

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

Coloured covers/
Couverture de couleur

Coloured pages/
Pages de couleur

Covers damaged/
Couverture endommagée

Pages damaged/
Pages endommagées

Covers restored and/or laminated/
Couverture restaurée et/ou pelliculée

Pages restored and/or laminated/
Pages restaurées et/ou pelliculées

Cover title missing/
Le titre de couverture manque

Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées

Coloured maps/
Cartes géographiques en couleur

Pages detached/
Pages détachées

Coloured ink (i.e. other than blue or black)/
Encre de couleur (i.e. autre que bleue ou noire)

Showthrough/
Transparence

Coloured plates and/or illustrations/
Planches et/ou illustrations en couleur

Quality of print varies/
Qualité inégale de l'impression

Bound with other material/
Relié avec d'autres documents

Continuous pagination/
Pagination continue

Tight binding may cause shadows or distortion along interior margin/
La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure

Includes index(es)/
Comprend un (des) index

Title on header taken from:/
Le titre de l'en-tête provient:

Blank leaves added during restoration may appear within the text. Whenever possible, these have been omitted from filming/
Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.

Title page of issue/
Page de titre de la livraison

Caption of issue/
Titre de départ de la livraison

Masthead/
Générique (périodiques) de la livraison

Additional comments:/
Commentaires supplémentaires:

This item is filmed at the reduction ratio checked below/
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X	14X	18X	22X	26X	30X
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
12X	16X	20X	24X	28X	32X

THE CANADIAN MANUFACTURER

DEVOTED TO THE MANUFACTURING & MINING INDUSTRIES OF THE DOMINION.

INDUSTRIAL WORLD.

Vol. 6.

TORONTO, MARCH 4, 1887

No. 5.

FENWICK
&
SCLATER,
MONTREAL.

SEND FOR CIRCULARS



ASBESTOS GOODS,
OF ALL KINDS.

Files and Rasps, Best quality;
Fire Hose, cotton rubber-lined, for
Fire Brigades; Linen Hose, plain
and rubber-lined, for Mills, Fac-
tories, Hotels, etc.

Hand Fire Engines.

Stitched Cotton Belting.

Railway, Mill, and Engineers' Supplies.

"Old Dyewood Warehouse"

Established 1838.

Theo. H. Eaton & Son,

Windsor, Ont. : Detroit, Mich.

IMPORTERS OF

ANILINE COLORS,

DYE WOODS,

DYEING DRUGS, CHEMICALS, ETC.

MANUFACTURERS OF

GLAUBER SALTS AND EXTRACT INDIGO.

SOLE AGENTS IN THE UNITED STATES AND CANADA
FOR THE "CROWN ANILINE DYES"

Windsor Varnish Works

J. L. DUNN & CO.

MANUFACTURERS OF ALL KINDS OF

**VARNISHES, HARD OIL FINISH,
JAPANS and DRYERS.**

SPECIALTIES:

**Dunn's Stove Pipe Varnish,
Dunn's Excelsior Paint Dryer.**

OF L. C. OUELLETTE STREET,

WAREHOUSE AND FACTORY, PARSON AVENUE,

WINDSOR, ONT.

Imperial Bank of Canada.

Head Office - Toronto.

H. S. HOWLAND, President. | T. R. MERRITT, Vice-President.
D. R. WILKIE, Cashier.

Capital Paid-up - \$1,500,000
Rest - \$500,000

Purchases Municipal Debentures.
Issues Drafts on its Branches and Agencies in the
North-West.
Transfers Moneys by Telegram to Winnipeg and
Brandon.

Agents in London,
LLOYD, BARNETT & BOSANQUET'S BANK
(Limited).

62 Lombard Street,
with whom moneys for transmission from Great Britain to
Ontario and the North-West may be deposited.

A general Banking Business transacted

John Bertram & Sons,

CANADA TOOL WORKS!

Dundas, Ont.

SEE ADVERTISEMENT, PAGE 158.

**J. C. DIXON & BROS.,
WORSTED SPINNERS,
DUNDAS, Ont.**

MANUFACTURERS OF
FINGERING, KNITTING,
and all descriptions of
WORSTED YARNS.

**THE
Gutta Percha & Rubber**

MANUFACTURING COMPANY.

T. Mellroy, Jr. - - - - - Manager.

WAREHOUSE

Manning Arcade, King Street W., Toronto.

The largest manufacturers in the world of
Vulcanized India Rubber Goods for mechanical
purposes.

Rubber Belting from 1 to 72 inches wide.

Hose, for conducting, suction and steam

Packing, Cloth Insertion and pure.

Tubing, of all kinds.

Rubber, Linen, and Cotton Fire Hose.

Leather Belting, Extra heavy American
Oak Tanned.

A full Stock always on hand.

Write for Price Lists and Discounts.

PATENTS

PROCURED in Canada, the United States and all foreign countries, Designs, Trade-Marks, Copyrights, Assignments, and all Documents relating to Patents, prepared on the shortest notice. All information pertaining to Patents cheerfully given on application. ENGINEERS, Patent Attorneys, and Experts in all Patent Cases.

RONALD C. RIDOUT
ESTABLISHED 1867
22 KING STREET EAST
TORONTO & CO.

The Canadian Bank of Commerce.

HEAD OFFICE, . . . TORONTO

Paid up Capital, \$6,000,000.
Res. 2,100,000.

DIRECTORS.

HON. WM. McMASTER, *President.*
WM. ELLIOT, Esq., *Vice-President.*
John Waldie, Esq., Jas. Crathern, Esq.
W. R. Hamilton, Esq., J. Sutherland Strayer, Esq.
George Taylor, Esq.
W. N. ANDERSON, General Manager
J. C. KEMP, Asst. General Manager.
ROBT. GILL, Inspector.
F. L. HANKEY, Asst. Inspector.

New York—J. H. Goadby and B. E. Walker, Agents
Chicago—A. L. DEWAR, Agent.

BRANCHES.

Ayr,	Guelph,	St. Catharines,
Barrie,	Hamilton,	Sarnia,
Hellville,	London,	Seaforth,
Berlin,	Montreal,	Simcoe,
Brantford,	Norwich,	Stratford,
Chatham,	Orangeville,	Strathroy,
Collingwood,	Ottawa,	Thorold,
Dundas,	Parkhill,	Toronto,
Dunaville,	Paris,	Walkerton,
Galt,	Peterboro,	Windsor,
Goderich,		Woodstock,

Commercial credits issued for use in Europe, the East and West Indies, China, Japan, and South America.

Sterling and American Exchange bought and sold
Collections made on the most favorable terms.
Interest allowed on deposits.

BRANCHES.

New York—The American Exchange National Bank.
London, England—The Bank of Scotland.

**McARTHUR,
CORNEILLE & CO.,**

(Successors to JOHN McARTHUR & SON)

375 to 376 St. Paul Street,
and
147 to 151 Commissioners Street,
MONTREAL,

offer at closest prices

PURE OLIVE OIL.
WINTER-PRESSED LARD OIL,
EXTRA FINE SPINDLE OIL,
and a full assortment of other
LUBRICATING OILS.

Also

CHEMICALS,
DYESTUFFS,
DYEWOODS,
EXTRACTS,
&c. &c. &c.

Are Sole Agents in Canada for
SOCIETE ANONYME

DES
MATIERES COLORANTES ET
PRODUITS CHIMIQUES,
DE ST. DENIS,

Successors to

A. POIRRIER AND G. D'ALSACE,
PARIS,

Manufacturers of

ANILINE DYES.
ARCHIL
CUDBEAR.
&c. &c. &c.

Prize Medal, London Universal Exhibition,
1862.

Gold Medal, Paris Universal Exhibition,
1867.

Grand Diploma of Honor, Vienna Universal
Exhibition, 1873.

Medal and Diploma, with Highest Com-
mendations, Philadelphia Centennial Ex-
hibition, 1876.

Maintain large stock, replete with all the
new and improved colors. Will be pleased
to furnish quotations with samples and
directions for use

ALFRED SAVAGE & SON,
MANUFACTURERS OF
Woollen Mill Oils and Soaps.

168 McCORD STREET,
MONTREAL.

SEND FOR PRICES AND CIRCULARS.

**New York Dyewood, Extract
and Chemical Co.**

55 BEEKMAN ST., N.Y.

All kinds of

DYE STUFFS.
Dye Woods, Extracts, Cutch,
Indigo, Gambier, Cudbear, Coch-
ineal, Sumac, and Liquid
Extracts of Dyewoods.

MIDDLETON & MEREDITH,
MONTREAL.

CHEMICALS AND DYE STUFFS.

Sal Soda, Soda Ash, Bleaching Powder,
Caustic Soda, Bi-Carb. Soda, Chlorate
of Potash, etc., etc.
Extracts Indigo, Sumac, Fustic, etc.,
Gambier, Cutch, Sumac, etc., Acids,
ANILINE DYES,
Brooke, Simpson & Spiller's. Full Assort-
ment on hand.
PHOSPHOR BRONZE. SILICATE CLOTH.

PILLOW, HERSEY & CO.,

Manufacturers of every description of
Cut Nails, Tacks, Brails, Railway and
Pressed Spikes, Horse Shoes, Carriage, Tire
and other Bolts, Coach Screws, Hot Pressed
and Forged Nuts, Felloe Plates, Liming and
Saddle Nails, Tufting Buttons, &c., &c.

The Hardware Trade, Shoe and Leather
Finding Dealers, and Boot and Shoe Manu-
facturers, will find the Largest and Best
Assortment and Greatest Variety of above
Goods always in stock, and can rely on orders
being rapidly executed, our facilities for
doing so being unequalled.
Office, 31 St. Peter St. Montreal.

**DOMINION
Card Clothing Works,**
York St., Dundas.

W. R. GRAY & SONS,
PROPRIETORS,

MANUFACTURE EVERY DESCRIPTION OF

Card Clothing and
Woollen Mill Supplies.



**DOMINION
DYEWOOD & CHEMICAL CO.**

SOLE MANUFACTURERS OF

The Celebrated Yorkshire Scurving and
Fulling Soaps,
Neutral Cotton Seed Oil Soaps,
Pure Lard Oils specially adapted for the
Woollen Trade.

IMPORTERS OF

Indigo, Cochineal, Cudbear,
Indigo Ext., Cutch, Archil,
Madder, Dyewoods,
Dyewood Extracts and all Dyeing Drugs,

ANILINE DYES, ALL COLORS.

SPECIALTIES ARE

Imperial Blue, Fast Seal Brown,
Fast Acid Brown, Brilliant Scarlets,
Azo. Green, Fast Cardinals
Fast Acid Garnet.

Office: 77 FRONT ST. E. TORONTO. Works: Don Station.

THE CANADIAN MANUFACTURER

DEVOTED TO *
THE
MANUFACTURING & MINING INDUSTRIES,
OF THE *
DOMINION. AND INDUSTRIAL WORLD.

VOL. VI.

TORONTO, ONT., MARCH 4, 1887.

No. 5.

THE POLITICAL SITUATION.

"Public opinion is the mixed result of the intellect of the community acting upon general feeling."—*William Hazlitt.*

THE exact majority which the Conservatives can claim as a result of the late general elections is still a matter of controversy in the party press, but that Sir John Macdonald has secured a sufficient majority to carry on the Government is generally conceded, with the solitary exception of the *Toronto Globe*, which is causing considerable merriment by its silly contention that the Liberals are in a majority. Our own impression, after a careful summing up, is that the first division in the House will show a Conservative majority of at least twenty, which is likely to be increased before the end of the session, as there is every probability that several of the French members, now claimed by the Opposition because they bolted on the Riel question, will return to their first love when they see that Sir John is able to retain power without them and that they do not hold the key of the situation. Notwithstanding the Riel agitation in Quebec, the secession movement in Nova Scotia, and the disallowance question in Manitoba, the fact remains, and is indeed admitted on both sides, that the National Policy was the paramount issue in the campaign, and the sequel has proven that "the mixed result of the intelligence of the community acting upon general feeling" was the defeat of the party which had always been identified with the policy of approximate free trade. Nor is this to be wondered at! Mr. Blake's apparent conversion was too late to be accepted as thoroughly sincere and free from the charge of political expediency, and whatever effect it may at first have had on such manufacturers as were disposed to be friendly to his cause, was completely nullified by the unequivocal denunciation of our protective policy by Sir Richard Cartwright in his speech at Weston on the evening of Feb. 11th, only ten days before the country was called upon to make its choice of parties at the polls.

As this is the third time the people have endorsed the National Policy, we trust that ample protection to native industry has become an established political principle in Canada and that Protectionists will not again be called upon to take up arms in its defence, and we shall watch with more than ordinary interest the criticisms of the Government's tariff resolutions, which may be indulged in by Opposition members of Parliament. Before those most nearly interested—the manufacturers and the workingmen—can feel that their interests are equally safe in the hands of either party, and that protection has ceased to be a political dividing line, it will be necessary for such old time antagonists as Mr. Patterson, Mr. Mills and Sir Richard

Cartwright to publicly announce a cessation of hostilities, and solemnly aver that the National Policy, in its integrity, shall not suffer dismemberment at their hands should they ever grasp the reins of power. We can easily imagine Sir Richard quoting

"O, woe is me,

To have seen what I have seen, see what I see."

But unless we mistake the signs of the times he will have to adopt such a course as suggested or be repudiated as not voicing the sentiments of the Reform party.

Next to the tariff issue, perhaps the *Globe* may be credited with contributing to the success of the Conservatives in this Province. The general conduct of the organ during the campaign was simply a disgrace to journalism, and thoroughly disgusted the more intelligent of its own party. Calm and dispassionate argument, befitting a great daily paper, had no place in its columns. Reasoning gave place to scurrility, discussion to wild and unsubstantiated charges of corruption and criminality, and admitted facts were freely distorted in a dishonest endeavor to mislead the electorate. Such disreputable tactics have met with a fitting rebuke, in so far as many prominent Reformers have risen in revolt, and if there is any truth in the proverb that "misery loves company," we suggest to the editor a perusal of Wordsworth's pen picture of Peter Bell, one verse of which reads as follows:—

"There was a hardness in his cheek,
There was a hardness in his eye,
As if the man had fixed his face
In many a solitary place
Against the wind and open sky."

THE INDUSTRIAL LEAGUE.

Now that the contest is over and the smoke of battle is clearing away, the important, in fact the all important part that the National Policy played in the recent clash of political parties, is realized on all hands. Before the event a section of the Reform party in this Province stoutly maintained that Protection was not an issue, whilst another section of the same party, in the Maritime Provinces, were just as assiduously contending that a return to a Revenue Tariff would result, in the event of Mr. Blake being called upon to form a Government. The great divergency of opinion on the one hand and the complete unanimity on the other, on this question, was a matter for serious consideration by manufacturers and others favorable to the fostering of home production, and early in the year, when it was felt that a general election could not be far off, a number of Ontario's most prominent manufacturers met together in the office of the CANADIAN MANUFACTURER, and organized the Industrial League, with the avowed object of

doing battle for the conservation of a policy which has now been thrice endorsed by a large majority of the people of this country.

The part taken by this organization in the late contest is now a matter of history and its plan of campaign was the publication of tariff literature for free distribution, the dissemination of cartoons and lithographs exemplifying in a telling manner the benefits of Protection to the community at large, and by holding, under the auspices of the League, a series of public meetings at which the National Policy was, in each case, the principal theme for discussion.

That the efforts of the League were not ineffectual, is just cause for congratulation, and the election returns, from the cities in particular, have shown that the arguments submitted for the consideration of those whose votes were to decide the question "shall the National Policy be maintained," were not without weight. Regarding the influence of the League in this city and elsewhere we quote the *Toronto Daily News*, which says:—

"The Conservative party was wise in choosing the National Policy as their chief issue. No doubt this cry, artfully separated from politics by 'Industrial League meetings and cartoons, carried the Torontos.' * * * The same methods in other constituencies had the same effect."

To the president of the League, Mr. W. H. Storey, the treasurer, Mr. Charles Knees, and to Messrs. George Booth, John F. Ellis, Edward Gurney, Samuel May and W. K. McNaught, the executive committee, the thanks of manufacturers generally are due. These gentlemen devoted a great deal of time to the cause in which their energies were enlisted, a cause which has once again been vindicated at the polls, and a cause which was presented to the public in the fairest possible manner, and without either equivocation, suppression of facts, or misrepresentation.

Their labors are now concluded, and it is to be hoped that the question at issue has, once for all, been definitely settled. The producing interests of Canada have shown such wonderful development since 1878 that the credit and prestige of the country would seriously suffer were they tampered with by so-called modifications of the tariff.

In defence of their interests the manufacturers were forced to fight; the fight is now over, the hatchet is buried and will remain buried unless the gauntlet be again thrown down.

PRISON COMPETITION WITH FREE LABOR.

A FEW weeks ago the editor of this paper had occasion to contradict a statement freely circulated in the Grit press, charging that the Dominion Government were still allowing convicts in the Kingston Penitentiary to manufacture goods which came into competition with like goods, the product of free labor. Our contradiction was unchallenged until the Saturday previous to polling day, when the *Toronto Globe*, with dishonest intent, manufactured and published the following "roorbach" which we reproduce in full as a fair sample of the *Globe's* editorial talent:—

"Mr. Frederic Nicholls, the delightfully non-partisan secretary of the so-called Canadian Industrial Association, has issued a circular designed to show that the Tory Government have not allowed prison labor to come into competition with

free labor. Young Mr. Nicholls appears to grow more rash as the campaign progresses. He has displayed a recklessness in elevating this subject into prominence which his political friends must deplore. As an invitation to the workmen to return to their allegiance to Sir John Macdonald it will not entice.

"Young Mr. Nicholls first quotes Mr. James G. Moylan, Inspector of Dominion Penitentiaries, to this effect:—

"The only boots and shoes made at the Kingston Penitentiary are those made for the use of the institution. None whatever are made for the outside market."

"To this statement Mr. Nicholls adds the following:—

"The public are reminded that * * * the Dominion Government have done away with prison labor in such institutions as come under their control."

"But, unfortunately for young Mr. Nicholls, the report for 1885 of Hon. J. L. D. Thompson, Minister of Justice, convicts him of gross misrepresentation of the facts. On page 10 of this blue book there is a statement of the number of convicts at Kingston and the work at which they are employed. Here are some of the items:—

WORK.	NO. EMPLOYED.
Carpenter shops.....	40
Blacksmith and machine shops.....	33
Stonecutters.....	36
Masons.....	36
Tailor and shoe shops.....	71
Foundry.....	82

"Does young Mr. Nicholls contend that 71 tradesmen are required to produce boots, shoes and clothing for less than 500 convicts?

"Then on page 13 of Mr. Thompson's report appears a tabulated statement of the value of the goods produced, exclusive of the cost of material for the year. In the tailor and shoe shops the value of the labor alone was \$5,119.60. At the low price at which the convict labor is rated, it is estimated that this represents a complete product of \$20,000. Mr. Moylan officially reports that the cost of clothing in all was but \$5,488.09.

"On page 7 of this same blue book, under the heading, 'The Dominion of Canada in account with the Kingston Penitentiary for the year ending 30th June, 1885,' the first item is, 'By convict labor, \$9,862.36.' On the opposite side of the page appears a statement of the various monthly drafts sent to the Minister of Finance, showing that the Dominion derived in revenue from the penitentiary no less than \$10,929.67. So it was at St. Vincent de Paul, Dorchester, Manitoba and British Columbia.

"The total value of labor, exclusive of material, on work done in the Kingston Penitentiary for the year ending June 30, 1885, was \$51,837.52.

"The value of the product of the convicts engaged in the trades above quoted, after deducting the cost of material, was \$41,446.42.

"And young Mr. Nicholls states that the Dominion Government does not permit prison competition with free labor."

In reply to the above charge of gross misrepresentation we wrote a short but concise defence, but the *Globe*, in order to sustain its well earned reputation for unfairness, refused to give it insertion, although the mere fact of being convicted of one extra campaign lie more or less, could not possibly have drawn upon itself much greater discredit than by common consent it is now awarded.

It will be observed that in order to refute our statement, which was made on the authority of the Inspector of Penitentiaries, the *Globe* quotes from the blue book of 1885, but which in reality deals with the year 1884. We did not claim that the Government never employed convicts or allowed them to be employed in making goods for general sale, but simply refuted the statement which appeared in the *London Advertiser*,

that boots and shoes were now being made at the Kingston Penitentiary for the outside market. The *Globe* knew that this contention was unassailable, but in a frantic attempt to mislead the less intelligent of its readers it resorted to gross misrepresentation; in the vain hope that, out of evil, good to the Grit party might ensue. We now reiterate the statement that no goods whatever, made in any penitentiary under the control of the Dominion Government, are allowed to come into competition with free labor, and challenge criticism on this point: and at the same time it may be as well to draw attention to the fact that the Mowat ministry in Ontario are farming out the convicts in the Central Prison to contractors who are thus enabled to turn out at a cheap rate, immense quantities of such goods as brooms, washboards, churns, childrens' sleighs and waggons, and numberless other articles of woodenware, the production of which would otherwise afford profitable employment to a large number of honest workmen.

PROGRESS FROM POVERTY.

"PROGRESS AND POVERTY," says Henry George, meaning thereby that the world, notwithstanding its wonderful progress, or, perhaps, even because of its progress, is all the time getting poorer. To this view Mr. Edward Atkinson, of Boston, one of the most eminent among American statisticians and economic writers, decidedly objects. On the night of Tuesday, the 15th Feb., Mr. Atkinson, by invitation, addressed the Nineteenth Century Club of New York on "Progress from Poverty," which he holds to be a truer designation of what is now going on than the expression coined by Henry George. He said he did not share in the apprehensions of some people over these troublous times. If the labor element were half as dangerous as it was pictured by some our cities would have been destroyed twenty years ago. Mr. Atkinson compared a stone axe from thirty feet under a glacial drift at the mouth of the Delaware with a modern 50-cent hatchet, and said that the prehistoric man with the stone axe was a greater capitalist compared to the man who had none than any capitalist of to-day. The prehistoric capitalist kept his capital to himself; the modern capitalist could only derive benefit from his capital by sharing it with others. More than 90 per cent. of the people in this country (the United States) were in substantial equality as regards food, fuel, clothing and shelter; the greatest disparity was in their control of their time. There was more capital to-day than men capable of using it; the capital of to-day was what was wasted twenty-five years ago. Railroad managers were hard-worked and were public benefactors. Last year an average of forty-two pounds was carried by railroads 112 miles to each man, woman and child in the country, and the lecturer preferred that Mr. Vanderbilt should carry this than to carry it himself, even if Mr. Vanderbilt made \$100,000 by it; it would be cheap at that. As for Congress going out of its prescribed course to regulate railroads, it would better first try regulating the bakeries and butcher shops in the District of Columbia, and possibly it might in time learn how to regulate railroads. Development of the individual and education of the young were the only remedies for socialism. Compulsory labor had been abolished, and intelligent men would not now submit to it—as soon as they found it out.

Every labor organization would ultimately become a common school and a school of social sciences. There was no cause for fear in labor matters; men were in the initial stage at present, and all would come out well.

Mr. Atkinson, in conclusion, reviewed the history of the country from 1860, and showed by diagrams how in that period diminished prices and profits had gone hand in hand with higher wages and less cost of production. Experience showed that the great remedy for Socialism was the development of the individual and the education of the young. Labor was fast learning that diminished profits and prices went hand in hand with higher wages and lower cost. The earning power of capital had decreased since 1860 from 8 to 4 per cent., while labor's condition had improved. The very poor were not more numerous than formerly. In the organization of labor was found an attempt to equalize the disparities of modern conditions. High wages were the correlative of low cost. Pauper labor was to be feared only by those of pauper intelligence. "Never," said he, "has there been such progress from poverty to welfare as in the past few years of business depression, which began in 1873. I have investigated fifty arts for the period from 1860 to the present time and find the same conditions—higher wages, lower cost, diminished profits and increased production, Henry George's theory, if carried out, would help the poor man little, and it can't be carried out."

TRADE WITH AUSTRALASIA.

WE have recently received a letter dated at Sydney, N.S.W., from Mr. Alexander Woods, Agent-General from Canada to Australia, and as it refers to a matter of interest to some of our readers, we quote the following extract:—

"From information which I have acquired *en route* or since arrival I have no cause to change my opinion in believing that we can do a good and profitable trade throughout these colonies in many lines. The parties most interested, however, are causing much delay—I mean our Canadian manufacturers, some of whom have neglected to forward samples as promised: but no doubt when we have done some business and shown the possibilities of this country as a market, we shall be crowded with samples. In the meantime 'first come, first served,' and no doubt firms who have suitable lines here first will secure the best connections."

