be superior in every respect to the famous Connellsville coke. As it is, the only respect in which the coke made at Sydney is inferior to the Connellsville product is in the quantity of sulphur contained, but even this is only a small fraction of one per cent. in excess of the Connellsville article, and it can easily be removed by washing and would not in its present condition affect the production of a high grade of pig iron. The Dominion Coal Co., is at present delivering coke containing fully one-half of one per cent. less sulphur than its contract provides, and all indications point to the practical total elimination of sulphur as the mines deepen.

One hundred of the four hundred ovens are in operation, and very little remains to be done to the remainder. Coke is being made at the rate of about three hundred tons a day, and a great many hundred tons are already stored, pending the blowing in

of the first blast furnace. It was expected that the first furnace would be blown in about February 1.

Sufficient quantities of iron ore and limestone have been stored to last until the opening of navigation in the spring.

The fact that the coke has turned out so well, practically settles the question of the ability of the company to produce the iron of the quality and for the figures estimated, and is a source of gratification to the officials of the company. Within a year now "Sydney Pig" will be a household word wherever iron is used.

MUST HAVE DUTY ON LUMBER.

Mr. John Waldie, president of the Ontario Lumbermen's Association, in his address at the recent annual meeting of the Association in Toronto, discussing the situation said:

We must insist that our Dominion Government shall adopt a tariff against lumber and all wood products entering into competition, remove them from the free list, and relieve the lumber industry from the unequal competition of lumber manufactured and freighted under more favorable conditions. To-day labor, machinery and mill supplies are higher in Canada than in the United States, and when low transportation rates on lumber are given from the southern States we in Ontario are placed in competition with the cheap colored labor of the south; and lumbermen in New Ontario and British Columbia are at a disadvantage when competing with Oregon and Washington Territory for the trade of our Prairie Province. The advantages given and favors shown by the whole country to Manitoba while a

young and struggling province are surely entitled to consideration, and that province, now being of age, may fairly be asked to accept the general policy of the Government, equally with the other provinces.

Ontario industries are paying a million dollars a year by way of a duty on soft coal, which is a tax local in its application, owing to distance from our own coal mines, and this tax is either for revenue, or the protection and advantage of the coal industry of Nova Scotia and Cape Breton. So that if Manitoba should pay a tax on a portion of her lumber consumption, it is only fair, and it is an error to suppose that Manitoba alone would pay the duty on lumber, as to-day Ontario imports lumber as extensively as the west.

Twenty years ago the Northern Railway carried lumber into Toronto at \$1 per thousand feet, and the old Midland Railway did the same to Port Hope. To-day the average is \$2 per thousand feet. Rates have been steadily advanced on lumber as well as other lines, and the tendency of railway management in this new century, with the large accumulation of wealth in few hands, used not for benefiting mankind, but in the absorption of transportation companies so as to make those who are rich richer by increasing freight rates to the highest point the traffic will stand, will in the end be met with an outburst of socialism to the injury of all. We believe this can be averted in Canada if our Dominion and Provincial Governments stop granting subsidies to promoters for the purpose of building railroads to open the country. Let the Governments, both Provincial and Dominion, build and own the roads, the same as the municipalities do the highways.

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Their reputation is world-wide. The best is none too good for you.

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The Large and Steadily Increasing American sales of the

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Is not all that recommends it. We have just recently made shipments to Russia, Norway, England and Japan.

IT'S REPUTATION IS WORLD-WIDE CAN'T WE SEND CATALOGUE?

The BURT MFG. CO.

Akron, Ohio, U.S.A.

Largest Mfrs. of Oil Filters in the World.

Let transportation companies operate on terms to be agreed upon, either by allowing a portion of the gross earnings to go to the Governments or on some other terms to be adopted, in each case the people owning the road, through their representative, will have a say. And this will come, and whether through a Ross, a Whitney, a Laurier or the yet unknown, the man who has courage to adopt it will be considered a patriot and a statesman.

A NOTABLE ENTERPRISE.

With the beginning of the new century, work was started in the new boiler works of the Babcock & Wilcox Co., at Bayonne, N.J. The engine was started at midnight, at the dawn of the new year, in the presence of the Mayor of Bayonne and a number of the city officials and the officers and heads of departments of the Babcock & Wilcox Co. Operatives went to work at once in the drum shop, which is the first department to be put in operation, and in the presence of the guests a steam drum was completed out of the flat sheets. Those present witnessed all the operations of shearing, punching, rolling, riveting, and assembling involved in its manufacture.

The new works of the Babcock & Wilcox Co. are located in Bayonne, where the company has purchased thirty acres of land, having a frontage of 650 feet on the Kill von Kull, with a depth of water twenty-five feet on the pier line. The plant is the largest of its kind in the world. The buildings completed have a floor area of about 160,000 square feet, to which will be added at once

buildings of approximately 40,000 square feet floor area.

The famous water-tube boilers manufactured by the Babcock & Wilcox Co. have a world-wide reputation. The success of the water-tube boiler dates from the first boilers of their manufacture. In addition to the enormous business which they are doing in stationary boilers, the company has in the last few years entered into the manufacture of marine water-tube boilers.—The Bulletin.

This concern have a branch at 202 St. James street, Montreal, under the management of Mr. W. T. Bonner, for supplying the Canadian demand for their water-tube boilers.

THE SMOKE NUISANCE,

TO THE EDITOR CANADIAN MANUFACTURER,
DEAR SIR :

The article in yours of the first of this month, though apparently in the interest of certain stoking machines, otherwise correctly described the theoretical conditions of combustion.

I have seen in operation almost every kind of mechanical stoker, all of them costly, nearly all better the conditions of combustion, but not one attains to such excellence in combustion as to consume all the combustibles, and all fail in greater or less measure in preventing smoke.

The use of the steam jet in watery volumes will kill the hydro carbons (the richest part of bituminous coal) and to that or nearly that extent (varying according to other conditions) the use of perhaps ninety-

nine per cent. of the so-called steam jets produce a waste in the fuel consumed by the smothering of the hydro carbons when they are released by the heat from the fresh coal thrown upon the fire.

Notwithstanding, I established by much studying and many tests that for land and marine boilers, the most easily applied method, in fact the only universally applicable method for obtaining perfect combustion and preventing smoke, is by the aid of jets, but not wholly so, and not by thrusting watery steam over the coal bed.

In some of my tests I seemed to partially fail, but only from lack of jets, to obtain the required volume of gas, not water; in every case in which I applied the deficiency, I attained to perfect combustion, reduced the consumption of fuel (everything combustible being burned on the grates) and quickened the steaming power to an extent that made the engineer swear at the fireman for blowing off, damning them for not keeping the pressure steady without so frequently lifting the safety valve above its weighted pressure.

JOHN LIVINGSTONE.

Montreal, February 7, 1901.

The Brandon Machine Works Co., Brandon, Man., will erect new shops to accommodate its growing business.

C. A. Young's elevator at Deloraine, Man., was destroyed by fire February 1. Loss about \$6,000.

Penetanguishene, Ont., will expend \$3,000 in extending and improving its water system.

