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THE CANADIAN MANUFACTURER AND INDUSTRIAL WORLD

DEVOTED TO HOME INDUSTRIES, COMMERCE, FINANCE, INSURANCE, RAILWAYS & MINING.

Vol. 2. TORONTO, JANUARY 26, 1882. 3 No. 3.

THE BOILER INSPECTION AND INSURANCE CO'Y OF CANADA.

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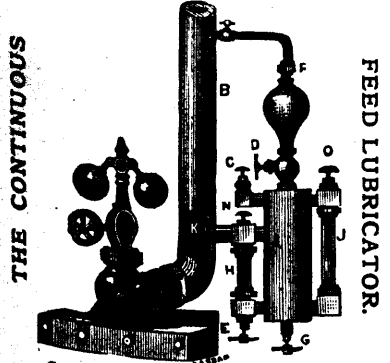
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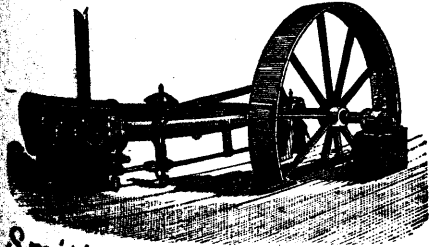
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 Engines and Boilers of the best materials and latest designs a specialty.
 Board Mills, Shingle and Clapboard Machines, Waterwheels, Plows, Cultivators, Furnaces, Registers, Mill Gearing of every description.
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All kinds of MILL SUPPLIES.

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 2 1/2, 3 1/2, 4 1/2 ins. diameter
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FULL FASHIONED SEAMLESS
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PLAIN FAMILY KNITTING AND
RIBBING MACHINES
COTTON, YARNS, MIXES & COLORS, &c
CREELMAN BROS. MANUFACTURERS
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 310 to 316 St. Paul Street,
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PURE OLIVE OIL,
WINTER-PRESSED LARD OIL,
EXTRA FINE SPINDLE OIL,
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LUBRICATING OILS.
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Prize Medal, London Universal Exhibition, 1862.
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 Maintain large stock replete with all the new and improved colors. Will be pleased to furnish quotations with samples and directions for use.

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 Capital Paid up, \$500,000 | Rest, \$500,000
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 All kinds of
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JAMES HAY & CO.,
 MANUFACTURERS OF
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Furniture.
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THURBER'S
BABBIT METAL,
 Nos. 1, 2, 3.
 Acknowledged superior to any made.
 Canadian Metal is far cheaper and better than
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JAMES ROBERTSON & CO.
TORONTO.

THE CANADIAN MANUFACTURER AND INDUSTRIAL WORLD.

DEVOTED TO HOME INDUSTRIES, COMMERCE, FINANCE, INSURANCE, RAILWAYS & MINING.

Vol. II.

TORONTO, ONT., JAN. 26, 1883.

No. 3.

← OFFICE OF →

CANADIAN MANUFACTURER PUBLISHING COMPANY,

(LIMITED.)

→ MECHANICS' INSTITUTE BUILDING. ←

Toronto, January 13th, 1883.

Dear Sir,

A number of our advertisers and subscribers have suggested that the "CANADIAN MANUFACTURER" be changed from a weekly, as at present, to a fortnightly or monthly issue, they believing it would then receive more careful perusal, from the fact that the majority of manufacturers and merchants have not time to read the number of daily and weekly papers which many of them obtain.

We have taken the suggestion into serious consideration, but do not propose to make any alteration unless it meets the views of a large majority of our subscribers.

To find out the prevailing feeling on the subject we send a copy of this Circular, together with a postal card, to each of our subscribers, and we shall be indebted to all receiving them, if they will state which they would prefer, viz: a weekly, fortnightly or monthly issue.

If the general choice favors a fortnightly issue, we shall enlarge very considerably, and also create special departments for various branches of industry, as for example, the Textile, Machinery, Lumber and Furniture industries, would have special space devoted to matters relative to them; or should the verdict be in favor of a monthly, we shall add still greater improvements, to make amends for its less frequent appearance.

A prompt expression of opinion on the Postal Card enclosed will greatly oblige,

Yours faithfully,

CANADIAN MANUFACTURER PUBLISHING CO. (LIMITED.)

OUR CHANGE OF BASE.

On the 13th inst. we mailed to each of our subscribers a *fac-simile* of the circular on our front page. Since then we have heard from nearly all addressed, and now proclaim the verdict our subscribers themselves have rendered.

We did not issue the circular without careful consideration of all the points at issue, but information gleaned from various quarters during the past few months decided us on asking the opinion of those most nearly concerned. We think all will admit that we have honestly done our best to serve the manufacturers by giving them a paper worthy of their support, and if those who remember our modest initial number of sixteen pages and cover, which first saw the light a year ago, will compare it with the fine double number we this week have the pleasure of presenting to our readers, they must arrive at the perfectly natural and correct conclusion that our efforts have met with a generous appreciation by business men generally throughout our wide Dominion. In our advertising columns will be found announcements of manufacturers and merchants from Halifax to Sarnia, while England and the United States are also well represented. In launching this enterprise a year since, we believed that we should find ample field for our labors, and that we were appealing to a constituency ready to give us a cordial support. Events prove that we were not mistaken in our estimate, and to-day the CANADIAN MANUFACTURER is at least equal to any class publication in Canada.

Reverting to our "change of base" from a weekly to a fortnightly issue, we will briefly sketch the reasons that have influenced our decision. For six months subsequent to our first issue in January, 1882, we published fortnightly, but being desirous of serving to the best of our knowledge and ability the special class whose interests we strive to represent, we deemed it in their interest to issue once a week, which we have continued doing till the present. This we now believe to have been an error of judgment, as the replies we have received in response to our circular have convinced us that in these days of much and cheap literature, a well-digested paper issued every two weeks will receive the most careful attention. Motives of economy do not influence us in this determination, as, although appearing less often, the paper from its increased size and general improvements will cost as much as two weeklies, but it will give us the time necessary to devote to the special departments, and to the more careful preparation of its contents generally.

Out of the many hundred replies to our circular, which are to hand, not more than five per cent. expressed themselves in favor of continuing a weekly; while the remaining ninety per cent. were almost evenly divided in their opinions, about one-half favoring a fortnightly and the remainder a monthly. We have struck the happy medium, and from this time will send out a fortnightly paper, the merits of which, we are sure from our past experience, will meet with a ready recognition. In another column are reproduced a few of the answers received to our circular, which were taken promiscuously from amongst hundreds of others.

We desire to thank the many friends who, while giving us the benefit of their opinion in answer to our request, took the occasion to write a few words in praise of our efforts, and also to thank the many patrons who, by favoring us with their advertisements, have tacitly acknowledged their high opinion of the CANADIAN MANUFACTURER as an advertising medium.

FORTNIGHTLY.

- CHATHAM, ONT.
We prefer a "fortnightly" issue.
CHATHAM MFG. CO. (LIMITED.)
- ALLISTON, ONT.
I am in favor of a "fortnightly" issue.
KNIGHT & WILSON.
- ACTON, ONT.
We approve of a "fortnightly" issue.
W. H. STOREY & SON.
- ST. ANSELME, Q.
I think you should try a "fortnightly" issue.
L. N. LAROCHELLE.
- ST. THOMAS, ONT.
We think a "fortnightly" issue would be preferable.
ST. JULIEN GEAR CO.
- THOROLD, ONT.
I think that every two weeks will be a great improvement.
FRANCIS SMITH.
- SHERBROOKE.
We think twice a month is often enough to issue the paper.
H. W. LE BARON.
- LONDON, ONT.
"Fortnightly" edition would be most beneficial, we think.
E. LEONARD & SON.
- KINGSTON, ONT.
We would prefer the CANADIAN MANUFACTURER twice a month.
MCKILVERY & BIRCH.
- BELLEVILLE, ONT.
We prefer a "fortnightly" issue of the CANADIAN MANUFACTURER.
GEO. S. TICKELL.
- SMITH'S FALLS, ONT.
In reply to your circular of 13th, a fortnightly issue would suit us very well.
FROST and WOOD.
- WOODSTOCK, ONT.
Referring to your circular of 13th, we should prefer the "fortnightly" issue.
ONTARIO METALLIC SPINNING CO.
- INGERSOLL, ONT.
In reply to your circular, would say that we would prefer "fortnightly" issue.
WATERHOUSE & BRADBURY.
- SMITH'S FALLS, ONT.
My opinion is that to issue every two weeks would be an improvement in your paper.
M. J. WILSON.
- DUNDAS, ONT.
Your circular to hand. We would prefer a "fortnightly" issue rather than a weekly or monthly.
BOWMAN & CASEY.
- ST. JOHN, N.B.
We would prefer a "fortnightly" issue of the CANADIAN MANUFACTURER to a weekly as at present.
WISDOM & FISH.
- LONDON, ONT.
Think "fortnightly" would be the best, with a little more space devoted to the iron industries of our country.
GEORGE WHITE.

MARKHAM, ONT.
The Speight Manufacturing Co. would prefer a "fortnightly" issue of the CANADIAN MANUFACTURER.
SPEIGHT MANUFACTURING CO.

LANARK, ONT.
Yours of the the 13th to hand and considered, and would say that I favor a "fortnightly" issue of your paper.
SYLVANUS GEMMELL.

HAMILTON, ONT.
In reply to your circular we beg to say that we are of the impression a "fortnightly" issue of your paper would be for the best.
SANFORD, VAIL & Co.

PERTH, ONT.
I think the MANUFACTURER would be more appreciated if issued "fortnightly," as you would have more time to get up a selection of matter.
T. A. CODE.

PRESTON, ONT.
We agree to the suggestion of making the CANADIAN MANUFACTURER a "fortnightly" issue, and hope it will meet with general acceptance.
CLARE BROS. & Co.

NEPEAN, ONT.
I would suggest a "fortnightly," as there would be more time devoted to its careful perusal, although I am of opinion it will be missed weekly by a great many.
JOSEPH JOHNSTON.

TORONTO.
We shall be pleased to see the CANADIAN MANUFACTURER in any shape, and would consider a "fortnightly" issue quite often enough to get justice in all departments.
JAMES ROBERTSON & Co.

OTTAWA, ONT.
In answer to yours of the 13th, we would state that if you can increase the matter in your publication sufficiently to take up the various matters mentioned in your circular, we would prefer a "fortnightly."
S. and I. BORBRIDGE.

WOODSTOCK, ONT.
We have now more papers than we can possibly glance at, but we find it very opportune to take a look through the CANADIAN MANUFACTURER when it comes. Our idea is that a "fortnightly" issue would do.
JAMES HAY & Co.

MONTHLY.

BROCKVILLE, ONT.
We would prefer a "monthly."
JAMES SMART MFG. CO. (LIMITED.)

NAPANEE, ONT.
Would prefer a "monthly" issue.
NAPANEE BRUSH CO.

OSHAWA, ONT.
I am in favor of a "monthly" issue.

ST. JOHN, N.B.
We would prefer the "monthly" issue.
S. R. FOSTER AND SON.

LONDON, ONT.
A "monthly" issue is our preference.
HOBBS, OSBORN AND HOBBS.

ST. THOMAS, ONT.
Your circular to hand. I would prefer a "monthly" issue.
JOSEPH BRENT.

HAMILTON, ONT.
We would prefer a "monthly" issue.
R. M. WANZER & Co.

BRAMPTON, ONT.
We would much prefer a good "monthly" publication.
HAGGERT BROS' MFG. CO.

SHERBROOKE, QUE.
We think a "monthly" issue would do the most good, and be looked forward to with most interest.
PATON MANUFACTURING CO.

HAMILTON, ONT.
We think a "monthly" issue of your paper would be most certain of careful perusal, and would afford much information useful to manufacturers.
OLMSTED & SON.

AURORA.
We think a "monthly" publication would be preferable, that is, if you carry out your idea of having special departments for various branches of industry.
J. WILKINSON & Co.

HAMILTON, ONT.
We quite agree with the suggestion of your circular, as we seldom have time to give your weekly the perusal it deserves. The "monthly" form would suit us the best.
MOORE, ROBINSON & Co.

THOROLD, ONT.
A paper such as you are publishing we believe could be made more interesting to manufacturers by being issued "monthly," and we would prefer receiving it once a month.
THOROLD COTTON AND WOOLLEN MFG. CO.

DANVILLE, QUE.
We would decidedly prefer a fortnightly or a monthly issue of your paper; of the two, would prefer a "monthly." Will send an advertisement in a day or two, probably half a page.
J. L. GOODHUE & SON.

MONTREAL, Q.
We think a comprehensive and well-digested "monthly" would be best, next a bi-monthly. Have not much time to read the weekly, but appreciate it as creditable to all concerned,
HAMILTON POWDER CO.

ST. MARY'S, ONT.
We approve of a change in the number of issues of your journal, for the reasons suggested in circular, viz., the large number of publications to go through. We would favor a "monthly," with each industry having its own space as far as practicable.
DUFTON & MYERS.

MONTREAL, Q.
In answer to your circular, a "monthly" issue would be more apt to receive our attention, as at present we sometimes open them only to put them on file. We believe you do your best to serve manufacturers, and we should appreciate the numbers better if they came less often.
G. OUTRAM & SON.

ST. CATHARINES, ONT.
After perusal and careful consideration of your circular *in re* change of issue, we are of opinion that a "monthly" issue would be preferable to either a weekly or fortnightly one, for reasons given in your circular. The average manufacturer has seldom sufficient time to do justice to many weekly publications.
WHITMAN & BARNES MFG. CO.

PARIS, ONT.
We desire, as you have wished it, to state our opinions relating to the CANADIAN MANUFACTURER. Publishing it weekly does not give time for the preparation of articles treating at length on subjects most interesting to the business public. We should prefer to see it come out "monthly," and then have all the subjects treated at length.
ADAMS, HACKLAND & Co.

ATMOSPHERIC INFLUENCES UPON COTTON SPINNING.

That a moist climate is better for cotton spinning than a dry one has long been known in Great Britain, and the superior advantages of the west side of the island in this respect have been well appreciated, and acted upon too, ever since the days of our grandfathers. It has not been by chance, merely, that Lancashire in the south, and a district along or near the Clyde, taking in portions of the counties of Lanark, Ayr, and Renfrew, in the north, have become chief seats of the cotton manufacture. A similar advantage appertains to some districts of India, where, indeed, muslin of marvellous fineness was made on the native hand-loom centuries before the first bale of cotton was landed at Liverpool. Once upon a time, the story goes, a native prince rebuked his daughter for appearing "at Court" in a costume of muslin so thin and gauzy that he considered it immodest. The damsel made answer that she was enveloped from head to foot in no less than nine folds of cloth, the fineness of which may be imagined if we choose to accept the story as a true one. Perhaps the making of muslin of wonderful fineness is not wholly a lost art in India yet; but as a matter of fact the native loom is pretty well superseded by large cotton mills, filled with the best English machinery. In each of these mills a very few English mechanics of superior skill are retained to keep the machinery in order; but excepting these all the employees are natives. To-day the finest muslin known to the commercial world is produced in Lancashire and Lanarkshire, while Paisley stands alone and unrivalled in the production of sewing thread. That the superiority attained in these districts has been largely owing to peculiarities of climate has long been known in Great Britain; and the fact is one that ought to be understood on this side of the Atlantic too. An important contribution in this way has been furnished by Col. A. D. Shaw, American consul at Manchester, in the latest of his reports to headquarters at Washington. Col. Shaw is well known in Toronto, having resided here for some years in the same capacity, and for his gentlemanly bearing and fine social qualities will long be remembered by many of our citizens. We quote that portion of his report relating to the effect of climate on the cotton manufacture:—

"Two subjects appear to me to be of special interest to American manufacturers, viz.: (1) the influence of a humid atmosphere on cotton spinning and weaving; (2) the co-operative system of spinning, as illustrated in the success of Oldham companies.