Manufacturers are aware that Mr. Woods was appointed by the Government to promote the commercial interests of Canada in the Australian colonies, and any manufacturer is at liberty to make use of his services without charge other than the payment of freight on any samples he may send for exhibition in the showrooms that Mr. Woods will open in Melbourne, Sydney, and other antipodean cities for the purpose of displaying Canadian goods, and endeavoring to create a demand for such as prove suitable and meet colonial requirements. Mr. Woods will also furnish any manufacturers, so far as lies in his power, with any specific information as to prices, transportation, fashions, credits, etc.

The statistics of imports and exports show that the foreign commerce of the Australians is very large, and very few things are manufactured in any of the colonies with the exception of Victoria, which, under a protection tariff, has rapidly developed

its industrial resources. The following are the figures for 1882, the latest at our command :—

COLONY.	IMPORTS.	EXPORTS.
Victoria	\$ 91,237,536	\$ 78,806,052
New South Wales	103,564,619	81,353,091
Queensland	30,748,800	17,200,411
South Australia	32,643,450	26,083,905
Western Australia	2,475,856	2,837,442
Tasmania	8,131,299	7,725,029
New Zealand	41,897,013	32,401,195
Total, 1882	310,698,573	246,407,125
Total, 1881	256,603,518	235,387,451
Increase	\$ 54,095,055	\$ 11,019,674

From the above statement it will be seen that the aggregate value of the commerce of Australasia for 1882 amounts to the grand total of \$557,105,698, but it must be borne in mind that this amount includes not only the foreign but the intercolonial trade, which amounted to 37 per cent. of the import and 36 per cent. of the export trade, which, correctly tabulated, shows the following figures :—

	IMPORTS.	EXPORTS.	TOTAL.
Foreign trade	\$216,287,149	\$162,764,220	\$379,051,369
Intercolonial trade	94,411,424	83,642,905	178,054,329
Total	\$310,698,573	\$246,407,125	\$557,105,698

In order that some idea of the class of goods which find a market in the colonies may be arrived at, we re-publish from the CANADIAN MANUFACTURER of January 15th, 1885, the manifest of the ship *Coldingham*, 1,059 tons, New York to Sydney, September 25th, 1885 :—

Nine cases forks, 3 cases picks, 27 cases lawn mowers, 62 cases agricultural implements, 14 cases shovels, 262 cases axes, 29 cases scales, 24 cases nails, 74 cases machinery, 114 packages stoves and ranges, 224 packages hardware, 14 packages pumps, 1 wheel, 39 axles, 12 rims, 75 shafts and poles and 127 packages carriage material, 206 cases sewing machines, 1 case oars, 200 oars, 45 packages blacking, 325 packages woodenware, 27 packages tubs and pails, 104 packages handles, 53 cases chairs, 21 cases dry goods, 66 cases duck, 15 packages leather, 34 cases organs, 88 cases clocks, 181 cases lamps and glassware, 965 cases canned goods, 121 cases paint and varnish, 200 cases lobsters, 100 cases oysters, 13 cases strips, 71 hogsheads tobacco, 20 cases oars, 269 cases drugs, 650 cases spirits of turpentine, 9,125 cases kerosene, 49 cases lubricating oil, 208 barrels resin, 779 barrels plaster, 103 parcels of 1,000 slates, 14m. feet shelving, 24 pieces hardwood, 126 cases furniture, 12 cases saws, 37 cases bolts, 5 cases rubber, 44 cases tools, 5 cases brushes, 130 cases gasoline, 11 cases shade rollers, 16 cases guns, 8 cases books, 6 cases lasts, 10 cases cutlery, 196 cases fruit jars, 9 cases toys, 11 cases soap, 14 cases confectionery, 17 cases paper, 14 cases tinware, 400 cases corn flour, 500 cases beer, 600 barrels beer, 5 barrels skewers, 17 cases wringers, 177 packages axle grease, 54 packages plated ware, 21 packages tills, 11 packages photograph material, 12 packages cages, 44 crates dairy material, 10 boxes toothpicks, 114 doors and sashes.

Amongst the items of the cargo of ship *Beaconsfield*, 1,450 tons, New York to Melbourne, October 8th, 1885, are found :— 2,521 cases axes, 125 packages carriages, 481 cases chairs, 189 packages wagons, 402 cases drugs, 473 cases glassware, 299 cases hardware, 54 cases plated ware, 163 cases sewing machines, 385 cases tobacco, 1,108 packages woodenware, 1,230 packages sundries, including 27 cases perambulators, 7 cases hose, 139 packages roofing material, 23 packages mast hoops, 819 packages box shooks, hair, sponges, cork, paper, and 92 reels barbed wire.

THE ELECTIONS AND THEIR MEANING.

THE result of the Dominion elections is a glorious triumph for the National Policy. So almost everybody says, or admits when pressed on the subject. But some there are from whom no such admission can be extorted—some who would rather admit *anything* than that the thing which they hate has gained the approval of the country. Sir John is sustained, they will say, but by a diminished majority. Which means that the Canadian people are turning against the N.P., and will soon kick it out altogether. But the elections, with their incidents and results all put together, tell a very different tale.

The most remarkable incident of the contest—and a very remarkable one it was, indeed—was Mr. Blake's change of front on the question of the coal and flour duties. After having for years maintained that these duties were wholly bad and injurious, and should be at once and forever abolished *sans ceremonie*, he astonished the natives of this wooden country, and not a few naturalized immigrants besides, with the admission that after all there were certain reasons why total abolition would not answer. He therefore proposed that they should not be abolished, but only reduced. One exception he *must* make, however; the duty on cornmeal would certainly have to go, he would not defend that by any means. At cornmeal he had decided to draw the line, and from that decision nothing should move him. Great leader of the Canadian Free Trade party!—in the name of the prophet, Figs! It will be admitted that the abolition of the cornmeal duty might, on the supposition of its being all paid by the consumer, mean several rows of pins per annum saved to the average Canadian family.

Beyond doubt Mr. Blake's change of front on the "odious coal tax and bread tax," heretofore so called, was the most significant admission yet made, from the other side, that the National Policy had public opinion at its back. For, remember that more than a few weak-kneed persons, who in the face of overwhelming public approval lacked courage to attack the system of Protection as a whole, and on principle—thought it a safe thing to keep spitting their trembling spite out against what they called the "coal tax" and the "bread tax."

It speaks volumes that Mr. Blake should have felt compelled to yield on this point of all others—exactly the point where the enemies of the N.P. thought it might most effectively be attacked. But the solid truth of the matter is that Mr. Blake had made the discovery that the farmers of Ontario would not hear of agricultural protection being abolished; and hence his remarkable turn-over at Malvern, in the East Riding of York and Province aforesaid, on Saturday, January 22, in the year of grace 1887.

Had Sir John's majority been on this occasion not merely reduced, but altogether swept away, it would not have been

because the country had repudiated the N. P., but from quite other causes. The N. P. was visibly Sir John's stronghold and tower of defence; but what danger he was in came from the Riel agitation in Lower Canada, and in Upper Canada from the *Mail's* attack on the Roman Catholic Church, while nine people out of ten believed that the *Mail* was still the organ of Sir John and the Dominion Government. That popular error is done away with now; but everybody knows that while it prevailed it was a most serious danger to Sir John. The N. P. had one great victory in Mr. Blake's surrender on the coal and flour duties; and it will have another whenever the French people of Quebec shall vote a straight yea or nay on the single issue of Protection, unmixed and unconfused with any other. For our French fellow-citizens, Bleus and Rouges together--are at bottom Protectionists almost to a man. Years ago, when the *Parti Nationale* was formed, Protection was a principal plank in its platform. The adhesion of Ontario farmers to agricultural Protection, and the certainty that the French of both parties will support the N. P. whenever the straight issue comes before them--are two things that together go far to make the N. P. safe for the future, and to show that *the country* is for it and not against it. And this is one very sure and obvious meaning of the result of the recent elections.

OUR CARD BASKET.

THE following is a list of those who have favored us with a call since the date of our last issue:

W. R. Smallpiece, of Messrs. W. R. Brock & Co., wholesale dry goods merchants, Toronto; Wm. Bell, organ manufacturer, Guelph; F. Crompton, of the Crompton Corset Co., Toronto and Berlin; S. Davison, manufacturer's agent, Toronto; J. Ironsides Thompson, manufacturer's agent, Toronto; J. B. Carille, of the Manufacturer's Life and Indemnity Insurance Co., Toronto; Frank D. Shallow, proprietor *Moniteur du Commerce*, Montreal; Ed. Gurney, stove manufacturer, Toronto; R. McKechnie, Dundas; Thomas Cowan, of the Galt foundry, Galt; John Bertram, of John Bertram & Sons, Canada Tool Works, Dundas; James Goldie, miller, Guelph; James Kendry, manager Auburn Woollen Mills Co., Peterborough; -- Hardman, of Robin & Sadler, leather belting manufacturers, Montreal; Geo. Ingils, of the Geo. F. Blake Steam Pump Manufacturing Co., Boston; Thomas D. Beddoe, of the Hamilton Rolling Mills Co., Hamilton; A. Gartshore, manufacturer of iron pipe, Hamilton; M. B. Perine, twine and cordage manufacturer, Doon; J. F. Ellis, of the Barber & Ellis Co., Toronto; George Booth, coppersmith, Toronto; Charles Knees, Dominion Cordovan Tannery, Milton; Thomas McDonald, of Messrs. McDonald & Kemp, tin stamping works, Toronto; W. G. A. Hemming, of the Toronto Case Co., Toronto; R. T. Wilson, axe manufacturer, Dundas; Geo. F. Cleveland, of J. L. Goodhue & Co., leather belting manufacturers, Danville, Que.; Oliver Wilby, of the Weston Woollen Mills, Weston; W. H. Storey, glove manufacturer, Acton; Frank J. Phillips, of the Cobban Manufacturing Co., Toronto; W. K. McNaught, Secretary American Watch Case Co., Toronto; Peter Lawson, tanner, Port Dover; W. Millichamp, show case manufacturer, Toronto; H. E. Clarke, M.P.P., trunk manufacturer, Toronto; Samuel May, billiard table manufacturer, Toronto; James Morrison, brass founder, Toronto.

Literary Notices.

Bradstreet's, the weekly financial and commercial newspaper published by The Bradstreet Company, is now in its fifteenth volume, and is surpassed by none of the financial and commercial periodicals of this country or in Europe. In the fourteen volumes already issued can be found a greater diversity of original and carefully prepared matter-- facts and figures-- relating to business topics than in any other periodical during the same period. Nor is it surprising that it has reached and maintains this position, for it is owned and published by a large corporation with its cash capital and assets of over \$1,400,000, its nearly 100 branch offices, and its small army of over 1,600 salaried employes and 65,000 regular correspondents. This organization makes extensive investigations into industrial and other matters, gathers full reports of the condition and prospects of the leading crops, and reports regularly each week the condition of trade throughout the country, thus practically making *Bradstreet's* an authority as to the condition and prospects of the commercial world. It needs but a glance at the newspaper to satisfy any one that its publishers have been ambitious rather than avaricious. Files of *Bradstreet's* have become an acceptable and almost indispensable journal for progressive business men.

To remove kerosene from carpets lay blotters of soft brown paper over the spot and press with a warm iron. Repeat with fresh papers and the spot will be removed.

WHALES are not fishes. They have no scales; they have warm blood; they give milk to their young, and finally, they would be drowned if they were to remain longer than half an hour under water.

THE Roman soldiers, who built such wonderful roads, and carried a weight of armor and luggage that would crush the average farm hand, lived on coarse brown bread and sour wine. They were temperate in diet, regular and constant in exercise. The Spanish peasant works every day, and dances half the night, yet eats only his black bread, onion and watermelon. The Smyrna porter eats only a little fruit and some olives; he eats no beef, pork or mutton; yet he walks off with his 800 pounds. The coolie, fed on rice, is more active, and can endure more, than the negro fed on fat meat. The heavy work of the world is not done by men who eat the greatest quantity. The fastest and longest-winded horse is not the biggest eater. Moderation in diet seems to be the prerequisite for endurance.

CONSIDERABLE interest has lately been manifested in a statement published by M. Villon, a French chemist well known for scientific research, that he has discovered an alkaloid poison of pronounced characteristics in decayed animal tissues. This poison is quite powerful, a dose of five centigrammes being sufficient to kill a dog. The interesting point in M. Villon's researches is the fact that, in his investigations, he applied tests to spoiled flour, because of the likeness of the gluten to animal fibrin, and in that way discovered the poisonous alkaloid. Spoiled and decayed flour has a peculiar appearance and a foul, caustic, pungent, bitter flavor. It tastes hot and stinging, somewhat like pepper, according to the stage of decomposition. Dough made from it is also bitter to the taste and offensive to smell, and it crumbles in hot water and affects injuriously the stomach. Plagues have been attributed to the use of decayed flour, the great plague of 1802 in Rome being cited as an instance. Wheat flour spoils very easily, especially in the months between March and August, when a fermentation sets in that goes on through the succeeding months until the spoiling is complete.

W. R. BROCK & CO.

In the following short sketch it is our desire to present our readers with some interesting particulars in reference to a large wholesale establishment of high commercial standing, for the reason that Messrs. W. R. Brock & Company, the house referred to, were amongst the very first that cast prejudice to the winds and aided the development of home industry by purchasing and distributing the products of Canadian industrial enterprises. We do not propose to indulge in fulsome puffing, as the firm neither needs nor would desire it, but we have pleasure in recording a few facts that we have taken the trouble to glean. The firm was first established in 1877 as W. R. Brock & Bro., but since then two partners have retired from the business, withdrawing nearly half a million dollars as their separate interest, and the present firm as reorganized consists of Mr. W. R. Brock, the original founder of what is now one of Toronto's largest commercial enterprises; Mr. Andrew Crawford, the expert English buyer of the firm since its inception, and Mr. S. J. Jermyn, the financial manager for many years past.

When the country first divided in 1878 on the question of Protection or approximate Free Trade, and the people decided in favor of the National Policy, Mr. Brock's first impression was that the wholesale trade, which at that time was almost exclusively an importing trade, would suffer serious injury and loss, but as he was and is a thoroughly patriotic Canadian, he set himself to work to make the best out of what certainly appeared a gloomy outlook for his own and similar interests. The country having declared in favor of home industry, Mr. Brock decided to aid in its development, and as the means and the inclination were both forthcoming, the end has been achieved, and in a manner and to an extent that Canadian manufacturers will recognize and appreciate when they read the following. Prior to the development of home manufactures Mr. Brock's firm used to import from the United States alone upwards of \$120,000 worth of staple goods annually, but to-day this large import has been reduced to less than \$10,000, the difference, with a large increase, being entirely replaced with the production of Canadian mills. But these figures only show the diminished quantity of imports in certain lines of American goods which have been displaced by our own. The sum total of purchases of Canadian manufactures by this firm reach annually the immense sum of upwards of \$700,000. Just think for a moment and realize what these figures really mean! This one house, which does besides an immense importing business in such lines as are not made here, distribute amongst our various industries a sum of money that must materially aid in making many workingmen's homes the brighter and happier on account of wages earned through steady employment. The writer knows, too, that at times the firm must have almost faltered in their policy of well-doing. As might be expected, in the early days of a new industry, imperfections and shortcomings were neither few nor far between. When such difficulties arose, this firm—as a manufacturer not long since told us—did not ruthlessly condemn, but gave wise counsel and friendly encouragement, and the manufacturer instead of losing heart would go home, try again, and as a result a better article, suited to the market and commanding a better price, would be produced. In addition to this Mr. Brock individually has showed his confidence in the future of Canadian industry by taking a moneyed interest in several factories, which, it is gratifying to learn, are all successful. In the tweed department may be seen the productions of every first-class tweed mill in the country, such as the Paton Manufacturing Co., Sherbrooke, P.Q.; Rosamond Woollen Co., Almonte; Cornwall Manufacturing Co., Cornwall; Cobourg Woollen Co., Cobourg; Robinson, Howell & Co., Preston; Waterloo Woollen Manufacturing Co., Waterloo, and others. In staple cottons and knit goods the firm also buy largely of every representative Canadian manufacturer of these lines. In a certain line of fancy knitted woollen goods, such as clouds, hoods, gaiters and kindred articles, every manufacturer knows that it was prophesied

that Canada could never, or at least for many years, be able to compete with such centres as Leicester in England and Germantown in the United States, but to-day, as a result of the National Policy and the pluck and energy of some Canadians who had faith in their country's future, we are producing just such goods and laying them down side by side with those imported, those of Canadian manufacture gradually crowding out the foreign goods. In Messrs. Brock & Co.'s establishment hundreds of cases of such goods may be seen, and as long as Canadians can make them they will get the preference, and pity 'tis that more of our wholesale firms are not actuated by the same spirit. The capacious premises in which this house do their business are so well known to the trade that description is unnecessary, but we cannot conclude without reference to the managers of the several departments, as all of them, with one exception, are old associates of the firm, well known to its connection, and long intercourse has begotten such an *esprit de corps* between employers and employees and such good feeling amongst their customers that in this establishment the wheels of commerce run smoothly although incessantly. The staple department is presided over by Mr. Ross, the prints and tailors' trimmings by Mr. B. Croynn, dress goods by Mr. W. S. Green, imported woollens by Mr. T. W. Dixon, Canadian woollens by Mr. R. R. Davis. Mr. W. R. Smallpiece, an old traveller of the firm's, having a large connection, presides over the department devoted to the distribution of such goods as gents' furnishings, hosiery, gloves, fancy goods, haberdashery, muslins, laces, embroideries, etc. The following are the names of the firm's travellers, with their respective routes:—Mr. A. R. Auld, Great Western and Michigan Central R.R.; Mr. R. W. Pentecost, Grand Trunk West and Wellington, Grey & Bruce; J. E. Snider, Grand Trunk East and Welland district; Mr. S. M. Sterling, Lake Shore R.R. and Niagara district; Mr. R. H. Mitchell, Northern R.R. and C.P.R. north; Mr. H. Taplin, Ottawa district; Mr. J. H. Patterson, Grand Trunk R.R. west of Stratford; Mr. W. Brock, Montreal and Maritime Provinces; Mr. T. Bennie, Manitoba and the North-West Territories.

A NEW TOBACCO INDUSTRY.

J. R. McALPINE, OF NEW YORK, ALL READY TO START OPERATIONS IN TORONTO.

(Toronto World, Feb. 24th.)

SINCE Jan. 3rd last a fully equipped tobacco factory has been put together in the west end of Hay's unused factory, on the Esplanade. The work has been quietly but thoroughly executed, and the factory is ready to start. A few samples will probably be made this week. The moneyed men of the concern are Mr. J. R. McAlpine, the great tobacco man of New York, and Mr. John S. Williams, also of New York. Mr. McAlpine has made several visits to the city since Jan. 1st, and Mr. Williams has taken up his residence at the Queen's.

Mr. Williams, in showing the *World* through the new factory yesterday, said it was their intention to turn out a high grade of smoking and chewing tobaccos. What is known as "blackstrap" will be omitted. Cut smoking tobaccos, in packages and bags, so popular in the United States, will be a specialty.

The reporter asked Mr. Williams what the capacity of the factory would be, and how many hands would be employed. "Our capacity," he said, "will be for all the business we can get. We will put up any amount of money if we can get business for it." Six floors have been fitted up.

This will be the only tobacco factory in Toronto. There are only two others in the Dominion, Macdonald of Montreal, and Tuckett & Billings, of Hamilton. Mr. McAlpine's New York factory covers a block, and is one of the most extensive in the United States. Before deciding to begin operations in Toronto, Mr. Williams said, they surveyed the field very carefully.

F. E. DIXON & Co.

MANUFACTURERS OF

Patent Lap-Joint, Star Rivet

Leather Belting

SOLE AGENTS FOR

PHOENIX BELT OIL

The Only Perfect Belt Dressing.



It will make the leather more durable.
 It will effectually prevent the slipping of the belt.
 It does not affect the cement which holds the laps together.
 It does not increase the stretching of the belt and thus render it narrower.
 It makes the leather perfectly water-proof. Belts dressed with this oil can be and are run in places where the temperature reaches 160 to 175 degrees, while in the other extreme, we have endorsements from owners who run their belts in ice houses. Indoors or out, in any kind of weather, wet or dry, hot or cold; belts thoroughly dressed with Phoenix Oil will always run satisfactorily.

.....
 SEND FOR PRICE LIST AND CIRCULARS.
 And our Latest Pamphlet on Belting.

.....
F. E. DIXON & CO.

70 KING STREET EAST,
 TORONTO.

SEND FOR CATALOGUE and PRICES.

The DODGE "INDEPENDENCE" WOOD SPLIT PULLEYS



WITH PATENT BUSHING SYSTEM

Best Belt Surface, Lightest, Strongest, Best Balanced, and Most Convenient Pulley in the World.

EVERY PULLEY A SPLIT PULLEY.

The hole in every pulley can be readily bushed to fit any sized shaft. Bushings furnished with each pulley. Guaranteed to give from

30 TO 60 PER CENT MORE POWER THAN ANY IRON PULLEY.

Strong enough for any power required. Made in any size and width, from twelve inches to sixteen feet diameter.

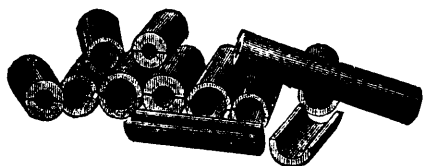
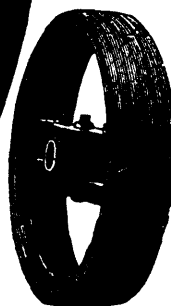
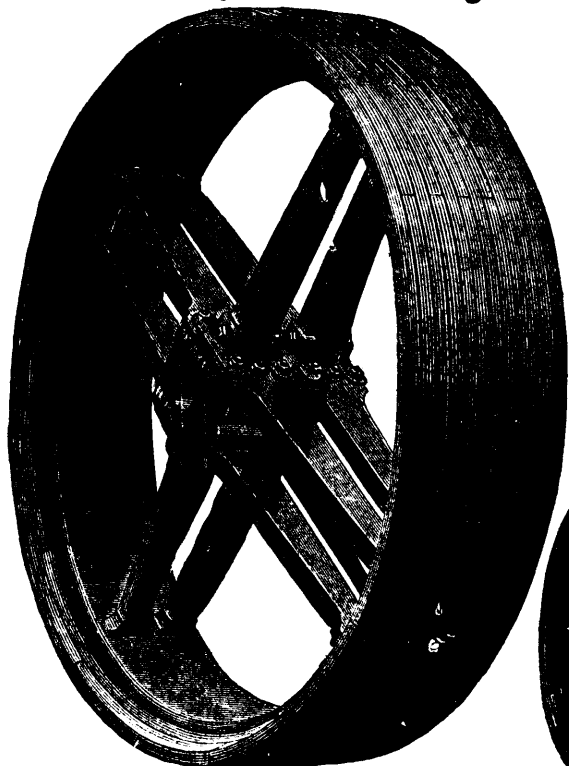
EVERY PULLEY WARRANTED.



We will furnish a Pulley for any service for 90 days free of charge, if it does not meet the warranty. Prices as low as any other good Pulley. Send for Catalogue, Price List & Guarantee

70 PER CENT. LIGHTER THAN CAST IRON

And 50 per cent. Lighter than Wrought Iron or Steel Pulleys.



READ THE FOLLOWING.

NORTHWESTERN MANUFACTURING & CAR COMPANY,
SHATTO & DENNIS, MINNEAPOLIS, MINN. STILLWATER, MINN., August 15, 1884.
Gentlemen: You ask why we use the Dodge Patent Pulley. I answer because we consider them the cheapest, most convenient and satisfactory in all particulars.
Yours truly,
S. R. STIMSON, General Manager.

C. L. RICE, AGENT, CHICAGO, ILL.
Dear Sir: Replying to your favor, will say that after using the Dodge Wood Split Pulley for a year or more we are satisfied they are a good thing, if not the best Pulley made, and shall use them hereafter in preference to any other we know of.
Yours truly,
NEWTON WAGON CO.

THE WORLD'S INDUSTRIAL AND COTTON CENTENNIAL EXPOSITION,
NEW ORLEANS, March 19, 1885.
Dear Sir: I have a number of your Patent Wood Split Pulleys in use here at the Worlds Fair and Cotton Centennial Exposition, driving Dynamos for Electric Lighting. They are doing heavy work, and are held upon the shaft by the compression of wood on iron. They hold firmly, and do not slip. I have watched with a great deal of interest the many Pulleys of your make running at this Exposition, and I think them the best Pulley I have ever seen. I believe them to possess the following points of merit over any other Pulley: All Pulleys being split or in halves; best belt surface; best shaft fastening; best method of utilizing Pulleys to shafts of different sizes; best balance; lightest on the shaft; strong, and I believe durable. I heartily recommend them.
Yours very truly,
S. H. GILMAN,
Chief Consulting Engineer.