STAR WIND MILLS

FOR PUMPING OR POWER PURPOSES

Galvanized Steel or Wood, all
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—AND—
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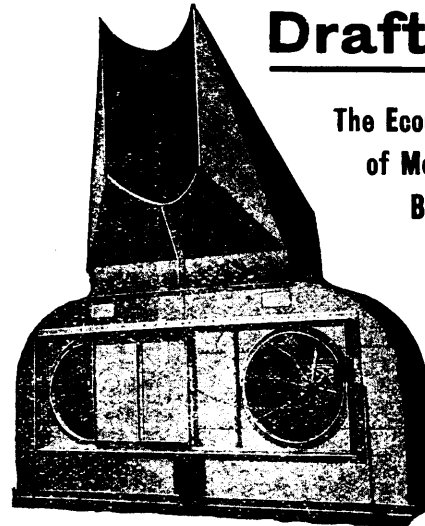
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Buffalo Induced Draft Apparatus.

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BUFFALO, N.Y.

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HOT BLAST HEATING.

In hot blast heating, the proportional heating surface is generally expressed in the number of net cubic feet in the building for each lineal foot of one inch steam pipe in the heater. On this basis, in factory practice, with all of the air taken from out-of-doors, there is generally allowed from 100 to 150 cubic feet of space per foot of pipe, according as exhaust or live steam is used, the term "live steam" being taken in its ordinary sense as indicating steam of about eighty pounds pressure. If practically all of the air is returned from the building, these figures will be raised to about 140 as the minimum, and possibly 200 cubic feet, as the maximum, per foot of pipe. Of course, the larger the building in cubic contents the less its wall and roof exposure per foot of cubic space, and consequently the less the loss of heat and the smaller the heater relatively to the cubic contents. In such buildings, used for manufacturing purposes, where the occupants are usually well scattered, an air change once in fifteen to twenty minutes represents the general practice, but in public and similar buildings this change is of necessity reduced to one in seven to twelve minutes. Owing to the increased loss of heat by leakage or ventilation under such conditions, and also to the demand for a slightly higher temperature than in the shop, the allowance is dropped to from 70 or 75 to 225 cubic feet of space per foot of pipe, for all of the air is taken from out-of-doors and low-pressure steam is usually employed. The great range in all of these figures must make evident the influence of the size, construction and uses of a building upon the size of the apparatus

required, and show the necessity of extended experience for the proper designing of any system of heating and ventilation.—Extract from Treatise on Ventilation and Heating, by B. F. Sturtevant Co., Boston, Mass.

The report of the Dominion Government statistician shows what a vast development has taken place during the past decade in the use of electricity for lighting purposes in Canada. In 1891 the census gave eighty establishments selling electric light. In 1897 there were 187, increased to 297 in 1900. The electric lamps supplied by the establishments selling electricity for light numbered 443,897 in 1897, and 807,772 in 1900. Ontario has made rapid strides in the employment of electricity for lighting, using 418,573 lamps in 1900 against 201,955 in 1897. Quebec province increased its employment of electric lamps from 185,892 lamps in 1897 to 235,322 lamps in 1900. British Columbia had a couple of establishments selling light in 1897 with a small number of lamps, while in 1900 it had thirteen electric companies with an equipment of 52,653 lamps. In gas lighting the census of 1891 gave forty-nine gas works in Canada. In 1900 there were forty-three, showing a decrease of six. The best average gas supplied in 1900 was in Woodstock, Ont., whose citizens obtained an average of 25 3/4 candle power. Fourteen gas establishments supplied gas of over twenty candle power and twenty-nine with under twenty.

The lumber mills at Pilot Bay, owned by J. A. Sayward, Victoria, B.C., will be removed to Nelson, B.C., to enable him to ship to better advantage to Manitoba and the Territories.

**Electrical
Common Sense**

It is poor economy to buy a good dynamo unless your wiring is properly installed.

It will not pay you to save power at your dynamo if you lose it on the way to your lamps.

Our wires are proportioned to the power they are to carry, and we put them up to stay.

As we are not connected with any manufacturer, we are prepared to install any of the standard machines on the market.

Let us quote you prices.

R. A. L. GRAY & CO.

Electrical Contractors,

83 YORK ST., . TORONTO.

The Dowsell Mfg. Co., Hamilton, Ont., manufacturers of clothes wringers, washing machines, mangles, churns, etc., have sent us their 1901 catalogue, illustrating the above mentioned lines. The business has so rapidly increased that during the past year the firm has erected a new factory in which they have three times the floor space they previously had.

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Bar Iron, Steel,
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**MACHINIST TOOLS,
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COMPLETE STOCK OF

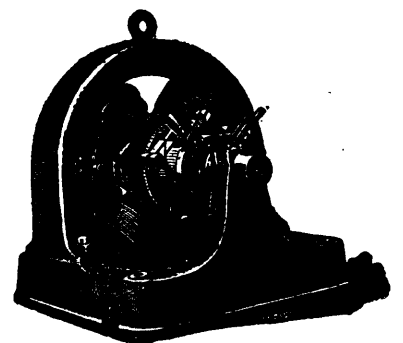
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Canadian Representative: E. A. WALLBERG, Toronto—Montreal.

CANADA vs. NORWAY.

S. E. Sontum, the commercial agent of the Dominion Government in Norway, has sent his report to the Department of Trade and Commerce. That portion of it dealing with wood pulp is specially interesting as it contains a review of the price movements in Scandinavian pulp for the past year. He says: "At the close of the year (1900) the prospects for mechanical pulp are therefore excellent, the more so as a severe water scarcity is certain during the coming winter. The present quotations for sulphite is \$42.10." "During the year," he proceeds to say, "Norway exported 313,974 tons of wood pulp, of which Great Britain took 150,703 tons. During the past ten years Great Britain has taken over 851,000 tons of Norway wood pulp."

This information is submitted to the Canadian Government from a desire to serve wood pulp interests here. If prices are steadily rising in Norway, if the supply is greatly cut down by the lack of water, if the British demand continues, other sources will have to be drawn upon, and what other are there so abundant and so convenient as those of Canada? For some time past prices have been high enough and the export market capacious enough to warrant the venturing of capital into Canadian pulp mills on a large scale, and there have been valuable developments, but nothing like what was expected from the country's

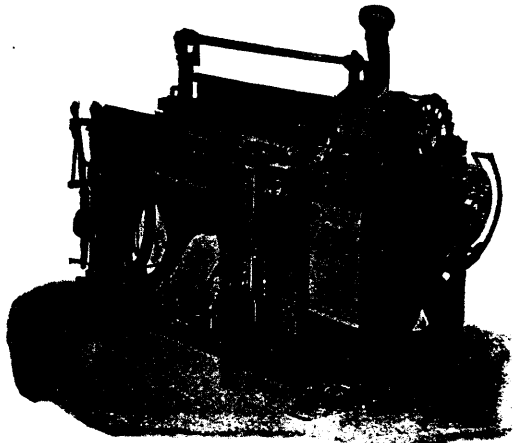
special capabilities, and the opportunities of the market.