"In my annual report for 1880 I quite fully reviewed the natural advantages which the humidity of the atmosphere furnish in this part of England, and I cannot now do better than to quote a portion of that report in this connection. This subject is one of special interest to cotton manufacturers, because atmospheric influences are of great importance in both spinning and weaving.

"A somewhat careful study of the subject under very favorable circumstances enables me to furnish some facts in this connection, which may be of interest and value to American manufacturers and others. There are several reasons why Lancashire has been selected as the centre of the cotton manufactures of the kingdom, and I shall name them in their order.

"*First.*—The climate in Lancashire is specially adapted for

manufacturing various kinds of textile fabrics, and particularly in the finer grades of cotton. The humidity of the atmosphere enables manufacturers to spin and weave at great advantage. In the finer grades it is almost impossible to spin yarn economically without a humid atmosphere, because without a certain needed dampness the cotton frequently breaks, rendering its working slow and expensive. Besides the 'breaks' in the yarn lead to 'faults' in the woven cloth, and these depreciate the value of the output.

"This is a most important natural climatic advantage, and so well is it now understood in this country that cotton mills which could not be profitably worked in other parts of England removed to Lancashire have proved profitable. Nor is this advantage in spinning finer yarns confined to the finer grades for all grades are more or less affected by atmospheric conditions. Several attempts have been made to introduce artificial moisture into mills erected in localities where the humidity of the atmosphere is not as favorable for the manufacture of cotton as it is in Lancashire. Thus far all experiments have proved failures, and chiefly for two reasons: First, the artificial moisture was found to cause the machinery to rust, and consequently this required that great care should be exercised to keep it in order; and, second, the clothing of the operatives became moist, and this led to much sickness, chiefly from rheumatic complaints. Moreover, it was ascertained that artificial moisture, for some reason, did not have the same effect upon the cotton as the naturally humid atmosphere of Lancashire does; and now there are no mills using this method, so far as I can learn, in Great Britain. I cannot do better in this connection than to give the able letter received by me during the past year from a successful Lancashire manufacturer, in answer to an inquiry from me regarding the saving which his practical experience had taught him came from the favorable atmospheric conditions in working up cotton:—

"In reply to your enquiry as to the data by which I arrive at the conclusion that there is in the weaving of cotton goods often a difference of about 10 per cent between the cost of weaving in moist weather and the cost of weaving the same class of goods in weather when dry and parching east winds prevail, I beg to hand you the following: In my weaving shed we produce during moist weather, on the average, 5½ pieces per loom per week of the cotton cloth which I am usually engaged in manufacturing.

"Now, in dry weather, with continuous easterly winds, and still worse if frost prevails at the same time, the production per loom per week will fall to an average of 4 pieces, while all the items of cost per loom per week remain the same as in more favorable weather; consequently, the cost per piece of cloth is proportionately increased, being for these fixed expenses 6½d. per piece (that is, 4 pieces per loom per week at a cost per loom per week of 25. 2d.), or a total cost per piece of cloth of 25. 7d. Thus:—

"*Moist Weather.* Five and a quarter pieces per loom per week on a fixed charge per loom of 25. 2d., equal to 5d. per piece. Total cost of manufacture per piece 29½d., equal to 25. 5½d.

"*Dry weather, with continued east wind and frost.* Four pieces per loom per week on a fixed charge per loom of 25. 2d., equal to 6½d. per piece. Total cost of manufacture per piece 31d., equal to 25. 7d.

"Increased cost, 5 per cent.

"In addition to this extra cost, owing to diminished production, there are two other items to be considered. The quality of the weaver's work is greatly lowered in dry weather with easterly wind and frost. In my shed we find that during such weather one piece out of every four is so much damaged by broken threads and other 'weaver's faults' that it has to be sold as a 'reject,' which lowers its price at least 3d. Moreover, the weight of the cloth is considerably affected by such adverse weather, and much cotton cloth in England is sold according to weight, as well as to other particulars. In such weather at least one-fourth of my production is a 'light

To Mill Owners and Manufacturers.

USE

F. E. DIXON & CO.'S

PURE BARK-TANNED

Star Rivet Leather Belting!

FIRST PRIZE FOR LEATHER BELTING

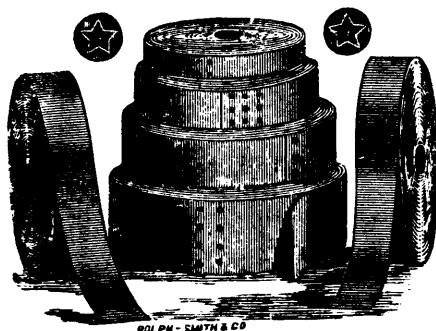
-AT-

Provincial Exhibition, Ottawa, - 1875.
" " Hamilton, 1876.
" " London, - 1877.
Industrial Exhibition, Toronto, - 1879.
" " Toronto, - 1880.

EXTRA PRIZE FOR Genuine Oak Tanned Belting.

-AT THE-

Provincial Exhibition, Hamilton, 1876.



INTERNATIONAL MEDAL

-AT THE-

Centennial Exhibition, PHILADELPHIA, 1876.

FIRST PRIZE FOR

BELTING LEATHER

AT THE

Industrial Exhibition, Toronto, 1879.
" " " 1880.

Our Belting is Short Lap, and is warranted to run straight and even on the pulleys, and certainly cannot be surpassed in quality by any other Belting in the market at the same prices.

Our Leather is of Pure Bark Tannage, and consequently is much more durable than the chemical tanned leather of which most of the American Belting imported into Canada is made, though sold under the name of Oak Belting.

To accommodate those who desire to have a really genuine article of Oak Belting, we beg to say that we keep in stock a quantity of

Oak Leather of the Celebrated Tannage of J. B. HOYT & Co., of New York,

and as the duties on imported rough Leather are much less than on the manufactured Belting, we are thus enabled to sell the Belting made from this quality of Leather much cheaper than it can be imported.

LARGE DOUBLE BELTS A SPECIALTY.

Please note that our Price List averages Twenty to Twenty-five per cent. lower than the American Price List at which all American Belting is sold in Canada.

Lace Leather of the very best quality always on hand.

All Work Warranted.

Orders Solicited.

F. E. DIXON & Co.,

81 Colborne Street, Toronto

H. L. FAIRBROTHER & CO'S.

—AMERICAN—

LEATHER BELTING,
AND LACE LEATHER.

STAR RUBBER CO'S.

AMERICAN

RUBBER BELTING,
PACKING AND HOSE.

**Noye's Castor Oil Belt Dressing for Oiling and Preserving
Leather Belts and to prevent tipping.**

We keep a larger Stock of Belting on hand than any other makers or
dealers in the Dominion.

—ORDERS SOLICITED.—

GEO. F. HAWORTH,

SOLE AGENT FOR DOMINION OF CANADA

65 Yonge Street, Toronto.

weight, and such lights have to be sold at 3d. or even more below the price of 'regulars' or 'full weights.' Of course we can avoid 'lights' by weaving with coarser counts of welf, but that increases the cost proportionately. Thus, in this adverse, dry weather, there is one piece in four faulty, at a loss of 3d., equivalent to a loss per loom (4 pieces in such weather per loom per week) of 6d. per week, or 3½d. per piece of cloth, which, added to a total cost of production of 29½d. per piece, is equal to another 5 per cent.

Thus there is in diminished production an additional cost per piece of 5 per cent.; in faulty and light pieces a loss equal to 5 per cent. on the cost of production; total increased cost in the process of weaving, a loss, owing to dry weather with easterly winds and frosts, of 10 per cent.

In conclusion, I should add that this extra cost will vary according to coarseness or fineness of the yarns which are woven, according to light or heavy sizings, and according to the situation of the weaving shed. This latter consideration is important, so much so that even in ordinary weather a weaving shed placed in a damp and sheltered situation will (other things being equal) produce more and better work than a shed not so placed.

You will readily understand that dry, easterly winds, especially when combined with frost, abstract from the cotton yarn much of its natural moisture, and also the artificially added moisture, by which abstraction the yarn is rendered brittle, losing much of its natural tension and becoming less capable of bearing the strain which is put upon it during the various processes of work.

You will please remember that my remarks apply only to the processes of changing cotton yarn into calico. I say nothing about spinning, which is not my business."

IRON: PROGRESS OF ITS MANUFACTURE AND INCREASED CONSUMPTION.

The extraordinary activity in the iron trade for the last half century is one of the most important commercial factors of our time. It would be difficult to imagine any business that could be sustained without iron, in however small a degree. If the degree of excellence attained in the manufacture and consumption of sulphuric acid be taken as the gauge of a country's progress, much more, may it be said, does iron indicate the condition of a country's prosperity. Consider for a moment the additional uses to which the article has been applied since the introduction of railways and mining development. Ours may well be called the age of iron, for without it we could have no iron rails, locomotives, heavy tools, steamships, bridges, and the many other mechanical conveniences which enable us to live so much and so long in our generation. The production of iron in all its varied forms has done much to stimulate invention and economy, and has not failed to produce methods of production which have cheapened the material enormously. In 1825 the prices of Scotch pig iron in New York ranged from \$35 to \$75 per ton, and have exhibited the following changes down to the present time.

Year.	Iron Bar Ton.		Scotch Pig Iron Ton.	
	\$85	\$120	\$35	\$75
1825	72	77	40	50
1830	67	75	38	42
1840	70	82	32	40
1845	62	85	30	52
1850	40	45	21	24
1855	55	65	26	37
1860	41	44	20	27
1865	100	130	40	55
1870	70	90	31	37
1875	50	62	29	41
1880	50	85	21	35

The quantity and value of iron produced in the United Kingdom since 1855 affords still more striking evidence of the increased production and the economies introduced in its manufacture.

	Quantity Produced. Tons.	Value. £.
1855.....	3,218,154	8,045,385
1860.....	3,826,752	9,566,880
1865.....	4,819,254	12,048,135
1870.....	5,963,515	14,908,787
1875.....	6,395,462	15,645,774
1879.....	5,995,337	14,788,342

These figures exhibit some remarkable changes in a quarter of a century. While the rate of wages has advanced and with it the prices of coal, the cost of both has been very largely reduced. Labor has become more effective, and the quantity of fuel used in the smelting of iron has been very materially decreased. How is this? The improvements which have taken place in the processes of manufacture have lessened the quantity of coal and labor employed, but the increased prices of both commodities have fully absorbed whatever was saved in that direction.

One of the most astonishing results of the art of Metallurgy of recent years has been the manufacture of steel. The strides it has made within the last few years only is very wonderful. The Bessemer process now gives us cheap rates for steel rails, and the economy of wear and tear of steel over iron is enormous. So great was the difference in 1873 that a director of the London and North Western Railway of England publicly stated that, whereas they could not get more than four months' wear out of the old iron rails laid down on the Crewe junction sidings where traffic was heavy, the reversible steel rail gave a wear of fourteen years. The production of steel in the year 1879 was large, considering how recent its introduction has been accomplished.

	Cast or Pig Iron. Tons.	Steel. Tons.	
		Ingots.	Rails.
Great Britain.....	5,995,337	834,511	509,786
United States.....	2,741,853	829,439	610,682
Germany.....	2,161,192	450,000	350,000
France.....	1,344,759	314,691	247,000
Belgium.....	493,544	100,000	75,000
Austria-Hungary.....	469,218	100,000	75,000
Russia.....	409,633	50,000	54,479

The extended use of iron and steel has been stimulated mainly by the increased activity in railroad building in all parts of the world. Railway enterprise in England, India, and the colonies absorbs most of the English make of railroad metal. Both ourselves and Australia are just now consuming a thousand miles each per year, while our neighbor to the south of us laid down no less than ten times that amount last year. Since the close of the anti-slavery war of 1861-1865 her railway mileage has been trebled, recording at the close of last year about 115,000 miles or more. The increased mileage of 1881 and 1882 will somewhat exceed the entire length of the British railway system. If the United States and Canada continue to increase the mileage of their respective lines of railway during the next ten years at the same rate as that prevailing since 1870, the year 1890 must register fully two hundred thousand miles of road. From 1850 to '60 the United States trebled its length of road, and from 1860 to '70 the increase was about 65 per cent. From 1878

to 1881 its lines were doubled. Now that they have no less than five Pacific roads within three months of completion, the railway development of the next ten years need surprise no one should the increase average at the rate of ten thousand miles per year.

We in Canada are building our Pacific railroad, and have in projection some thousands of miles more. The rapid development of the immense territory of the North-West may be reasonably expected to support the laying of 1000 miles of railway per year. At 50 lbs. per yard rail we shall require 88 tons of rails per mile or about 90,000 tons of rails per year. Here is a field of enterprise for home industry. There is plenty of iron ore in the country, and fuel to the east and much to the west of us. Will Winnipeg or some other sister city show us how we can secure a share of this vast trade in iron? There is energy enough in the North-West; they have the raw material, and perhaps they will demonstrate their ability to do the work. The harvest is ripe if they will try their hands; the market is at their doors, and everything is favorable to them. Let them consider, and may be they will give us further evidence that the star of empire is westward yet.

A YEAR'S FALL IN PRICES.

The London *Economist* pronounces that a fall in the prices of leading staples is "the most strongly marked feature of 1882." We quote:—"There can be little doubt that commercially the most pronounced feature of the year has been the nearly universal fall in the prices of commodities. Below is a list of some of the leading food products, materials used in our textile industries, and metals, and the fall is shown to be very important. For instance, the reduction of $\frac{7}{8}$ d. a pound in cotton alone exceeds 13 per cent., and in jute, silk, finished iron, and tin, the fall is yet more striking:

	Dec. 1881.	Dec. 1882.	Rise.	Fall.
Wheat (<i>Gazette</i>).....	44s. 4d.	41s. 6d.	"	2s. 10d.
Sugar (Demarara.) ...	28s. 6d.	25s.	"	3s. 6d.
Coffee (Ceylon.).....	76s.	71s.	"	5s.
Tea (Medium Congou).	1s.	10½d.	"	1½d.
Cotton (Uplands.)....	6 11-16d.	5 13-16d.	"	¾d.
Wool (Leicester.)....	11d.	9¾d.	"	1¼d.
Flax (St. Petersburg).	£ 30	£ 27	"	£ 3
Silk (Canton.).....	15s.	12s. 6d.	"	2s. 6d.
Jute (good.).....	£ 19	£ 14 10s.	"	£ 4 10s.
Iron (Scotch pig.)....	51s. 9d.	49s.	"	2s. 9d.
" (Bars.).....	£ 6 15s.	£ 6	"	15s.
Tin (English.).....	£ 114 10s.	£ 97 10s.	"	£ 17
Copper (English.)....	£ 75 10s.	£ 70	"	£ 5 10s.
Lead (English.).....	£ 15 12s. 6d.	£ 14 5s.	"	1 7s. 6d.