W. H. DODGE, PREST.
DODGE MFG. CO., MISHAWAKA, IND.
Dear Sir: I have a number of your Patent Wood Split Pulleys in use here at the Worlds Fair and Cotton Centennial Exposition, driving Dynamos for Electric Lighting. They are doing heavy work, and are held upon the shaft by the compression of wood on iron. They hold firmly, and do not slip. I have watched with a great deal of interest the many Pulleys of your make running at this Exposition, and I think them the best Pulley I have ever seen. I believe them to possess the following points of merit over any other Pulley: All Pulleys being split or in halves; best belt surface; best shaft fastening; best method of utilizing Pulleys to shafts of different sizes; best balance; lightest on the shaft; strong, and I believe durable. I heartily recommend them.
Yours very truly,
S. H. GILMAN,
Chief Consulting Engineer.

Waste of Power.

According to the best scientific authority it costs one horse power to keep in motion one ton of metal or weight; thus for every unnecessary 2,000 pounds weight on your line shaft, cost you one horse power. To maintain a horse power costs from \$25 to \$125 per year. Any manufacturer who will take the pains to investigate the unnecessary weight by Heavy Iron Pulleys, too tight belts, etc., will be surprised to find the enormous waste of power consumed in this manner. 60,000 Dodge Patent Wood Split Pulleys now in use. Our capacity being now equal to 100 Pulleys per day, we shall hereafter keep in stock for immediate shipment all sizes.

Send for Illustrated Circular and Reference List.

THE DODGE WOOD SPLIT PULLEY CO.,

81 to 89 Adelaide Street, West, TORONTO, CANADA.

TAKE NOTICE:---Our List of Prices for the DODGE PATENT WOOD SPLIT PULLEYS is for ALL SPLIT-PULLEYS.

We beg you will note this fact when comparing our List with others which are for SOLID RIM, and NOT for Pulleys in HALVES.

THE
Canadian Manufacturer
AND INDUSTRIAL WORLD.

Published on the first and third Friday of each month, by the
CANADIAN MANUFACTURER PUBLISHING Co., (Limited).
6 WELLINGTON STREET WEST, - - - TORONTO.

ANNUAL SUBSCRIPTION, IN ADVANCE, \$2.00.

CARD OF ADVERTISING RATES SENT ON APPLICATION.

EDITOR: **FREDERIC NICHOLLS**,
Secretary Canadian Manufacturers' Association.

This Journal has won for itself an acknowledged position amongst Trade Journals and is recognized as the representative industrial paper of Canada. All the various industries of the country are represented in its columns, and it has been for years the fearless and consistent advocate of those reforms which were indispensable to the success of the Manufacturers. It now reaches nearly every mill and factory in the Dominion, and its influence is constantly increasing.
As a medium for advertisements of machinery, steam appliances, mill and factory supplies, etc., it is unequalled, and our rates will be furnished on application.
Communications from Manufacturers, Exporters, and others, are respectfully invited.

OFFICERS OF CANADIAN MANUFACTURERS' ASSOCIATION.

President:

THOS. COWAN, Galt.

First Vice-President:

JAMES GOLDIE, Guelph.

Second Vice-President:

SAMUEL MAY, Toronto.

Treasurer:

GEORGE BOOTH, Toronto.

Hon. Secretary:

A. W. WRIGHT, Toronto.

General Secretary:

FREDERIC NICHOLLS (6 Wellington Street West), Toronto.

Executive Committee:

Chairman:

R. W. ELLIOT, Toronto.

E. Gurney, Jr., Toronto.

James Watson, Hamilton.

Wm. Bell, Guelph.

Joseph Simpson, Toronto.

J. A. Pillow, Montreal.

A. Warnock, Galt.

W. Millichamp, Toronto.

R. McKechnie, Dundas.

B. Rosamond, Almonte.

Geo. Pattinson, Preston.

Daniel Lamb, Toronto.

Charles Riordan, Merriton.

George Booth, Toronto.

Isaac Waterman, London.

W. H. Storey, Acton.

Wm. Birkett, Dundas.

C. Shurley, Galt.

John Taylor, Toronto.

M. B. Perine, Doon.

Thomas McDonald, Toronto.

R. S. Hamlin, Oshawa.

B. Greening, Hamilton.

Geo. W. Sadler, Montreal.

W. G. A. Hemming, Toronto.

J. F. Ellis, Toronto.

J. R. Barber, Georgetown.

John Fensom, Toronto.

Robert Mitchell, Montreal.

L. Côte, St. Hyacinthe.

H. N. Baird, Toronto.

John Elliott, Almonte.

Wm. Christie, Toronto.

J. B. Armstrong, Guelph.

C. Raymond, Guelph.

Murray A. Kerr, Hamilton.

W. F. Cowan, Oshawa.

J. S. Larke, Oshawa.

H. Heintzman, Toronto.

George Lang, Berlin.

F. Strange, Toronto.

D. R. Wilkie, Toronto.

P. Freyseng, Toronto.

F. Crompton, Toronto.

John McClary, London.

Carl Zeidler, Toronto.

C. A. Birge, Dundas.

Wm. Harty, Kingston.

Editorial Notes.

THE Dominion elections are over, and the victory remains with Protection and its defenders. But, as somebody has remarked, the National Policy never was in as great danger as it is now, in the hour of its greatest triumph. Next comes the task of meeting those enemies of the N. P. who seek to destroy it by a side wind—such as the Butterworth bill, for instance. In the number of the CANADIAN MANUFACTURER for Feb. 18 will be found the fullest statement that has yet appeared of the solid and substantial reasons which forbid the consent of Canada to Reciprocity with the United States—in *manufactured goods*. Reasons, too, which must always forbid—that is, as long as Canada remains a part of the British Empire. The Butterworth bill, and Canada's relations with Great Britain on one hand, and with the United States on the other, make now the foremost topic of the day, following the elections, as witness the daily papers at this time. And nowhere is the case so fully presented as in our pages. We continue the subject in the present number.

CERTAIN tables of "British Textile Statistics," one of them embracing the last three years—1884, 1885, and 1886, and the other going back to 1872—will be found worthy of being borne in mind for future reference.

IT is said that there is a movement on the part of some of the heavy shoe manufacturers in Haverhill, Mass., to close their manufactories on or before the 31st of March. The general opinion is that the object in view is to establish free shops.

RECENTLY an influential meeting in England endorsed the actions of the silver party in Washington, and unanimously adopted a resolution declaring that nothing short of the free coinage of silver would support prices in the interest of the debtor classes.

THE *Manufacturers' Gazette* says that owing to the fact that the mints of the United States have stopped the manufacture of gold dollars these coins are commanding a premium of twenty-five cents in Boston. The manufacture of \$2.50 gold pieces has also been stopped, and these command a premium of five per cent.

ON Sunday last Mr. D. Ford Jones, late ex-M.P. for South Leeds, passed quietly away at his residence in Gananoque. Mr. Jones was well known as a public spirited manufacturer, and until late years always took an active interest in industrial matters. He first established the shovel and fork manufactory at Gananoque in the year 1852.

BULLETIN No. 1, respecting the Dominion Government Central Experimental Farm, has been issued from the Department of Agriculture. It is submitted to the Minister by the Director, William Saunders, F.R.S.C., F.L.S., F.C.S. Any one desiring a copy may secure one by sending name and address to the Experimental Farm, Ottawa.

All Manufacturers are invited to become members of this Association. Full particulars will be furnished on application to the Secretary.

THE Government has decided to make another effort to promote trade relations with the British West Indies. Tenders have just been called for asking for a list of steamships capable of maintaining a fortnightly service with the sister colony. Sir Charles Tupper is the promoter of the scheme in the present instance, and has officially announced that the Government is prepared to liberally subsidize any fast lines of steamers selected for the purpose.

In the session of 1883 the first Democratic majority that the American Congress had seen since the beginning of the war went to tinkering the tariff, and among other things cut down the duties on wool and woollen goods. The change did not show very much for a while, but how it did show for the year 1886, as compared with 1885, may be seen in a statement as to "Tariff Changes and the Woollen Trades," which we copy on another page from the *Textile Record*.

THE twelfth annual meeting of the CANADIAN MANUFACTURERS' ASSOCIATION will be held in their offices, 6 Wellington street west, Toronto, on Wednesday, 9th March, 1887. The chair will be taken at two o'clock p.m. There will also be an evening session at 7:30, at which will be read several papers of great interest prepared by members, and dealing with live topics of the day. All manufacturers, whether members or not, are cordially invited to be present at the evening meeting.

It seems to be about time that a halt was called on the matter of so-called World's Fairs. A really genuine International Exhibition on a large scale, held in the capital city of some great country, about once in five years, is capable of doing much good in stimulating a healthy international rivalry, but when it comes down to the holding of two or three each year, the exhibiting class will undoubtedly cry, Hold, enough! Preparations are at present being made for five or six so-called World's Fairs, to be held within the next two years.

ELSEWHERE we copy from the *Trade Bulletin* a short article setting forth the importance of Ontario's milling interests, especially in view of the large aggregate quite recently expended in changing many mills to the roller system. It should occur to our legislators at Ottawa that an interest employing so large a capital, and withal lying so close to that of agriculture, should get at least fair play. And that we contend the milling interest does not and never will until the duty on flour is raised to 75 cents a barrel, to correspond with the 15 cents duty on wheat.

ONE of the neatest and brightest of trade journals is the *Trader*, published in this city, and edited by Mr. W. K. McNaught. It is published in the interest and is the recognized organ of the jewellery and kindred industrial trades of Canada; is issued monthly, and is sent free to every dealer in jewellery and others engaged in similar occupations. The trades it represents are not numerically so important as some others, such as the dry goods, hardware and grocery trades, but we are free to admit that none of them are so ably represented by any publication as are the jewellers by the *Trader*.

A COMMITTEE of Albany Knights of Labor who have made a tour of the New England States investigating the wages paid by shoe manufacturers, with a view of making out a higher schedule of prices for their own work, encountered an unexpected obstacle. They discovered that the eastern prices were thirty per cent. below wages at Albany, yet the eastern men earned the most money, because they had a better market and steady employment. The Albany Knights were about to demand thirty-five per cent. advance, but now they are pondering the question whether they had not better work cheaper, build up a market, and secure steadier employment.

It is with much satisfaction that we note that the Ontario Government propose to abolish the custom of hiring out prisoners on the contract system. The work carried on at the Central prison, Toronto, displaces a large number of free workmen who would otherwise find employment at similar work, and the Mowat Ministry will find that public opinion will sustain them in their contemplated reform. The products of foreign prisons are now totally prohibited from entering this country. The Dominion Government has done away with the manufacture of goods for the outside market in the penitentiaries, and if Mr. Mowat carries out his proposal to do likewise, a much vexed question will be finally disposed of.

CAN a country which protects its [manufactures] against articles of foreign production ever hope to sell any of its own in neutral markets abroad, where all competitors must meet on an equal footing? Here are facts that should help us to answer: During the past ten years the Baldwin locomotive works, Philadelphia, have made over four thousand locomotives, of which they have exported above nine hundred. Of these, fully seven hundred have gone to South America. They not only furnish engines to South America, but have supplanted English locomotives in New Zealand. They have sent many to Australia, to New South Wales, and to Queensland, where the sentiment, of course, is entirely in favor of English manufacturers.

It now appears, says the *Boston Manufacturers' Gazette*, that since the signing of the inter-State commerce bill by the president railroad securities have advanced in value. The inference drawn from this is that investors in such securities are becoming convinced of the advantages of governmental regulation, in a measure, of inter-State traffic. It is claimed that the short-haul and publicity clauses, if not interfered with by the new commissioners, would stop those sudden and violent fluctuations of rates that have marked the present policy of the railroad companies, and would tend to bring about that ideal system of transportation which Charles Francis Adams pictured as "at once reasonable, equitable and certain, permitting traffic to flow and interchanges to be made just how and where the interests of buyer and seller dictate, never discriminating, rarely, and then only slowly, fluctuating."

DURING the past few weeks the Canadian newspapers have been bravely advertising to the world, the fact that we have in this country, a number of particularly well preserved specimens of the *genus* "boodler." But our cute neighbors across the line are bound to keep in the front rank, even in "bood-

ling" transactions, and an American paper records the following incident as one that beats all previous records:—"Cushman Baldwin, who wrecked the Mechanics' National Bank of Newark to the tune of \$3,000,000, and who, after less than five years' imprisonment has been released on a technicality, is reported in the N. Y. *Tribune* 'to have saved something out of the wreck.' The same paper adds, that 'while in prison he made money by partnership in contracts'—that is, prison contracts. Just fancy the idea of a jail-bird making money out of contracts in connection with the prison in which he was confined. Doesn't that beat the Jews?"

RECIPROcity is now the question of the day, the Butterworth bill being its present moving occasion. On Thursday the *Globe* somewhat qualified its patriotic utterance of the day before with the sage remark, in substance—that really there was a good deal to be said on both sides. And the same day the *Mail* claimed to be as true a friend of British connection as any one else, spite of all that it had said about commercial union.—Only, there is such a thing as 'manifest destiny,' and for us to fight against it would be worse than useless. It will be seen that the CANADIAN MANUFACTURER is just in time with its mass of matter on the subject, begun in our last issue and continued in the present one. See on other pages Mr. Erasmus Winman's speech before the New York Board of Trade, which is quickly lost in the daily papers, but which in our columns will be found convenient for after reference. Also the remarkable letter of "Onlooker," copied from the *Mail*.

THE *Montreal Herald*, a prominent Reform paper, admits that the National Policy was the paramount issue in the recent contest, and argues that had it not been for the contradictory utterances of leading men of the Liberal party, they would have had a victory to record instead of a defeat. The following paragraph is selected from a recent *Herald* edition:—"The country has now three times pronounced its opinion on the National Policy. Every speech delivered at that is another leaf picked from the Liberal tree. If there are any leaders of the party who do not frankly and honestly intend to abide by the decision of the people they will do well to say so at once, that men may determine under which flag to range themselves. Thousands of Liberal votes have been quietly polled for Conservative candidates because of this quasi-economic criticism of the National Policy. The people of a country do not care to be told that they do not understand their own business, and that a policy which they have tried and twice endorsed is a blunder and a crime. If the Liberal party will not adopt the National Policy well and good—let it be so understood; if they intend to bow to the will of the people it should be made clear that there is no room in the party councils for those who prefer to flourish in an opposite direction."

THE Ottawa correspondence of the *Mail* of the 1st inst. contains the following item in reference to the extension of our foreign trade relations:—"With the view of encouraging closer trade relations between the West Indies and Canada, the Federal authorities recently commissioned Mr. John F. Wyld, retired Halifax merchant, to visit these colonies as well as the adjacent Spanish Island and report on the best means of

bringing about 'his result. In a letter to the Deputy Minister of Marine the commissioner, writing from Kingston, Jamaica, under date of 15th inst., states that he has already visited Havana, Porto Rico, Santiago and San Juan, and reports that in all these places he found the merchants greatly interested in his mission. A meeting of business men of Kingston was to have been held the following week, when he anticipated that resolutions in favor of closer trade relations with Canada would be adopted. Mr. Wyld added, as a result of his investigations, that two steamers of about one thousand tons register could maintain a profitable service fortnightly between Halifax, Havana, Kingston and Santiago, at the same time receiving good freight support. Steam communication, he concluded, was a great factor in bringing about a successful arrangement. The commissioner will return to Canada early next month.

WONDERS will never cease! Just as the *Mail* has got itself nicely fixed in the saddle of "Commercial Union" with the States—more properly called Annexation, the *Globe* comes out boldly on the other side, and says that sentiment, and patriotism, and pride of connection with the Mother Country, must weigh something with Canadians, as well as the argument of dollars and cents merely. Well, we welcome the *Globe* as a new ally on our own side, which is that of the commercial independence of Canada as a part of the British Empire. Still, we are sorry to lose the advocacy of the *Mail*, which must henceforth be regarded as working for the extinction of Canadian nationality, and the absorption of the Dominion into the United States. However, the *Globe*, being an extremely young convert, had better show its sincerity by explaining a little circumstance to which we drew attention in our issue of Feb. 18th. During the closing months of 1885 there appeared pretty frequently, in the *Globe's* columns, its prospectus for 1886. Therein the principles which the paper would stand by were set forth, and among the rest there appeared the following rather emphatic and unqualified statement:—"The *Globe* advocates *unrestricted* Commercial Reciprocity with the kindred people of the United States." Our new ally will much oblige by explaining what "unrestricted commercial reciprocity" means, in plain English; also wherein its own position on the question, as always understood by the public up to the date of March 2nd, 1887—differs from that which the *Mail* has recently taken, as an organ of Commercial Union and Annexation.

ENGLISH architects are advising that rooms should be provided with many warm inlets on the floor line, and an outlet at the ceiling.

A BELGIAN textile manufacturer has devised a process for tanning textile fabrics which renders them waterproof and proof against decay, without increasing their weight.

AMERICAN exports of breadstuffs and provisions in 1886 were in the aggregate larger than in 1885. The statistics for the two years are as follows:

	1885.	1886.
Breadstuffs.....	\$129,690,137	\$148,122,020
Provisions.....	93,559,516	86,044,251
Total.....	\$223,249,653	\$234,166,271

Under the head of breadstuffs are included all the cereals and the meal and flour made from them, and under the head of provisions are included beef, tallow, pork, lard, butter, and cheese.

Special Reprints.

RECIPROCITY.

MR. WIMAN BEFORE THE NEW YORK BOARD OF TRADE.

THE QUESTION OF RECIPROCITY CONSIDERED—ADVANTAGES TO THE STATES—HOW IT WOULD AFFECT CANADA.

(Toronto Mail, Feb. 24.)

NEW YORK, Feb. 23.—Mr. Erastus Wiman delivered the following speech before the New York Board of Trade at the Hotel Brunswick :—

SWEEPING AWAY COMMERCIAL BARRIERS.

Mr. Wiman said that the possibilities arising out of the freest commercial relations between the United States and Canada were worthy of the highest consideration. A period in the history of the two countries had been reached when it is possible that all the commercial barriers between them could be swept away. The time had come, the speaker believed, when it was feasible that the commerce of the United States could pervade the whole northern continent, and that, without let or hindrance, the development of the North-West, which has been so marvellous, and which, so far as the United States were concerned, had now almost reached its boundary line, would continue to contribute to the greatness of this nation. The development within the Canadian lines had gone forward with a rapidity quite equal to that of the United States. The growth in all material respects of Canada, in her splendid cities, in the extension of her railways, the improvement of her public works, and in the steady progress of all that goes to make up a great nation, made her to-day a very attractive field for the extension of business.

Have you realized the magnitude of Canada? Its area covers 3,500,000 square miles, while that of the United States covers only 3,036,000 square miles. Canada is equal in extent to nearly the whole continent of Europe. It will be said that this is largely made up of inhospitable and unproductive regions. But the modification of the climate, through the influence of large bodies of fresh water, is sufficient to remove from it the reproach of sterility; till now its wheat-growing zone far exceeds that of the United States, and wheat was one of the most delicate of plants.

PROPOSED RECIPROCITY.

If between that great country, possessing many advantages which this country does not possess—if between these two great countries a complete commercial freedom should exist, is it not a question which should receive the most thorough and the most impartial consideration? As a sign of the attention which the matter was receiving, the bill as introduced in Congress by the Hon. Benjamin Butterworth, of Ohio, was referred to. That measure proposed a complete interchange between the United States and Canada of every product, whether natural or manufactured. It swept out of sight all custom houses, and, if made effective, would open up a new market among five millions of people for the United States. Without assuming any political entanglements, without undertaking any financial obligations, without adding a dollar to taxation, the operation of this proposal for free commercial relations would not only materially extend the consumption of the products of the United States, but it would place within cheapened access numerous products of Canada which the people of the United States needed. They not only needed them, but they could nowhere else get them to such advantage.

THE CANADIAN FISHERIES.

Take for instance the fisheries of Canada, which are the largest, the richest and the most accessible in the world. Twenty-five hundred miles of sea coast in the Atlantic alone, a

distance almost equal to that from Cape Cod on the Atlantic to the remotest point on the Pacific—three thousand miles in the Pacific and inland seas—in all over five thousand five hundred miles of coast in a northern latitude, where the fish is at its finest, is as much a national possession of Canada as are the prairies of Illinois or the forests of Maine. Fish food from the Polar regions, brought to these coasts by Arctic currents, affords a sustenance for countless millions of fish, destined in turn for the sustenance of human life. It is no wonder that Canada holds firmly to her vast fishing interests. The advantage which she derives from the bait which lines her shores, indented by numerous bays, is a geographical one. When you recall the fact that twenty-five per cent. of the cost of the ordinary fishing voyage is found in the bait, you will see how important an element it is. If this bait can be secured by dipping it, as it were, from the Canadian shores of the sea into carts and small boats, its possession is like the possession of seed corn or wheat in an agricultural community. To sell one's seed corn would be folly. To permit its sale to a competitor without some compensation or consideration is to give up the advantages of geographical location and proprietary rights as distinctive as any other national right. This is not, however, the proper place to discuss this question. It is simply alluded to because it shows the advantages which would come to the United States if the entire fishing facilities of the vast coast line could be thrown open to her enterprise and industry. The harvests of the sea have been but skimmed. Properly cultivated as they would be with open markets in this vast country, and as a reward for American enterprise and the investment of capital and skill, the food products of the ocean could be quadrupled. The cost of sustenance of human life in all our large centres could thus be immensely decreased, and coupled with the vast productive agricultural forces on the ranches and prairies this element could be drawn upon for a large contribution towards the sustentation of human life at the cheapest possible rates.

CANADIAN WHEAT FIELDS.

But aside from the fisheries of Canada, which are so rich and so vast, and the possibility of future development for the benefit of the United States, there are numerous other products which the United States might well avail themselves of. Take, for instance, the article of wheat, and recall the steady growth northward of its production. Within the memory of most middle-aged men the Genesee Valley, in New York State, was the great wheat producing region. Rochester was called the Flour City because of its once famous mills now idle. Then came Ohio, then Illinois and Iowa, but now, in these later days, the production of wheat for export and for the sustenance of the people is confined largely to the northern regions, such as Minnesota, Dakota, and even Montana. Has anyone yet realized what this northern tendency means, and how far it will affect the great Canadian wheat producing regions? Why it is that in Manitoba and the North-Western territories wheat is produced to the greatest advantage is found in two great facts, the first of which is that there are two hours more of sunshine during the summer months, owing to their nearness to the Arctic circle, than in any other region in which wheat can be grown. These two hours add immensely to the productive power of the region. Again, the depth of frost is such that it never quite leaves the ground, but with the strength and the length of the sun's rays the exudation is constant, so that dry weather and drought lose half their terrors. With these and other advantages, recall the fact that there are yet three hundred and seventy-five millions of acres of agricultural lands to be brought into cultivation in the Canadian North-West, and that the wheat zone of Canada covers no less a space than one million two hundred thousand square miles. If in this tendency northward, and all these climatic advantages, there is found an attraction in the wheat producing regions, surely if the United States can enjoy therein a market for her agricultural implements, her boots and shoes, and all her other manufactures

and her natural products, without let or hindrance, or without cost, why should she not do so? The rapid settlement of the North-Western States makes certain an equally rapid settlement of North-Western Canada.

THE HUDSON BAY RAILWAY.

An outlet, via the Hudson Bay route, for the railway system, which in the last two years has been used as a supplement to the Canada Pacific Railway, is almost a certainty. With Winnipeg as near to Liverpool as New York, with an Inter-State Commerce bill, which in the United States disturbs and upsets and revolutionizes the charges for transportation, the Hudson Bay Railway is more likely to be built than ever before. Why should not all this vast territory be made tributary to the growth and progress of the United States by breaking down all the barriers to commerce between them? But it is not in fish and wheat alone, or in the regions of trade which produce them to the greatest advantage, that a temptation is offered to the trade and commerce of the United States.

THE LUMBER INTERESTS.