The pulp industry here is in a backward state compared with what it should be. We seem to have been waiting for something. We have been waiting for a situation to come about such as that which Mr. Sontum's report shows to be now near at hand. The necessity and the means of consuming pulp are growing at a much more rapid rate than are the facilities for placing the commodity in the market. That the Scandinavian supply is not keeping pace with the British and European demand is shown by the steadily increasing discrepancy in price. There is no other country in the world in a better position to gain advantage from this change than is Canada. Of course, it is premature to count on the absence of Scandinavian competition. This is something that is certain to go on for ages, but it will be carried on under conditions that are more onerous as the woodland of Norway recedes. That recession has an effect that is doubly disadvantageous; one result of it being that the timber must be carried farther; the other, that the natural means of transporting it tend to fail, for the more the woods are stripped away the more the streams shrink. — Canadian correspondent The Paper Mill.

The Spanish River Pulp & Paper Co., will spend over \$200,000 on their mill near Sault Ste. Marie, Ont.

La Compagnie Electrique de Rimouski, Fraserville, Que., has been incorporated with a capital stock of \$100,000, to furnish electric light and power, etc. The charter members include Thomas Lebel, Fraserville, Que., J. N. Pouliot, St. Germain de Rimouski, Que., and A. C. Landry, St. Octave de Metis, Que.

According to a recent report by Mr. W. H. Gastrell, British commercial attache at Berlin, the German government has, since 1888, spent £24,428,000 on harbor accommodation for increased shipping. Some £15,000,000 of this sum has been expended at Hamburg on such work; at Bremen, Vegesack and Bremerhaven, £5,700,000; at Altona, £450,000; at Geestemunde, £800,000, at Danzig, £400,000, and at Stettin, £1,450,000, in addition to £628,000 in 1897-98 for a free new harbor there, and private enterprise in Germany has been in keeping with the state assistance rendered. It is hardly realized at home that the total steam tonnage of Germany, which in 1871 amounted only to 81,994 tons, has risen to upward of 2,159,000 in 1900. As an instance of the vast capital invested in single steamship companies in Germany may be cited the £5,550,000 in the North-German Lloyd and the £4,637,000 in the Hamburg-American. Of eighteen such companies, the shares of which are quoted on change, two paid in 1898 11 per cent., eight 10 per cent., four 8.9 per cent. and the remainder, with but one exception, 6.7 per cent.



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WIRE ROPE of every Description
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OPPORTUNITIES FOR TRADE.

The following enquiries have been received at the offices of the High Commissioner of Canada in London, and of 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.

408. The proprietors of a horse mart, with excellent facilities for the sale of imported animals are desirous of getting into touch with Canadian exporters of horses.

409. The Montreal agent of a British Columbia lumber company having good shipping facilities desires to hear from firms in the United Kingdom who import fir, cedar, and spruce lumber and timber rough and dressed.

410. An Ontario firm engaged in the manufacture of ivory and other buttons, ask for information concerning the opening for their goods in the United Kingdom.

411. Enquiry has been received for the names of reliable firms in England who handle large quantities of butter and condensed milk.

412. A Montreal house having travellers visiting principal towns in Canada is prepared to undertake the representation of manufacturers or merchants.

413. **THE CANADIAN MANUFACTURER** is in

ARGENTINA.—The total import trade of Argentina for the first nine months of 1900 was \$87,000,000 in value, the share of the United States (a trifle over \$9,000,000) was exceeded by that of Italy, which nearly reached \$12,000,000. The most formidable competitor is shown to be the United Kingdom, which sold the Argentine Republic during the same time goods to the amount of over \$30,000,000. Germany also made a better record than the United States, her share having amounted to nearly \$13,000,000. A significant fact is that as compared with the record for the corresponding period of the preceding year the export trade of the United States to Argentina fell off \$1,500,000 and that of Great Britain \$2,600,000, while that of Germany increased \$2,500,000 and of Italy \$1,000,000. These figures show that Germany's well-directed efforts to forge ahead in the markets of South America are bearing fruit. Italy's favorable showing is probably due to the immigration of Italians into Argentina.—Bradstreets'.

AUSTRALIA.—The Melbourne Argus published recently what it claimed was an authentic copy of the secret tariff framed by the Intercolonial Protectionist Conference held several months ago. As the Secretary of the Conference has virtually admitted the general correctness of the list, the document is of considerable interest. The duties proposed are generally the highest that have been in force in any of the colonies, and in some cases are much higher than any. The Victorian tariff is taken as the standard when there is nothing higher, and so on. Following are a few of the proposals: Agricultural implements, twenty per cent., compared with fifteen per cent. in Victoria; axles, as in Victoria; back chains, ten per cent., free in Victoria; bicycles, one lb. and twenty per cent, compared with ten per

receipt of an enquiry from a Liverpool, Eng. manufacturer of turned wood articles, and dealer in soft elm, birch, maple, walnut, oak, satin wood and pine sawed stuff, for the addresses of Canadian concerns who handle such lumber. Particulars sent on request.

414. A correspondent at Simcoe, Ont., asks for addresses of good commission houses in the principal distributing centres of the United Kingdom, to whom he could consign eggs.

415. The names of London, Liverpool and Bristol provision importers, are asked for by a correspondent in the province of Quebec, who wishes to export butter, cheese, and condensed milk.

416. A Canadian correspondent asks to be placed in communication with parties in the electrical business who purchase amber mica.

417. Enquiry is made for the address of someone likely to be in a position to dispose of a reliable process for making pigments.

cent. in Victoria; bedsteads, boilers, brooms, brushware, iron buckets, as in Victoria; bolts and nuts, as in Victoria, except that no exemptions are allowed; carriage bolts, thirty per cent., instead of free; and so on. This proposed list must not be confused with that drawn up by the Intercolonial Conference of Chambers of Commerce, which has equally been kept secret.—Dun's Review.

BELGIUM.—Consul Le Bert reports from Ghent that he has received a request from M. Dutry-Colson, No. 12 rue des Champs, Ghent, for names and addresses of manufacturers of poultry-plucking machines. This is an old-established firm, adds the consul, and one of the largest general hardware houses in Belgium. Early replies are much desired.

BRAZIL.—Consul Kenneday reports from Para that a bill passed by the legislature of the State of Amazonas, taking effect January 8, 1901, prohibits the packing, weighing, casing and labeling of rubber and other products of the State of Amazonas for shipment to other points, either foreign or Brazilian, at any point except Manaus, the capital. This, adds the consul, will seriously injure the industries of Para.

FRANCE.—United States Consul Haynes writes from Rouen:—The French palate, so sensitive and highly educated, knows nothing of the delicacy of frozen dainties. There is an open field throughout the most of France for everything connected with the preparation of the cool drinks. Ice-cream-freezers, milk-shakers, soda-water fountains, and refrigerators would find a ready sale here if the people knew of the comfort to be derived from their use. The Frenchman has for generations innumerable liked his

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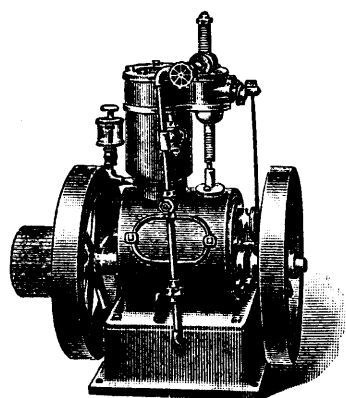
The General Fire Equipment Co.
72 Queen Street East,
TORONTO.

hot wine and hot rum and hot punch, but he has never thought of, or at least has never cared to try, the effect of an opposite sensation upon his palate. This city of over 150,000 people has no ice factory, though a few people keep ice in their cellars. If the French were given an opportunity to try them, they would not be long in entering the market for ice cream, ice shavers, electric fans, and kindred articles, and the manufacturer who introduced them would, without doubt, put a considerable amount of money in his own pocket.