The same authority says that in iron, particularly, the unprecedented outturn was accompanied by a marked fall in prices and profits. The brightest record of the year, it is said, was in the coal trade. The heaviest commercial failures occurred in the South Wales tin-plate trade. The advices from the woollen and linen districts were not very encouraging, and cotton mills, the *Investor's Monthly Manual* says, were reposted as being a drug on the market. The harvest, however, was fairly good, and the high price of meat benefited the farmers. Food products generally were cheap, and wages were doubtless better able to cover the necessities of life than a year ago. A comparison of Great Britain's foreign trade for eleven months of 1882 with that for the same period of former years would seem to indicate that the imports for 1882 were on a level with

those of 1880. The *Manual* thinks that they are in reality in excess of that year, for the reason that prices of commodities were, as a rule, much below the level of 1880. It appears that the imports of animal food were small. The imports of raw materials for manufacture were exceptionally large. As regards the exports, on the other hand, those of iron and steel and machinery indicate a large expansion. The cotton trade suffered, it is said, from the surfeited condition of the Indian markets, and the depression in China and the Levant. The woollen exports, which showed an expansion in the early part of the year, fell off toward the close. On the whole, the export trade is regarded as having been far less satisfactory at the end than at the beginning of 1882; a general result which may be largely accounted for by the falling market of the year in staple commodities.

THE RECENT ADVANCE IN GRAIN.

The year 1882 closed with dulness in the grain market, and much slackness and hesitation on the part of buyers. During the twelve months there had been a considerable fall in prices and the discouragement incident to a falling market had greatly checked operations during the short season between threshing time after harvest and the close of navigation. In both Canada and the United States farmers sold but sparingly, and most of those who were able to do so held back for higher prices. It now appears as if the plan of holding back for higher prices were likely to prove successful, for this time, at all events. Since New Year's day there has been a decided advance in the price of breadstuffs, wheat having appreciated during that period in Chicago $9\frac{1}{4}$ c. per bushel, No. 2 spring closing on Saturday at \$1.02½ January. No. 2 red winter wheat in New York has also moved up 7c. per bushel since the first of the month, closing on Saturday at \$1.15. The most notable advance has been in corn, which has made the extraordinary bulge of $20\frac{1}{8}$ c. per bushel in Chicago, to $69\frac{1}{2}$ c. January. Of this rise $4\frac{1}{2}$ c. was made on Saturday, the 20th inst. It is stated, as one important reason for the advance in corn, that a very large proportion of the crop of 1882 proves to be of inferior quality. This, we should say, looks probable on the face of it, the ripening season of last year having been from two to three weeks later than usual. In Canada there has also been an advance in the price of wheat since the first of the year of 8c. to 10c. per bushel, the price of red winter wheat in the Stratford district on Saturday being \$1.00 to \$1.01, and white winter was up to 93c. There has also been more inquiry for coarse grains in the Canadian markets, prices of which have recently had an upward tendency, a better demand having been developed in the American market. In accordance with the order of things now established, Chicago takes the lead in making prices, the advance there being about double what it has been in New York, so far. Still, New York has not been backward, either, and the advance there has been strong and steady, apparently with the element of certainty about it pretty well developed. One feature in the present turn of the market is a brisk demand in New York and other eastern cities for Canadian rye and barley at the improved prices now going. Recent sales are reported in New York of 16,500 bushels

THE CORRIVEAU SILK MILLS Co

MONTREAL.

DEFY COMPETITION.

FIRST SILK MILLS IN CANADA.

Corriveau · Silk · Mills · Company.

MILLS—Ontario-st. and Papineau Road.

SAMPLE ROOMS—St. James-st.



Organzine, Tram & Fringe Silks
Gros Grains, Satins, Serges,
Ribbons, Plain and Fancy.
Broad Silks, Plain & Brocaded.
Handkerchiefs, Plain & Figured

Silk for Special Purposes.
Exclusive Patterns to order.

DIPLOMAS awarded for { Superior Quality.
Absolute Purity.
General Excellence



The only Gold Medal Awarded in the Industrial Department of the Dominion Exhibition, Montreal, 1880.

PULLEYS GROUND INSTEAD OF TURNED.

The Hart Emery Wheel Co., Limited,
Of HAMILTON,

Have made arrangements for the manufacture and supply of

SIMMONS' PATENT PULLEY GRINDER!

☛ This machine is now in use in the United States, and we give a statement of its record in the establishment of

J. T. NOYE & SONS, BUFFALO.

The work was timed during six weeks, or.....	..360 hours.
Number of Pulleys Ground .....	..500
Average Diameter of Pulleys	18 inches.
Average Face of Pulleys..	7 1/2 inches.

Or nearly nine Pulleys in Ten hours ground ready for the belts.

One of these machines will shortly be at work in the factory of the
HART EMERY WHEEL CO. at Hamilton.

CORRESPONDENCE AND INSPECTION INVITED.

HART EMERY WHEEL CO.
LIMITED.

prime Canadian rye at 75c in bond, 10,000 bushels No. 1 Canada barley at \$1.02, and 10,000 bushels bright do. at \$1.02. Meantime the movement of flour from the Western mills to the seaboard continues large. The receipts at New York during three days recently amounted to 109,185 barrels, about one-half of which was for direct shipment to Europe.

As for the causes of the advance, no doubt the recent floods on the continent of Europe may be set down for something, threatening a falling off in the next harvest over extensive districts. Political uncertainty, also, the immense preparations for war still going on, and the apprehension that some one or other of the "Great Powers" may any day decide to substitute actual war for the oppressive and expensive monotony of armed peace—doubtless has its weight with those who make it their special business to forecast the future of the grain market. Probably a main factor in the rise is, however, certain recent developments as to what the wheat crop of 1882 actually was in the United States. Instead of a crop reaching to about 600,000,000 of bushels, as some estimates made it, the recent estimate of the Department of Agriculture at Washington makes it at the outside about 510,000,000 bushels. This would make the surplus only about 16,000,000 bushels instead of about 250,000,000 bushels, as the earlier estimates led to be supposed. A mistake is now also said to have been made with regard to the corn crops, but of less proportions. The Department returns now give 1,755,000,000 bushels instead of 1,800,000,000 bushels as were estimated earlier by other authorities. It is now said that the exportable wheat from the United States will not exceed 60,000,000 bushels of the crops of 1882. Meantime stocks are not increasing in Great Britain, and the rise on this side of the Atlantic is at least fairly justified by the tone of the European markets. Should the present advance be sustained, the deliveries by farmers are likely to be large during the next few months, both here and in the United States; with of course a great improvement in the business situation generally.

THE ST. LAWRENCE BRIDGE SCHEME.

We explained recently that what we printed in December relative to the new bridge and manufacturing scheme at Montreal, was merely a special despatch, telegraphed to one of the Toronto morning papers and copied by other western journals. It may be of interest to our readers now to explain very briefly what the scheme is, and what its promoters propose to effect.

Let any one who knows Montreal imagine himself standing at Point St. Charles, just where the Grand Trunk tubular bridge begins, and on the down stream side of it. Then let him imagine a stone embankment running from the point, not across the stream, but almost in a line with it, all the way to the east or south-east side of St. Helen's island. Such an embankment would shut off from the present harbor all the water flowing under the Victoria bridge, but it would have sluices through which as much or as little water as might be necessary could be let into the harbor on the side of the river next to the city. The embankment, again, is to carry a railway track, and the south-east shore is to be reached by a bridge from St. Helen's Island. The higher water on the river side of the embankment would make power in running through the sluices to

the lower water on the side next the city, which power would cause the embankment to be thickly lined with factories, so it is expected.

Whether the scheme be a practicable one or not is for practical and professional men to say. Mr. Kennedy, Chief Engineer to the Harbor Board, pronounces against it. The *Gazette* condemns it decidedly, and says that in its most recently amended form it is merely a scheme for another bridge which is not wanted. The next new development will, we suppose, be a thorough discussion of the whole matter and the examination of professional witnesses before the Railway Committee of the House of Commons.

THE DECEMBER BANK STATEMENT.

The bank statement for December shows the following amongst other changes, in comparison with the statement for November:—

Circulation, November,.....	\$37,180,399
" December,.....	36,501,694
Decrease,.....	\$ 678,705
Commercial and other private deposits:	
Nov., On Demand,.....	\$48,862,111
" " Notice.....	48,190,048

Dec., On Demand.....	\$47,457,369
" " Notice.....	49,422,184

	\$96,879,544
Decrease.....	\$ 172,615
Current commercial and other private discounts:	
November.....	\$145,696,770
December.....	144,414,108

Decrease..	\$ 1,282,662

The decrease in discounts during the previous month—November—compared with the figures for October, was \$682,585. There is always a contraction of discounts after the grain shipping season.

On September 30 directors' liabilities were stated at \$9,705,811 And at the close of December at 8,577,247

Decrease in three months.....\$1,128,564

On one point the *Montreal Journal of Commerce* has these remarks:—

"The Dominion note reserve is less by \$561,453, but it is not unworthy of notice that, while the aggregate reserve has been reduced, there has been an increase in the notes held under \$50. As there has been a decrease in the issue of ones and twos, it is beyond doubt that the \$4 bills which have been issued to the amount of \$267,724 are held chiefly by the banks as reserves. This is just what might have been anticipated, and the result will be that the issue of fours at considerable expense will be of no benefit. It will be found that as the issue of fours is increased, that of the large notes will decrease to a corresponding extent."

The complaints made that the electric light interferes with a desirable display of hues and colors, that it is "very trying" in a ball-room and out of place in an art gallery, are met by the statement that a prominent English dyeing house has successfully introduced it into their works. The statement made (in *Knowledge*) that "the purity of the light enables them to distinguish colors perfectly and carry on at any hour operations that could otherwise be performed only by daylight."

THE
Canadian Manufacturer
 AND INDUSTRIAL WORLD.

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FREDERIC NICHOLLS,
Managing Editor

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Editorial Notes.

The office of the CANADIAN MANUFACTURER has been removed to Room No. 5, Mechanics' Institute, corner of Church and Adelaide-streets. One stair up, turn to the right.

A number of friends have suggested that we should open a column for answers to correspondents. We comply with the request, and shall be happy to do all in our power to furnish accurate information in reply to queries which may be sent us, relating to subjects within the sphere of the CANADIAN MANUFACTURER.

Heretofore our "Manufacturing Notes" have included under one head all Canadian industries from time to time mentioned in these columns. We propose now to classify our notes of Manufactures in Canada into various departments, such as Textiles; Iron and Machinery; Agricultural Machinery; Furniture and other Woodwork; Chemicals, Leather, Paper, Glass, &c.; Mining; Lumbering; Milling and the Grain Trade; etc. We will maintain a separate department also for Railways, Shipping, and Transportation; and another for Finance, Commerce, and business generally. Under this arrangement our readers will be able at any time to find, with the least possible trouble, any item or class of items to which reference may be wanted.

The safe works of Bain, West & Maclean (formerly J. & J. Taylor's) in this city, were in great part destroyed by fire the night between the 16th and 17th inst. The loss is estimated at \$40,000, mostly covered by insurance. Over a hundred men are thrown out of employment.

It is announced that Mr. George Hague, General Manager of the Merchants' Bank, will before long be elected to the Presidential chair. When Mr. Hague took the management the bank was in anything but a satisfactory position, and its present prosperity shows what can be done when the right man gets into the right place.

From Winnipeg we hear of several failures among hotel-keepers there. Perhaps keeping boarders who don't pay up is a principal cause. Hotel-keeping ought to pay well in a new, stirring place like Winnipeg; but doubtless a good deal of ready cash is necessary to make business go. Hotel rents are very high there, and evidently the business has been overdone.

We have received the prospectus of "Goodwin's Improved Book-keeping and Business Manual," the fourth editions of which has just been issued. It claims to lay down a plain, practical system of book-keeping, and many testimonials from prominent business men in Canada are given in its favor. By simplicity of method and clearness of statement, a vast amount of unnecessary work is saved, so say those who have tried it.

Once more our neighbors are agitating the matter of abolishing the fishery clauses of the Washington Treaty. A motion to refer to the Committee on Foreign Relations was carried in the Senate recently. Senator Frye, the mover, thought that Congress might authorize the President to give notice on the second day of July next. The time when notice of termination may be given by either party is drawing near; and it seems likely enough that the powers that be at Washington will give notice at the earliest date allowed by the strict letter of the treaty.

Since our last issue four citizens of Toronto, well known in business circles, have passed away. Of these the most prominent was Mr. James Michie, long and successfully engaged in the grocery trade, who died on Jan. 13, at the comparatively early age of 54 years. Mr. Joseph A. Simmers, seed merchant, and German vice-consul for Ontario, died on the 17th. Mr. William Flummerfelt, formerly in the tanning business, and for some six or seven years back the principal partner in the leather belting firm of Dickson, Smith & Co. died on the 19th. Mr. Alexander Hamilton, one of the oldest citizens of Toronto, and for nearly sixty years engaged in the paint and color business, died on the 20th inst., in the 81st year of his age.

Bradstreet's says:—There has virtually been no business on the Stock Exchange during the past week. Transactions have dwindled daily, as the shuffling of stock backward and forward between the same parties has been found to fail in inducing purchasers to come in. The commission houses are doing next to nothing. Of public buying there may be said to be none. A bull movement in the market is predicted by a combination of operators who have been dubbed "the reformed bears," from their antecedents; and they are doing their best to bring one about. Neither Mr. Gould nor Mr. Keene, how-

ever, is said to take any part in it, being either coldly indifferent or actively hostile. Meantime there is a deadlock in the market. It would be worth something to be the prophet who could accurately forecast in which direction it would break.

It looks as if the decline in the price of butter, so long looked for, had come at last, in New York to begin with. The *Montreal Gazette* says that the New York butter market is in a demoralized condition, prices there having declined considerably of late, owing to consumption having been checked by the establishment of an exorbitantly high basis of cost, which caused the supply of medium and good qualities to accumulate, and prices to give way. To the *Gazette's* reason another may be added—the curtailment of household expenses in thousands upon thousands of families in the States, owing to the dread of slackness in manufacturing pending the tariff agitation. The fear of changes injurious to American industry is spreading among mechanics and working men generally, and Republican party managers rather encourage the feeling, as a means of frightening the people from giving Democratic votes. Such is the connection between politics and the price of provisions.