In the single article of timber and lumber this vast country would receive an advantage far greater than on almost any other article. In Canada there are sixty different kinds of timber, and the forests of pine, of which there are nineteen varieties, possess for the United States an attraction of the greatest possible character. Think of the denuded forests of Maine and the Saginaw and of the treeless prairie lands of the West, and of the necessity and activity of building in the East, and then compare how inadequate is the supply of timber for the necessities of these localities. In British Columbia alone the lumber industries of that province will rise to immense importance. To have free access to the vast forests which Canada controls, and to have, without taxation or any barrier whatever, the best that the North American continent affords in the shape of woods, is to place within the grasp of the residents of the United States a facility and advantage of the greatest value. At present a twenty per cent. duty on Canadian lumber just adds so much to the cost of the creation of homes. A freedom of commercial relations between the two countries would increase largely the possibility of every man owning his own vine-clad cottage, and changing from Communists and Anarchists men who were proud to own homes of their own. But aside from fisheries, grain and timber, there are numerous other natural products which this country needs.

NOVA SCOTIAN COAL FIELDS.

In the matter of Nova Scotian coals for the Eastern States, the advantages of the Eastern manufacturer are clear. Not only in Nova Scotia but throughout the North-Western territories there is a possibility of the widest development of the coal regions. In Saskatchewan, Athabasca and other points there are workable seams of from four to ten feet in thickness of the best kind of coal, and in the upheavings of the Rocky Mountains the highest grades of anthracite are reached within the Canadian border. So far west as British Columbia coal is now being shipped at the rate of three hundred thousand tons per annum to San Francisco, where it commands the highest price, notwithstanding a duty of twenty per cent. against it. From ocean to ocean, within the Canadian border, the geological details show great riches in the coal-producing territory, which ought to be available to the United States by breaking down all commercial barriers between it and Canada. Not the least of the advantages which would result from a free commercial relation would be the development of Canadian phosphates, which of late years have attracted a good deal of attention. The production has increased from five thousand four hundred tons in 1877, to twenty-five thousand tons in 1885. There is nothing which the South so much needs as the fertilizing forces which Canadian phosphates, properly treated, would furnish. There are numerous other natural products which it is needless to mention, but including copper and iron, which are available for development. Almost a continent of productive power, possessing more than the ordinary natural

advantages, is available for American enterprise, American capital and American trade, if but the magic touch of Freedom and a free market is afforded to it.

RELATIVE ADVANTAGES.

It may be urged that the advantages to the United States will not be so great, from a complete freedom of commercial intercourse, as they will be to Canada. Well, we cannot tonight go into a question of book-keeping. It is sufficient to know that Canadians themselves do not think that the advantage would be on their side. They have some considerable development in manufactures which not a few of them consider would be severely competed with by the skill, capital and enterprise of competitors from the United States if the local market were open to them. But these manufacturers, no doubt, would be willing to take their chances. With the frugality of their workingmen, their industry, the advantage of natural resources, great water-powers and other facilities, they would try to hold their own. But it would be an even race, a friendly competition, which the manufacturers of the United States are certainly not afraid to encounter, if their Canadian brethren across the border are willing to take the risk. There are many products there which might find a market here. It would be an advantage to the people if such could be the case. It would be an equal advantage to manufacturers here to have a market such as is being developed, and in the next fifty years will be developed, in the regions to the North-West. It is true that complete commercial freedom between the United States and Canada would not be popular among English manufacturers. To tax goods of the Mother Country at a high rate, and yet let the products of the United States come in free, would seem a poor reward to the Mother Land for all the costliness, the anxiety and the risk which she had hitherto encountered; but if a great advantage could be secured to her offspring by a commercial alliance such as is proposed, surely England will not exact so great a sacrifice as it would be to forego the offer. There comes a period in the history of every nation, like that in the experience of every business man, when a change in relations opens and broadens opportunities for advantage to employes or connections, when if selfish considerations intervene, great injustice is done. Canada is working out its own destiny of self-government English laws, English language, English literature, and loyalty to English institutions pervade it completely and entirely. That it should forever remain disassociated in a commercial point of view from the great nation on its borders seems unreasonable. If at this juncture in affairs a complete commercial freedom could be created between the two countries, while many in England might oppose it, a popular vote in England would certainly confirm it. It might be a difficult thing to accomplish, but not an impossible one; and Canada is so far grown, so far independent, and so far self-reliant that a refusal to permit her to avail herself of the advantages of the vast market which the United States affords, and to become enriched by a closer contact with this glorious Republic, while still maintaining her loyalty to the British throne, would be an act of such injustice as might materially lessen the loyalty to that throne. Viewed, therefore, from both a British and Canadian point of view, there seems no sufficient barrier to prevent the carrying out of the proposition that complete commercial freedom should exist between the two countries.

CANADA'S DEBT.

It is true that Canada has a vast public debt in proportion to its population. It is equally true that that debt has been created by rendering accessible almost a continent of productive soil. Some other mode of taxation than that of duties on importations might have to be adopted, but the fact that the markets which the United States afford could be freely opened for her natural productions would develop with such rapidity the vast regions which these expenditures have opened up that Canadians would, no doubt, gladly submit to taxation in different forms to make up for the loss of revenue now levied

upon imports from the United States. Of course there are difficulties in the way of a proposition for complete commercial intercourse, but they will disappear as they are approached; and if the New York Board of Trade and other liberal commercial bodies entertain favourably the idea; if it is made the subject of discussion and investigation, it is believed that good results will follow. No better mission can a man have than to enlarge the boundaries of commerce. Next to increasing facilities for its accommodation, the creation of new markets, the enlargement of resources and the solidifying and building up of the commerce of the country is an object worthy of man's highest powers. That this can be accomplished in a greater degree by the proposed breaking down of commercial barriers to the north is as clear as the noonday sun. The bill of Mr. Butterworth, therefore, is full of interest, and though there is no immediate hope for its passage, its scope and results may well be discussed. Comparing it with the bill of Mr. Belmont for retaliation and non-intercourse, is like comparing light with darkness. The Butterworth bill partakes of the spirit of the age, enlarged commercial freedom, a liberal treatment, a self-reliant attitude and a comprehensive policy. Mr. Belmont's bill for retaliation and non-intercourse partakes of the dark ages, when by force and pressure treaties were wrung from dependent nations, and natural advantages possessed by neighboring nations were seized regardless of consequences. As between these two measures the public will judge, and I venture to predict that if the facts were properly put before the great American public, a popular vote to-day among the fair-minded, liberal, enlightened merchants of the country would be ten to one in favor of commercial freedom between the countries on this continent.

THE IMPENDING REVOLUTION.

(To the Editor of the Mail.)

SIR,—Your estimate of Sir John Macdonald's difficulties and of his majority this morning is so fair and corresponds so closely to the estimates made by other well-informed observers, that the Canadian public will do well to take it into careful consideration. There is a revolution impending, and refusing to see it will not avert it. The "National Policy" has been affirmed by this election, but the "National Policy" was never in greater danger than it is at this moment.

The fisheries dispute is reaching an acute stage, and in one or other of these directions a remedy will be found. The British Government, in order to keep clear of international complications with the United States, may stultify itself and sacrifice us by requiring us to surrender to the United States, without any substantial equivalent, the privileges of which we deprive the United States fishing vessels under the treaty of 1818. Or the United States Government may adopt a policy of commercial retaliation in order to punish us for our enforcement of our fisheries laws. Or, lastly, the United States Government may offer us complete reciprocity of trade in return for complete reciprocity of fishing privileges. I see no other possible settlement of the dispute.

Which of these methods is, from a Canadian point of view, to be preferred? Of course we cannot consent at this day to being sacrificed in the interests of England, and there is no reason why England should ask us to do so. If anything of that sort is proposed, the Canadian Government that is a party to it will have a bad time of it.

What about retaliation? Such a policy would irritate and injure the Canadian people, and it would equally irritate and injure a large proportion of the people in the States adjacent to Canada. It would do no good, and would be adopted simply as a means of coercing us into granting the privileges asked for by United States fishermen.

The true solution of the problem is reciprocity of both trade and fishing privileges, as you have so ably pointed out. But how is this to be brought about? If the American people come

to us offering friendly relations and free trade with one hand and active hostility and non-intercourse with the other, which will Canada accept? To ask this question is to answer it. No Government could last six months in this country that would prefer retaliation to reciprocity. If Congress would only pass the Butterworth bill the thing would be accomplished, for it is just what every Canadian province needs.

The chief difficulty in the way is the implied discrimination against English imports, but if England consent to that in the interest of peace, why should we make any trouble about it? The true "National Policy" for Canada is to promote her own interest, without reference to the interest of either Great Britain or the United States. If it is to our interest to settle the fisheries dispute by means of a treaty of free trade, let us do so; but let us, whatever course is taken, act independently and for Canada.

TORONTO, Feb. 23rd.

Yours, etc.,
ONLOOKER.

SOMETHING FOR KNIGHTS TO PONDER.

THERE is one feature of the recent unsuccessful strike of freight handlers and longshoremen which cannot be too seriously considered by those who were plunged into the idiotic movement through their belief in Mr. Powderly's dictum that "an injury to one is the concern of all." It is estimated that fully 4,000 of the strikers who were working before the trouble are now idly patrolling the streets in search of employment. This means, of course, hardship to be endured by them and their families while their enforced idleness lasts, but it means far more than this to these deluded followers of Powderly. It means that 4,000 new men, who were incapable of competing with them for labor before the strike, have been partially broken in to do their work, that some of them are as competent already to do it as the strikers, and that all of them will be fully trained in what little skill is required properly to stow a vessel in a very short time. The strike has resulted in this case in just about doubling the supply of available men to do the work along shore just as the Third-Avenue Railroad strike resulted in adding to the supply of experienced car drivers and diminished by it much the prospect of a successful contest with railroad employers in the future.

This is a feature of strikes which is seldom thought of by those engaging in them, but it is in reality the most alarming result so far as workingmen are concerned. The main cause which operates to give reason for complaint to laborers in the reduction of wages is the surplus of men able and ready to take their places at cheaper rates. Employers, while they are as a rule ready to engage the cheapest labor, the quality being equal, are not ready to engage green hands in any great number and submit to the annoyance of having to teach them their duties. But for this the field of unskilled labor would be far more extensively overstocked than it is now, and wages would decrease proportionately. The longshoremen and freight handlers, however, by this last strike have forced employers to create a supply for the demand which they would not meet, and the result is an addition to the ranks of this class of laborers of about 4,000 men who have learned the business and now hold the places which the strikers vacated. Knights of Labor cannot spend their idle moments to better advantage for a while than by pondering over this immutable law of cause and effect, and applying it to themselves before they engage in a new strike upon such baseless grounds as those which precipitated the last disastrous failure.—*New York Paper.*

FAIR FREIGHT RATES FOR ALL.

(*New York Times.*)

It was the notorious abuse of power shown in unjust discrimination as regards freight rates that served as the clearest and strongest argument in support of the Inter-State Commerce bill. No one could openly oppose those clauses in the bill which forbade that unjust discrimination which had been

secretly used for the enrichment of favored persons and the oppression and ruin of their rivals in business. Now, when the bill has become a law, railroad men who assert that the meaning of certain other provisions of the law is not clear admit that the clauses relating to discrimination are so plain that there cannot be two opinions about them.

The beneficial effect of an enforcement of the law forbidding unjust discrimination can be fully realized only by those who are familiar with the extent of the abuse for the suppression of which the discrimination clauses were enacted. The evils of discrimination can be shown most forcibly in the history of the Standard Oil Company and of the trade in cattle and beef, but they have been felt in many other branches of industry and commerce. The great Standard Oil monopoly was built up by means of discrimination in freight rates. Without the aid supplied by railroad companies the Standard Oil Company could not have crushed independent refiners and given to its managers the enormous fortunes that are now being used in other fields for the suppression of fair competition. In eighteen months the Standard Oil Company received from railroad companies \$10,000,000 in rebates. This great corporation was not satisfied with a freight rate which was less than one-third of the rate exacted from a humble rival in trade. It demanded in addition a large part of the money paid for transportation by that rival. For example, the proposition made to the Cleveland and Marietta Railroad Company, then in the hands of a Receiver, G. N. Phineas Pease, appointed by the United States Circuit Court, was stated as follows by the Receiver's counsel:

"You shall make a uniform rate of 35 cents per barrel for all persons excepting the Standard Oil Company; you shall charge them 10 cents per barrel for their oil, and also pay them 25 cents per barrel out of the 35 cents collected of other shippers."

The Receiver's acceptance of this proposition, devised for the purpose of crushing George Rice, an oil refiner who had not surrendered to the Standard, caused the court to dismiss him from office.

There will now be fair play if the law shall be enforced. Great monopolies in trade can no longer be built up and supported in this way. The day of discrimination has passed. The financial success of the Standard Oil Company suggested the formation of similar combinations for the control of other products by means of rebates and discrimination in rates. Not long before the passage of the bill it was proposed that the manufacture and sale of flour should be controlled by a corporation to be called the Flour Trust. If this project had been carried out the great flour mills would have entered a pool, and an attempt would have been made by means of special freight rates, and all the other instruments used by the oil monopoly, to absorb or crush other mills, and success would have enabled one corporation to control absolutely the supply and price of that great staple. But the bill was passed, and we heard no more about the Flour Trust. It now appears that the American Cotton Oil Trust, a corporation modelled after the Standard Oil Trust, and devised, it is said, by Standard Oil capitalists, is to be confronted by formidable competition. The Cotton Oil Trust recently obtained control of about nine-tenths of the cotton oil factories, and with a capital of about \$40,000,000 it proposed to monopolize the cottonseed oil industry. Under the old conditions it would have been able by means of secret low rates on the railroads to crush competitors who would not come into the pool, or to drive them out of the business. But under the new conditions it cannot ship its seed or its oil or its other products at rates lower than those which the owners of independent and competing factories must pay. The law will protect competitors. For this reason capitalists have been encouraged to enter the field in opposition to the Trust. Despatches published yesterday show that an opposition company with a capital of from \$5,000,000 to \$10,000,000 is now in process of formation and that it will operate

about thirty large oil mills in the cotton belt. We venture to say that this enterprise would not have been undertaken if the Inter-State Commerce Bill had not become a law.

In all probability the new law will serve the people by undermining the power of the beef trade combination which has maintained the old prices for beef in the centre of population, while the price of cattle on the plains has fallen one-half. It will operate for the benefit of numerous manufacturers and traders who have suffered for years by reason of secret rates given to rivals whose fortunes railroad companies desired to augment, or in whose business railroad officers were pecuniarily interested. In many ways it will insure to manufacturers and shippers that fair play without which honesty and industry are robbed of their just reward.

CANADA NOT A MEAN OPPONENT.

(*St. Paul Pioneer Press.*)

NOTHING which can be said on the other side of the line is as essentially idiotic and criminal as the vaporings of a portion of our press concerning the delights of a possible war. There can be no calamity equal, either from a material or moral point of view, to war with any nation or upon any grounds. And the foolish people who talk about taking Canada as a pastime, are of a class which should keep silent in public. As a matter of fact, if selfish and indiscreet politicians should ever force us into war, there is no combination of circumstances which could make it so disastrous as a dispute with Canada. In a fight with England we might have some hope of Canadian neutrality. But the people of Canada are as thoroughly united and stirred up on the fisheries question as our people can be. It is their fight and they know it. A glance at the possibility which belligerent-minded people suggest shows the United States engaged with England and Canada together. When we carried our other wars with England to a successful conclusion, Canada was practically a wilderness, without means of communication sufficient to render it even an effective base of operations for the British troops landed there. Yet, even then, with our lake commerce considerable and the cities of our northern frontier in their infancy, it was from the north that some of the most dangerous assaults were made. Now there is a people there who would, in themselves, constitute a foe as formidable as were the Southern States at the outbreak of a rebellion which it took four years to suppress. There is a transcontinental railway line ready to scatter men and munitions of war along the whole boundary. There is the Welland canal by which war vessels could be introduced to sweep our commerce from the lakes, and to do for the great lake cities what the English ironclads could do in a fortnight for the whole Atlantic and Pacific coasts. With any other nation, even in our unprotected state, we might with security on our Northern frontier withstand a shock until we had purchased means of defence. Engaged with England in a dispute that enlisted the sympathy of every Canadian, we should be effectively attacked at every outpost except the comparatively short Mexican frontier. No sensible man believes that two great nations will permit themselves to be drawn into war over a petty squabble aggravated by unreasonableness on both sides. And no sane man could view the possibility of such a war with the lightness exhibited by a portion of the press accustomed to discuss all foreign affairs in the tone and spirit of the old-fashioned Fourth of July oration.

THE recent exhaustive researches by Mr. Verbeek into all the phenomena connected with the red sun glows of 1883 and 1884 have led him to conclude that they were caused mainly by the masses of aqueous vapor thrown out by the volcano Krakatoa. In this view, the watery vapor ejected by Krakatoa, after condensing and freezing in the high air, produces the remarkable sunset, though the ashes may have intensified the phenomena besides serving as a centre of condensation.

Iron and Machinery.

BUSY IRON WORKS.

A FEW evenings since a *Globe* reporter, while passing along the Esplanade, was attracted by the brilliant electric light, the hum of machinery and the busy scene presented at the Polson Iron Works at the foot of Frederick street. Entering the office and inquiring of Mr. F. B. Polson the cause of the rush, he was informed that the *Globe* itself was partly responsible for it, the announcements of the firm in its columns having attracted attention from all over the Dominion. "We are running 100 men, are working every night till ten o'clock and are as busy as bees," said Mr. Polson. "Just look a moment at our order book. While our local trade is just booming, here is an order from the Halifax Electric Light Co., of which Mr. John R. Bothwell is president, for a pair of Brown automatic cut-off engines. These have a combined power of 400 horse power, a driving pulley 15 feet in diameter, 38 inch face, weighing ten tons. The Brown engine was chosen over all competitors on account of its great regularity of speed, durability and economy, the former quality being indispensable in machinery used in generating electricity. The *Globe* Printing Co. has one of these engines, and says of it:—'It is one of the best of its class, and is a simple but exceedingly effective and handsome machine.'

Mr. Polson also called attention to an order for a Brown engine for Messrs. Kerr & Co., the celebrated thread manufacturers of Paisley, Scotland, for their branch establishment in Toronto. Still another order has been closed with Messrs. Barber & Ellis, bookbinders and envelope and stationery manufacturers, of this city. In proof of the fact that the Polson Company is running at its full capacity the statement was made that an order from a large firm in Montreal had been refused, as it could not be filled in time.

Turning to another department, a craft bearing the legend "No. 12" was seen on the stocks. On inquiry it was learned that this is a stern-wheel Mississippi boat for Mr. J. C. Hays, of Golden City, B.C., for use on the Columbia river, where only nine inches of draft is permitted. Mr. Polson ventured the opinion that in an emergency this boat could be navigated where even a heavy dew falls. Mr. R. Power, of Barrie, a retired lumber merchant has placed his order for a fast steam yacht, which will be ready for shipment in a month.

All these indications justify the conclusion that the Polson Company have an excellent reputation, and are bound to retain it by turning out only first-class goods.—*Toronto Globe*.

THE FORTH BRIDGE.

A GREAT ENGINEERING FEAT NEARING COMPLETION.

MR. BENJAMIN BAKER, one of the engineers of the Forth Bridge, lecturing recently to the members of the Edinburgh Literary Institute, on the Forth Bridge, said that as regarded difficulties of construction the Forth Bridge far transcended the Great Pyramid, which he would contract to build in six years for £3,000,000. It was not on account of the size only that the Forth Bridge had become a shrine which half the bridge engineers of Europe, Asia, Africa and America aimed at visiting. The bridge was not only a big one, but of a comparatively little-known type. Notwithstanding the magnitude of the work, not one had attacked the principle of construction, except one or two well-meaning gentlemen who thought that a knowledge of geometry might prove a substitute for a mastery of certain elementary problems in engineering construction, but found that it would not. The best evidence of approval was imitation, and he was pleased to be able to tell

them that since the first publication of the designs for the Forth Bridge practically every big bridge throughout the world had been built on that principle. The weight of one of the 1,700 foot spans was about 16,000 tons, and the heaviest rolling load would not be more than a couple of coal trains, weighing together 800 tons, or only five per cent. of the dead weight. The bridge would, therefore, be as stiff as a rock under the pressure of a train. The estimated lateral pressure of the wind was calculated to be two and a half times as much as the train load, but the whole structure was so thoroughly braced together by lattice girders that a hurricane or cyclone might blow in any direction up or down the Forth without affecting the stability of the bridge. To carry out the work there was an army of 3,500 workmen, officered by a proportionate number of engineers, his partner, Sir John Fowler, being the chief. Altogether nearly £400,000 had been expended on plant and temporary works, and about £360,000 for steel plates, while £850,000 had to be distributed in daily wages to workmen. On the engineering staff at the works were representatives of England, Scotland, Ireland, Germany, Denmark, Sweden and Japan, all good and true men working zealously together with one sole aim—the good of the job. The same spirit animated officers and men, and whilst they gave full credit to the chiefs, they must not forget that building the Forth Bridge was in many respects a soldiers' battle. To cling to icy cold plates, hundreds of feet in the air, with a bitter wind howling round one, required courage similar to that which led men to charge the foe in battle, or to launch a life-boat to the rescue of some shipwrecked crew. All honor, therefore, to the workmen of the Forth Bridge, who day by day were proving that "Peace hath her victories not less renowned than war."

THE long iron bridge at Bismarck, Dak., contracts and expands eleven inches by the heat and cold.

SAWDUST thrown on a circular saw table will render the hauling of heavy planks quite easy. The grains act as small rollers and reduce friction.

A SATURATED solution of camphor (alcohol and gum camphor), used for drilling hard steel, apparently "bites" its way through, a marvellous result.

A GROSS of steel pens, formerly costing \$35, may now be produced for eight cents. The cost of making gold chains has been reduced to an eighth of what it was. These illustrations show the diminished cost of production in metal work.

A PROMINENT manufacturer of iron pipe has purchased 10,000 tons of Middlesbro (English) pig iron. This transaction and a previous heavy purchase by a Western consumer exemplified the accuracy of the suggestion that any further material rise in the price of American iron would be apt to cause consumers to look to Europe for supplies.

THE Department of State has been informed by the consul at Odessa that it is very possible that steps will be soon taken to construct a petroleum pipe line from Baku to Batoum. The size of the pipe talked of is about seven inches inside diameter, the length of the line about 550 miles, and its greatest elevation about 3000 feet. The consul desires that the matter be brought to the attention of American pipe and pump manufacturers, that they may compete for supplying the necessary material.

THE *Hamilton Spectator* said a day or two ago:—"A large casting for the second cylinder for the new city pumps, 4½ tons in weight, is now out of the mold. It appears to be perfect in every part. It is a very complicated one, and was made without a pattern in loam. It is intended to commence boring and turning on Thursday of this week. Mr. Killey says they have not found any difficulty in doing this work, having ample appliances to handle it, and first-class mechanics—second to none—to carry out the work. The castings of the second set of pumps are also in hand."

Permanent Exhibition of Manufactures.

Toronto.

NICHOLLS & HOWLAND.

THE undersigned are now prepared to receive applications for space in the PERMANENT EXHIBITION OF MANUFACTURES.

Some of the advantages likely to accrue to manufacturers exhibiting may be briefly summed up as follows:

1. The Exhibition will be free to all and open throughout the year.
2. It will afford all the advantages of a Toronto branch establishment at a very moderate cost.
3. Exhibits will be seen by large numbers of business men who would not be apt to visit a private branch office unless on special business.
4. The Exhibition will be extensively advertised and made very attractive, and as almost every variety of machinery and manufactured goods will be on view under the same roof, it will certainly become an important mercantile exchange.
5. Competent salesmen will be in charge for the purpose of explaining the merits of each exhibit to interested visitors.
6. Exhibitors can have printed on their office stationery "When in Toronto call and see sample of our goods at PERMANENT EXHIBITION OF MANUFACTURES." This may afford prospective purchasers an opportunity of personally inspecting goods, who would not be apt to visit outside towns for that purpose.
7. Exhibitors can appoint us selling agents, or can have their own representatives in charge. In the former case, every endeavor will be made to establish profitable trade.
8. Machinery can be shown in motion, as shafting and power will be provided.
9. Office accommodation will be provided for the convenience of exhibitors and their agents.

The following list contains the names of those having already secured space in the building.