GERMANY.—United States Consul Harris, at Mannheim, Germany, writing concerning the furniture market in that country says: This consular district offers, in my judgment, a desirable market for American

household and kitchen furniture, especially for medium-grade oak chairs—with and without rockers—tables, and possibly book-cases. Rocking-chairs, almost unknown in many parts of Germany, are gradually growing in favor in this locality. A dealer here recently laid in a small and fairly select stock of oak rockers, dining-room chairs, and ordinary office chairs, all of American make. He assures me he is having a fair trade at good prices. As is well known, American desks and other office furniture find an excellent and constantly growing market in Germany. Well directed efforts would secure even better result in other lines of American furniture. German furniture is, as a rule, fairly handsome in appearance, but exceedingly expensive. Many of the processes of carving and otherwise

decorating sideboards, mantels, chairs, etc., effected in the United States by machinery, are here worked out by hand at greatly increased cost. Much furniture is made under special order. Our manufacturers should, first of all, if they seek to enter and to hold this market, send nothing but well-made, substantial furniture. The German market is no place to sell "shoddy" goods, and certainly not shoddy furniture. The furniture sent "knocked down" should be carefully put together by competent persons. It should be revarnished and put in first-class shape before being placed on the market. Mannheim being practically at the head of Rhine navigation, and, with its immediate suburbs, having a population of about 210,000, offers excellent facilities as a center of distribution for American wares to south and west German points. Ocean barges, loaded directly from steamers at Rotterdam, Amsterdam, and other ports, come to Mannheim with vast cargoes of merchandise. In this connection may be mentioned barbers' chairs. The native barber chair is cheap and uncomfortable. The head rest is generally wood, without a cushion of any kind. The German barber shaves his customer rapidly, consuming but a few minutes in the entire process. The elaborate American chair, in which the customer is in an almost horizontal position, would not meet with favor here. A neat, comfortable chair, with a plain foot rest and a head rest easily adjusted and comfortable, would, in my judgment, find a ready sale in this part of Germany if properly introduced. They should be handled by a local dealer or agency, well located and thoroughly competent.



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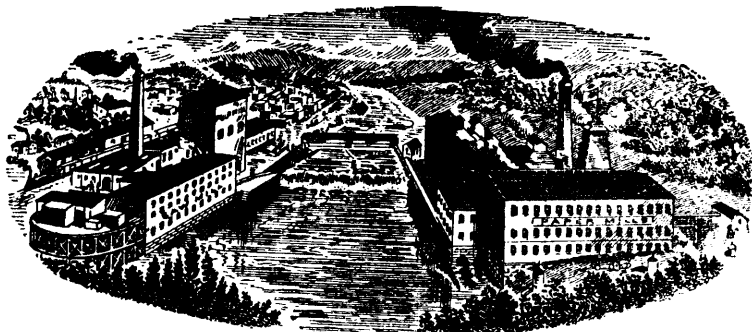
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German Commercial Chambers are to be instituted in foreign countries; and as this can only be accomplished by the co-operation of Germans living in such countries, the German Government is to be requested to encourage all such efforts. In the Plenary Meeting of the Commercial Diet it was ultimately resolved that a discussion should take place which should lead to the adoption of these or similar measures. Should this not become an accomplished fact, the members of the Board of Trade should in their meetings consult as to the usefulness of the proposed enterprise, and as to the willingness of the participators to pay the necessary subscription, and in this way to give a basis for the decision of the matter in the Commercial Diet. The economist, Dr. Schumacher, opposes the movement on the grounds that, as international Commercial Chambers, in which Germany has a prominent place, already exist in East Asia, German firms who are members of these International Chambers would not join an exclusively German Chamber, which would, therefore, only consist of insignificant merchants. Another objection is that in the United States Commercial Chambers exist consisting, for the most part, of German merchants naturalized as Americans, and an exclusively German Chamber would not be likely to meet with sufficient recognition. The Government, too, looks somewhat coldly on the plan, and the German Commercial Diet has contented itself with expressing its approval, saying that it may be a valuable means of extending German foreign commerce.

—Kuhlows.

A scarcity of wood pulp is reported from Saxony and other parts of Germany. According to some reports, it appears that many of the factories have been able to turn out only twenty-five per cent. of their normal production. The situation is regarded as serious, as many of the mills contracted ahead. Much higher prices are now being obtained, but of course makers do not largely benefit. Pulp manufacturers are being urged to form an association with the view of selling pulp only in the dry state, or to make such arrangements as to accumulate stocks and thus avoid serious market fluctuations.

An important advance in the steam turbine is indicated in the recent experiments with the latest Parson's turbo-motor, one of two constructed to drive 1,000 kilowatt alter-

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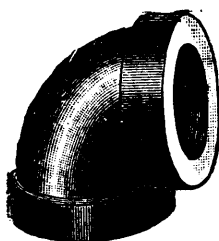
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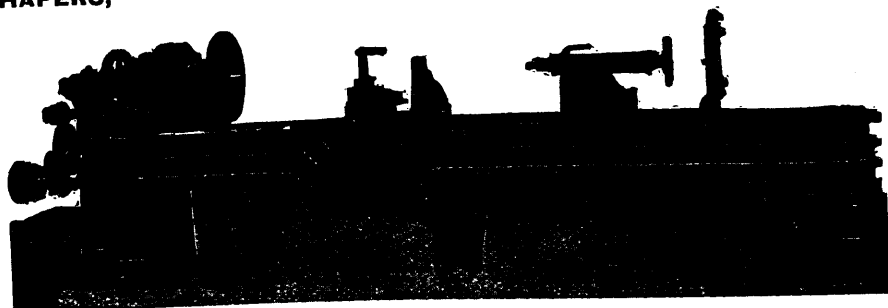
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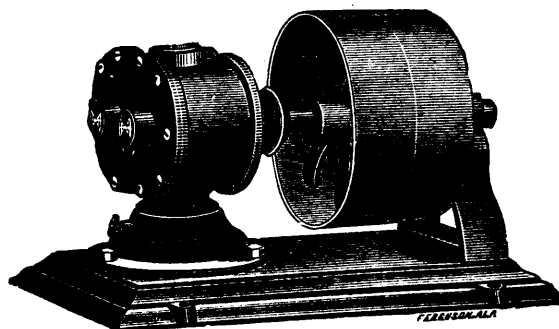


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Rotary Pumps

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AND PRESSES.**

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nators for the Electric Supply Works of Elberfeld Germany. It is reported that the tests were very severe, and the result showed that a record in steam economy had been achieved. A comparison with the best results hitherto attained by reciprocating

engines of the highest recorded efficiency showed that the steam consumption equalled twelve pounds per indicated h.p. per hour. At the lowest computation this is probably one or one and one-half pounds per hour better than the most economical result yet

attained with engines of the reciprocating type. Indeed, fifteen pounds is a good result with triple-expansion engines. Now the latest addition to the transatlantic greyhounds, the Deutschland, consumes twenty-five tons of coal per hour, and if in vessels of this type the saving of twenty-five per cent., which the above figures indicate, could be achieved, it would be a consideration which would certainly appeal to the shipowner. It is said that the turbine has other mechanical and economic advantages. Its employment results in a great reduction in the weight of machinery for a given power.