The *Montreal Gazette* announces that leading tobacco manufacturers have been informed that it is the intention of the Government at the coming session of Parliament to greatly reduce the excise duty on manufactured tobacco, and they are urged to dispose of their present stocks as fast as possible. The reduction will not come into force for sixty days after the delivery of the budget speech, in order to afford dealers an opportunity of working off what stock they may now have on hand." It is objected that this notice is demoralizing the trade, and reference is made to the abolition of the tea-duties last year as another case in point. But it has to be remembered that the Minister of Finance very plainly foreshadowed the abolition of the tea duties a year before, and, further, that under the N. P. the tendency is to reduce or abolish excise duties on home manufactures, as well as customs duties, such as those on tea and coffee, which protect no Canadian industry. If people will but bear in mind this cardinal principle of the N.P., they will have no reason for being surprised, or "demoralized" either, when changes in accordance with it are announced.

Commenting on the financial situation the *Philadelphia Railway World* says:—"The chapter of accidents is favorable to the bears, while the substantial features of the situation justify hopeful auguries." The remark is a happy one, and we believe will be found largely justified by facts. To a far larger extent than most people would be apt on first thought to suppose, the dependence of the bears is upon accidents most of the time. Fires that destroy property, snow storms that impede traffic, and the embezzlement or other misuse of funds by persons in positions of trust, are among the "accidents" which turn up to help the bears, at times when otherwise they would not be able to help themselves at all. A bad harvest cannot be called an accident, and to apply the term to such a calamity as that of the Milwaukee hotel fire would be in effect

excusing culpable negligence or something worse. But that the bears in the financial struggle owe very many of their successes to events coming clearly within "the chapter of accidents" is obvious enough from current experience. And this view of the matter may have its application in Canada as well as in the United States.

The *Winnipeg Commercial* says that one or two local chartered banks are badly wanted there. It is complained that Eastern banks having agencies west are too apt to make sudden withdrawals of capital for the purpose of sustaining Eastern speculation, frequently of the merest stock-gambling character, the consequence being that the legitimate business of the Northwest has to suffer. Says our contemporary:—"The business men of the city have passed through two months of a really tight money market, and their experience during that time has shown that the banks are prepared at any time to let the trade interests of the North-west suffer, to serve those of the East. In fact it requires only an overdose of stock-gambling, or some such self-inflicted monetary malady in Toronto or Montreal, to cause some banks here to stop discounting, according to instructions from head-quarters, which they are certain to receive under such circumstances. Could actual figures be obtained, many would be astonished at the amount of funds that have been withdrawn from Manitoba branch banks, and the extent to which commercial affairs in this Province have been crippled during the past two months, in order to meet a time of threatened panic in the East, which was the direct result of reckless speculation." The establishment of local banks is recommended as a remedy.

One of the most important business decisions of recent date in Canada is that which has been arrived at (by arbitration) in the case of the wholesale iron firm of A. & C. J. Hope & Co. of Montreal, who temporarily suspended. It will be remembered that ten creditors took out seizures against the firm just after its failure, with a view to recovering goods that had been delivered or were in transit to the consignees. These seizures were for about \$35,000 worth of goods. Some of the creditors asked that the goods be sold and that they be paid as privileged creditors out of the proceeds. Others wanted the sales cancelled and the goods given back. The question was referred to Mr. Bethune and Mr. J. McLaren, who was counsel for the estate. They differed. Mr. Bethune held that both classes of seizures were valid, while Mr. McLaren took the ground that no seizure that had not been made within fifteen days of the sale was good. The matter was then referred to three lawyers to save the costs of interminable suits in court. It was subsequently learned that these gentlemen had been much of the same opinion as Mr. Bethune before their appointment, and two more were added, making the board of lawyers—Judge Badgley, W. H. Kerr, W. Robertson, and Messrs. Lacoste and Geoffrion. Mr. Benjamin represented the seizing creditors, Mr. McLaren the creditors of the estate, and Mr. Bethune the estate. The decision given was unanimously against the creditors who wanted the seized goods sold, and the proceeds paid to them as privileged creditors. A majority, Messrs. Badgley, Robertson, and Geoffrion, decided that the goods could not be seized unless within fifteen days of the sale. As none of them had done this the seizures were thus disproven. Messrs. Lacoste and Kerr dissented, taking the ground that any vendor had the right to have his sale set aside, even after the expiration of fifteen days. The firm had made an offer of 32½ cents on the dollar if the seizures were maintained, and 40c if set aside. The creditors met on the 15th inst., when it was unanimously resolved that the trustees hand over the estate to the Exchange Bank. The firm now resumes business, with the 40c dividend guaranteed by the bank.

Textiles.

ENGLISH COTTON-MILL CONSTRUCTION.

Consul Shaw, American Consul at Manchester, England, writes as follows to the State Department:—

A location sheltered from the east winds is considered much more advantageous for a cotton mill than one exposed to dry currents of air which an east wind creates in this climate. For this reason much care is exercised in selecting sites to build mills in this district. The percentage of saving which shows itself in the close calculations of shrewd managers, as between the output of a mill less favorably located than another, is very marked. A manufacturer of fine cotton goods told me that he rented a part of a mill for a weaving-shed. The portion he occupied was shut in by a sharp hill and was completely sheltered from east winds. He assured me that he would not exchange for the northern half of this same mill, which was not so protected, for *one thousand dollars a year*. I give this as a case in point, showing as it does, even here in this humid climate, how important the selection of a site is regarded by practical manufacturers. My informant is a careful and skilled manager, and his observations have led him to believe that a mill sheltered from the dry east winds has a considerable advantage over others not so favorably located.

Unimportant as this may appear at first sight, it is really a point that can be very profitably studied, I am sure, in the United States, and much practical saving, both in material and in its working, may result from a careful investigation of this not very well understood and yet interesting subject. Where competition has become very keen, manufacturers are forced to take note of every advantage offered, either in machinery, raw materials, or natural climatic aids, and some of the results of special study in this direction are surprising. The one I have named in regard to the saving effect by sheltered mills is an illustration of an important fact.

A NEW WORSTED FACTORY FOR PARIS.

We are pleased to be able to inform our readers that there is a prospect of another large manufacturing concern being started in Paris. We are informed by Mr. A. Parker, an English manufacturer, to whom we have previously referred, of his intention of starting at an early date a large worsted and shoddy factory in our town, providing that proper inducements are offered him. The affair is to be carried on by a joint stock company, with some of our most prominent citizens at its head, and with a capital of about \$80,000. It is intended to erect a building on the old Hamilton Mill property and fronting on Mechanic street. It will extend from the east side of the race across, and the full length of the lot to the property of Mr. Ahrens, where a wing will run down to the river. The finest English worsteds will be manufactured from the raw material, and in addition the material will be furnished for the carpet factory, which has hitherto been imported from other towns. The manufacture of carpets will be carried on in the wing. This, it is believed, will develop into one of the largest manufacturing concerns in the Dominion, and cannot but prove a source of wealth to the town. Mr. Parker expects to bring out between 40 and 50 operatives' families from England to work the mill. Parisians must, however, be prepared to deal liberally with the company, as already different towns have offered a large bonus, and are eagerly seeking to capture them. The town is likely to be asked for a bonus of about \$8,000 or \$10,000, and when the time comes we are sure our citizens will vote this to men of our own town rather than to total strangers. If no bonus is voted to the new enterprise it will probably be located elsewhere. We may be prepared to give further particulars next week.

SILK GLOSS FOR COARSE FABRICS.

Some of the technical journals express considerable confidence in the new German process for giving a silk gloss or finish to woollen and cotton goods, imparting to them a superior appearance and consequent value. According to this, silk waste, ravellings and similar valueless refuse are placed in a clear solution of caustic soda or potash, by which they are rapidly dissolved: this solution is next diluted by the addition of distilled water, more or less, as the "plating" is intended to be heavy or light; the cotton, or linen, or other fabrics, are then placed in a bath of this liquid, in which they are said to become rapidly coated with the silk, when they are taken out and dried. This process is repeated a number of times, the bath being diluted each time. Finally, the goods are left for two hours in a strong bath of sulphuric acid, in which they are kept in constant motion. After this they are thoroughly rinsed with water, pressed hot, beaten and stretched, to bring out the lustre and gloss in as perfect a manner as possible. In fact, it is claimed for this process that not only cotton and woollen, but also the numerous class of dull, low-priced silks can, by means of it, be treated with a solution of better and more lustrous silk and be rendered scarcely less distinguishable from the best goods. The precipitated silk adheres firmly, not only to silk thus treated, but also to cotton and linen.

"The Toronto Cotton and Woollen Manufacturing Company (Limited)" is the name of a new company which it is proposed to establish for the purposes indicated by the title. The capital is to be \$100,000, in 100 shares of \$1,000 each, and 25 shares have already been applied for.

The Canada Cotton Company's mills at Cornwall are to be lighted by the electric light shortly.

The *Witness* announces that at a special meeting of the shareholders of the Hudon Cotton Company recently held it was decided to apply for permission to raise the capital to \$2,000,000, with a view to incorporation with the St. Anne's or any other company.

Negotiations are in progress with a view of starting a woollen factory at Sarnia. It is proposed to give Buguey, Patter Hill, R.I., a bonus of \$10,000 should he start a factory stocked at \$100,000 and employing 150 hands, or a bonus of \$20,000 if the stock were \$200,000 and employing 200 hands.

Messrs. Hamlin & Ayers, of Lachute, Quebec, are putting in another set of manufacturing cards, three spinning jacks and a yarn twister. They report orders at present on hand, for more knitting yarn than they can turn out in twelve months, working day and night. This quantity of yarn all goes to the Montreal Knitting Co., Montreal, Que., which firm has an order for 100,000 dozen pairs woollen socks from a leading firm in Winnipeg, Man. They now have 45 knitting machines at work and intend increasing that number to one hundred. Score two more industries for the N.P.

The Dundas Cotton Company will, says the *Montreal Post*, at the annual meeting, propose an addition of \$100,000 to its capital stock, which is now \$400,000, making the new capital \$500,000. Each shareholder will be entitled to one share in four upon which a cash payment of \$50 per share will be made, the company declaring out of its profits, in addition to the usual dividend, a stock bonus of 12½ per cent., or \$50 per share, thereby paying up the full amount of the new stock, which will then be half a million. This is a most satisfactory result, and reflects the highest credit on the management.

A correspondent of the *Ottawa Citizen* says:—Smith's Falls is signaling her assumption of the dignity of a town by the development of new energy. Not only are the existing manufacturing establishments extending themselves, but others are about to start, and spring will witness a wide extension of the Smith's Falls manufacturing industries. We hope in a few days to give a detailed statement of the improvements proposed, and which will be undoubtedly carried into effect.

Iron and Machinery.

THE SCRAP HEAP.

It is becoming very generally recognized that a well regulated scrap heap is essential to the success of a machine shop. It is not always certain, however, what should be the character and proportions of the component elements. The man who elaborates the necessary formula for determining with certainty in any particular case what portion of the plant and material of the establishment can be profitably devoted to that purpose will perform an important service for his fellow mechanics. To fulfil this mission most effectually, however, the scrap heap must be occasionally inspected by the proprietor or manager, and receive such addition from time to time as shall maintain the healthy growth of itself and the business. In addition to the usual staple supply of turnings, split washers and nuts, threadless bolts, broken bellows, and the attempted constructions of apprentices and young machinists, it should receive contributions of more dignified nature. The average annual outpouring of wrenches, particularly of the monkey class, may be taken as about 12 1-2 per cent. of the visible supply. Of broken pane hammers, bent scales, crippled callipers, and dividers, discouraged clamps and vises, the percentage is less definite. This class of contributions, however, is on this account none the less important. At a critical period even larger and more costly doses may be indicated, nothing less than a twisted guide screw, a bent lathe spindle or a dilapidated planer table serving to establish the normal equilibrium. In some cases, ancient engine lathes or planers of unsteady gait and rheumatic joints may be used in the same way to the best advantage. A manufactory is, in a general sense, comparable to a physical organization. The processes for the reception, assimilation and disposition of materials must all work in harmony, otherwise serious complications will result. A due attention to the scrap heap may avoid a sort of industrial intermittent fever, which before now has caused the dissolution of not a few promising establishments.—*Mechanics.*

WIRE CLOTH.

Wire cloth, such as is used by paper mills and for sieves, corn poppers, and a hundred other purposes, is woven in the same manner as cotton and woollen goods, save that a large portion of the work is done on hand looms. Wire cloth for window screens, requiring less care in its manufacture, is woven in power looms, and a single concern at Clinton, Mass., makes 15,000,000 square feet of this cloth per annum. The total amount of wire cloth woven by machinery for window screens alone in the United States is put down at 30,000,000 square feet per annum. For this purpose light and cheap iron wire is used.

For paper mills, cloth made of fine and strong brass wire is employed. There is no other process for making paper except by running the pulp over brass wire cloth, and this cloth has to be renewed every few months. A single firm of paper manufacturers in this city is put to an annual expenditure of \$2,000 to replenish the wire cloth in its mills. As there are about 950 paper mills in the United States, it will be seen that the quantity of wire cloth required by all of them is considerable.

Wire cloth is sold by the square foot, and is graded according to the number of wires in an inch. Cloth which contains two meshes per linear inch or four per square inch, is designated as No. 2. That which contains 100 meshes per linear inch or 10,000 per square inch is designated as No. 100. Cloth as fine as No. 120 is sometimes made, but it is always of brass or copper. No iron wire is used in any numbers above 40. The wire cloth used in window screens is No. 13, and that employed in flour sieves is principally No. 20. The brass cloth used by paper mills is mostly No. 60. The price of No.

2 iron wire cloth is 10 cents per square foot; that of No. 2 brass is 40 cents; and No. 2 copper is 45 cents. No. 100 brass cloth sells at \$1.25 in small lots at retail, and at about \$1.00 in large lots at wholesale. These prices will serve as fair examples of the value of wire cloth in general.—*Boston Commercial Bulletin.*

Mr. H. Geoffrey has brought to the notice of the French Academy of Sciences a specimen of copper wire insulated with asbestos and threaded through a lead pipe. This wire is said to have proved very serviceable for electric lighting, and experiments made M. Henri Lippmann, engineer of the Faure Accumulator Company, show that it will resist very powerful currents. The discovery of a new use for asbestos may prove important, as the mineral exists in large quantities in the northern regions of this county.

PRICES OF IRON AND NAILS IN PITTSBURGH IN 1882.—The following table shows the prices of bar iron and nails in Pittsburgh for each month during 1882:

	Refined bar. Per pound.	Nails. Per keg.
January	2.50c	\$3.35
February	2.50c	3.40
March	2.50c	3.40
April	2.45c	3.30
May	2.35c	3.15
June	2.50c	3.50
July	2.50c	3.55
August	2.50c	3.60
September	2.50c	3.40
October	2.50c	4.40
November	2.20c	3.40
December	2.20c	3.40

The prices of nails are gross. The discount for cash is 2 per cent. and on lots of 250 kegs and upwards an abatement of 10c per keg is allowed.

Messrs. Abbott, Tait & Abbott, of Montreal, have applied for letters patent for the incorporation of the Dominion Barbed Wire Company.