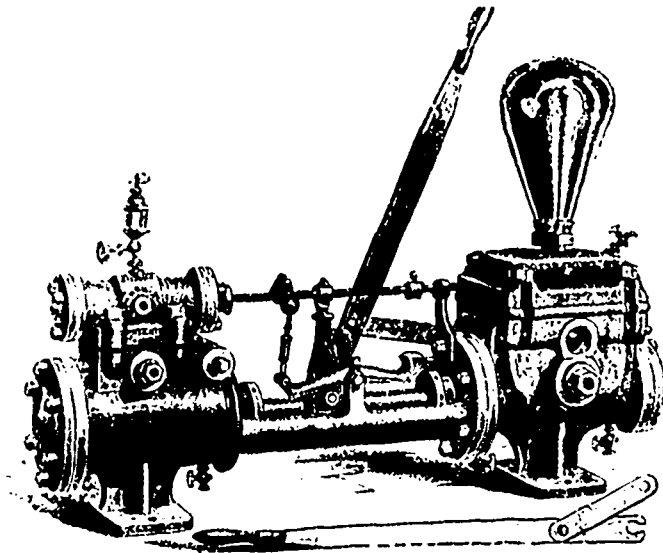
- | | |
|---|--|
| <p>Armstrong, J. A. & Co., Guelph, Ont., Carpets.
 Barran, John & Sons, Dundas, Ont., Iron Working Machinery
 Blake, Geo., F. Manufacturing Co., Boston, Mass., Steam Power Pumping Machinery.
 Brush, Geo., Eagle Foundry, Montreal, P.Q., Blake Stone Crusher.
 Bruchthaupt & Co., Berlin, Ont., Leather.
 Clark Bros. & Co., Preston, Ont., Stoves and Furnaces.
 Cowan & Co. Galt, Ont. Woodworking Machinery, Engines and Boilers.
 Creelman Bros., Georgetown, Ont., World's Star Knitting Machines.
 Dalley, F. F. & Co., Hamilton, Ont., Extracts, Essences and Growers Sundries
 Dominion Baby Carriage Co., London, Ont., Baby Carriages and Rattan Furniture
 Dominion Hat Co., Hamilton, Ont., Felt Hats.
 Donald Produce Co., Norwich, Ont., Evaporated Fruits
 Ewbank & Selater, Montreal, P.Q., Files and Mill Supplies.
 Globe Tobacco Co., Windsor, Ont., and Detroit, Mich., Tobacco.
 Goldie, James, Guelph, Ont., Flour
 Goodhue & Co., Danville, P.Q., Leather Belting and Lace Leather
 Grand River Knitting Mills Co., Paris, Ont., Smyrna Rugs and Knit Goods
 Grand & Toy, Toronto, Ont., Tucker Automatic Letter and Document Files.
 Grange Sugar Refining Co., Walkerville, Ont., Syrups and Glazes
 Hamilton Industrial Works Co., Hamilton, Ont., Wringers, Mangles, etc.
 Hamilton Rolling Mills Co., Hamilton, Ont., Bar Iron, etc.
 Hamilton, J. S. & Co., Brantford, Ont., Native Whites
 Hart Emery Wheel Co., Hamilton, Ont., Emery Wheels and Emery Wheel Machinery
 Hay, Peter, Galt, Ont., Machine Knives.
 Hearle, J. G., Montreal, P.Q., Toilet Soaps and Perfumery
 Howland, H. S., Sons & Co., Toronto, Ont., Hardware Specialties
 Howland, H. S., Kleinburg, Ont., Flour
 Hemming Bros., Toronto, Ont., Fancy Goods and Jewellers Cases.</p> | <p>Ives, H. B. & Co., Montreal, P.Q., Stoves and Hardware Specialties
 Kerr Bros., Walkerville, Ont., Water, Steam and Gas Valves.
 King, R. W. & Co., Georgetown, Ont., Power Knitting Machines
 Leslie, James, Montreal, P.Q., Woollen and Cotton Mill Supplies
 Metcalkill, D. A. & Co., Montreal, P.Q., Varnishes and Japan
 Miller Bros. & Mitchell, Montreal, P.Q., Machinery and Machinery Steam Hammer.
 Morris, A. W. & Bro., Montreal, P.Q., Cordage and Binder Twine
 Munderloh & Co., Montreal, P.Q., Watchmen's Clocks
 Northey & Co., Toronto, Ont., Steam Pumping Machinery
 Northumberland Paper Co., Campbellford, Ont., Straw Board and Tanned Paper.
 Ontario Bolt Co., Toronto, Ont., Bolts, Nuts, Spikes, etc.
 Oshawa Stove Co., Oshawa, Ont., Cooking and Heating Stoves, etc.
 Paris Manufacturing, Paris, Ont., Knit Goods.
 Pepper, T. & Co., Guelph, Ont., Carriage and Wagon Axles
 Pillow, Hersey & Co., Montreal, P.Q., (Geo. A. MacAgg, Western Representative, Toronto.) Nails, Tacks, Belts, etc.
 Ramsay, A. & Son, Montreal, P.Q., Plate and Stained Glass, Paints, Oils, etc.
 Robin & Sadler, Montreal, P.Q. and Toronto, Ont., Leather Belting and Lace Leather.
 Rumpel, Geo., Berlin, Ont., Felt Boots and Shoes.
 Sampson & Co., Berlin, Ont., Furniture
 Smith's Falls Malleable Iron Co., Smith's Falls, Ont., Malleable Castings and Carriage Hardware.
 Smith, R. H. & Co., St. Catharines, Ont., Every Description of Saws
 Stahlschmidt & Co., Preston, Ont., Office Furniture
 Storey, W. H. & Son, Acton, Ont., Gloves
 Walker, James, Hamilton, Ont., Household Soaps.
 Watts, A. & Co., Brantford, Ont., Household Soaps.</p> |
|---|--|

Further information will be promptly furnished.

NICHOLLS & HOWLAND,
 Office of Canadian Manufacturers' Association
 6 WELLINGTON STREET WEST,
 TORONTO.

KNOWLES STEAM PUMP WORKS,
 —BUILDERS OF—
STEAM PUMPING MACHINERY IN EVERY VARIETY

**BOILER
 FEED,
 FIRE
 and
 TANK
 PUMPS**



Simple and Duplex
**PUMPING
 ENGINE**
 for
 TOWN and CITY
SUPPLY.

For Particulars, Address **44 Washington St., BOSTON.**

93 Liberty St., NEW YORK.

SEND FOR ILLUSTRATED CATALOGUE.

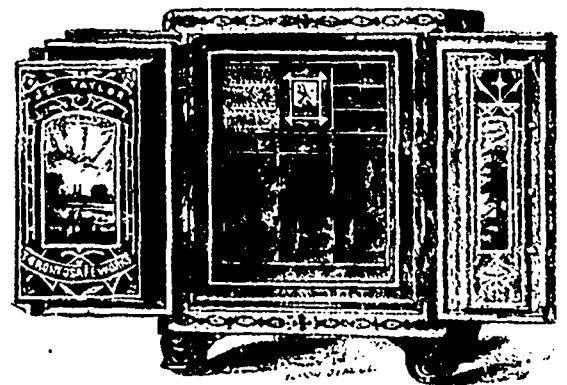
**J. & J. TAYLOR,
 Toronto Safe Works.**

ESTABLISHED 1855.

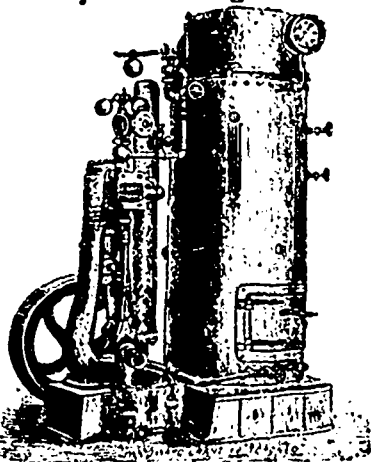
Manufacturers of all kinds of Fire and Burglar Proof Safes.

PRISON LOCKS AND JAIL WORK A SPECIALTY.

We call the attention of Jewellers to our new style of Fire and Burglar Proof Safes, specially adapted for their use.



The Doty Vertical Engine and Boiler.



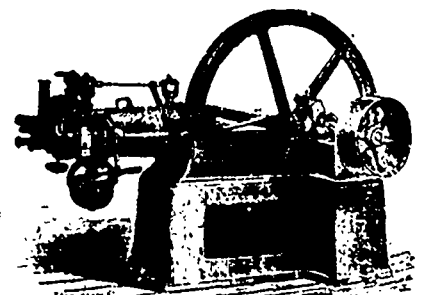
SEND FOR REDUCED PRICE LIST.

In sizes from 3 to 16 H.P. Specially adapted to places where 3 to 10 H.P. is required. Simple, safe and durable.

**JOHN DOTY
 ENGINE CO.**

No. 2 Bathurst Street,
 TORONTO, ONT.

THE
 Otto Silent Gas Engine.



In sizes from 2 to 7 H.P. Most convenient power in the market.

SEND FOR CIRCULAR.

Textiles.

SHANGHAI NATIVE COTTON CLOTHS.

AN interesting account of the native cotton fabrics manufactured at Shanghai, and the surrounding district, has been received from Mr Charles Alabaster. Two species of cotton fibre are produced in the Shanghai district, the white and the buff. From the former three classes of cloth are manufactured, which may be distinguished from their texture as fine, coarse, and medium. From the buff fiber is made the material so well known as Nankeen, which retains the natural color of the raw cotton.

There does not appear to be any manufactory either in the city of Shanghai or in the foreign settlements, though the calendering of the purple and blue fine-cloths is effected in the city. At varying distances in the country the manufacture is carried on, and the produce of the looms is brought into town for sale. It is only on the Pootung side of the river that there are factories constantly at work. These produce the coarse cloths. The looms on the Shanghai side are intermittent in operation, and it may accordingly be inferred that the Pootung cloths are in greatest demand.

Of the fine cloths, five varieties are produced from the unbleached white (which does not itself appear to be in the market); viz., bleached white, purple (calendered), blue (calendered), coarse blue (the ordinary wear of the working classes), and black. Taking the English square foot as a unit, these vary in price from 1.63c. to 2.41c. per square foot.

The coarse Pootung cloth is dyed in green and grey, and varies in price from 1.28c. for the undyed white to 2.11c. for the green.

The medium cloths are dyed in one color only, red, and largely used on festive occasions as being the most auspicious of colors. The price ranges from 1.75c. to 2.41c.

The Nankeens are not subjected to any dyeing process, and are sold at 1.45c. per square foot, being, with the exception of the undyed Pootung cloth, the cheapest in the market.

In the subjoined table is shown how the principal foreign cottons on the market compare in price with these native cloths. It will be noticed that the wholesale rates are very much lower, and the retail prices considerably cheaper than what is demanded in Shanghai cloth shops for the native produce. But then, as a foreign piece goods merchant remarked, this is easily explained. The native cloth lasts forever; the foreign import does not.

One item of import deserves especial remark. Sixty-four red white shirtings, costing 0.64c. per square foot wholesale, are dyed pink by the local dyes, and retailed at 1.53c. On submitting a sample to a foreign expert, he declared that such color, if imported, would not find a market in Shanghai. This is the more remarkable, that this native-dyed foreign shirting is largely used for women's and children's clothes, especially for what may be called gala dress. All attempts to place on the markets cottons dyed to the shade of blue, affected by the Chinese working classes, have resulted in failure. — *Manchester Trade Recorder*

TARIFF CHANGES AND THE WOOLLEN TRADES

(Philadelphia Textile Record.)

THE following exhibit of the comparative imports of wool and woollens for the years 1885 and 1886 is of marked interest. The imports of both the raw materials and fabrics for last year were, it will be observed, largely in excess of the imports for the preceding year. Thus, while the American manufacturer has suffered much, the American wool grower has suffered more. Every pound of the wool and every yard of the fabric in excess of previous importations represents just so much loss to our domestic industries. If there is a lesson to learn from

these figures surely it is not that there is need for further surrender of our market to foreigners who grow, spin, weave and knit wool.

IMPORTS FOR TWELVE MONTHS ENDING DECEMBER 31.

	1886.	1885.
Clothing wools	\$ 5,500,013	\$ 3,712,897
Combing wools	2,262,151	1,286,746
Carpet and other similar wools	9,640,935	7,889,608
Total	\$17,403,099	\$12,919,251
Carpets and carpetings of all kinds	\$ 1,511,492	\$ 1,080,081
Clothing, ready-made and other wearing apparel, except shawls and knit goods	1,577,272	1,434,012
Cloths	9,941,582	9,167,720
Dress goods, women's and children's	15,754,278	13,907,629
Knit goods	2,126,818	1,759,751
Rags, shoddy, munge, waste, and flocks	1,582,506	100,837
Shawls	1,114,255	890,944
Yarns	2,693,604	1,123,178
All others	7,663,705	6,189,621
Total	\$43,995,512	\$35,953,776

Secretary Manning this month again urged Congress to repeal the duty on raw wool and thus "remove the tax from the clothing of sixty millions of people." If Mr. Manning wants to make the agricultural interests, constituting about one half of the sixty millions, nearly unanimous against the return of his party to power, he is working on just the right lines. It might be thought that even a politician imbued with free trade notions would understand the decisive vote of the people last fall against such schemes as this. When the American people want the duty off of wool they will elect a Congress that will take it off. Only three months ago they elected a Congress that will certainly keep it on. And, if the sixty suffering millions wish to pay that kind of a tax on their clothing, why should Mr. Manning worry himself about them? It looks as if he, had he the power, would remove the duty in defiance of expressed public opinion, and in such an event he might discover that his method of blessing was not unlike the ordinary method of cursing. The same ground may be taken with reference to Mr. Randall's proposition to admit certain classes of wool free of duty. There is no general demand for such a proceeding; and there is a certainty that it would open wide the doors to fraud. The only thing that ought to be done in the matter of tariff legislation for textiles is to repair the very hurtful blunder in the worsted clause, by putting worsteds where they really belong, among high class woollens.

AN AMERICAN VIEW OF THE COTTON GOODS TRADE.

(Boston Manufacturers' Gazette.)

AFTER examining the detailed statement of exports of cotton piece goods from Great Britain the past two years, prepared by the British Board of Trade, and making due allowance for England's superior advantages in many respects, it is a matter of regret that our own country, the chief source of supply of the raw material, should not have an export trade in the goods which would at least reach an aggregate equal to the amount of increase in England's shipment during a single year to markets geographically as near to us as Central and South America, the West Indies and Mexico. These, naturally are our markets. It appears that England's total exports during 1886 reached the enormous total of 4,850,030,200 yards, valued at \$250,851,170. In the year previous the exports were 4,374,516,500 yards, valued at \$241,384,275. We have thus an increase of not less than 475,513,700 yards for the past year,

347,553,800 yards in uncolored and 127,379,300 yards in colored goods the balance being in mixtures. This enormous gain has been mainly in shipments to a few of the many countries where English cottons are marketed; and it is a significant fact that, aside from the East Indies, the older markets have not been relatively as liberal customers as those that have been more recently developed.

This new phase of England's cotton export movement should set our own people to the work, for it shows what can be done in the way of developing new markets, as well as holding on to old ones. The figures also show that the trade which has been lost in certain quarters has been more than compensated by the increase. The yards of cotton goods sent to countries which are naturally our own foot up a gain of 148,447,100 yards in the amount sent to South America, 16,403,293 yards to the West Indies, 5,535,100 yards to Mexico and 592,000 yards to Central America.

As the case now stands, England has practical monopoly of the cotton export business, her goods being sold in over fifty different foreign countries. In the quantities exported we find a large increase in uncolored cottons. Yet there is some hope of American manufacturers touching this important trade. Authorities anticipate a good trade with India, China, Japan, and the far East. Meanwhile a strong effort should be made to sell our cotton goods to our foreign neighbors.

CHEMNITZ HOSIERY WARES.

(Kublow's German Trade Review.)

BUSINESS is just moderate at Chemnitz. Purchases are gradually restricting themselves merely to the replenishing of stocks. A good demand, however, has been experienced for smooth colored goods, particularly from New York. Now that the busy season is over, more time may be taken over the execution of orders than previously, and at this rate manufacturers will be moderately engaged for some little time with orders on hand. There is little doing in ribbed hosiery, and prices are at an abnormally low level. All-silk gloves are in fair request for certain qualities; a repetition of last season's heavy demand for this article is not to be expected next, however, and many establishments will be restricting themselves to the more profitable manufacture of woollen articles. Enquiries for combed yarn goods are not coming in so freely as had been expected; although the market is very firm at present, buyers are thinking that over-production will later on bring prices down. Hence the reticence. Some good commissions for woollen gloves have been received from New York.

A HINT TO DYERS.

DYERS, as a rule, are aware that when they attempt to duplicate a color made where they had to use hard water, that the same quantity of drugs, where soft water is used, will not produce the same shade. In such a case, he adds more drugs to produce his shade; and if it be a sobered color, he is surprised to see how much more stuff he was obliged to use. Oftentimes he will think that the drugs are of an inferior quality, when in reality they are equal to what he has been in the habit of using. The fact is this, hard water does not require as much drugs as water which is soft; and if where soft water is used, they add a small amount of lime or ground chalk to their dye bath, it will make the water as hard as that which they use where they dye samples, and then they will have less trouble in matching those samples. *Wald's Fibre and Fabric.*

THE advance sheets of the American Bureau of Statistics show a remarkable increase in the importation of clothing wools for the eleven months ending November 30th, compared with a corresponding period for 1885. In 1885 imports amounted to \$17,784,740. In 1886, \$31,298,068, nearly double. The lowering of the duty will increase this.

BRITISH TEXTILE STATISTICS.

EXPORTS OF WOOLLENS AND YARNS FROM THE UNITED KINGDOM.

	TOTAL EXPORTS.	TO UNITED STATES.	TO GERMANY AND HOLLAND.
1872 ...	£38,000,000	£6,300,000	£15,000,000
1874 ...	29,100,000	4,200,000	8,900,000
1877 ...	21,600,000	1,600,000	5,600,000
1880 ...	21,500,000	2,500,000	4,300,000
1881 ...	22,000,000	2,200,000	3,900,000
1882 ...	23,100,000	2,800,000	3,800,000
1883 ...	22,500,000	3,000,000	3,600,000
1884 ...	25,200,000	3,100,000	4,200,000
1885 ...	24,500,000	2,900,000	4,200,000
1886 ...	25,500,000	3,900,000	4,300,000

EXPORTS OF BRITISH TEXTILES TO THE UNITED STATES.

The official returns of the Board of Trade from which the following table is compiled, show the exports of the principal textile goods from the United Kingdom to the United States, during the month of December, 1884, 1885 and 1886, and also for the twelve months ending December 31st, in each year. In the latter case the returns are printed in italics. In those instances where the quantity is not given, owing to the nature of the exports, the value is substituted.

	1884.	1885.	1886.
Sheep and lambs' wool.....	321,900 lbs. 8,687,900 "	1,760,000 lbs. 12,765,200 "	500,900 lbs. 12,426,300 "
Cotton piece goods.....	3,614,400 yds. 53,229,300 "	3,660,300 yds. 46,154,400 "	4,354,400 yds. 45,251,200 "
Jute yarn.....	1,058,500 lbs. 10,268,600 "	1,905,300 lbs. 14,474,800 "	1,126,400 lbs. 16,716,000 "
Jute piece-goods	10,622,500 yds. 123,083,000 "	8,181,700 yds. 107,228,400 "	14,233,200 yds. 119,400,300 "
Linen yarn.....	32,500 lbs. 708,800 "	71,900 lbs. 1,053,700 "	101,600 lbs. 1,318,900 "
Linen piece-g'ds	4,800,900 yds. 69,632,100 "	5,655,900 yds. 69,839,700 "	6,640,900 yds. 83,116,500 "
Silk broadstuffs	50,301 "	58,345 "	83,374 "
Other articles of silk only	174,736 "	592,082 "	424,824 "
Art'les silk mix'd w' other ma'ls	£1,796	£2,216	£2,516
Woollen fabrics	£48,986	£38,878	£59,781
Worsted fabrics	£17,943	£23,172	£51,698
Apparel & slops	£513,836	£371,977	£629,901
Haberdashery & millinery....	290,500 "	397,700 "	738,800 "
	5,298,900 "	4,602,400 "	7,059,500 "
	2,005,200 yds.	3,563,000 yds.	3,139,200 yds.
	5,297,400 "	5,387,800 "	44,721,300 "
	£7,445	£6,769	£7,732
	£106,773	£102,246	£105,612
	£10,916	£13,714	£13,804
	£273,224	£171,291	£196,488

MR. E. VOIGTSANG, of Port Elgin, is in town, looking for some hands for his button factory which has been started in the above place. Any parties who want a job, especially turners and sawyers, can leave their names at once at this office. - *Berlin News.*

MR. JOSEPH DIXON is running the Ruthven Woollen Mills, in Gosfield, Ontario, Canada, on flannels, blankets, tweeds, and general domestics. He sells direct, principally to the people of his vicinity. He operates Davis & Furber jacks and the Crompton loom. - *Philadelphia Textile Recorder.*

THE most kindly relations exist between the 200 employees of the Hamilton Cotton Company and Mr. J. M. Young, the manager, and a member of the firm, and on Friday night, with his aid, the employees and their friends celebrated the extension of the company's buildings and machinery by holding a social reunion in the new premises.

A LITTLE difficulty has been experienced in getting the Marysville Dye Works in full working order, but that has been overcome and the works are now running in full blast. The first colored goods will, it is expected, be turned out to-day. The goods will be placed in the market in a few days. Orders have been received for large quantities of the goods. *Fredericton Gleaner.*

Milling.

ONTARIO'S MILLING INTERESTS.

THE flour milling interests of Ontario are not generally understood, and consequently their importance is much underrated. In Ontario there are about 2,000 grist and flour mills, nearly 1,000 of which have within the past few years undergone vast improvements, necessitating an immense outlay of capital, consequent upon the change from the old stone system of grinding to the new roller process. From enquiries we have instituted, it has been ascertained that the cost of placing a combination set of rollers in a mill, has ranged from \$4,000 to \$5,000 in quite a number of instances, but for machinery suitable for high class patents, the refitting of an ordinary sized mill has cost from \$10,000 to \$12,000. A very moderate estimate places the total amount of capital expended in transforming the mills in Ontario from the old system to the new at between \$6,000,000 and \$7,000,000. The adoption of the roller system was undoubtedly a much needed improvement, which has completely revolutionized the milling industry of Ontario, and will tend vastly to the furtherance of its best interests.—*Trade Bulletin.*

CURRENT NOTES.

(*American Miller, Chicago.*)

A CORRESPONDENT asks us a question which has been sent us many times before, and shows that a mistaken notion is widespread in regard to patented machines. The question is whether a party can make a machine for his own use, that is patented. He cannot, unless he is willing to trust the chances of a lawsuit. The law makes no distinction between the vendor and the user of patented articles, holding both equally liable for such damages as may be awarded.

THE scheme to provide water power for light manufacturing in cities, through the instrumentality of the waterworks, is not feasible so far as such cities as Chicago, Milwaukee and many other cities are concerned. The simple reason is that the water must first be pumped up before the head of water is gained, and this represents perhaps two or more times the power which the water would yield when utilized afterward by a motor. Obviously, water power distributed through the mains of our great cities is yet a dream of the future; it is too costly.

BRITISH farmers complain that their railroads assist to the full extent of their ability in making profitable wheat-raising impossible in England. It is said that it costs more to transport wheat a hundred miles in England than it does to send it from America. Of course wheat does not go very far to find a market in Great Britain; but if we had such charges here as they have in Great Britain, very little freight would go from West to East. The various parts and parcels of this world are getting pretty close to each other, too close for comfort, it appears, sometimes.

NOTWITHSTANDING the epidemic of legislation to protect the poor granger from the red-handed grist miller, we notice no law that is quite so beautifully inconsistent as the Illinois law on the subject of toll. In this state the law permits the miller to take an eighth for grinding and bolting, and a seventh for the single service of grinding. By what process of reasoning did the originator of the toll law arrive at such a decision as to what was due the miller? Manifestly because he thought an eighth part was greater than a seventh part. We can believe that of some state legislators.

EXPLOITING MILLERS AND BAKERS BY MEANS OF INDIAN WHEATS.

A COMPANY is projected for this purpose at Bristol, and is described thus in the *Millers' Gazette*, Dec. 20: "The Bristol Grain Washing Company is the title of a new company proposed for the purpose of acquiring and developing the business of washing and drying Indian wheat by special machinery, now carried on at Avonmouth Dock by Mr. R. M. Brinkworth, the well-known corn merchant of Bath. The capital is £20,000 in 2,000 shares of £10 each, of which 1,200 shares are offered to the public." To pay five per cent yearly dividend on the above capital would require a clear profit of £1,000, over and above working expenses and maintenance, and this must come from the buyers of the washed wheat, and those who pay for the flour from the wheat. If millers and bakers are content to buy, the one wheat and the other flour, without any reference to the amount of moisture these products contain, this latest form of parasitism on milling and baking should not only make five per cent. yearly, but much more with the greatest ease. As a means of enriching shapers, there is nothing to equal Indian wheat. It is started from India with a mean of six per cent. moisture, and, after washing and drying on this side of the ocean, is found to contain eighteen per cent. when ready for milling, thus, the Bristol company, buying in India and selling here would make a gain of twelve pounds on every hundred less two per cent. of foreign matters washed from the wheat, or a net gain of ten pounds. Thus also, the miller buying washed wheat would pay the price of wheat for the added water, but would lose on his flour, because while the wheat might contain eighteen per cent., the flour would have only between fourteen and sixteen per cent. On the whole, I don't think this Bristol enterprise will succeed; it is clear to me it does not deserve to do so.—*W. A. Thoms in British and Foreign Confectioner.*

ACCORDING to the *Statist*, the average price of wheat in Great Britain in 1886 was lower than in any year since 1761, being 31s. 1d. per quarter. The highest annual average reached during the period named was 126s. 6d. per quarter in 1812, and 1835, 1851, 1884, 1885, and 1886, are the only years in the present century in which the annual average has gone below 40s. per quarter.