A Commission of the German Board of Trade has considered the question of the establishment of an Information Office for Foreign Commerce. In some quarters it is doubted whether such an institution can be of any real service, as a most thorough survey of foreign trade already exists, and to establish an institution which will overlap or compete with those already existing seems fruitless. Its promoters urge that the United Kingdom, United States and France having anticipated Germany in this respect, that country dare not long remain behind. The new organization is not to supersede but to complete the old one. To finance the affair it is proposed that 3,000 firms should each subscribe annually £5, the Commercial Chambers two per cent. of their receipts, from unions, from the empire, from the city of Berlin an approximate sum of £10,000 is expected. The work of the Information Office would consist in furnishing information on laws and decrees relating to trade with foreign lands, duties on each single article, regulations as to certificates of origin, agents, commercial travellers, protection of patents, information as to means of transport, cost of freight to districts where goods are required, or from where goods may be obtained. It is especially urged that reliable information should be given as to the addresses of respectable foreign solicitors. The Foreign Office, too, ought to give every facility for intercourse with the Consular officers.—Kuhlows.

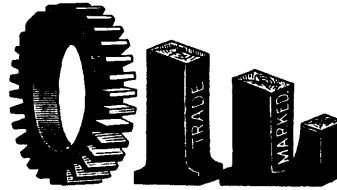
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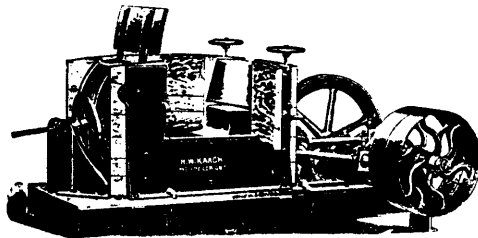
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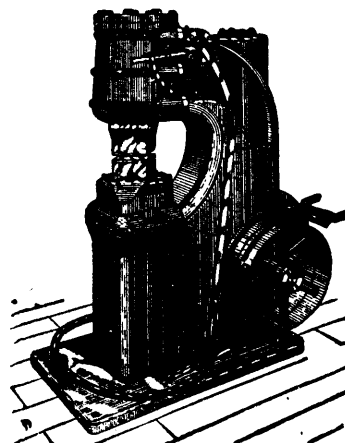
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AGENTS

MONTREAL and TORONTO.

HOLLAND.—United States Vice-Consul Voorwinden, at Rotterdam, writes:

Mr. P. A. Bloys van Treslong Prins, of 88 Laan Copes, The Hague, called at this consulate a few days ago and showed me some samples of leather ready for saddler's use and seemingly of a very good quality. He stated that it had been prepared by a new process, by means of machinery of which he alone knows the construction, and that by using this system a moist hide can be turned into leather ready for saddler's

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The Premises lately occupied by
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Will rent the whole—(2 flats)—with or without power, or will divide into smaller rooms. Alterations will be made to suit the tenant.

Apply, **W. J. DOUGLAS,**
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GAS FROM WOOD—A rich permanent Gas almost equal to that of Coal Gas, can be made by using the

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at a mere nominal cost per thousand cubic feet. The Generator is simple in construction, and does not require skilled labor to work it. **No Purifiers required. Products being a Rich Permanent Gas and Charcoal.**

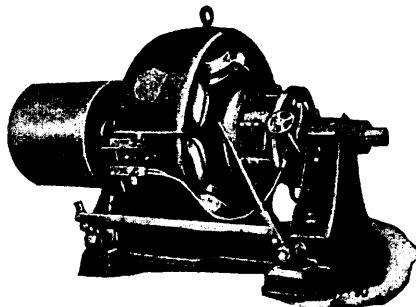
These Generators are extensively used in Europe, and are on exhibit at the Paris Exposition. Particulars by applying to

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We manufacture Direct Current Machinery in all sizes and for any purpose.

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and shoemaker's use in from two to three days, while by following the usual method of preparation it takes about six months. He also stated that, previous to making application for patent on the machinery, he would like to correspond with tanners in regard to his process for making leather.

INDIA.—A correspondent of Engineering News writes that there is a large field for engineering goods in India, such as irrigation pumps, light plows, sugar cane mills for animal power, oil, presses, fibre crushers and cleaners, flour mills, paddy husking machines, peeling machines for domestic purposes, and various other useful domestic machines. Hitherto no attempt has been made by the United States to introduce American goods, but now some of the large manufacturers of the United States are competing most favorably and are securing large orders for iron-girder bridges, locomotive engines, etc., in Burmah and Calcutta. Steel and iron nails, fish plates, dog spikes, sleepers, chairs, etc., can be easily supplied of American makers bid slightly cheaper than the home board if directors in England can place their orders there.

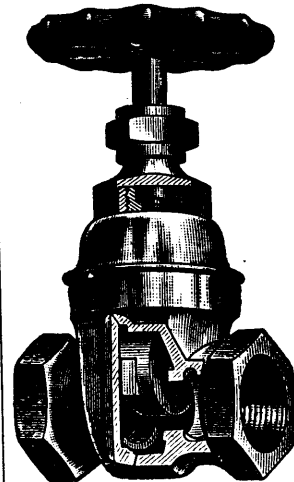
ITALY.—A recent issue of the Iron and Coal Trades Review calls attention to the remarkable increase in Italian imports of machinery, and the progress that Italy is thus making in the direction of becoming a manufacturing nation of the first rank. The imports of machine tools have increased between 1898 and 1900 more than three-fold; of weaving machinery from 2,911 to 7,917 tons; of marine machinery from zero to 1,053 tons; and of agricultural machinery from 2,364 to 3,587 tons for the nine months.

MALTA.—United States Consul Grout, of Valletta, says that an extensive business is doing by mineral-water establishments of his district. The size of the Maltese trade in this direction is surprising. In flavoring waters lemon and a very poor quality of fruit is used. Consul Grout believes that quite a trade in root beer and sarsaparilla extracts might be secured. In sending price lists and correspondence merchants should remember that these goods are put up at very low prices, and quotations should be governed accordingly. It would not be a bad plan to send samples. In sending circulars and in correspondence the English language may be used.

QUEENSLAND.—Plans for a most important line of railway have been placed before the Queensland Parliament and will, it is stated, shortly be approved. The new line is to run from Gladstone to Rockhampton, a distance of sixty-seven miles, and the estimated cost is £358,443. This will connect the two most important railway systems in the colony, making possible an interchange of rolling stock on occasion, and will also greatly facilitate direct travel between Queensland and other parts of Australia.

RUSSIA.—Many municipalities of Russia are organizing fire brigades, some of which are similar in character to the old-time volunteer companies once so familiar to our cities. And it is said that contracts are now being let for hand-used fire engines, trucks and other essential appliances. German firms are in the market, and it is understood that they have secured some important contracts.