The largest cast ever made at Sleeper & Ackhurst's foundry, Coaticook, Que., was done last week for the cotton factory, one piece weighing 1,400lbs.

The hands employed at Brown's foundry are busier than bees. They apparently have all the orders they can attend to, for the machine shop is full of their manufactures.—*Belleville Intelligencer.*

Mr. A. McPherson, of A. McPherson & Co., Oxford, N.S. has returned from the United States, where he has been purchasing additional machinery for their foundry and machine shop. Mr. James E. Trenholm, Pt. de Bute, is about to be a partner with Mr. McP. and Mr. Hingley. He is the inventor of improvements in the Derrick Hay Press which he has patented for Canada, and which has already been tested with great satisfaction in four of the presses built by McPherson & Co.—*Gazette.*

The St. Johns News says: It is intimated that the Central Vermont Railway Company have under consideration the advisability of erecting large repair shops on this side of the line for the accommodation of their Canadian business. This projected move is rendered necessary by the fact that their shops at St. Albans are so fully employed, but more particularly because the tariff regulations make it cheaper for them to have the repairs of their Canadian rolling stock done here. The News hopes that St. Johns may be selected for the location of the new shops.

The Messrs. Thompson & William Manufacturing Co., of Stratford, Ont., are making three of the "Brown" Automatic cut-off engines, which manufacture is their specialty. These immense 500-h.p. engines are for the St. John, N.B., Cotton Co., the New Brunswick Cotton Mills, (W. Parks & Son), and the Moncton Cotton Co., and are larger than any before manufactured even by the originator, Brown, of Mass., by two inches in the bore. Among other large contracts, they have on hand the machinery supply for the large new saw mill being erected at Selkirk, Man., of Messrs. Waukey & Burrows, the connecting rod for the engine of which is 14½ feet, and 17½ inches in centre, with solid head. The mechanics of this firm are at present in Halifax fitting a 100 h.p. engine at the new Intercolonial elevator there, and also have under way another of 200 h.p. for the C. P. Railway works at Montreal. It is the intention, in the near future, to give an illustrated description of this firm's specialty in the columns of the MANUFACTURER.

Mining.

WHAT A LODE IS.

The London *Mining Journal* gives the following translation of the German descriptive features of a Lode.

Lodes are plane bodies which traverse rock formations, but which were not formed at the same time, but at a later period than those formations.

The difference between lodes and beds consists in the dissimilarity of their formation or their age. A bed is also a plane body, but it is interstratified, and of the same age as the enclosing strata. A Lode, however, whether occurring in stratified or unstratified rock is always younger than the strata it traverses, because later formed. In many cases lodes have been formed by the occurrence of fissures, which have subsequently been filled up. It may indeed be said that mineral veins have been found in this way. According to the filling matter they are termed dykes or lodes. Dykes are filled with rocks which have no particular value, as *basalt, trachyte, green stone, porphyry* and *granite*, which, as is known in many cases, have come in a molten state from the interior of the earth. They vary in size from the thickness of the finger to many hundreds of metres. Lodes consist of *quartz, calcspar, fluor-spar heavy-spar* (barytes), *fel-spar*, etc., and when they contain one or more ores they are known as ore lodes, which, as the repositories of useful minerals, are, to the miner, of the greatest importance. Like beds, lodes have a strike and a dip (underlie). Their length is often considerable, some are known many miles long; their depth is in most cases unknown. The coming out of the vein at the surface is termed its out-crop. The rock over-lying the lode is called the hanging wall, the underlying rock, the foot-wall. The size is the vertical distance between the two walls. The underlie is various, and sometimes the vein is perpendicular to the horizon, in which case it cannot be determined which is the hanging or which is the foot-wall. Lodes have, however, more frequently a considerable than a small underlie. As lodes are crevices or fissures subsequently filled up, so the fissures have their peculiarities. Generally besides the main fissures subordinate ores are found to branch off from it, and these are afterwards filled up; they are known as feeders or branches. All lodes have such feeders, and contain angular pieces of the country rock, a feature observable in beds. Lodes have a varying size depending upon the original width of the fissure. When the fissure is formed one side often slides along the other, mostly the hanging upon the foot wall, resulting in the sides being polished or rubbed smooth, and sometimes striated; these appearances are termed *slitkensides*. A lode may come to an end by wedging out, as when it dwindles down smaller until it becomes a mere division in the rock, or after being nipped it may again open out and continue its course; the extent of the heave or displacement may be very small or very considerable. Fissures occur most readily where the rock is most yielding or most easily ruptured; many stratified rocks rupture most readily in their plane of bedding, and in such cases the lode is found parallel with the strata. It is then called a flat vein.—(*Lager Gang—bed lode.*)

Halifax.—Shipments of coal from the various mines of Nova Scotia during last year show a large increase over those of the preceding year. The shipments from Springfield mines were the largest of any, amounting to 210,885 tons, an increase over 1881 of 54,123 tons. The Intercolonial Company shipped 1,299,990 tons, 14,192 in excess of the previous year's shipments. The Vale Coal Company shipped about 84,000 tons, or 2,000 less than in 1881. The Acadia Coal Company shipped 98,145 tons, an increase of 16,799. From Gowrie mines, C.B., 65,335 tons were shipped, an increase of 4,000 tons. The shipments from Caledonia mines aggregated 59,500 tons. Little Glace Bay mines shipped 70,000 tons, over double the previous year's shipments.

BRITISH COAL SUPPLY.

The mine inspectors of Great Britain and Ireland have sent in their annual reports to the Government for the year 1881. From them we learn that during the ten years from 1871 to 1881, inclusive, the production of coal rose from 117,352,028 tons to 54,184,300 tons. The following is a comparative statement of the products of the mines in the counties named in each of the two years:—

Counties.	Tons, 1871.	Tons, 1881.
Durham and Northumberland.....	29,190,116	35,592,420
Cumberland.....	1,423,661	1,769,213
Yorkshire.....	12,801,260	18,287,141
Derbyshire.....	5,360,000	8,508,923
Nottinghamshire.....	2,469,400	4,758,060
Warwickshire.....	723,600	1,333,419
Leicester.....	699,900	1,145,266
Stafford and Worcester.....	14,281,250	14,858,070
Lancashire.....	13,851,000	18,499,810
Cheshire.....	975,000	782,000
Shropshire.....	1,350,000	892,590
Gloucester.....	1,412,297	1,361,386
Somerset.....	673,878	731,754
Monmouth.....	4,915,525	5,412,840
South Wales.....	9,120,000	15,029,125
North Wales.....	2,500,000	4,300,606
Scotland.....	15,438,581	20,822,055
Ireland.....	165,750	127,581

370,881 persons were employed in 1875 in the mines, and last year the number was 495,477—a notable increase for a “declining industry,” one would think. The largest number employed during the period noted was in 1874, when it reached 138,329.—*Quebec Chronicle.*

An excellent mine of white mica has been discovered between Clarendon and Palmerston townships. It is owned by an American firm, and is said to be very valuable. Work will be commenced in the spring. In Levant another mine is situated, but the layers are of a dark color.

We notice the following in the *Engineering and Mining Journal* of New York:—“There appears to be a very strong interest on the part of American capital in Canadian phosphates. Messrs. Benedict & Cole, of this city, who have made a specialty of this branch of mining, inform us that the principal deposits now worked and opened out are in the townships of Portland, Templeton, Hull, Wakefield and Buckingham, in the Province of Quebec, and in the counties of Leeds, Lanark, Kenfrew, and Frontenac, Ontario. The cost of delivering the phosphate at Montreal varies according to the special conditions of each locality and its accessibility to transportations. The principal outlets are at Kingston and Ottawa. The principal market is Liverpool, but American manufacturers of fertilizers are beginning to use the Canadian raw material, and are preparing for more extensive supplies. Mr. McIntosh, Ottawa, just returned from England, says the phosphate markets are improving, and that next year he expects the shipments of the material to be between 50,000 and 100,000 tons.

The *Bobcaygeon Independent* says that as the knowledge of the iron deposits of Snowdon township extends it becomes more clear that they are of immense value, and there can be no doubt as to these deposits being extensively worked in the near future, and the whole of this country becoming a mining district, where a large population will be sustained by the iron industry. Messrs. Parry and Mills are steadily pursuing their course, and will have a furnace at work within a moderate period, and Mr. Pusey and Mr. Ivatts are also carrying on their labors with admirable persistence and courage. Mr. Ivatts has only recently returned from Europe, and whilst in Paris conferred with several large capitalists with a view to obtaining the funds for carrying on smelting and mining on a large scale. It is hoped that the result of his negotiations will be to obtain all the capital—a very large sum—required, and in that case the iron deposits of Snowdon will at once assume an important place in Ontario industries. It is safe to predict that within a few years this district will vie with the Pennsylvania mining regions in the supply of iron to the American continent.

Lumber.

SUCCESSION OF FOREST GROWTHS.

Robert Douglas gives in a brief letter to the *Gardener's Monthly* some interesting facts concerning the succession of forest growths—the result of years of observation. Where the forests are cut down, and the fires are kept out, they in the main reproduce the same species. But if a settlement is formed, and the cattle are allowed to run into the cut-down woods, the seedlings are destroyed as they appear. In a burned forest everything is changed; all vegetation is swept away. Even the soil is changed, and its surface, if thin, is destroyed. After a forest fire, the first tree that makes its appearance is the aspen, a tree which naturally grows on moist lands, where its roots have the best chance to escape from the general destruction. According to Mr. Douglas, this tree predominates in burned forests in Colorado, Wyoming, Dakota, the Black Hills, Minnesota, Manitoba, Wisconsin and northern Michigan. In Wisconsin and the Black Hills it is mixed with the white birch, and occasionally, as in north-eastern Wisconsin, the white birch is the chief tree. Both the seeds and trees of conifers are usually destroyed by a fire. Next to the aspen and white birch, those trees and shrubs spring up over burned districts which bear seeds that are either blown to great distances, remain long in a dormant state in the ground, or are carried by birds. Where the burned forests consisted of oaks and pines adjoining or partly intermingled, the oaks will be found after a fire crowding upon the pine lands. This is due in part to the fact that oaks renew themselves from the stumps, while pines do not, and that acorns are often buried by squirrels in spots favorable to their speedy growth.—*Northwestern Lumberman*

McEwan and Son are putting the new machinery in McLaren's mill at the Mississippi.

John Farrar, lumber dealer, Campbelltown, N.B., has put all his property out of his hands, and creditors are anxious about their claims. He owes about \$11,000.

Over eighty-five and a half million feet of lumber were shipped from Nova Scotia ports during 1882. The largest shipments were made from Parrsboro, the quantity being over sixteen million feet.

The old machinery of the big mill at Deseronto has been taken out, in fact scarcely anything is left but the wall and roof. A large force of skilled mechanics are replacing the woodwork and preparing the foundations for the gangs. The new machinery when in operation will have cost the firm about \$50,000. The estimated output for next season exceeds 30,000,000 feet.

One of the uses for which straw lumber has been found to be very valuable, and concerning which it can be said with truthfulness, if not originality, that it fills a want long felt, is for backs of picture frames. It can be made the right thickness, and readily sawed several thicknesses at a time, into the dimensions needed for the various sizes of frames, and it is another advantage to have it in one instead of several pieces. There is one man who thinks he can use the entire product of the straw lumber factory at Lawrence, Kansas, in this way.

The *Lumberman's Gazette*, Bay City, Michigan, says:—Michigan pine is "ruthlessly slaughtered," and the "pine barrens" are rapidly being changed to profitable farms, and while some lumbermen seek the untouched forests of the west and south, others continue to improve their mills to diversify manufactures, and to believe that more than one generation of men will still do prosperous business in the Michigan pineries. Ten years ago the most expert statisticians asserted that Michigan pine would be exhausted before this time, but the mills each season continue to raise the figures, and each winter sees our lumbermen making preparation for a still greater cut during the next season, as is also the case at present.

Milling.

CHICAGO'S DECADENCE AS A SPRING WHEAT MARKET.

The *Milling World* says:—"The decadence of Chicago as a spring wheat market is very plainly manifest in the exhibit of the wheat receipts at that point for the past twelve months. In spring wheat the decrease is over twenty thousand car loads, while the increase in winter wheat nearly reaches that figure. For this alteration in market conditions several causes are responsible, but principally the rapid increase in number and capacity of flour mills in the spring wheat-producing districts, by reason of which there is a constantly decreasing surplus of wheat to be shipped to the seaboard as raw material. That Chicago dealers recognize this fact is shown by their action a few months since in placing winter wheat on a level with spring in that market by making it deliverable on regular contracts, unless expressly specified to the contrary. Indeed, if *bona fide* transactions alone were taken into account, Chicago, as a spring wheat market, would be of very little importance. By far the largest volume of the trading which is carried on there is speculative in its character, and neither party has the slightest intention of effecting an actual transfer of wheat. Yet it is impossible to maintain indefinitely the standing of a point as a speculative market for a given commodity, if little or none of that commodity can actually be obtained there. Chicago, as the head centre of speculation in spring wheat has passed the height of her power, and is now rapidly declining. It would be well for the general public, if, with the gradual cessation of speculative trading in spring wheat at Chicago, that grain might no longer serve as counter for grain gamblers anywhere." Our contemporary arrives at the conclusion that Minneapolis must be the great *bona fide* spring wheat market of the future.

THE GRAIN SUPPLY.—According to the final estimate of the grain crops in the United States, by the Agricultural Department at Washington, the wheat crop of 1882 was 502,798,600 bushels against 383,280,000 bushels in 1881, showing an increase of 119,518,600 bushels. The total corn yield last year was 1,624,917,800 bushels against 1,194,916,000 bushels for the year previous, which shows an increase of 430,001,800 bushels. The following is a statement of the above mentioned estimate of the wheat, corn and oat crops for the past three years.—

Wheat crop of 1882.....	502,798,600
Wheat crop of 1881.....	383,280,000
Wheat crop of 1879.....	459,479,505
Corn crop of 1882.....	1,624,917,800
Corn crop of 1881.....	1,194,916,000
Corn crop of 1879.....	1,754,861,535
Oat crop of 1882.....	475,653,700
Oat crop of 1881.....	416,451,000
Oat crop of 1879.....	407,858,999

The smallness of the wheat receipts in Chicago is causing remark; but it has to be reckoned that millers are using more wheat now than they ever did before.

A By-Law, granting \$2,500, with exemption from taxes and free water privileges, to Campbell Brothers, of Chatham, for the erection of a steam flouring mill at St. Thomas, Ont., was submitted to a vote of the ratepayers in the latter place on Tuesday Jan. 16, and carried by a majority of 384.

A grain merchant who has visited most of the stations within one hundred miles of Sioux City, Iowa, says that "farmers are mostly holding their wheat, hoping for a better price and arrivals are light at all stations. Corn is coming in more freely, but there is an immense amount of it in the country yet, and a great many farmers will wait for the spring market. Oats and barley are mostly in the farmers' hands yet. In some neighborhoods railroad building expected next season makes the farmers hold for a home market."