WITHIN the last twenty years the average annual production of grain to each inhabitant of the United States has increased from 32½ to 52½ bushels; while at the same time the cost of transportation from Chicago to New York has decreased 3.45 cents to .68 of a cent per ton per mile. Thus the western farmers, in spite of their distance from market, have been able to make a profit on their superabundant products, while eastern consumers have been benefited to a remarkable extent by the cheapening of all staple articles of subsistence.

A MELBOURNE circular says the wheat crop promises to be a six-bushel average in South Australia and is a complete failure in the Queensland district, the rust having destroyed all hope of a yield. In the north of Australia the crop will run from 35 to 40 bushels to the acre on a small area of irrigated land, while on dry land the yield will be only about four bushels to the acre. This is an enormous difference, and may well be supposed to furnish a powerful argument in favor of the artificial watering which has already worked such wonders in the Rocky Mountain districts of the United States and the further west. The uncertainty of the rainfall in Australia appears to be the great drawback of that country to the agriculturist.

THE *Mark Lane Express* is very strongly advocating a protective duty on imports of foreign wheat and flour, claiming it to be the only hope for British farmers. Its leading editorial in the issue of December 27th, says: "Farmers as a rule, are worse off than they were a year ago, and there does not appear to be any nearer prospect of legislative assistance from the government than there was then. Without that we fail entirely to see where the remedy is to come from in time to save the present generation of farmers from absolute ruin, and the agricultural interest from decay. We trust that more energetic efforts will be made by farmers to force the matter on the attention of the legislators and make it plain to consumers that they can not be fed at a loss."

Lumber.

THE FREE ENTRY OF FOREIGN-SAWED LUMBER.

APPLICATION TO THE UNITED STATES SECRETARY OF THE TREASURY FOR THE PREVENTION OF THE ALLEGED EXTENSIVE EVASIONS OF THE LUMBER TARIFF.

(Bangor Whig.)

MEMORIALS setting forth that great frauds upon the revenue have been committed under the guise of the laws granting free entry of lumber manufactured in the British provinces by American citizens from logs cut in the State of Maine, have been numerous signed by the principal lumbermen of the Penobscot and Kennebec Rivers and forwarded to the Secretary of the Treasury through our members of Congress, with request that the department set in motion effective agencies for the prevention of the violations of law complained of. Representative Boutelle recently received a number of these memorials signed by the most prominent lumber manufacturers of Bangor, Old Town, Orono, Milford and the vicinity representing the business on the Penobscot River, forwarded to him by Messrs. W. T. Pearson & Co., and on Tuesday he called personally on Secretary Fairchild with the papers and had an interview with him in regard to this important matter.

The secretary expressed a very earnest desire to do anything in the power of the department to remedy the evils represented, but stated some of the difficulties encountered, and the importance of having the co-operation of American lumber manufacturers with the revenue authorities in the matter of discovering and punishing fraudulent importation. The interview resulted in the following correspondence:—

TREASURY DEPARTMENT,
FEBRUARY 15th, 1887.

Hon. C. A. Boutelle, U.S. House of Representatives, Washington, D.C.

SIR,—Referring to the petition of Messrs. Wm. T. Pearson & Co., Adams & Co., and others of Bangor, Maine, submitted by you to the Department, concerning alleged frauds in the importation of sawed lumber from New Brunswick, claimed to be the productions of the forests of the State of Maine, I transmit herewith a letter this day addressed to the said parties, which I will thank you, after perusal, to cause to be forwarded to the proper address. Respectfully yours,

C. S. FAIRCHILD,
Acting Secretary.

TREASURY DEPARTMENT,
OFFICE OF THE SECRETARY,
WASHINGTON, D.C., Feb. 15th, 1887.

Messrs. Wm. T. Pearson & Co., Adams & Co., and others,
Bangor, Maine:

GENTLEMEN,—The department is in receipt through the Hon. C. A. Boutelle, of your petition without date, concerning alleged frauds in the importation of sawed lumber from New Brunswick, which is claimed to be the production of logs cut in the State of Maine, and sawn in the Province of New Brunswick by American citizens, and to be entitled to free entry under the provisions of section 2,505 and 2,506 of the Revised Statutes, as contained in the Act of March 3rd, 1883.

The petition represents that great frauds exist in such importation in that a comparatively small amount of Maine timber is mingled with the great drives of the St. John River in New Brunswick, which are floated to the mills in that Province and there manufactured, and that the product, consisting principally of foreign lumber, is then imported into the United States, and admitted to free entry as of the productions of the State of Maine, manufactured in New Brunswick by American citizens.

The department is unable to take any definite action upon the general statement made in said petition. If you will, however, forward particulars concerning any transactions of which you have knowledge, specifying the names of importers, and importing vessels, dates of importations, and other data, the department will cause careful investigation to be made with a view to detect such frauds, and to prevent their recurrence in the future.

Respectfully yours,
C. S. FAIRCHILD,
Acting Secretary.

THE *Southern Lumberman* predicts an unusually brisk trade for poplar and yellow pine the coming season, claiming that the scarcity of dry stuff in the Northwest will leave the Southern lumber dealers practically without opposition.

MR. GEORGE A. LOUD, of the Oscoda Salt and Lumber Company, returned last week from the Georgian Bay district, in Algoma, where he is banking several million feet of long timber and short logs for the American market. When the south extension of the Algoma branch of the Canadian Pacific is completed next summer it will be quite easy for Michigan lumbermen to reach the pine forests of the Serpent, Spanish and French rivers, going via Mackinaw and the Sault in place of via Toronto.—*Lumberman's Gazette, Bay City, Michigan.*

THE latest novelty is in the shape of a rope moulding machine. It was invented and patented by Mr. John Connor, an employee of the firm of Messrs. M. Brennen & Sons, and is called the "Connor Rope Moulding Machine." The principal feature is that it will feed itself. It does not require the pieces to be made round before putting in the machine, but a square stick, any size required, can be put in and come out completed, thus producing the fancy ornamentation faster and more perfect than by the ordinary method. There is one in working order at Messrs. Brennen's factory. It has been examined by skilled workmen and pronounced the best machine for the purpose ever invented.—*Hamilton Spectator.*

A GERMAN astronomer has found reasons for believing that the zodiacal light and the aurora borealis result from the reflection of sunlight by water and ice.

THE teeth of an individual often vary greatly in hardness at intervals, and a Berlin physician, W. D. Miller, is experimenting to show that this is due to a varying proportion of lime salts in the food.



NOTICE TO CONTRACTORS.

EXTENSION OF TIME.

The time for receiving tenders for

NEW EXAMINING WAREHOUSE,

AT

OTTAWA,

is hereby extended to TUESDAY, 15th MARCH.

By order.

A. GOBELL,
Secretary.

Department of Public Works,
Ottawa, 28th February, 1887.

Mining.

OTTAWA VALLEY PHOSPHATES.

THERE are at present eight phosphate mines carrying on active operations in the neighborhood of the Lievre river. They are situated at a distance of from nine to twenty-three miles north of the village of Buckingham, and are known as the Emerald mines (American company), the Little Rapids mine (Canadian owner), Battle Lake mine (Anglo-Canadian Phosphate Company), McLaren's mine (Canadian owner), the North Star mine (American company), High Rock mine (English company), Union mine (American company), High Falls mine (Anglo-Canadian Phos. Co.). Between 400 and 500 men in all are employed at these mines. Machinery of some kind is used at most of them, and air compressors are employed at the High Rock, Little Rapids, and North Star mines.

Besides these mines several other phosphate localities on the Lievre have been worked at various times, and with varied success.

The deepest mine on the river, the North Star, has already sunk to the distance of almost 450 feet from the surface. The second deepest is Battle Lake mine, which has reached almost 250 feet in an inclined shaft.

The Anglo-Canadian Phosphate Company, the owners of the Battle Lake and High Falls mines, are also working on a large scale a mine in North Burgess, five miles from Perth, and known as the Otty Lake mine. It is one of the very best phosphate mines in Canada. An air compressor, capable of working seven steam drills, has been put up and proves very serviceable in working the rich phosphate veins on the property. The output of phosphate in 1886 was 18,968 tons, as against 23,849 tons in 1885, and 20,747 tons in 1884. This falling off in product was largely due to the low price offered for Canada phosphate, and is only temporary.

The phosphate is shipped down the Lievre in scows in the summer time and loaded at Buckingham on cars for Montreal, whence it is shipped to the various markets in Great Britain and Europe.

The quality of the phosphate is very good, some shipments averaging over 85 per cent. phosphate of lime. One shipment from the North Star mine averaged 86.48 per cent.

AMERICAN IRON ORES.

MARKED INCREASE IN THE PRODUCTION OF THE METAL—GREAT DRAIN ON THE ORE DEPOSITS.

WASHINGTON, Feb. 20th, 1887.—Major John W. Powell, Director of the Geological Survey, has furnished the following for publication:

The great increase in the production of pig iron from 4,529,869 short tons in 1885 to 5,600,000 short tons during the year 1886 has led to much inquiry as to the source of the ores which made this increase possible, for it is a well known fact that even the ordinary production is a drain upon the ore deposits sufficient to exhaust the present sources of actual supply in a short period—perhaps in thirty years, more probably in much less time. The Government has given sufficient attention to the general geology of the country, however, to afford a good grasp on the distribution of the iron ores, and the geologists have also defined the character of the ores so well as to direct the explorers accurately to the profitable fields.

The statement was made last year by me that within thirty years the necessary exploration for new iron ore mines would exceed that of Great Britain, where every available deposit is being traced to the furthest extent. The years 1885 and 1886 have shown the justice of this prediction in the development of

new fields to support the increased production. The new Gogebic district, which produced 1,022 tons in 1884, increased to 111,661 tons in 1885, and increased this four fold in 1886, has been the scene of unparalleled developments, and the same is true of the Vermilion district of Minnesota.

The confidence with which capital has been invested in these new claims is due to the advice of the geologists to extend the mines in this direction. That the new mines are the result and not the cause of the increased production of iron and steel is shown by the increased imports of Spanish ores during the last year as the result of higher prices. This shows that the remedy for prospective exhaustion is still further exploration for the mines to which the geologist points in various parts of the country. Many of the large deposits have been neglected as not suitable for making steel by the ordinary acid process, and in others the percentage of iron is not attractive. But much attention will undoubtedly be given to these ores within the next few years. This tendency is seen at one locality in Tennessee by the increase from 70,757 long tons in 1884 to 94,319 long tons in 1885, and even the siliceous ores at Cornwall, Pa., show increased use.

A PITTSBURG (Pa.) natural gas company, the largest one in the country, supplies over 400 manufactories and over 7,000 dwellings with the entire amount of fuel consumed.

ARKANSAS is not keeping pace with some of her Southern sisters in the matter of iron development, but she is developing a product which is equally, if not more, valuable. Her coal deposits are vast, rivaling those of any State except Pennsylvania, while the quality is excellent, the coal being a semi anthracite, containing an unusual amount of fixed carbon. The coal resources of the State have been neglected in the race after riches in the shape of iron and other minerals, but are now being estimated at their proper value and development begun in a large number of places. The districts bearing coal in paying quantities are estimated at 7,680,000 acres or 12,000 square miles. New discoveries are being made every day, and the time is not far distant when Arkansas will easily and cheaply supply the wants of the trans-mississippi section.—*Industrial Gazette.*

PROBABLY no application of science is developing more rapidly than photography. Among recent appliances is a detective camera in the form of a watch, with a charm to hold a supply of miniature of dry-plates, and a telescopic camera in which distant objects are brought near by telescopic aid and photographed.

A NEW use has been found for the goose. An enterprising firm in St. Thomas, Ont., known as the St. Thomas Featherbone Company, take goose quills, strip them of the feathers, split them into narrow strips, spin these and bind them and weave them so as to form soft, elastic and durable ribs for corsets and dressmaking purposes. They in addition manufacture corsets, with these ribs as the foundation. It is claimed by the manufacturers that these ribs are unsurpassed for the purpose mentioned and that, although the process of manufacture is comparatively new, they are coming into use very largely in the United States and Canada. In any case the goose quill, discarded on the invention of the steel pen, is again becoming a remarkable article.

OREGON wheat growers have long received so little for their product that many have become discouraged and are abandoning this business for other branches of farming. It is quite probable that if low prices of wheat continue that the State will cease to grow any for export. California wheat growing has been largely reduced by the greater profit made from putting the land into vineyards. In Oregon the substitute for wheat will probably be stock-growing. Winters are so mild that cattle and sheep browse all the year, or at most need feeding only a week or two. The decline in wheat growing is directly attributable to the extortions of the transportation companies. In enforcing their Shylock rule of taking all that the product will bear, they have lately done more than seizing their legal pound of flesh, and have been drawing blood. Wages are as high in Oregon and California as in Eastern States, the popular prejudice against the Chinese preventing the supply of cheap labor on the Pacific coast that formerly enabled it to compete with Eastern-grown products.—*Manufacturers' Gazette.*

\$50

If you think of spending fifty or one hundred dollars in advertising, send us copy of your advertisement, and we will tell you free of charge what will be the best possible investment for you to make. Send 10 cts. for our 176 page pamphlet. Address,

GEO. P. ROWELL & CO'S NEWSPAPER ADVERTISING BUREAU
10 Spence Street, New York.

THOMPSON & CO.,
SHERBROOKE, QUE.,
MANUFACTURERS OF

BOBBINS AND SPOOLS

For Woolen, Cotton and Rope Mills.

Extra facilities for supplying new mills and filling large orders.

CORRESPONDENCE SOLICITED
ORDERS PROMPTLY FILLED.

MACHINE BRUSHES,

All kinds, Made to Order.

Highest Quality of Work Guaranteed.

Send full particulars of Dimensions and Quality when ordered.

OLD ROLLERS OR BLOCKS RE-FILLED WITH SPECIAL CARE.

CHAS. BOECKH & SONS,

MANUFACTURERS.

Office and Warerooms:

Factory:

80 YORK STREET.

142 to 150 Adelaide St. West.

TORONTO, CANADA.

ARMSTRONG'S BUGGY AND CARRIAGE GEAR.

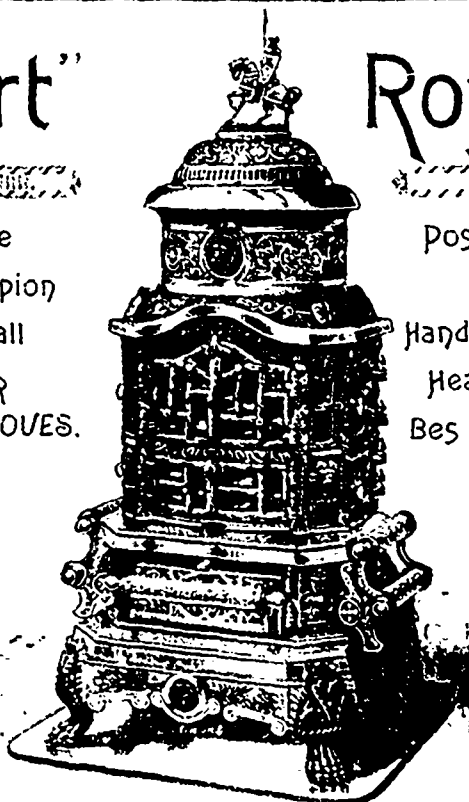
The "Defiance"

THIS GEAR meets the demand of the Driving Public for low riding Buggies, and combines with this, lightness, durability, and great ease of motion. By the use of improved machinery and manufacturing in large quantities, we are enabled to make prices *very* low. Send for our descriptive circular.

J. B. ARMSTRONG MFG. CO. (Ltd.), Guelph, Ont.

"Art"

The
Champion
of all
PARLOR
STOVES.

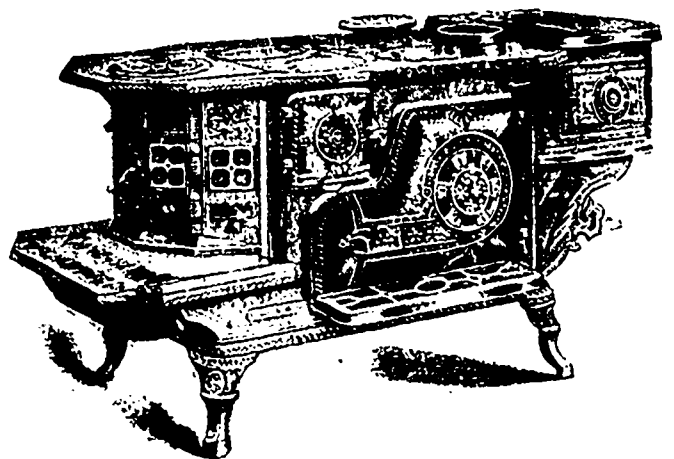


Royal

Positively
the
Handsomest,
Heaviest,
Best Made.

NEW COMBINATION

FOR COAL OR WOOD.



WISSENG, MASS., MARCH 9th, 1886

McCLARY MFG. CO.,

DEAR SIR, I have used your Combination Cook Stove for nearly two years and am very much pleased with it. It has given entire satisfaction both as a coal and wood stove, and I find it can be changed from coal to wood or vice versa with little trouble. Used as a coal stove, the fire can be kept in all night as readily as a best hall stove. It is just the stove for this climate.

Yours truly,

J. H. BROCK OF CARRUTHERS & BROS.

THREE SIZES PARLOR.
No. 36, No. 40, No. 44.

TWO SIZES WITH OVEN.
No. 48, No. 50.

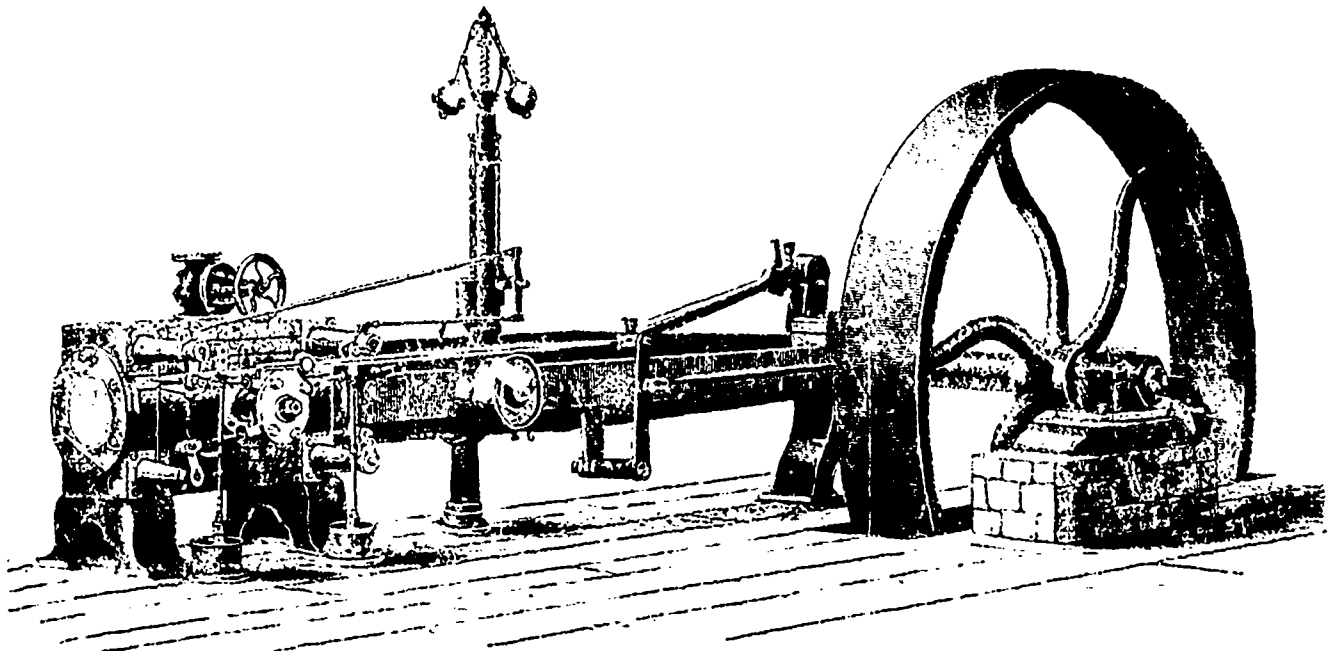
MANUFACTURED BY

McClary Mfg. Co'y.

London, Toronto, Montreal and Winnipeg.

THE GALT FOUNDRY,

Engine and Machine Works.



THE HARRIS-CORLISS STEAM ENGINE

Is the most perfect Cut-off Engine made. For Economy of Fuel, Regulating of Speed, Accessibility of all its Parts, it has many Imitators, but no Equals, and is Unsurpassed.

While many Engines of the same class have been invented, built, tried and abandoned, the Harris-Corliss has steadily gained in public favor, and is now

Without a Successful Rival.

PLEASE NOTICE SOME OF THE ADVANTAGES OF THE HARRIS-CORLISS ENGINE:

- 1st. The steam is admitted at boiler pressure to the piston by the main valve and is cut off at the same point, the lead determining through the regulator when the supply of steam shall be cut off. This is the only Engine that thus admits steam at full boiler pressure.
 - 2d. The success of the Harris-Corliss Engine is due to the simplicity and perfect adjustment of the governing elements, the Governor is an independent mechanism with no extraneous work, and it constantly responds to all variations in the negative velocity of rotating parts.
 - 3d. No parts of the regulating medium enter the steam chest, except by the nozzle of sight of the engineer, and subject to the corrosive action of steam and the oil used for lubricating the valves and piston.
 - 4th. Regularity of Speed under varying loads of steam pressure.
 - 5th. Recessed Valve Seats which avoid the liability of wearing shoulders on them.
 - 6th. Stop Motion on Regulator of Engine which effectually stops the Engine when necessary to be regulated by any means fast to perform its work, thus preventing the Governor from running away.
 - 7th. Having four Valves either can be adjusted independently of the other with the governor.
 - 8th. The increased amount of power it develops.
- We would draw your attention to our new and improved Adjustable Pillow Block, which is pronounced by all practical men who have seen it to be the best in the world.

COWAN & CO.,

Galt, Ont., Canada.

Manufacturers of Engines, Boilers and Wood-Working Machinery—all kinds, new Patterns, highly finished.

Steam Pumps
AND
Hydraulic
Machinery
OF
All Descriptions.

NORTHEY & COMPANY

HYDRAULIC ENGINEERS.

SPECIALTY:
Northey's
PATENT
STEAM
PUMPS.

Works and Office: Corner Front and Parliament Streets, Toronto, Ont.

The NORTHEY PUMP

IS THE—

Simplest and Most Durable Pump in the Market!