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STRAIGHTWAY
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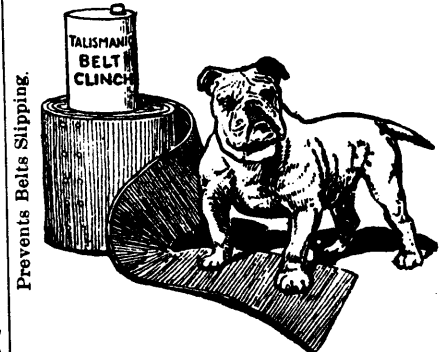
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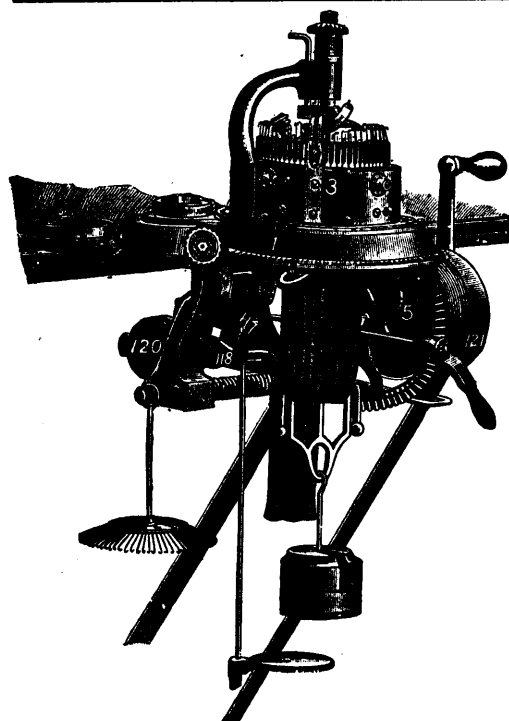
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Our Customers have had Success.

Why? MERIT and SUPERIORITY
in our Machines tells the story.

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Manufacturers,

GEORGETOWN, ONTARIO, Canada.

UNITED STATES—Merchant vessels built in the United States and officially numbered by the Bureau of Navigation, Treasury Department, during the calendar year 1900, comprised 1,102 of 365,791 gross tons, compared with 954 of 267,542 gross tons during 1899. Steel steam vessels numbered 92 of 196,957 gross tons, compared with 86 of 126,768 gross tons in 1899. The greater part of this increase is on the great lakes—from fourteen vessels 50,836 tons in 1899, to thirty-three vessels, 108,511 tons in 1900. Steel steam vessels built on the Atlantic coast numbered 51 of 78,982 gross tons, compared with 63 of 73,808 gross tons in 1899. For comparison Wm. Gray & Co., West Hartlepool, England, built twenty-four steel steamships of 81,794 tons in 1900. Steel steam vessels built on the Pacific coast numbered six of 8,881 tons, compared with five of 553 tons in 1899. Wooden sail vessels increased from 523 of 86,125 tons to 575 of 99,460 tons; wooden steam vessels from 335 of 33,364 tons to 423 of 40,546 tons; steel sail vessels (including schooner barges) from ten of 21,385 tons to twelve of 28,828 tons. The foregoing figures do not include for either year, unrigged canal boats and barges.

THE BEET SUGAR INDUSTRY.

Nearly one hundred gentlemen from all parts of Ontario who are interested in the beet sugar industry, met in Toronto last week. Mr. John Parry, president of the Ontario Beet Sugar Association, in the chair. The object of the meeting was to discuss the desirability of seeking assistance from the Provincial and Dominion Governments to encourage the industry.

It was shown that the annual consumption of sugar in Canada is about 300,000,000 pounds, every dollar's worth being imported from foreign countries. Independent experiments made last year, and in former years, as well as experiments made under the supervision of the Ontario Government at Welland, Newmarket and Aylmer, and a test made by the Dominion Government, proved beyond a doubt that the soil and climate of a very large portion of Ontario is fully adapted to the production of sugar beets of both quantity and quality equal to if not exceeding that of any other place on earth.

The association wants to encourage manufacturers to start establishments, to create a market for the sugar beet, and they point out that the production of the sugar beet is by long odds the most profitable investment the farmer can have. The experiments last year proved that, after all expenses had been deducted, allowing the farmer one dollar a day for his own work and \$2.50 a day for the work of his team, there was a net profit in sugar beets of from fifty dollars to ninety dollars an acre, which was away ahead of the value of any other crop.

Several towns are already negotiating with capitalists, who, it is said, have from half a million to a million dollars to invest in the establishment of factories, providing the Government will assist with a bounty to tide over the losses which will necessarily arise. After from three to five years the bounty would not be required, as it is expected that the industry will be well able to stand on its own merits by that time.

A deputation waited upon the Ontario Government to ask for a bounty of about half a cent a pound, with a time limit of from three to five years, and a money limit of \$100,000 to run out within five years.

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PARRY SOUND, - ONT., CANADA

Clothboards on Lapping and Rolling Boards
Veneers of Ash, Birch, Basswood and Elm.
Cheese Box Bands and Rims.
Box Shooks (Small and Fine).

Toronto Woolen Machinery Co.

We now offer as a going concern the property known as

The Vienna Woolen Mills

Consisting of the following machinery:—

One set 48 in. Platt Cards, all cloathed.
 One 264 Spindle Bancroft Mule.
 One 24 in. G. & Mc. Picker. One Cone Duster.
 One Fraser's Card Grinder. One Yarn Spooler.
 One 60 Spindle Fly Twister.
 One 108 in. Crompton Cone Loom, 4x4 box, 4 harness.
 Two 92 in. Faisey " " 4x4 " 24 "
 One 48 in. Gilbert " " 3x1 " 4 "
 One 48 in. " " 1x1 " 4 "
 One Broad Warper and Beamer.
 One Bobbin Winder.
 Two Broad Up and Down Gigs.
 One Rotary Pulling Mill. One Cloth Washer.
 One Yarn Washer.
 With Spools, Bobbins, Tools, etc., etc.

BUILDING No. 1.
 Two and a-half Storey Frame, with stone foundation, 30x60 feet.

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 Boiler and Picker House—One Storey Brick, 24x64.

A never-falling Water Power, all heat by steam and in first-class order. Good local trade has always been done.

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 " " NEW ZEALAND

and desire to draw the attention of Canadian manufacturers to their importance as advertising mediums for making their goods known to buyers in Australia and New Zealand. Being the standard works they reach the very people whom manufacturers desirous of opening up or extending their export trade would desire to get in touch with—the actual Buyers themselves.

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Dominion Branch, Kelly's Directories, Ltd.
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W. P. Dent, Manager. Head Office, London, Eng.
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 Melbourne, Sydney, Adelaide, Dunedin, (N.Z.) Etc

It is thought that the industry, once established, with the farmers understanding how to cultivate beets, will soon become very important. A committee was also appointed to ask for aid from the Dominion Government.

NIAGARA ELECTRIC POWER IN TORONTO.

The Canadian Niagara Power Co. will begin actual operations for the transmission of power from Niagara Falls to Toronto next summer, and the company will deliver power within the time limit fixed by its charter, July 1, 1903. This statement has been made authoritatively by a representative of the company after a conference with Toronto people interested in the project. It was also stated that no negotiations for the sale of power had been completed with any Toronto corporation, and that the city would be given the opportunity to purchase the product of the company.