Chemicals, &c.

AN INVENTION IN SHOEMAKING.

For the past six months a Boston inventor has been making a shoe by a process which it is calculated will revolutionize the entire business. The process is very simple, but decidedly practical, as it is equally applicable to ladies' work as to that of heavy work for men. Heretofore, in the manufacture of hand-sewed work, the upper leather, which remains after sewing the welt to the inner side, has either been cut off or tacked down and the space filled, but by the new method the upper, after having been fastened to the sole, is turned back over the welt, and in turn is again sewed to the outer sole, thus making the hoot doubly as strong and making it virtually water-proof. In case a poor inner sole is used, so that the sewing gives way, the welt will act as a lever and there is no possibility of the upper pulling out. In the manufacture of common work for women, where machines are used, there is a rough seam left on the inside of the shoe which is decidedly uncomfortable to the wearer, whereas if made by the process alluded to the inside of the boot is left perfectly smooth. Then, again, by the old method nails are used to a greater or less extent in lasting, which in due time give the wearer unmeasurable discomfort; but this is entirely obviated by the new process, as no nails are used, as the upper does not require to be fastened to the inner sole except by the sewing. Those who have investigated the process are loud in their praises, and compliment the inventor highly upon his success.—*Boston Herald*.

NEW AND IMPORTANT USE FOR PLASTER OF PARIS.

Wood and Iron says:—"Lucius Fairchild, the ex-Wisconsin governor, represents a rich English syndicate in this country, which owns a valuable patent on a process for utilizing native gypsum in the manufacture of all kinds of wares and novelties, which the syndicate proposes to soon fully develop. Gypsum can be changed by the process, which is by chemicals, to a substance as hard and susceptible of a beautiful polish as Parian marble. The idea is to model the soft gypsum into vases, ornaments of every conceivable design, and general art novelties, treat them to the chemical process, and then embellish the goods by handiwork. Vases were exhibited at Milwaukee recently, engraved and ornamented in the highest style of art, equal to anything to be found in rare art collections, that could not be distinguished from those made of Parian and other rare marbles, which were modeled out of ordinary gypsum, and put through this process. There are vast gypsum mines in Michigan, and also in Dakota, and several of the largest have recently come into possession of the syndicate represented by Gov. Fairchild. Special machinery is being built at Pittsburg, and will shortly be erected and tested at the Michigan gypsum mines. All kinds of art goods are to be made entirely by machinery, and will be given the finishing touches and be decorated by artisans, brought from the old country for the purpose." To which we will add that, Canada also has its vast mines of gypsum, or plaster of Paris, and ought to offer a favorable field for the new manufacture.

Mr. A. Penotte, who has been temporarily managing the chemical department of the Charcoal Works, arrived in the city to-day. He states that the works have been shut down for two weeks, so that no more charcoal will be made until two new cars the company are getting constructed at the Car Works are completed. Each of these cars will hold 900 bushels, and they will be used in carrying the product to Montreal and other places. At present there are 1,000 cords of wood on hand ready for burning. Mr. Penotte thinks that there is a little "gold mine" in the Charcoal Works, as the shareholders will sooner or later discover. He left this afternoon for Alabama to take charge of the chemical works there.—*Kingston News*.

Legal.

Exemption.

A debtor who does not in some manner indicate to the officer making a levy his purpose to claim the property levied on as exempt from execution, if present at the time of such levy, waives the exemption.—*Mossitt vs. Adams*, 14 N. W. R. 88.

Statute of Limitation.

In a suit on a promissory note, in order to remove the bar of the statute of limitations, the acknowledgment of the existence of the debt, if not made directly to the creditor, must be made to his duly authorized agent, who must be known as such by the debtor.—*Bott vs. Stoner*, Sup. Court, Pennsylvania.

Warranty in Contract.

Where a contract between the parties for the purchase and sale of plows contained the clause: "The above plows are warranted to do good work." Held that such warranty applied to all plows furnished on the contract, and not alone to the first shipment. Also held that plaintiff is liable for all damages arising from the breach of its warranty, unless the damages arising from such breach have been adjusted by settlement.—*Gale Manufacturing Co. vs. Cribb*, Sup. Court, Alabama.

Selling Freight for Charges.

Freight was sold to pay charges, and the owner sued for the value of the goods on the ground that it had not been properly advertised, but had been sold to a favorite of the carrier. The court said: Good faith and reasonable diligence must be shown to ascertain and give notice of the nature and character of the freight, so that the best sale possible may be made. If it is sold to some favorite of the carrier, no proper notice having been given, at a nominal price, damages for the value of the goods can be recovered. A carrier has no right, nor is he bound, to examine the contents of barrels before advertising them for sale to pay the freight due thereon.—*Shivers vs. Nathan*, Sup. Court, Alabama.

The "Personal" Risk of Pass-holders.

The Supreme Court of Pennsylvania has just decided a railroad case of considerable interest. The decision was in the case of the Buffalo, Pittsburg, and Western Railroad Company against O'Hara, brought up on error to the Common Pleas of Forest County, Pa. Mrs. Ellen O'Hara, wife of an employee, was riding on a pass between Oil City and Trunkerville, in the Forest County. The train was dashed into, and she was scalded and otherwise injured. The Jury awarded her \$3,000, which sum was reduced to \$2,000. On the face of the pass, in fine print, was a clause purporting to be a release of all liabilities for damage to the person or baggage of the party using the pass, resulting from the negligence of the company or its servants. The condition was in the following terms:—"Conditioned that the person accepting this pass assumes all risk of accident to his person or property without claims for damages on this corporation. Good only for the person named." It was signed by the superintendent and supervisor. The Supreme Court held that "a common carrier cannot protect himself by special contract from liability for negligence. Against his extraordinary liability as a common carrier he may protect himself by such an agreement, but not from his liability as a simple bailee. It may well be doubted whether the provision in this pass being against accidents can be held applicable at all to cases where the injury has resulted from negligence. If the free pass in this case was unlawful the conductor should have demanded the regular fare, and his not doing so did not make O'Hara or his wife trespassers or destroy their rights as passengers." The lower court's judgment was affirmed.



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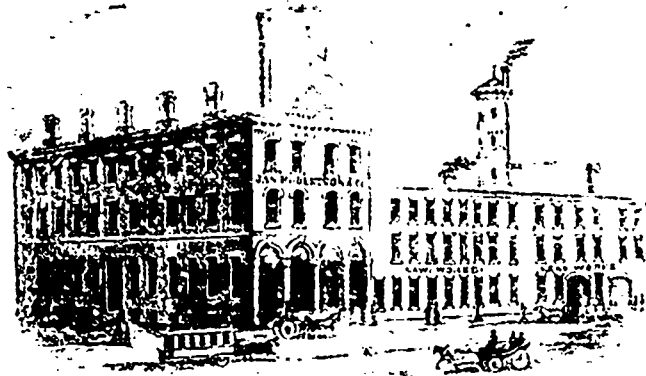
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Railways and Shipping.

PROPOSED LAW AGAINST TRAIN WRECKING.

(From the Philadelphia Railway World.)

Governor Butler, of Massachusetts, in his inaugural address to the legislature of that State, asserted that the commonwealth was exceptionally free from crime. Immediately after this claim he used the following striking language, which was greeted with applause:—

"There is one crime, however, which indicates such depravity of heart, such disregard of life, such malice towards all mankind, that the doing of it should be visited with the swiftest and most condign punishment. I recommend an act in substance providing that whoever wilfully and deliberately does an act with intent to derail a moving train, propelled by steam on any railway, shall, upon conviction thereof, suffer death. Such a man is in his heart a thousand times, it may be, a murderer of innocent men, women, and children who have done and can do him no harm. If by accident he fails in his nefarious purpose, to accomplish which he has done all he can do, their escape is in the providence of God and no merit of his."

Coming from the executive head of any State government such a recommendation as this would attract attention; but in the present case it is especially noteworthy. Governor Butler has for many years been a prominent member of the American bar, and is conspicuous for his knowledge of criminal law. A man so thoroughly acquainted with his profession does not recommend the passage of a new law without careful consideration. Least of all does he for light causes favor an addition to the list of capital crimes in an age like this, when a strong sentiment opposes the infliction of the death penalty even for the most heinous offences.

While the train-wrecker is deservedly abhorred by all right-minded citizens, popular sentiment in some localities does not fully realize the enormity of his crime. There are portions of the Union in which a train-wrecker is looked upon as a criminal indeed, but as rather less dangerous to society in general than a horse-thief. No one will dispute that his act implies a shameless violation of law, but there are many who, for some unaccountable reason, fail to perceive that, in Governor Butler's vigorous language, it indicates "malice to all mankind." The extreme penalty of the law is, in some commonwealths, inflicted for crimes that may lead to death as well as for murder. In these States arson still holds its place as a capital crime, although there are few or no incendiary fires that endanger as many lives as an attempt to derail a passenger train. Piracy is a capital crime, although numerous instances have occurred in which maritime freebooters have landed their prisoners instead of forcing them to walk the plank. Train-wrecking, morally speaking, differs from these offences, in being worse and more dangerous. It is a fiendish crime, rather than a human vice. Ordinary homicides not unfrequently have some faint shadow of excuse. A man may kill another in revenge for some terrible wrong, or in a momentary fit of passion, or when intoxicated and unconscious of what he is doing; but in the case of a man who deliberately attempts to throw a train off the track only two suppositions are possible. He is either a dangerous lunatic who should be guarded with the utmost vigilance, or in intent a murderer, insensible to all humane or manly feelings. In the majority of cases he belongs to the latter category. A legal system which executes the man who slays one of his fellow-creatures and imprisons for a few years the man who tries to kill a hundred or more cannot fairly be styled the perfection of human wisdom. The knowledge that a train-wrecker had expiated his hideous crime with his life would strike terror to the hearts of others who are incapable of nobler feelings than fear, revenge, and avarice. In commonwealths where a feeling of antagonism to capital punish-

ment is unusually prevalent, a statute might be passed providing that every one convicted of wrecking or attempting to wreck trains shall suffer imprisonment at hard labor for life.

THE RIVAL GIANTS.

(From the Montreal Shareholder.)

Various absorptions or amalgamations, more or less recent, have now virtually left the important railway system of the country, as administered by private corporations, in two hands only. The Grand Trunk and the Canadian Pacific now completely tower above all other lines, with the exception of the Intercolonial, which is a government undertaking, and is outside of competition with the enterprises above named. Canada is geographically extensive enough, one might have imagined, to have permitted these two gigantic corporations to have pursued the even tenor of their ways without interfering with each other's interests or in any way coming into business collision. The old and settled portion of the Dominion seemed to have become recognized as the natural territory of the one, while the other was called into existence for the special purpose of developing our newly-acquired territory in the North-West. But, if the newspaper press is to be accepted as authority, these facts have not served to prevent the growth of a bitter hostility between these two great bodies. Each of the lines appears to have, however, one or more champions in the daily press, and it is from these alone that we derive any statements that may be herein referred to. The story, as taken from one of these sources, declares the Grand Trunk has used all its influence, and that successfully, to prevent the Canadian Pacific from raising money in the London market; and that it has purchased either existing lines or charters simply to thwart the C. P. R. The supporters of the Grand Trunk retort, through the same medium, that the latter had and has no hostility to the new North-West scheme pure and simple, as at first contemplated, but that its projectors are going entirely outside the original conception. The older line complains that the new one began the war, in the East, by purchasing lines where it neither had traffic nor could reasonably anticipate much, for the sole purpose of annoying, embarrassing and injuring the G. T. R. Then, in self-defence, its friends say, and not till then, the senior enterprise did adopt a retaliatory policy, and they claim that its efforts have fully attained the object sought. But they sturdily contend that it was the C. P. R. which began the war of absorption and that the G. T. R. only followed its example, and did not initiate that policy. Advocates of the Grand Trunk further assert that it did not seek any war, but, being in, determined to fight it out without gloves, and is quite satisfied with the prospects. This is "a very pretty quarrel as it stands," and one in which outsiders are not called upon to intermeddle. It is likely, however, to strike the majority of impartial on-lookers that such contests are calculated to bring an amount of exhaustion to both parties which had much better be avoided, and that the sooner they cease the better for all. The country can as little spare the one in the West as the other in the East, and with such almost limitless territory it should surely not be difficult to make such arrangements as would do away on both sides with the sense of hostile and unwarrantable encroachments.

MONEY CIRCULATED BY RAILWAYS.—The late report of the Railway Commissioners of Illinois shows that the railway companies of that State last year paid out over \$70,000,000 as wages to their employes. That money was nearly all spent in Illinois. A large percentage of it went at once to retail merchants. No very small proportion of it very soon reached the Illinois farmers in payment for food stuffs. The number

of employes was 132,587. It took a small army of merchants and shop-keepers to supply goods to this large army of railway operatives. A big part of the profits of the shop-keepers went to the farmers for food. We venture to say that the farmers receive nearly or quite as much from the railways, directly and indirectly, as they pay in the same way for the transportation to market of their grain and live stock. Without railways many of them would be marketless and without railways those 132,587 employes would have to engage in other industries. Many of them would have to till the earth or starve. Thus farming competition would be increased. Railways furnish compensating benefits for all the damage they do farmers.—*St. Louis Commercial*.

THE RIVAL CANAL ROUTES.

The St. Lawrence route, the *Hamilton Spectator* points out, has enormous advantages over the Erie. Just look at the figures:

	Miles.
Distance from Chicago to Montreal.....	1,261
Distance from Chicago to New York.....	1,400
<hr/>	
In favor of Montreal.....	139
Canals on Montreal route.....	68½
Canals on New York route.....	345
<hr/>	
In favor of Montreal.....	276½
	Feet.
Lockage on Montreal route.....	536
Lockage on New York route.....	654
<hr/>	
In favor of Montreal.....	118
	Miles.
Montreal to Liverpool.....	2,790
New York to Liverpool.....	3,040
<hr/>	
In favor of Montreal.....	250
	Bushels.
Capacity of St. Lawrence canals.....	20,000
Capacity of Erie Canal.....	8,000

In favor of Montreal..... 12,000

Here are enormous advantages in favor of the St. Lawrence route in every particular.

It is stated that Vanderbilt has obtained, or is endeavoring to get, control of the New Jersey Central Railway.

The *New York Tribune* says Vanderbilt is contemplating the purchase of the Illinois Central, and has been quietly buying its stock.

It may be taken for granted that the country will never again witness such a display of activity in railway building as was exhibited during the year of 1882. The returns for that year show a construction of nearly 11,000 miles of main track, on 316 lines, in forty-four states and territories; some 1,500 miles more than was constructed in 1881. The capital invested is estimated for the year at \$270,000,000. The United States can now boast 114,000 miles of railway, a greater mileage than is possessed by of the whole of Europe.—*St. Louis Age of Steel*.