PUMPS FOR ALL DUTIES OF LATEST AND BEST DESIGN

AIR PUMPS

FIRE PUMPS

ACID PUMPS

TANK PUMPS

MOTEI PUMPS

MASH PUMPS

MINING PUMPS

POWER PUMPS

HYDRAULIC PRESS PUMPS

ILLUSTRATED

Catalogue and
Price List

BOILER
FEED
PUMP

MARINE
PUMPS

WRECKING
PUMPS

OIL
LINE PUMPS

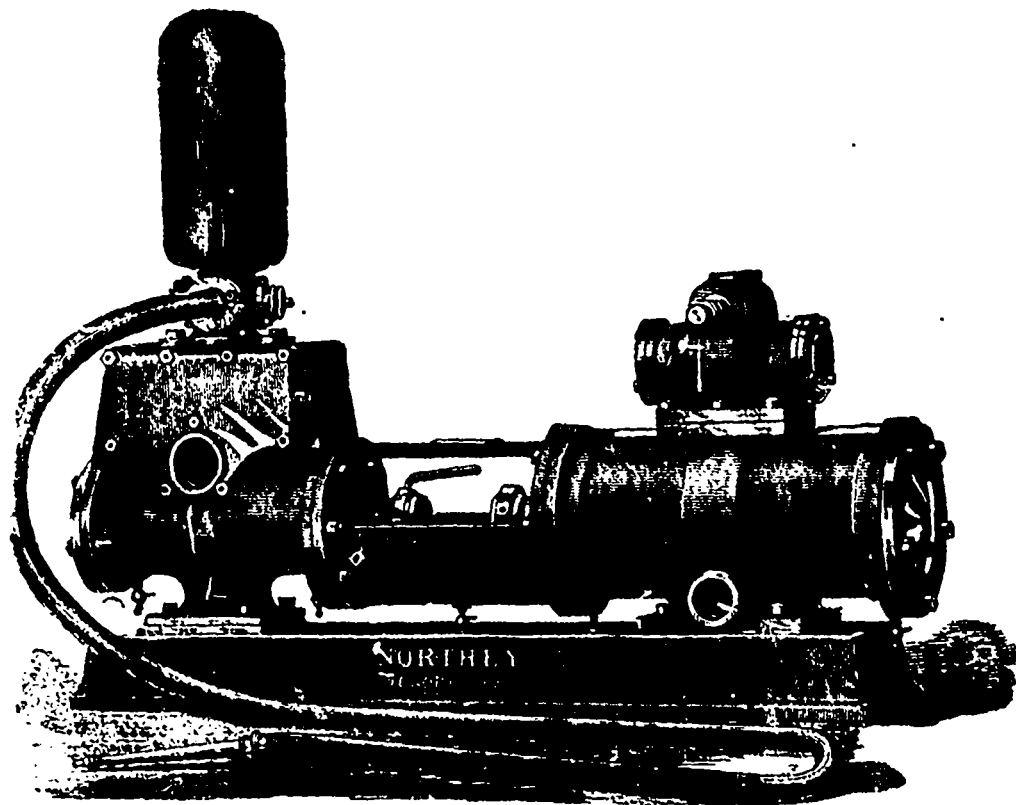
REFINERY
PUMPS

AIR
COMPRESSORS

GAS
COMPRESSORS

ALL
WORK

AND
GUARANTEED



Ordinary Pattern Boiler Feed or Fire Pump. For Pumping Water against Heavy Pressure. Simple—Compact—Powerful.

Complete Waterworks Plant for Towns, Villages, &c.,

—A SPECIALTY.—

CORRESPONDENCE INVITED.



ROBIN & SADLER,
 MANUFACTURERS OF
LEATHER BELTING

SEND FOR PRICE LISTS AND DISCOUNTS.

MONTREAL, 2518, 2520, 2522, Notre Dame St.

TORONTO, 129 Bay St.

TELEPHONE 110 B.

TELEPHONE 1101.

Mill Owners in the West will find it to their advantage to order their BELTING from our Toronto House.

We guarantee their orders well and promptly filled, for we keep on hand all sizes from 2 to 16 inch, **SINGLE AND DOUBLE**; also: Lace Leather, Belt Hooks, Belt Punches, etc., etc.

Nova Scotia Steel Co., Limited,

NEW GLASGOW, NOVA SCOTIA,

(Only Steel Works in Canada).

MANUFACTURERS OF

Hammered and Rolled Steel

MADE BY THE

SIEMENS-MARTIN (OPEN HEARTH) PROCESS.

ROUND MACHINERY STEEL for Shafting, Spindles, etc. MILD STEEL for Rivets, Bolts Thresher Teeth, and many purposes where Norway Iron is now used.

SPECIAL SECTION PLOW BEAMS, MILD STEEL CENTRE AND SOLID MOULD BOARDS, COULTER STEEL HARROW DISCS,

AGRICULTURAL STEEL CUT TO PATTERN, SPRING, SLEIGH SHOE, TYRE, TOE CALK AND CROSS BAR STEEL, STEEL NAIL PLATE.

Binder Bars, Z and other Special Sections.

STEEL MOWER BARS.

Particular attention given to the manufacture of Rake, Cultivator and Harrow Teeth, and other Agricultural Spring Steel Forgings.

FOLDING AND EXTENSION

Iron and Steel

Gates and Guards

(PATENTED JUNE 8th. 1882.)

FOR Banks, Vaults, Elevators, Public Buildings, Asylums, Factories, Houses, Driveways, Stores, Theatres, Stables, Baggage, Express, Postal and Sleeping Cars, Express and Delivery Wagons, Windows, Doors, &c.

THE
Ontario Folding Iron Gate and Guard Co.

OFFICE AND MANUFACTORY:

THE FENSOM ELEVATOR WORKS,

34, 36 AND 38 DUKE ST., TORONTO.

Correspondence solicited and Illustrated Catalogues furnished on application.

1873. **GRIP!** 1887.

CANADA'S COMIC JOURNAL.

ANNOUNCEMENT FOR THE COMING YEAR.

GRIP is now so well known as to require very little of either description or praise. It is

The Only Cartoon Paper in Canada,

and it is furnished at about ONE-HALF THE PRICE of similar journals in the United States.

GRIP'S CARTOONS.

in addition to being strictly impartial when they refer to politics, are always on the side of patriotism and morality

The late improvements are universally admired. The journal is enlarged to 10 pages, and it is printed upon heavy toned and well-calendered paper. This gives both the engravings and the letter-press a beautiful appearance. And, notwithstanding this enlargement and improvement, the price of GRIP is

Only \$2 a year; Single Copies, 5 cents,
(the price it commanded when but a four page sheet).

GRIP'S PLATFORM:

Humor without Vulgarity; Patriotism without Partizanship Truth without Temper.

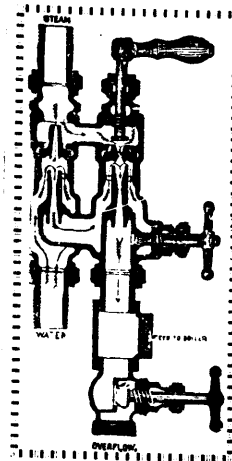
Do not be without this favorite Canadian Cartoon Paper. Its price places it within the reach of all.

Address the Grip Printing and Publishing Co., 26 and 28 Front Street West, Toronto. New subscribers, sending \$2, will receive the paper the balance of 1886, and to 31st December, 1887.

TO ADVERTISERS.

A list of 1000 newspapers divided into STATES AND SECTIONS will be sent on application -- **FREE.**
To those who want their advertising to pay, we can offer no better medium for thorough and effective work than the various sections of our **Select Local List.**

GEO. P. ROWELL & CO.,
Newspaper Advertising Bureau,
10 Spruce street, New York



JAMES MORRISON,

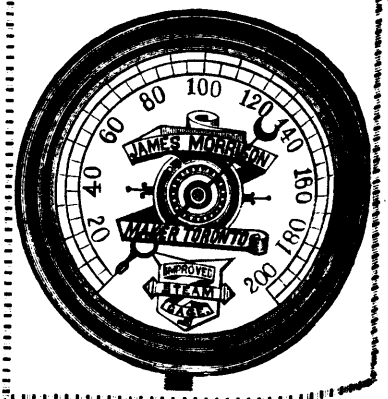
IMPORTER AND MANUFACTURER
OF

Steamfitters' and
Plumbers' Supplies

75 & 77 ADELAIDE ST. WEST,
TORONTO.

SANITARY EARTHENWARE Now in Stock: Morrison's Washout Hopper National Water Closet.

- Crown Water Closet.
- Inodoro Water Closet.
- Perfect Water Closet.
- Jenning's Valve Closet.
- Demarest Valve Closet.
- Alexander Valve Closet.
- A full stock of Washbasins, Urinals, etc.
- Also, complete stock of Wrought Iron Pipe and Fittings.
- Brass and Iron Valves.
- Plumbers' and Steamfitters' Brass Work.
- Rubber Hose, Belting, Packing, etc.
- Sole Canadian representative of the Celebrated Hancock Inspirator.



ADVERTISERS

Can learn the exact cost of any proposed line of Advertising in American Papers by addressing

Geo. P. Rowell & Co's

Newspaper Advertising Bureau, 10 Spruce St., New York.

Send 10 cts. for 176 Page Pamphlet.

NEW WATERLOO

All Cast Self-Feeding Furnace.

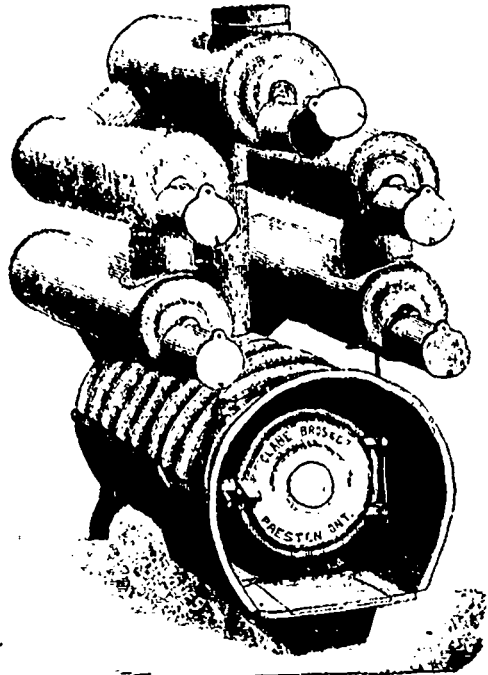
HILBORN

Hot Air Wood Burning Furnace.



CLARE BROS. & CO.
PRESTON.

Warranted the most economical and Purest of the cost of operation of Coal and Wood of All Furnaces and Registers in the world.



is an advance of all others. The most economical, durable and powerful gas tight furnace made. Can be operated as self-feeding or fed through the front door. Is fitted with a New Dock-Ash Gear Grate, the best grate known—a simple turning of the lever instantly clearing the fire surface of all ashes and cinders. Has a large Ash-Pan, a Special Fire Pot, a deep sand joint at the hottest part, allowing for expansion, renders the most durable pot made. The Radiator presents five times as much surface to the action of the fire as ordinary furnaces, and can be more easily cleaned. This Furnace fitted up in the best manner, with bronze hinge pins and knobs, dust door, etc., and undoubtedly the most economical furnace made.

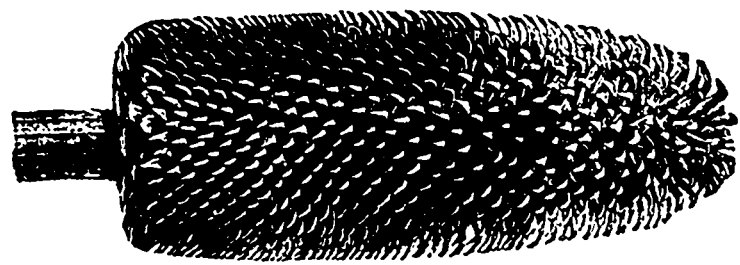
This Furnace, made in six sizes, is unequalled for efficiency, economy, ease of management, durability. Is corrugated and made very heavy. The openings of heavy sheet steel (with cast iron ends and collar connections), well riveted together so as to prevent the leakage of gas and smoke from unequal expansion and contraction. It has been largely in use for several years, and has never failed to give the most perfect satisfaction to purchasers, thus differing and entirely superseding all other wood-burning Furnaces heretofore made. Farmers who have a surplus of wood to fit for the market will find therein a great relief from the vexation and annoyances of pulling down and setting up ordinary heating stoves and pipes, wood boxes, etc. We furnish the four finger sizes with other round doors, as shown on cut, or with extra large square doors.

J. L. JONES
WOOD ENGRAVER
10 KING ST. EAST
TORONTO
SEND FOR PRICES.

W. H. BANFIELD,
TORONTO,
MACHINIST AND DIE MAKER,
MANUFACTURER OF
Foot and Power Presses,
Combination and Cutting Dies,
Tinsmiths' Tools, Knitting Machines, etc.
CUTTING AND STAMPING TO ORDER FOR THE TRADE
Special Attention paid to Repairing Factory Machinery.
78 WELLINGTON STREET, WEST

THOMAS C. KELLOGG,
SKANEATELES N.Y., U.S.A.,

Trassle H. Grown, Cured and Packed in Own Premises.
2707 York Office,
301 BROADWAY,
A. H. BROWN, Manager



DESIRED SIZE.
IN ANY
CLIPPED AND PACKED
AMERICAN TRASSLES,
AND
GROWER OF
HEATHER NET

T. H. EATON & SON, Windsor, Ont., and Detroit, Mich., Agents for Ontario.
Correspondence Solicited. Samples sent by Mail upon Application.

**THE BELL
Telephone Co'y
OF CANADA.**

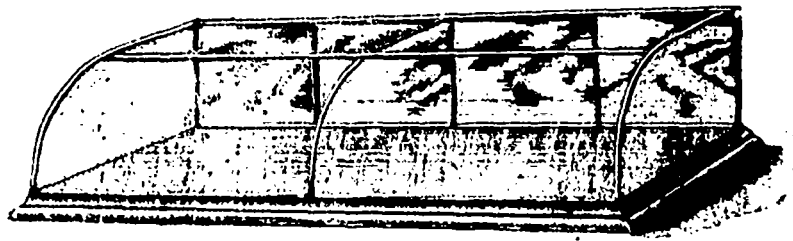
-Manufacturers and Dealers in-

Telegraph & Electrical

**INSTRUMENTS,
Electro-Medical Apparatus,
Fire Alarm Apparatus,
Magnets for Mills
Electrical Gas Lighting Apparatus,
Burglar Alarms,
Hotel and House Annunciators,
Electric Call Bells, &c., &c.
For further particulars apply to
No. 12 HOSPITAL STREET,
MONTREAL.**

**DOMINION SHOW CASE
MANUFACTURING CO'Y**

J. F. WAGNER,
C. SCHACK,
H. G. LAURENCE
WM. JARD.



SILVER MEDAL
Toronto Exhibition, 1876
FIRST PRIZE
Provincial Fair, OTTAWA, 84
SEND FOR CATALOGUE AND
PRICE LIST

Show Cases, of Every Description in Nickel, Silver
Walnut, Ebonized, Etc.
HARDWOOD STORE FITTINGS, METAL SASH BARS, Etc.
SHOWROOMS AND FACTORY
59, 61 and 63 Adelaide St. West, TORONTO, Ont.

Canada Tool Works. **JOHN BERTRAM & SONS** DUNDAS, ONT.

MANUFACTURERS OF

MACHINE TOOLS AND WOOD WORKING MACHINERY.

Special attention is directed to our new heavy class of Lathes, with *Inverted V Shears, large Bearing Surfaces*, and all the
PARTS INTERCHANGEABLE.



In our List will be found the following:

- Lathes, Planers, Drills, Bolt Cutters
- Punches and Shears,
- Boiler Makers' Rolls, Slotting Machines,
- Milling Machines,
- Cutting-off Machines, Slitting Lathes
- Palley Turning Lathes,
- Wood Planing and Matching Machines,
- Surface Planers
- Moulding Machines, Mortising Machines
- Tenoning Machines, Band Saws,
- Scroll Saws,
- Wood-Turning Lathes, Timber Dressers,
- Etc., Etc., Etc.

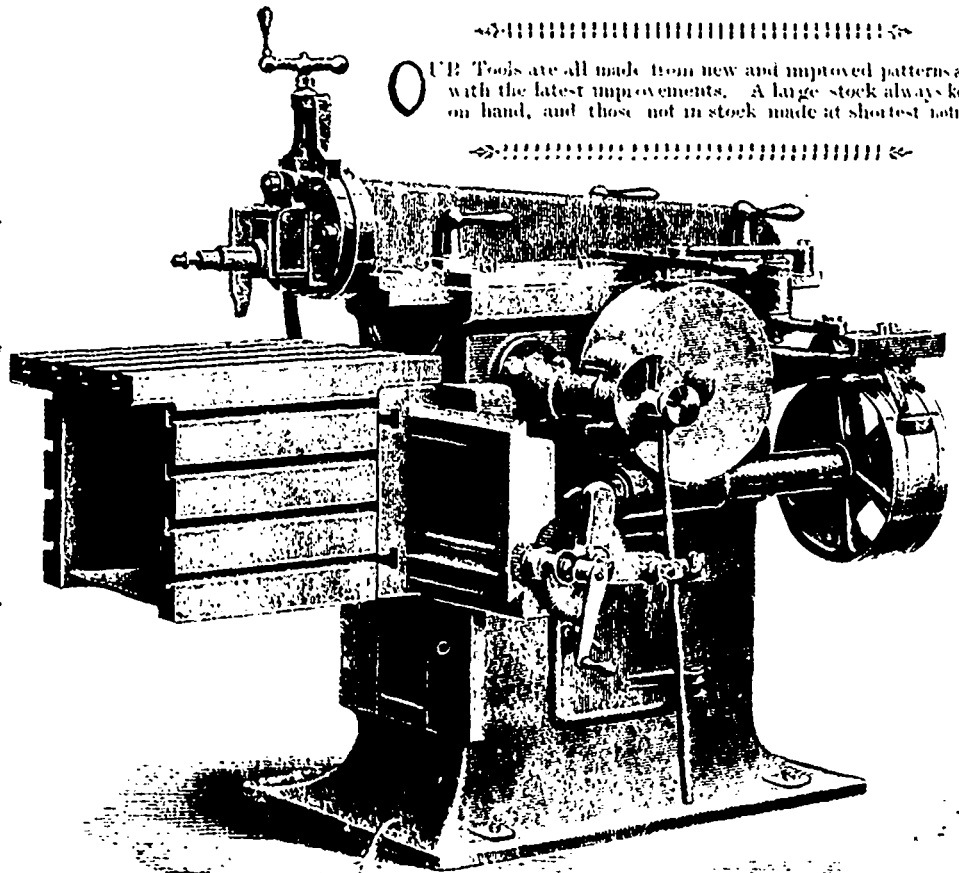
Complete Sets of Machinery for Locomotive
Works, Car Works, Implement Works,
Cabinet Factories, Planing Mills,
Machine Shops, Etc., Etc.

Write for Prices and Catalogues.

BUSINESS ESTABLISHED 1862.



OUR Tools are all made from new and improved patterns and with the latest improvements. A large stock always kept on hand, and those not in stock made at shortest notice.



Parks' Cotton Manufactures

Awarded the Only "Gold Medal" Given at the Toronto Exhibition of 1885, for Cotton Goods.

Fancy Wove Shirtings.

FAST COLORS, FULL WEIGHTS
Quality always Equal to Samples sent out.

COTTONADES.

Our celebrated line of Lansdowne Tweeds, the best value, for least cost, of any made in Canada.

BALL KNITTING COTTONS.

Better Spun, Twisted, Bleached and Dyed than any other in the Market. For Sale by all Wholesale Houses.

No Goods Genuine Without Our Name Upon Them.

NO PRIVATE BRANDS.

WILLIAM PARKS & SON (Limited),

ST. JOHN, N.B.

AGENTS:

Wm. Hewett, Toronto;
Duncan Bell, Montreal;
Bedard, Girard & Co., Quebec.



No. 1021.

Tile Register Grate, Fire Brick
Back and Sides.

Embossed Tile Hearths.

Polished Brass Kerb Fenders. Brass Fire Sets and Andirons.

WRITE FOR CATALOGUE.

RICE LEWIS & SON,

IMPORTERS, TORONTO.

THE WELLINGTON MILLS LONDON

GENUINE EMERY

OAKEY'S Flexible Twilled Emery Cloth.
OAKEY'S Flint Paper and Glass Paper.
OAKEY'S Emery Paper, Black Lead, &c., &c.

PRIZE MEDAL AND HIGHEST AWARD PHILADELPHIA, 1876
For Superiority of Quality, Skillful Manufacture, Sharpness,
Durability, and Uniformity of Grain.

Manufacturers: JOHN OAKEY & SONS Wellington Mills,
WINDMILL BRIDGE ROAD, LONDON, ENGLAND

Enquiries should be addressed to

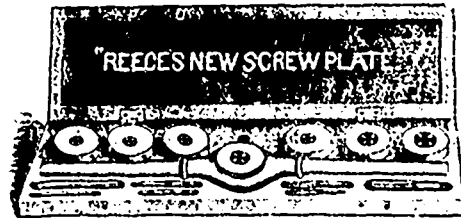
JOHN FORMAN, 467, ST. PAUL ST., MONTREAL.

THE MAN WHO SPENDS MONEY

For advertising in newspapers in these hard times, without first obtaining an estimate of the cost from GEO. P. ROWELL & CO'S Newspaper Advertising Bureau, 10 Spruce Street, New York, is likely to pay \$10 for what might be obtained for \$5. Such estimates are furnished to all applicants gratis. Send 10 cent for 176 page pamphlet with list of newspaper rates and reference.

PERFECT THREADS AT ONE CUT.

Reece's New Screw Plates.



CUT SHOWING SIZE C COMPLETE IN BOX.

Size C cuts 1, 5-16, 2, 7-16, 3, 1, 1/2 and 7/8 inch.

Price, complete, \$29.

SIZE A. SAME STYLE.

Cuts 1, 5-16, 2, 7-16 and 1/2 inch.

Price, complete, \$18.

SIZE B. SAME STYLE.

Cuts 1/2, 3/4, 7/8 and 1 inch.

Price, complete, \$21.

SIZE D. SAME STYLE.

Cuts 2, 7-16, 3, 1, 1/2, 3/4 and 1 inch.

Price, complete, \$25.

SIZE E. SAME STYLE.

Cuts 1, 5-16, 2, 7-16, 3, 1, 1/2, 3/4 and 1 inch.

Price, complete in box, \$29.

ALL OTHER DIES AT CORRESPONDING PRICES.

We furnish Collet and Die same as used in our Reece's New Screw Plate, to fit stocks B, D and large C stock, Little Giant, also B and C Wiley & Russell Lightning Screw Plate.

THE BEST PLATE IN THE WORLD.

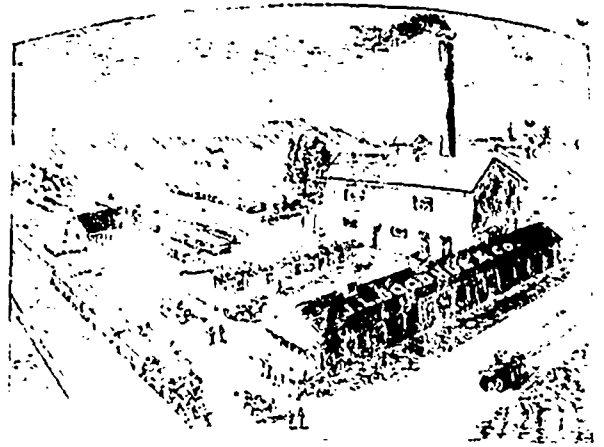
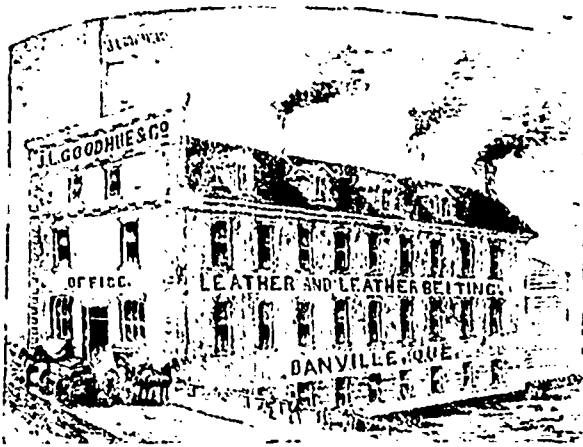
MANUFACTURED BY

BUTTERFIELD & CO.,

Derby Line, Vermont, and Rock Island, Quebec.

PATENTED IN CANADA, JULY 3, 1885

PATENTED IN UNITED STATES, JUNE 23, 1885.



J. L. GOODHUE & CO.

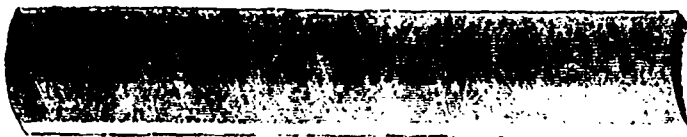
ORDERS PROMPTLY FILLED. **LEATHER BELTING** WRITE FOR PRICES.

✻ DANVILLE, P. QUE. ✻

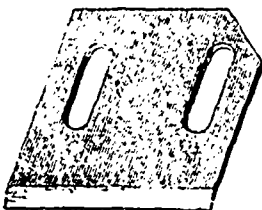
GALT MACHINE KNIFE WORKS.

PLANING MACHINE KNIVES. 

STAVE CUTTER KNIVES.



STAVE JOINTER KNIVES.



MOULDING, TENONING,
MITREING,
SHINGLE JOINTER,
And other irregular shapes.

Cheese-box and Venetian Paper Cutting, Leather Splitting and any special knife made to order. SEND FOR PRICE LIST. ALL WORK WARRANTED.