The conference was attended by Mr. W. B. Rankin, Secretary-Treasurer of the Canadian Niagara Power Co., which concern is controlled by the American company, the Niagara Falls Power Co., of which Mr. Rankin is Vice-President. Mr. Rankin stated that the work of transmitting the power to Toronto would be pushed forward with all expedition.

"We have already expended \$10,000,000 in developing the water-power upon the American side," he said, "and we are now developing 50,000 electrical horse-power, and are sinking the second wheel pit, which will mean an addition of 30,000 horse-power to our capacity. Part of this additional power will be used locally, and part of it will be sold in Buffalo. At present not a pound of coal is used for the Buffalo Street Railway, nor for the municipal street lighting of that city. We sell them the power. On April 1 we will begin delivering 5,000 horse-power to the Pan-American Exhibition authorities.

With regard to the Canadian business, we have no exclusive right to transmit power, for we surrendered that right when our time was extended by the Government. We have not as yet decided to supply the Street Railway or the Electric Light Companies, and may bring the power to the border of the city and offer it to the municipality."

As to the transmission of the power, Mr. Rankin said that it might be brought to Fort Niagara or Port Dalhousie and transmitted across the lake, or it might be brought overland through towns which would be customers of the company.

THE IRON INDUSTRY IN ONTARIO.

The Hamilton Steel & Iron Co., represented by Senator Wood, President, and C. S. Wilcox, Manager; the Nickel Steel Co., by John Patterson, sen.; and the Canada Iron Furnace Co., by George E. Drummond, have addressed the memorial to the Ontario Government asking for a bounty on nickel steel. They say, in part:

Both the Dominion and the Ontario Governments give considerable bonuses for the manufacture of iron and steel. The most important form, however, in which steel is now manufactured, and which commands by far the highest price, is an alloy with nickel, known as nickel-steel. Plants costing many millions of dollars have been erected in the United States for the manu-

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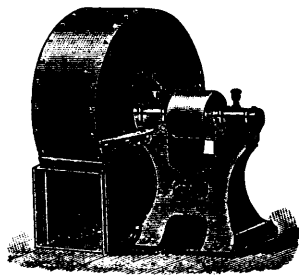
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facture of this specialty. While Canada supplies the nickel to operate these American plants, which sell their product at from five hundred to six hundred dollars per ton, she herself has no such industry, and the United States, while wholly dependent upon Canada and receiving all her nickel from Canada in a crude form of matte, taxes refined nickel and alloys of nickel at \$120 per ton when imported from Canada or any other country.

As miners, smelters, refiners and manufacturers of Ontario, and individuals interested in such enterprises, present and prospective, believing that the policy of the Government of Canada, whether Dominion or Provincial, should be first Canadian and in the interest of the Province and the Dominion, we ask that the Government at once enforce the provisions and exercise the authority given under the provisions of the mines act, as amended, or any other legal authority, and collect the tax authorized in paragraph seven of the mines act, which reads as follows:—(a) For ores of nickel, \$10, or \$60 per ton if partly treated or reduced. (b) For ores of copper and nickel combined, \$7 per ton, or \$50 per ton if partly treated or reduced.

The revenue thus collected to be paid as a bonus upon pig iron and upon nickel-steel manufactured in Ontario. Your petitioners believe that such action on the part of the Government would at once give an immense impetus to the manufacture of nickel-iron and nickel-steel in Ontario, and that those who now buy Ontario's nickel in the crude form of matte would be compelled to buy it in the form of pig iron or steel, and would in self defence be also compelled to take down their present prohibitory tariff walls and open their doors for the free admission of these alloys of steel and nickel.

Your petitioners respectfully ask that the Government exercise the power granted in this act for the imposition of taxes upon nickel ores and upon nickel and copper ores and their partially treated products whether the same be smelted and refined in Canada or not, and that the tax thus collected be paid as a bonus upon the manufacture of nickel-steel in Ontario, and they further ask that, in order that the policy for the manufacture of nickel-iron and nickel-steel may be successfully carried on in Canada, and that Ontario may have such a monopoly of the raw material of this metal, that the Government convey no further lands or any title to or interest in any lands containing nickel ores to any individual or individuals, companies or corporations, who will not refine and use the nickel derived from such ores, in the manufacture of this metal and its various alloys in Ontario.

CALCIUM CARBIDE IN METALLURGY.

At the Paris Exhibition, Siemens & Halske showed some specimens of metals, notably copper, reduced from their oxides by the aid of calcium carbide. Experiments in this direction had been made by Moissan, Warren and others, and Goldschmidt had pointed out that the carbide could replace his powdered aluminium in the thermit reductions. In all these cases oxides appear chiefly to have been thought of. B. Neumann has now found that the other compounds might be started with, though so far the oxides seem to be the most promising. The experiment can be conducted in a test tube. Copper oxide and calcium carbide,

both powdered, are mixed and heated over a Bunsen burner. The mass will soon begin to glow. Sometimes the re-action is energetic enough to produce a copper mirror by volatilization. But the heat does not suffice to unite the grains of metallic copper, mixed with carbon particles, by fusion. Even in clay crucibles only small reguli are obtained. The addition of a flux, borax, or common salt, facilitates matters somewhat, especially in the preparation of alloys from mixtures of the respective oxides. But Neumann did not achieve much with iron, chromium and manganese. Chlorides may be used; but they must be free of water, lest acetylene generation cause explosions; the complete drying of metallic chlorides is, however, both troublesome and costly. Sulphates answer in the case of nickel and lead; as a rule, the metallic particles will not unite. Carbonates are also troublesome, but copper (malachite) and lead (white lead) give good results. Water glass makes a good flux, and success has been obtained with some metallic silicates. This last observation is encouraging; on the whole, however, the researches do not so far seem to be of any practical value, and most of the metallic impurities would re-appear in the product.

THE ASBESTOS INDUSTRY.

Our correspondent at Thetford Mines writes under date of January 18:

The production of asbestos, which has increased to large dimensions in 1899 and 1900, gives unmistakable evidence that the

ensuing year will be the greatest in the history of this most important Canadian industry. During the past year the output may be stated to have amounted to a little over 19,000 tons, and I should not be a bit surprised if it reaches 22,000 tons in 1901. The Johnson's Co., in addition to the old mill that they were running, have about completed a very large mill, which ought to give them a very much increased output. King Bros., are at present engaged in the erection of a very large mill in addition to the one already in use; this mill will be equipped with one of the most modern plants, which will largely increase their output for 1901; and just here I may add that their 1900 output was the largest they have ever had, and amounted to something like 5,000 tons. The Bell's Co. are making considerable additions to their plant in 1901 and their output will be considerably increased over 1900. The Beaver Asbestos Co's mine, which has been closed down for the past four years, has resumed operations and are now equipping their new mill with one of the finest plants that has ever been put up in the Thetford District. They expect to have their mill in operation about May 1. The mill building is about 150x60 feet, and is four and a-half stories high, all framed with 12-inch square timber. Mr. E. C. Bacon, New York, is the engineer in connection with the work, and Mr. H. J. Williams, resident manager, is looking after the construction. The engine and boiler plant in connection with the new mill will deliver about 550 horse power and all machinery in connection with it will be built by the Jenckes Machine Co., Sherbrooke,

under the supervision of Mr. Bacon, New York. There is some talk also of opening up the Ward Ross property in the spring, which will no doubt add considerably to the output.