The *Sarnia Canadian* has the following reference to the G. T. R. Air Line between Sarnia and Point Edward:—Mr. R. S. Oliver has made good progress with his contract of removing such buildings as interfered with the track of the air line. The pile driver at the upper end of the shore portion of the line has been idle for a few days, but that at the lower end has been kept steadily at work. The track will cross Clark's, Proctor's and King's wharves about on grade; but will be nine inches above the present level of the Water-works wharf. The expectation is that the line will be completed some time in February. The indications are that when the necessary arrangements have been completed, the Sarnia crossing will be used exclusively for passenger traffic, and the Point Edward crossing for freight. It is also expected that the easier grades on the Great Western division will have the effect of diverting a very large percentage of the traffic, including all the Buffalo-bound freight, to the southerly line.

Financial and Commercial.

MANITOBA SUPPLIES TO ONTARIO.

(From the *Winnipeg Commercial*.)

It is a generally accepted belief that the Prairie Province is not in a position to supply any of those further east with anything but hard spring wheat and a field for speculation in real estate. This belief, however, is fast falling into line as one of the superstitions of the past. The *Thunder Bay Sentinel*, of Dec. 3rd, has a paragraph from which we clip the following:

"Mr. William Macpherson, representing the firm of Carscaden & Peck, manufacturers and wholesale dealers in clothing and mens' furnishing goods, Winnipeg, is staying at the Queen's, where he has a magnificent stock of samples. He is doing a good stroke of business here."

From the balance of the paragraph, it looks as if the *Sentinel* expected its readers to feel as if they had been struck with lightning on hearing that a Winnipeg commercial man was doing a good trade in Prince Arthur's Landing or any other part of Ontario. The facts are, however, that at least half-a-dozen of these heralds of commerce from the Manitoba capital have been pushing business on the Lake Superior shore during the past month or so, and the experience of each has been similar to that of the gentleman noticed by the *Sentinel*.

Winnipeg has now grown to such proportion and commercial importance that the merchants of more Ontario towns than Prince Arthur's Landing are beginning to look at it as their future depot for supplies. At present they can find no city in their province outside of Toronto where so many different branches of wholesale trade are so well represented, and the years are few until a very considerable portion of Western Ontario must be tributary to Winnipeg in a trade way. A few years ago it was common belief among eastern men that Manitoba was a good place to raise wheat and sell goods in; but there is too much enterprise, tact and capital now connected with the wholesale trade of Winnipeg to allow these easterners to remain under such a hallucination, and Ontario cities must expect to find keen competition in mercantile affairs from the Manitoba capital even in towns of their own province.

MANY FAILURES OF SMALL TRADERS.

A close analysis of the return of mercantile failures in the United States for the last quarter of 1882 shows that of the 2,328 traders reported failed, 731 were of no financial standing worth taking into account; 451 had only an estimated capital of \$500 and under involved; 192 had a capital involved varying from \$500 to \$1,000; 237 had an estimated worth of from \$1,000 to \$2,000; 208 from \$2,000 to \$3,000; 185 from \$3,000 to \$5,000. It is thus seen that of the total disasters for the quarter 2,004, or nearly 86 per cent., were of traders having merely a very ordinary standing, or none whatever, in their respective trading communities. Of the remaining 324 failing traders, 144 had a capital involved varying from \$5,000 to \$10,000; 97 from \$10,000 to \$20,000; 40 from \$20,000 to \$35,000; 17 from \$35,000 to \$50,000; 9 from \$50,000 to \$75,000; 6 from \$75,000 to \$100,000; 5 from \$100,000 to \$150,000, and six having a capital at risk varying from \$150,000 to \$350,000. It is thus seen how largely the failures for the quarter were of small tradesmen having little or no financial standing. The failures reported to Bradstreet's for the week ending yesterday, (Jan. 12.) number 342. Of these, 47 per cent., or 163, were of traders having no standing worth mentioning. Out of 342 failing traders 307 had each but \$5,000, or less, at risk. During the corresponding week last year 203 failures were reported. Of these, 53 per cent., or 109, were of traders having no commercial standing. Of the 203

failing traders in the second week of last January, 1881 had each at risk a capital of \$5,000 and under. It is thus seen that, while the number of failures correctly reported are in excess of the return for the corresponding period last year, the per centage of small traders continues very large.

BUSINESS PROSPECTS IN THE UNITED STATES.

Referring to the efforts of several interested individuals to create the impression that the trade of the United States is on the eve of a crisis, the *New York Evening Post* says:—"While it is true that prices of commodities did experience a great decline six months ago, in consequence of the large crops in this country—and in the iron trade in consequence of the prospective decrease of railroad building—the effects of that decline are now being largely recovered from. There was a crisis in the dry goods, iron and leather trades six months ago. We have been getting its effects in the increased number of failures during the past month. But the crisis was passed long ago, and its effects may be reasonably expected to diminish. Our foreign trade never looked in more encouraging condition than it does now. There is a certainty that next year's grain crops in Europe will be short, and that we shall find a market for all our remaining breadstuffs at higher prices than now. The exports of cotton now exceed, both in quantity and in value, the amount of previous years, and we have a large surplus to go forward yet. The excessive railroad building may be considered at an end, and any unfavorable consequences that are likely to be developed from over construction are already foreseen, and, being foreseen, have been discounted. These prophecies of evil are behind the time."

FAILURES IN THE DOMINION.

Messrs. Dun, Wiman & Co. publish the following list of failures, with liabilities, in the Dominion of Canada for the last five years:—

1877.....	1,893	\$25,523,993
1878.....	1,697	23,908,677
1879.....	1,902	29,347,937
1880.....	907	7,988,077
1881.....	635	5,751,207
1882.....	787	8,587,657

L. W. Paige, stationer, &c., of Coaticook, Que., has assigned in trust.

Beatty & Hobden, hotel-keepers, Minden, have failed through the absconding of Beatty.

The File & Spring Co., of Montreal, have suspended and are preparing a statement for creditors.

The stock of H. Lamont and Co., Chatham, has been sold to J. R. Cox at 68c. on the dollar.

One per cent was paid in Montreal recently for the privilege of "putting" 100 shares Ontario Bank at 99 within 60 days.

Mrs. A. Black, milliner, Winnipeg, assigned in trust on the 20th inst. Her liabilities will amount to \$15,000.

Elliott and Weir, woollen manufacturers, of Ancaster, are in financial difficulties. They have been sued by several creditors.

It is estimated from the list of shareholders of the Montreal Telegraph Company, just published, that about 15,000 shares of the stock are held on "the street."

Tonkin Bros., hatters, of Toronto, are offering their creditors 50c. in the dollar. They have been carrying on two stores with but limited capital, and their failure is not a surprise.

A. McK. Weldon, general store, Moncton, has assigned in trust. A bill of sale to his uncle for \$4,000 was recently registered, so that creditors will likely have to accept what is offered.

Robert Stark, dealer in boots and shoes, of this city, is being sued by some of his creditors, and will no doubt have to arrange a settlement. He owes about \$1,200, and shows a surplus of \$350.

Alexander McDowell, hardware dealer, Hamilton, is reported to have left for the United States without paying his debts. He has sold his stock, and creditors will not receive anything from the estate.

The sheriff is in possession of the store of W. Brittain and Co., grocers, Howmanville. The liabilities are said to be about \$1,500 and assets \$800. Relatives have a preference judgment over other creditors.

The Leather Belting Company of Chipman, Renand & Co., of Montreal, are in difficulties. The partners have been disagreeing for some time and their present troubles were expected. They owe, it is said, \$10,000.

N. B. Scott & Co., general dealers, of St. Timothe, Quebec, have assigned for the benefit of creditors. They owe \$7,000, principally to Montreal creditors. The estate apparently will pay about 50c. in the dollar.

The grocery firm of Behan & McIntyre, Winnipeg, has assigned with liabilities of \$6,000. The intemperate habits of Behan are given as one reason for the failure of the firm, which has only been in existence about six months.

It is understood that an agency of the Ottawa Bank will be opened at Carleton Place in the course of a few weeks. The inhabitants are greatly delighted at the idea of this extra convenience, which will be a great acquisition to business men.

The creditors of Mrs. E. Stewart, milliner, of Hamilton, met on the 22nd inst., and agreed to accept 50c. on the dollar in 3 and 6 months, secured. Her statement shows assets \$2,000 and liabilities \$2,300. This is her second failure within two years.

Hamilton has had several changes in jewellery firms the past few weeks. The absconding of John Swindells, engaged in that business, is announced, with about \$2,000 in cash, and creditors have taken possession of whatever assets remained.

Gaspard Longpre, tinsmith, of St. Boniface, Manitoba, is reported to have assigned. He has been in business about three years, and until the last three months his business has steadily increased. He has over-bought and is now unable to meet his liabilities.

A. R. Brown and Co., coal dealers, Montreal, assigned in trust to Wilson, Patterson and Co. Liabilities of the coal business are about \$12,000 and assets about \$20,000, but Brown has been speculating in outside matters, and the total liabilities will amount to much larger figures.

At the meeting of the creditors of Alex. McGibbon, Montreal, 20th inst., the offer of 40 cents on the dollar was accepted, Mr. McGibbon having obtained the signatures of creditors representing \$28,500, out of the \$29,000 liabilities, or \$1,000 more than the amount required.

Edward Chandler, druggist, of Springfield, Ont., has been in business since 1875. He offered his creditors 50c. in the \$ in 1881 which they refused to accept, and subsequently they obtained the full amount of their claims. The bailiff is now in possession and it is likely he will be sold out. Chandler's lack of energy is probably the principal cause of his not making headway.

A pleasant side of humanity to turn to is the honest action of Fisher & Scns, Montreal, who failed in 1875. They paid their Canadian creditors at the time, to whom they owed small amounts, in full, and settled with their English creditors for 11s. on the pound. Having recovered their standing and made money, they discharged on the first instant, like noble men, every dollar they owed at the time of their failure, although there was nothing but the moral claim upon them to do so.

Early in 1879 the dry goods stock of W. S. Wilson, of Ottawa, was purchased by his son, who carried on business under style of H. W. Wilson and Co. Last spring he obtained an extension of time, payment to be made in eight monthly instalments but he has been unable to carry this out, and assigned in trust. The dry goods trade in this vicinity is overdone, and a number of firms are feeling the effects very keenly.

Creditors of Joseph Hawke, merchant tailor, of this city, were rather surprised to hear that he had made an assignment. It is only a few months since that Hawke claimed to be worth about \$10,000 in real estate and capital, and contemplated engaging in the wholesale woollen business. His liabilities will amount to about \$8,000 and his assets are considerably less. The shrinkage yet remains to be accounted for.

The following changes have taken place in the Province of Nova Scotia during the past week:—G. P. Mitchell & Sons, West India merchants; Muirhead & Co., plumbers; Banks & Merlin, general dealers; John Silver & Co., wholesale dry goods, and White & Simmons, stove dealers, all of Halifax, have dissolved partnership. John Meniac, general dealer, of Port Medway, is in difficulties, and John R. Hutcheson, grocer, of Guysboro, has assigned in trust.

Phillipe Henry Matte, tanner, etc., of Stanford, Quebec, is offering his creditors 25c. on the dollar. Liabilities are about \$50,000, and assets \$30,000. He has been extensively engaged in tanning for several years, having a business at Arthabaska Station as well as at Stanford. Matte is a young man and well posted in his business, but the past two years he has been exporting leather to Europe, and losses in this connection have been incurred.

The assignee in the matter of Paterson Bros., wholesale Millers, Toronto, has submitted his statement, showing liabilities \$193,000, and assets 123,000—deficiency \$70,000. The indebtedness of the firm in Europe is \$130,000, about \$8000 in the United States, and \$35,000 to the Bank of Montreal. The claims of secured creditors amount to \$22,000, and the Bank of Montreal are interested indirectly to the extent of \$93,000, holding customers paper as collateral.

In Ontario the following changes have occurred the past ten days:—F. E. Dixon & Co., leather belting, Toronto, have dissolved, F. E. Dixon continuing. Harris Bros., boot and shoe dealers, Simcoe, have dissolved. Joseph Holman, boots and shoes, Toronto, has assigned in trust. W. J. Scott, in the same line at Bowmanville, is offering 35c. in the dollar. Robert Linfoot, hotel, Riverdale; R. & E. Summers, lime dealers, London, and W. Willard, general dealer, Taunton, have sold out.

The amount of exports to the United States as exhibited by the books of the U. S. Consul at this port, for the three months ending 31st December, 1882, was \$132,275. The amount for the preceding quarter ending September 30th, was \$137,406, making a total of \$269,681, for the six months. From the above we are led to believe that *more goods are exported to the United States from the port of Sherbrooke than any other port in the Province, not excepting Montreal*, the number of invoices exceeding that of the last mentioned port.—*Sherbrooke Gazette*.

Wm. Damer, wholesale and retail boot and shoe dealer, Toronto, has assigned in trust for the benefit of his creditors. He has several branch stores throughout Ontario, and has been working with a small capital considering the extent of his business. It has been known for some time that he felt the want of capital and his suspension was not a surprise. He shows a surplus of about \$15,000, with liabilities of about \$70,000. His brother John, who carries on a retail business on King-street East, is heavily involved through Wm.'s embarrassment, and will no doubt have to ask time from his creditors.

In Montreal the following changes have occurred recently:—A. & C. J. Hope & Co., hardware dealers, have arranged a composition at 40c. on the dollar, cash.—Mrs. J. Lussier, fancy goods dealer, has assigned in trust.—A. McGibbon, grocer, is offering 40c. on the dollar.—J. C. Prefontaine, dry goods merchant, has obtained an extension of time from creditors, and the following firms have dissolved partnership: Kemp, Edy & Co., wholesale tinware, etc.; Lafauce & Ducharme, dry goods, etc.; Patenaude & Co., commission merchants; John Taylor & Co., wholesale hats & furs. The latter firm will continue business under style of Taylor, Robertson and Co.

The dry goods firm of A. M. Allan and Co., of Montreal, has been in business since 1872. In Oct., 1875, A. M. Allan, who is the only one in the business, compromised with his creditors at 65c. on the dollar, which was paid. Early in 1882 he showed a surplus of \$7,000, but he has been very slow pay for some time past, and one house recently issued a writ against him, which has caused others to press, and he made an assignment on the 19th inst. to A. B. Picken, of Gault, Bros. and Co. A meeting of creditors will be held on 26th inst. Liabilities reported to be about \$25,000.

A new company has been organized to succeed the Ontario Glass Burial Case Co., of Ridgetown, whose failure was recently announced. The new Co. have offered an amount sufficient to pay all secured liabilities in full, and unsecured claims at 75c. on the dollar in 3, 6, and 9 months. All the large creditors have agreed to accept the proposition, and a meeting was called for the 23rd inst., to ratify the sale and take the necessary steps to close up the affairs of the old concern. The new company will be styled the Ontario Casket Co., with a nominal capital of \$60,000, \$48,000 of which is subscribed by six responsible persons who are equally interested.

Alphonse Valiquette, an extensive dealer in dry goods in Montreal, is at present suffering from an impairment of his credit through rumours which have been in circulation for the past 10 days. It was stated that a considerable amount of overdue paper was in existence, and the trade in Montreal closed down on the account. He has found it advisable to confer with his principal creditors, and has virtually suspended payment until the result of the present stock-taking is known. The liabilities are said to be about \$70,000, and he claims his surplus is from \$25,000 to \$30,000, of which \$15,000 is in accounts, balance in stock. From present appearances it seems he only wants an extension of time without interest.