PETER HAY, GALT ONT.

Millers' and Manufacturers' INSURANCE COMPANY.

STOCK AND MUTUAL OBJECTS.

1. To prevent by all possible means the occurrence of avoidable fires.
2. To obviate heavy losses from the fires that are unavoidable by the nature of the work done in mills and factories.
3. To reduce the cost of insurance to the lowest point consistent with the safe conduct of the business.

METHODS.

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

Much dependence will be placed upon the obligation of members to keep up such a system of discipline, order, and cleanliness in the premises insured as will conduce to safety.

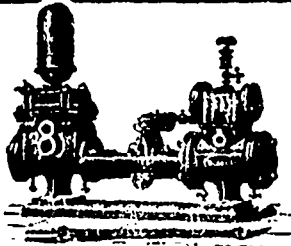
As no agents are employed and the company deals only with the principals of the establishments insured by it, conditions and exceptions which are so apt to mislead the insured and promote controversy and litigation in the settlement of losses will thus be avoided.

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

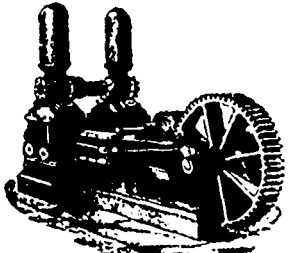
W. H. HOWLAND, Vice-President. **JAMES GOLDIE, President.**
HUGH SCOTT, Managing Director.

Applicants for Insurance and other information desired, please address **MILLERS' AND MANUFACTURERS' INSURANCE COMPANY,** No. 24 Church Street, Toronto

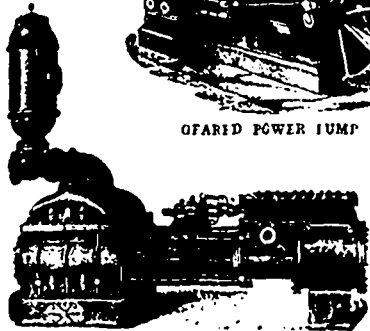
Geo. F. Blake Manufacturing Co.,



BOILER FEED PUMP



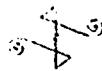
GEARED POWER PUMP



DUPLEX COMPOUND ENGINE

BUILDERS OF
SINGLE AND DUPLEX
Steam and Power

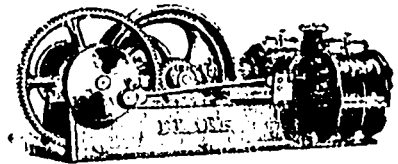
Pumping Machinery



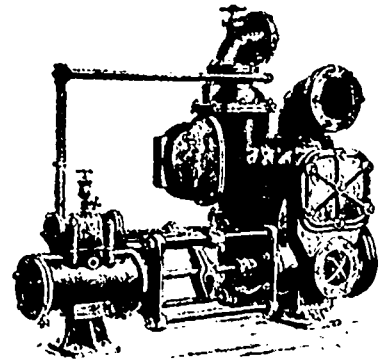
BOSTON,
44 WASHINGTON STREET.

NEW YORK,
93 LIBERTY STREET.

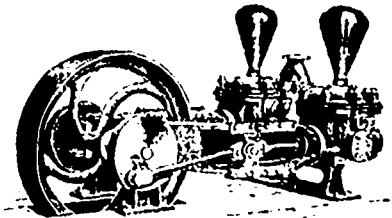
SEND FOR ILLUSTRATED CATALOGUE.



AIR COMPRESSOR



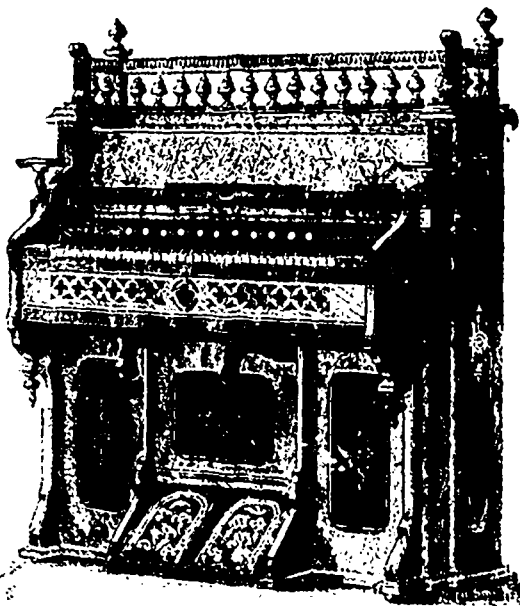
AIR PUMP AND CONDENSOR



BELT PUMP

BELL ORGANS

FOR
Chapel,
Church,
Lodge,
Parlor.



ARE THE BEST



OUR Large Double and Single Manual Organs are the best in the Market, and Musicians should see them before buying elsewhere.

CATALOGUES
SENT ON APPLICATION



W. BELL & CO.,

GUELPH, CANADA.

Industrial and Trade DIRECTORY.

Acids and Aniline Dyes.

THEO. H. FATON & SON, Windsor, Ont.; Detroit, U.S.A.—Importers Every Description **Pure Aniline Dyes** for Cotton and Woollen Manufacturers. Dyed Samples furnished on application. Address all correspondence to Head Office, Detroit, Mich.

Agricultural Implements.

A. S. WHITING MANUFACTURING CO., Cedar Dale, Ont.—Manufacturers of scythes, forks, hoes, etc.

WELLAND VALE MANUFACTURING CO.—Lock No. 2, St. Catharines, Ont., Canada—Manufacturers of axes, scythes, forks, hoes, rakes and edge tools.

Bobbins and Spools

THOMPSON & CO., Sherbrooke, P. Q.—Manufacturers of all kinds of Bobbins and Spools for Cotton and Woollen Mills—Special patterns made to order from sample.

Bridge Builders.

DOMINION BRIDGE CO. (Limited),—Shops at Toronto, Ontario, and Lachine, Quebec. Builders of Steel and Iron Railway and Highway Bridges.

Chemicals.

DOMINION DYEWOOD AND CHEMICAL CO., Toronto. Importers and Manufacturers. Chemicals for Cotton, Woollen, Paper and Leather Manufacturers.

M. ARTHUR, CORNEILLE & CO. (successors to John McArthur & Son), Montreal.—Offer at lowest figures chemicals required by soap-boilers, oil refiners, paper-makers, and by manufacturers of woollens, cottons, leather, &c.

Cotton Mills.

HAMILTON COTTON MILLS CO., Hamilton.—Denims, shirtings and yarns.

Dyes, Dyeing Drugs and Extracts.

THEO. H. FATON & SON, Windsor, Ont.; Detroit, U.S.A.—Carry full line of Pure Dyeing Drugs, Dye Woods and Extracts adapted for the requirements of Woollen and Cotton Manufacturers. **Paper Makers' Anilines** at 100 Centimes. Address the Detroit Office.

Dye Stuffs.

M. ARTHUR, CORNEILLE & CO. (successors to John McArthur & Son), Montreal.—Supply of best quality at lowest prices. Every description of coloring materials required by manufacturers of woollens, cottons, silks, paper, leather, &c. Are sole agents in Canada for the celebrated aniline dyes of A. Perrier, Paris.

LYMAN BROTHERS & CO., Nos. 71 and 73 Front Street East, Toronto—Dye Stuffs of all kinds for Woollen and Cotton Manufacturers; Wraps, Shuttles, Bobbins, Card Clothing, etc., etc.

Dyewood and Dye Stuffs, Aniline Dyes.

DOMINION DYEWOOD AND CHEMICAL CO., Manufacturers.—Pure Dyewoods, Dyeing Drugs. Sole Agents. English, German, and French Aniline Dyes, for Woollen, Silk, Paper, and Leather manufactures.

Edge Tools

WELLAND VALE MANUFACTURING CO.—Lock No. 2, St. Catharines, Ontario, Canada.—Manufacturers of axes, scythes, forks, hoes, rakes and edge tools.

Emery Wheels.

HART EMERY WHEEL CO., Hamilton.—Manufacturers of every description of Emery Wheels and Emery Wheel machinery.

Files.

G. OUTRAM & SON, Dominion File Works, Montreal.—Manufacturers of every description of files and rasps.

Gas Engines.

JOHN DOTY, Toronto.—Manufacturer in Canada of the new "Otto" silent gas engine, two, four, and seven horse power; not larger.

Glove Manufacturers.

W. H. STOREY & SON, Acton, Ont.—Manufacturers of fine gloves and mitts in every variety and style.

Harness and Trunks.

S. & H. BORBRIDGE, Ottawa.—The largest saddle, harness, and trunk manufactory combined in Canada. Wholesale and retail. Offer the trade and the public generally the largest assortment of goods in their line in the Dominion at lowest prices.

Hoist and Elevator Manufacturers.

LEITCH & TURNBULL, Canada Elevator Works, cor. Queen and Peter Streets, Hamilton, Ont.—Patent Safety Hydraulic, Hand, and Power Elevators. Telephone connection.

Hubs, Spokes and Bent Goods.

F. W. HORE & SON, Hamilton, Ont.—Manufacturers of wheels, wheel material, shafts, poles, etc.

COWAN & CO., Galt.—Manufacturers of every description of wood working machinery.

H. R. IVES & CO., Montreal.—Hardware manufacturers and founders; iron railing and ornamental iron work a specialty.

JOHN BERTRAM & SONS, Dundas.—Machine tools and wood working machinery.

THE OSHAWA MALLEABLE IRON CO., Oshawa, Ont.—Manufacturers of malleable iron castings to order, for all kinds of Agricultural Implements and miscellaneous purposes.

SMITH'S FALLS MALLEABLE IRON WORKS, Smith's Falls, Ont.—Manufacturers to order of refined malleable iron castings from air furnace. Agricultural and other heavy castings a specialty. Carriage castings in stock.

Inspirators and Ejectors.

THE HANCOCK INSPIRATOR CO., Montreal.—Manufacturers of inspirators, ejectors, and general jet apparatus.

Engines and Boilers.

JOHN DOTY, Toronto.—Engines and boilers of every description and capacity, also shafting, pulleys, and hangers for factories.

Knife Works.

THE WHITMAN & BARNES MANUFACTURING CO., St. Catharines, Ont.—Manufacturers of mowing and reaping machine knives, sections, guard plates, cutting apparatus complete, spring keys and cutters, etc.

Knitting Mills.

S. LENNARD & SONS, Dundas.—Manufacturers of plain and fancy hosiery.

Leather Belting.

DOMINION BELT AND HOSE CO., Toronto.—Oak tanned belting, lace leather, etc.

Manufacturers' Supplies.

E. JENCKES MANUFACTURING CO., Pawtucket, R. I.—Sole manufacturers of Hick Improved U. S. Standard Ring Travellers Belt hooks, gimlet pointed wire goods, spring rings, cotton banding, twine, &c. Manufacturers' supplies. Leather belting and lace leather. Special agents for Jos. Noone's son cloths.

Oils.

M. ARTHUR, CORNEILLE & Co (successors to John McArthur & Son), Montreal.—Afford best value in pure olive and lard oils, also in all other leading lines of vegetable, animal, and mineral oils for factory use. Invite special attention to their celebrated crown diamond "engine" and "machinery" oils.

Paper Manufacturers.

WM. BARBER & BROS., Georgetown, N. B.—Manufacturer of book and fine papers.

Saw Manufacturers.

R. H. SMITH & CO., St. Catharines.—Manufacturers of all kinds of saws, plastering trowels, straw knives, etc. Sole manufacturers for the Dominion of Canada of the celebrated "Simond's Saw."

SHURLY & DIETRICH, Galt, Ont.—Manufacturers of circular and cross-cut saws, plastering trowels, etc.

Scythe Snaths.

THE DOMINION SNATH COMPANY, Sherbrooke, Que.—Manufacturers of Patent Swing Socket, and every variety of Scythe snath.

Tanners' and Wool Pullers' Supplies.

THEO. H. FATON & SON, Windsor, Ont.; Detroit, U.S.A.—Supply at lowest prices all Chemicals used by Tanners and Wool Pullers. **Special Anilines for Sheep Skin Dyers**, Wool Mat Manufacturers, etc., etc. Address correspondence to Head Office, Detroit, Mich.

Taps and Dies.

BUTTERFIELD & CO., Rock Island, P. Q.—Manufacturers of Taps, Dies, and all Screw Cutting Tools.—Telegraph Office, Derby Line, Vt.

Wire Works.

B. GREENING & CO., Hamilton, Ont.—Manufacturers of wire ropes, cloth and general wire workers.

TIMOTHY GREENING & SONS, Dundas, Ont.—Manufacturers of the strongest description of steel wire cloth, malt kiln floors and general wire weavers. Telephone connection.

D. MORRICE, SONS & CO., Manufacturers' Agents, MONTREAL & TORONTO.

HOCHLAGA COTTONS.

Brown Cottons and Sheetings, Bleached Sheetings, Canton Flannels, Vests, Pajamas, Ducks, etc.

ST. CROIX COTTON MILL.

Tickings, Denims, Apron Checks, Fine Fancy Checks, Gingham, Wide Sheetings, Fine Brown Cottons, etc.

ST. ANNE SPINNING CO. (Hochlaga)

Heavy Brown Cottons and Sheetings.

Tweeds, Knitted Goods, Flannels, Shawls, Woolen Yarns, Blankets, etc.

The Wholesale Trade only Supplied

JAMES LESLIE
MANUFACTURER OF
MACHINE CARD CLOTHING AND LOOM REEDS.

LEATHER
BELTING
LACE
LEATHER
&
HOSE

COTTON
AND
WOLLEN
MILL
SUPPLIES

COTTON LOOM HARNESS AND WIRE HEDDLES
OFFICE AND FACTORY
JUNCTION OF CRAIG AND ST. ANTOINE STREETS.
MONTREAL.

THE INTERCOLONIAL RAILWAY OF CANADA.

—♦—
*The Royal Mail Passenger and Freight
Route between Canada and
Great Britain,*

AND
Direct Route between the West and all
points on the Lower St. Lawrence and Rive
de Chaleur, also New Brunswick, Nova
scotia, Prince Edward's Island, Cape Bre-
ton, Newfoundland, Bermuda and Jamaica.

—♦—
New and elegant Buffet Sleeping and Day Cars
on Through Express Trains.

Passengers for Great Britain or the Continent
by leaving Toronto per 8.30 a.m. train Thursday,
will join outward Mail Steamer at Halifax a.m.
Saturday.

Superior Elevator, Warehouse and Dock accom-
modation at Halifax for shipment of grain and
general merchandize.

Years of experience have proved the Inter-
colonial, in connection with Steamship lines to
and from London, Liverpool and Glasgow to
Halifax, to be the quickest Freight route between
Canada and Great Britain.

Information as to Passenger and Freight Rates
can be had on application to

ROBERT B. MOODIE,

*Western Freight and Passenger Agent, 95 Rossin
House Block, York Street, TORONTO.*

D. POTTINGER,

*Chief Superintendent,
Railway Office,
Moncton, N.B., Nov. 22nd 1886.*

VICTORIA WIRE MILLS.



Best brands of Crucible Cast, Siemen's-Martin, and Bessemer Steel and
Charcoal Iron Rope. Cast Iron Wheels for transmitting power. Moulders'
Bellows, Brushes and Riddles; Iron and steel Wire Cloth, all grades and
strength. Perforated Zinc, Iron and Steel, all sizes. Bank and Office
Counter Railings. Wire Guards, all kinds. Sand and Coal Screens;
Sofa and Chair Springs. Blind, Furniture and Fence Staples. Dilome's
Adjustable Wire Sieve. Ornamental Wire Work, &c.

Send for Circulars, mentioning your requirements.

B. GREENING & CO.,
HAMILTON, Canada.



▶ **L**ET US SEND ESTIMATES FOR YOUR
CATALOGUE CUTS BEFORE
ORDERING ELSEWHERE

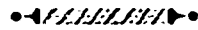
DESIGNS OF PICTURES, MACHINERY, ETC

Engraving and Lithographing.

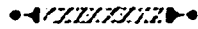
THE
George Bishop Engraving and Printing Co'y.
LIMITED.

167 AND 169 ST. JAMES STREET,
MONTREAL.

THE
Dartmouth Ropework Co.



HALIFAX, NOVA SCOTIA.



MANUFACTURERS OF

MANILLA, SISAL AND
TARRED RUSSIAN CORDAGE,

MARLINE, HOUSELINE,

HAMBROLINE, SPUN YARN AND OAKUM.



SPECIAL ATTENTION GIVEN TO

Binder Twine.

INTENDING ADVERTISERS

GEO. P. ROWELL & CO.,

10 Spruce Street, New York City.

FOR SELECT LIST OF 1,000 NEWSPAPERS.

Will be sent FREE, on application

ST. CATHARINES SAW WORKS.



R. H. SMITH & CO.,
 ST. CATHARINES, ONT.

Sole Proprietors in Canada of the

"Simonds" Saws

AT GREATLY REDUCED PRICES

Our goods are manufactured by the "Simonds" process, and our circular saws are unequalled. We also manufacture the Genuine Hand, Edge Tooth, Diamond New Improved Champion, and all other kinds of Cross Cut Saws. Our Hand Saws are the best in the market, and as cheap as the cheapest. Ask your Hardware Dealer for the St. Catharines make of saws.

THE LARGEST SAW WORKS IN THE DOMINION.

HAMILTON
COTTON COMPANY

MANUFACTURERS OF

THE STAR BRAND

COTTONADES, DENIMS, TICKINGS

- Star Brand- BEAM WARP.
- .. HOSIERY YARN
- .. BUNDLE YARN
- .. CARPET WARP.
- .. BALLED KNITTING YARN

First Prize, Silver Medal, for Beam Warps and Denims, Toronto, 1881.

General Agents,

F. McELDERY & CO.,

204 M'GILL STREET, MONTREAL

22 & 24 COLBORNE ST., TORONTO

THOMAS ROBERTSON & CO.,

MERCHANTS IN

Pig Iron, Bar Iron, Steel, Metals and Tin Plates

MANUFACTURERS OF

BRASS GOODS.

Wrought Iron Tubing for Gas, Steam or Water.

BOILER TUBES MADE FROM IRON, STEEL, COPPER or BRASS.

Representing Leading Makers in Great Britain of

Pig Iron, Bar Iron, Steel and Iron Plates, Machinery and Cast Steel
 Ingot Copper, Tin, Antimony, Lead, Spelter; Boiler Rivets; Best
 Scrap and Lowmoor Scrap; Sheet Copper, Brass, Lead and
 Zinc; Cast Iron Plates, Tin Plates, Tin Sheets, Galvanized
 Sheets, Russia Sheet Iron, Black Sheet Iron; Boiler
 Tubes, Iron Pipe, Lead Pipe, Steam Fittings, Gas
 Fittings; Engineers' and Plumbers' Brass
 Goods; Seamless Copper and Brass Tubes,
 Sanitary Ware; Engineers', Steam
 Fitters', Plumbers' and Gasfitters'
 Supplies; Railway Equipment.

GLASGOW:

Office, - 3 Oxford Street, S.S.
 Gorbals & Govan Tube Works.

JOHN WILSON, Glasgow.

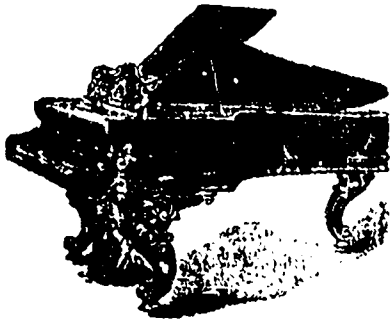
MONTREAL:

Stores, Common & Colborne.
 Office, 9 & 11 Chenneville St.

JAMES R. WILSON, Montreal.

HEINTZMAN & CO.,

MANUFACTURERS OF



GRAND,
SQUARE,
AND UPRIGHT
PIANOFORTES.

SEND FOR ILLUSTRATED CATALOGUE.

Warerooms, - 117 King St. West,
TORONTO.

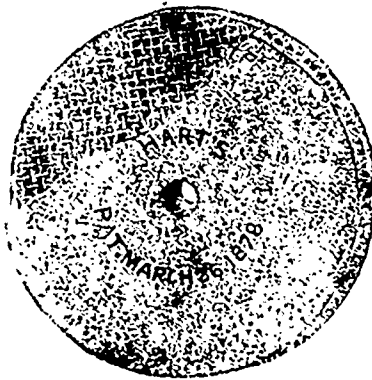
DOMINION FILE WORKS
G. OUTRAM & SON,
MONTREAL

Oldest Established File Works
IN
CANADA.

MACHINERY.

Steam Engines,
Steam Boilers,
Pumping Machinery.
Lathes, Planers,
Drilling Machines.
Machinists' Tools and Supplies.
Shafting, Hangers, Pulleys.

Machinery Supply Association,
Cor. **BLEURY & CRAIG STS.**
MONTREAL.

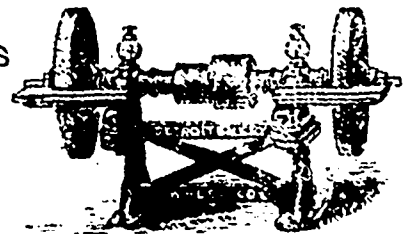


HART
Emery Wheel
COMPANY
(LIMITED),
Hamilton, Canada.

MANUFACTURERS OF
EMERY WHEELS

FOR
FOUNDRIES, MACHINE SHOPS,
SAW MILLS, & PLANING MILLS.
SEND FOR CIRCULAR.

Also
MANUFACTURERS
OF—
EMERY WHEEL
MACHINERY.



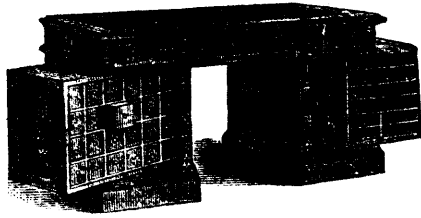
Illustrated Price List sent on Application.

W. STAHLSCHEMIDT & CO.,

PRESTON, ONT.,

MANUFACTURERS OF

School, Office, Church and Lodge
Furniture.



ROTARY DESK

No. 50.

Send for Circulars and Price List. Name this
paper.

S. LENNARD & SONS

DUNDAS, ONT.

PATENTEES OF THE "ELYSIAN" SEAMLESS HOSIERY.

Manufacturers of Plain and Fancy
Hosiery, Caps, Tuques, Sashes,
etc., etc., etc.,

To the Wholesale Trade only.

Represented in Eastern Ontario, Que-
bec, Nova Scotia and New Brunswick
by

F. W. NEWMAN & CO.,
21 Lemoine St., Montreal.

In Manitoba by
PEDDIE & CO.,
WINNIPEG, MANITOBA.

In Western Ontario by
S. LENNARD,
Senior Member of the Firm.

ESTABLISHED 1820.

EAGLE FOUNDRY.

GEORGE BRUSH,

14 TO 34 KING AND QUEEN STREETS, MONTREAL,

Maker of

STEAM ENGINES,
STEAM BOILERS,
HOISTING ENGINES,
STEAM PUMPS,
CIRCULAR SAW MILLS,
BARK MILLS,
SHINGLE MILLS,
ORE CRUSHERS,
MILL GEARING,
SHAFTING,
HANGERS AND
PULLEYS.

HAND AND POWER HOISTS FOR
WAREHOUSES, &c., &c.,

and Agent for

"Water's" Perfect Steam Engine Governor, and
"Heald & Sisco's" Centrifugal Pumps.

D-S BARCLAY
ENGRAVER & C.
41 KING ST. EAST TORONTO

RELIEF STAMPING - OFFICE STATIONERY -
SEALS - ARMS, CRESTS, &c.
MENUS, INVITATIONS, VISITING CARDS

TELEPHONE 687

A. H. HOWARD, 41 KING ST. EAST TORONTO
DESIGNER.
9 YEARS WITH MESSRS. ROLPH SMITH & CO.

Specialty **Illuminated Addresses**



EVERY REPUTABLE DEALER KEEPS
THEM.

Insist on having the Genuine, and see
that they bear our name.

JOHN WARDLAW

Galt, Ont.

MANUFACTURER OF

Scotch Fingering,
Wheeling, Jacket and
All Wool
Knitting Yarns.

Fine Worsted, Tweed, and
Hosiery Yarns. Glove, Mitt,
and Cloud Yarns. Seaming
Yarns. Carpet Warps, &c.

Any Description of Yarns in single,
2, 3, or 4 ply made to order.

J. M. LAUGHLIN'S SONS,

CROWERS,
MERCHANTS,
AND EXPORTERS OF

SHREVEPORT, N.Y.

AMERICAN TEASELS.