At Black Lake the Johnson's Co. are erecting a very modern mill over what has proved to be one of the most successful mines ever operated in the district. The output of No. 1 is fully equal to that of any mine in the Thetford district for the last year and the quality of the material was fully equal to anything ever mined at Thetford. There is no doubt but that when the mill plant they are now working on is put up they will have a very large output from this mine also.

The Wertheim, or Union Mines, have added considerably to their plant and claim that they will make a very large increase over their 1900 output.

The Canadian Asbestos Co., who have had a fairly large output for Black Lake for 1900, will no doubt increase their output this year also and it is expected that the Anglo-Canadian Co., will open up their property in the spring. The demand for asbestos is so great that there is hardly a ton available anywhere and the indications are that the increased output will be nothing like the demand during the ensuing year. The business as a whole was never in such a flourishing condition as it is to-day and even with an advance of twenty-five per cent. in wages, which was made in April, 1900, labor is very scarce and from 200 to 300 more men could be employed immediately if they were available.—Mining Review.

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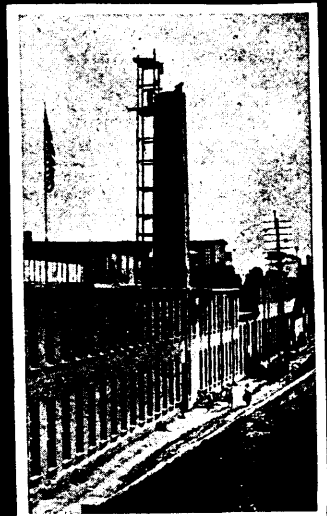
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A NEW ROUTE.

It is proposed to open a new route between Toronto and Buffalo to be available to visitors to the Pan-American Exposition.

The Niagara, St. Catharines & Toronto Electric Railway Co., which took over the Niagara Central Railway about a year ago, have their line from St. Catharines to Port Dalhousie nearly completed, and in a few weeks it is expected that cars will be on the route.

For the past six months cars have been running between St. Catharines and Niagara Falls, Ont., and about two months ago arrangements were made with the Niagara Falls Park & River Railway for running powers over their road, and the cars now run over the upper steel arch bridge to Niagara Falls, N.Y., making a run of about fourteen miles.

When the Port Dalhousie extension is completed the line will be seventeen miles in length, bringing the Niagara district from the river to the lake into close touch with the electric railways of the American side of the river.

Arrangements have been completed with the Buffalo & Niagara Falls Traction Co., for running privileges over their tracts, and by the time the Pan-American Exposition is open cars will be running from Port Dalhousie and St. Catharines to the Exposition gates.

The railway between St. Catharines and Niagara Falls is the old Niagara Central, over which steam cars were operated for fifteen years. The track has been improved, trestles filled in and the road is now one of the best in Canada.

Cars now leave St. Catharines every hour for the Falls, and when the Exposition is open a fast service will be put in. The company have purchased two large steamers for the lake trip and they are likely to get a great deal of the passenger traffic business next summer. The cars now in use are of the largest and most improved pattern and are equipped with air brakes. They are fifty feet in length, have three compartments and run at a speed of forty miles an hour between Thorold and Stamford. The steam locomotives are still being used for the freight business; but it is the intention of the company to entirely do away with them as soon as they can procure large freight motors and secure power enough to operate all their cars.

MINING IN BRITISH COLUMBIA.

The mining interests of the British Columbia coast have this year come into a much greater prominence than during any other season since the first discovery stakes for gold properties were located, twelve or fifteen years ago. The largest deal ever made on the coast has been reported, insuring the incoming of a very large amount of British capital.

All along the coast, from Jervis Inlet, and even farther north, new claims are being opened up. Several United States syndicates have become interested in Gribbell Island, 400 miles from Vancouver, and about

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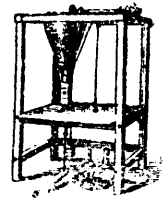
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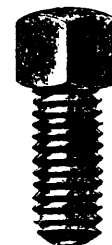
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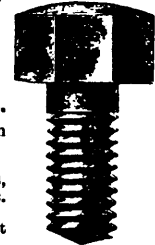
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thirty-five men in all are at work there. There is a main copper lead eight feet in width running across the island, besides which there are other smaller rich veins. Several shipments have been made to the Tacoma smelter for the purpose of thoroughly testing the ore.

On the western side of Texada Island, a company controlled by the Union Iron Works, of San Francisco, is working the old iron mine that has been in operation during the last ten years. There are several other well-known properties on the western side of the island which are doing a good deal of development work. These are mostly owned by United States people. The lime business, lately inaugurated, is proving a decided success.

The Britannia has been the central property of coast mining during the year. Several successive options have been given on this immense property, but as yet none of them has been successfully completed, although a matter of \$50,000 in all has changed hands in deposit moneys. Half a dozen of the most experienced mining experts in the country have examined the property over and over again, and there is but one report—that it contains the largest body of low-grade ore yet found anywhere on the coast. The supply of ore is practically unlimited, the development so far showing that it is good to the depth shown by the present workings. The successive bonds, which have been from \$1,000,000 to \$2,000,000 as a basis, with both United States and English companies, have been allowed to lapse only for the reason that the undertaking was too large for the syndicates interested to handle.

The details of the reported deal for the Van Anda have recently been published. John Lowles, ex-Member of Parliament, representing an English company, has paid between \$400,000 and \$500,000 for eighty-five per cent. of the stock; and the former shareholders are to be given a dividend as well as a partial interest in the new company. The smelter and other works will be put upon a first-class basis, a tramway built to the smelter, and a large amount of dead development work will be done. The capacity of the smelter will be increased and much more custom ore will be treated. About \$600,000 has been expended in all on this property.—The Evening World, Vancouver, B.C.



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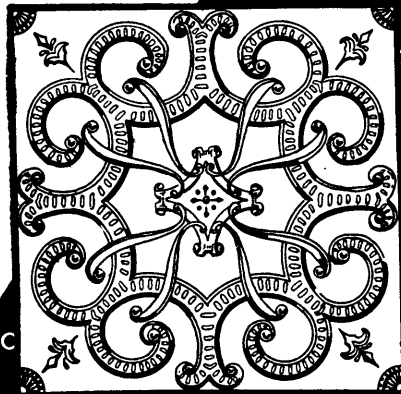
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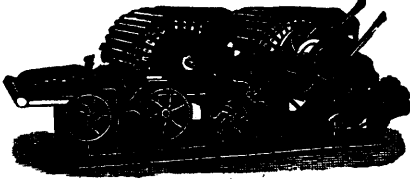
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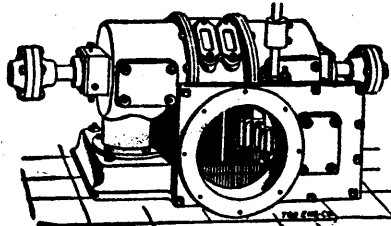
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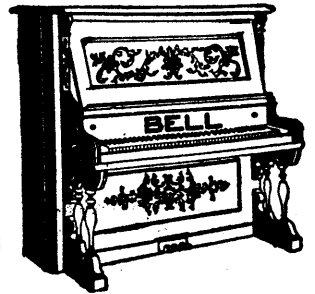
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