The Canadian Industrial Company of Montreal has applied for letters patent for the purpose of incorporation.

We are glad to be able to announce that Manning's old cement mill, near the cemetery, has been purchased by Mr. John Haney, contractor, Green Bay, Michigan, and will be converted into a horse shoe factory. We welcome Mr. Haney to our list of Thorold manufacturers, and wish him every success in his new venture.—*Thorold Post*.

Mr. Jackson, editor of the *Newmarket Era*, visited Berlin lately, and in company with Mr. Moyer, editor of the *Berlin News*, went through the great button factory there. What he saw on the occasion he thus describes:—"Mr. Strantz's button factory—an establishment averted to have grown to its present proportions as an outcome of the N. P.—in which about 300 hands, directly and indirectly, receive employment. At this factory, hundreds of different sizes and styles of vegetable ivory and composition buttons are manufactured,—and to one who has never witnessed the process of button-making, a run through this extensive establishment is really interesting. But we must refer to this another week. Our party next visited the glove factory of Messrs. Bingham & Wilds, where a large number of hands and a good many sewing-machines are kept busy making up stylish kid gloves for the genteel, and fur-lined buck-skin, sheep and calf mitts for rougher work—including an immense assortment for the North-West trade. Berlin has good reason for saying kind words for the National Policy; and we congratulate its people on their manufacturing enterprise.—Such an establishment as the button factory above alluded to, located in Newmarket, would prove a valuable acquisition to the locality and make us the most extensive manufacturing centre in the county. As soon as opportunity offers we shall give a more lengthened account of what we observed and learned during our visit to the button factory."

BUSINESS REVIEW.

TORONTO, Jan. 25, 1883.

The event of the day in financial circles is the taking up by foreign capitalists of some thirty millions, more or less, of the Canadian Pacific Railway Company's new issue of stock. The Company began with fifteen millions capital, but a few months ago it was decided to increase this by eighty-five million dollars, bringing the whole up to the round figure of one hundred millions. For some time the new issue appeared to hang fire, a chief cause of this being the determined opposition of the Grand Trunk, which is all-powerful in high financial quarters in London. Railway and financial journals there, also the *World, Truth*, and the *Daily News*, vigorously denounced the C. P. R. enterprise as a hopeless one, which could prove only a sink for the money of those who might be foolish enough to invest in it. The reputation of Canada as a field for investment was almost savagely attacked, with such vim and determination as to show a purpose lying behind. A main objection urged was that no more money should be furnished for new Canadian enterprises competing with those in which British capital had already been invested. Altogether the attack was so strong that the C. P. R. managers found themselves most effectually "blocked" in London.

Recourse was then had to other quarters, and with success, too, though on rather onerous terms, according to current rumour. It is said that three blocks of the new issue, of ten millions each, have been placed—the first in New York, the second in Amsterdam, and the third in London. And the report is, further, that the issue price was fixed at 60 per cent., which would bring in eighteen millions cash for the thirty millions of stock. Be the precise terms what they may, the new deal is evidently considered a successful operation, for the stock was officially posted on the New York exchange yesterday, for the first time. It is said that the Dutch syndicate is composed of former bondholders of the St. Paul, Minneapolis and Manitoba Railroad, who a few years ago sold out to the present C. P. R. Syndicate; and it is believed that the two transactions are closely connected.

The event is a great one for Canada, and must have important consequences. For one thing, it will settle off-hand the growing difficulty as to supply of foreign exchange to meet payments abroad. The *Montreal Gazette* speaks of thirty millions being available during the present year; but even if it be eighteen millions only the effect on the country's business must be immense. A big "boom" in the Northwest is now assured, and in the old provinces trade and manufactures must experience a still further revival.

In both Toronto and Montreal the stock exchanges have felt the impulse already. Before the success of the operation was made public, the daily sales of stocks largely increased, and prices have been on a strong advance during eight or ten days back. The financial calm of the holiday season is broken, and a favoring gale is now blowing.

The following are the latest quotations on the Toronto Stock Exchange for Wednesday, Jan. 24, compared with those of the same day two weeks before:—

	Jan. 10.		Jan. 24.	
	Asked.	Bid.	Asked.	Bid.
Montreal.....	201	200½	206	205½
Ontario.....	109½	109½	112½	112
Molsons.....	.....	.....	.....	127
Toronto.....	175	174½	184½	184
Merchants'.....	123	.....	125½	125½
Commerce.....	132½	132	135½	135
Imperial.....	137	136½	140½	139½
Federal.....	154	153½	155½	155½
Dominion.....	199	198½	201	200
Standard.....	115	114½	116½	116
Hamilton.....	114½	.....	116	.....
British America.....	130	.....	130	.....
Western Assurance.....	.....	156	158	157
Canada Life.....	.....	.....	.....	.....
Confederation Life Association.....	.....	.....	.....	.....
Consumers' Gas.....	150	.....	149½	.....
Dominion Telegraph.....	94	87	93	.....
Montreal Telegraph.....	.....	.....	.....	.....
Globe Printing Co'y.....	.....	.....	.....	.....
N. W. L. Co.....	47s	46½s	43s	42s. 6d.
Ontario and Qu'Appelle.....	180	165	180	.....

Latest quotations at Montreal for Wednesday, Jan. 24, compared with those of the same day two weeks before:—

	Jan. 10.		Jan. 24.	
	Asked.	Bid.	Asked.	Bid.
Montreal.....	201	200½	206½	205½
Ontario.....	110½	108½	113½	112½
People's.....	87½	85½	91½	90
Molsons.....	.....	125½	131	128½
Toronto.....	175	174½	184½	184
Jacques Cartier.....	120	115	.....	.....
Merchants'.....	122	121	125½	125
Quebec.....	.....	.....	.....	.....
Exchange.....	.....	.....	.....	172
Union.....	.....	.....	.....	.....
Commerce.....	132½	132	135½	135
Federal.....	155	152½	159½	155
Montreal Telegraph.....	124½	123	124½	124
Dominion Telegraph.....	.....	.....	.....	.....
Richelieu and Ontario Nav.....	66	65½	66½	65½
“ “ ex. div.....	.....	.....	.....	.....
City Passenger Railway.....	130	128½	141½	141
Montreal Gas.....	180½	180	184	183½
Canada Cotton.....	145	.....	.....	.....
Dundas Cotton.....	115	110	115	110
Ontario Investment.....	.....	.....	.....	.....
St. Paul M. & M. xd.....	142	141	146	144
North-West Land Co.....	47s 6d	46	44s	42s. 6d.

In general business there has been an improvement during the past fortnight. A firmer tone prevails, and in scarcely any department of our domestic trade does there seem to be any fear of contraction of operations by the chill of falling markets. Wheat is now well up towards the farmers' minimum figure of a dollar a bushel, below which he will not sell if he can help it; and prices of other grains, too, are on the upward turn. It is expected as a consequence that there will be large deliveries by the farmers and an increased circulation of cash ere the end of the present season of good sleighing, now so favorable for the bringing in of produce from the farthest back districts. With a little further rise in the price of wheat, which seems probable enough, this expectation will doubtless be realized; and in the meantime, during what may be called a quiet season, a good deal of confidence is felt as to prospects for the future.

The statement is made that when Mr. Gibson's paper mill at Marysville is completed, he will build a railway from that point to the river at Gibson, to convey his goods there for shipment, and that he will also utilize it for the conveyance of his logs, instead of floating them down the Nashwaak.—*St. Croix, N. B., Courier.*

INDUSTRIAL ENGLAND.

LOCALITIES WHICH MAKE UP "INDUSTRIAL ENGLAND"—WHERE THE MANUFACTURING DISTRICTS ARE, AND THEIR LIMITS.

The New York *Tribune* is now publishing a series of letters on "Industrial England," written by Mr. Robert P. Porter, a member of the late Tariff Commission. What the writer aims at is to give people on this side the Atlantic a distinct and practical view of manufacturing as it actually is in the mother country, and of the circumstances and the methods which have resulted in its present enormous development. Judging from the first three letters, which have already appeared, the series is likely to contain much matter of great interest, and we propose to make selections from time to time, for our pages, of such letters or portions of letters in the series as will probably be of most interest to Canadian readers. The following is the last paragraph of the first letter :

In 1811 England had only twelve cities and towns with a population exceeding 30,000. At the close of the first decade of the last half century she had thirty-one cities and towns of 30,000 population and upward. Lancashire, Yorkshire, Staffordshire and Warwickshire, with London, are the most densely populated regions of England, and contain in the aggregate nearly twelve millions, or half the population of England and Wales. Manchester and Salford, which at the beginning of this century numbered hardly 100,000, have increased to nearly 600,000; Birmingham from 80,000 to over 400,000; Liverpool from 100,000 to over 550,000; Leeds from 60,000 to over 300,000. But this great growth of the population of cities in a country that has no land for the unemployed cannot be looked upon as an unmixed good. It has been recently said by a well-known English essayist that the development of industrial England has proceeded with a rapidity altogether unprecedented in human history. This is true, but this enrichment cannot be attributed to free trade. The mastery of man over nature has increased in an almost immeasurable ratio during the last generation. Railways, telegraphs, ocean steamers, submarine cables, have brought the peoples of the world together and increased the wealth-producing capacity of man. England stood ready for the race at the start. Professor Sumner said before the Tariff Commission that Protection had put England back a century. What particularly erroneous history of British commerce has the Professor read? With the change in the whole tide of human affairs no legislation could have kept England back a century. Here is what an English reviewer says of this period: "We English, very lightly handicapped in the race, with our cheap coal, with our densely crowded cities and socialized workshops, with the first fruits of mechanical invention, with accumulated capital at our command, had the heels of the rest of the world from the start. During the whole of this period, from 1848 to 1878, we had almost undisputed control of the markets of the globe." But at the same time "the leaps and bounds of commerce have given far more wealth to the upper classes than comfort or well-being to the lower." These are some of the questions worth a careful study.

The second letter we copy entire :—

LIVERPOOL, Eng., Dec. 16.—To-morrow night I start for Glasgow, where I begin my tour of the industrial regions of Great Britain. Take a good map of the British Isles and glance at Scotland in the vicinity of Glasgow and Edinburgh. Then draw with a pencil a rectangle with one of the four angles at Toward Point (near Greenock and Dumbarton), the second at Dundee; the third at Ayr, and the fourth at Dunbar, and within this space are the manufacturing regions of Scotland. This area includes in some cases all, and in others the

most populous parts of the counties of Perth, Fife, Stirling, Renfrew, Ayr, Lanark, Edinburgh, Dumbarton, Kinross, Clackmannan, and Linlithgow. Within this rectangle is an area of about four million acres, or one-fifth of Scotland, and a population of 2,300,000, while the remaining sixteen million acres boast a population of but 1,450,000—estimating the total population according to the census of 1881 at 3,750,000 in round figures. Undoubtedly the growth of manufacturing in this section of Scotland may be largely traced to the coal fields which are almost entirely within these lines. The Ayrshire coal field has ninety-nine coal mines; the coal field of the Clyde basin, with Glasgow as a centre, no less than 310 mines; further north nearly to Stirling the Clackmannan basin, with thirty-nine mines; then the narrow basin running east along the banks of the Forth to Kilrenny, with thirty-seven mines; Lothians coal fields running southwest from Edinburgh, with thirty mines; and at the extreme southwest the lower carboniferous coal continuation of the Cumberland region. Nearly one million tons of pig iron were produced in 1881, in this region, mostly in the counties of Ayr and Lanark. Coatbridge, near Glasgow, is the centre of this iron trade, this town and several others in its immediate neighborhood having been practically created by the industry. Within a limited area it is said there are more blast furnaces, and a greater output of iron than are to be found in any other region of the world. No less than seventy-two of the places where iron mining is carried on in Scotland are located within the imaginary lines I have designated, and only fourteen places north and ten places south of them. The manufacture of textile goods (woollen, flax and cotton) is carried on at 102 places (many of which are very important) within the rectangle, and, including Aberdeen, in about fifty places north and twenty-seven locations south of the line. The principal points to be visited in this part of Great Britain will therefore be the cities within what may be called the industrial portion of Scotland, comprising Glasgow, with a population of 511,000, which perhaps was never in a more flourishing condition than it is at the present day; yet side by side with its prosperous commerce and its seats of learning, it can show as much misery and can point to as much vice as any city of its size in the Empire. The growth of the city is the most interesting feature in its history. Half a million of people fight the battle of life round the spot where St. Mungo is supposed to have pitched his tent. For Bishop Rae's one bridge (finished in 1345) there are now five, and for the sixteen smelting furnaces of 1830 there are now ten times the number. Iron, coal, cotton, and its dye of Turkey red, enter largely into the causes of its prosperous industry. Time-honored Edinburgh with 228,000 inhabitants; Dundee, with its population of 143,000, where the linen factories and the ironworks have uninterruptedly flourished since the Stuarts ceased to trouble the land; the comparatively modern town of Greenock, with 68,000 inhabitants and its important beet-root sugar interests; Paisley, within seven miles of Glasgow, with a world-wide renown for its manufactures; Perth, the "Fair City," with 30,000, rich in antiquities, and now celebrated for dye-works; Dumbarton, an important seat of the ship-building interest, with 14,000 people; and Stirling, celebrated in history, with a population at the present time of 16,000.

Leaving Edinburgh and coming south, the next places of industrial importance to visit will be the principal towns of the great northern coal field of Durham and Northumberland. The cities of this region are Newcastle, with 146,000 inhabitants, where coal was first worked in 1260, and around which over fifty important collieries are located; Gateshead, a place of considerable antiquity and noted for grindstones; Sunderland, near which are some very deep mines; Durham, noted for "wood, water, maids and mustard"; Stockton and Darlington, where the first railway was laid; and that region of country along the estuary of the Tees, with its centre at Middlesborough, which owes its great importance to the expansion of iron manufacture.

The remainder of Industrial England can be easily designated on the map by tracing with a pencil an imaginary South American continent, with Lancashire, divided at the River Ribble, including Preston and Burnley, and the northern boundary line of the West Riding of Yorkshire, for its northern boundary, and Tewkesbury, in Worcestershire, for its Cape Horn, or southern extremity; for the eastern boundary of this great manufacturing area I shall take the River Trent, as far as Burton, and then the eastern boundary line of Staffordshire and Worcestershire until we reach the southern point at Tewkesbury; for the western boundary the coast to Liverpool, and then the River Weaver to a point just beyond Nantwich, from thence the western boundary of Staffordshire as far as Bewdley, and from that point the Severn to the southern extremity of Worcestershire. It will at once be seen that I have included in this great manufacturing district South Lancashire, the West Riding of Yorkshire, that part of Derbyshire and Nottinghamshire west of the Trent, the section of Cheshire east of the Severn, all of Staffordshire, and that part of Worcestershire east of the Severn. It includes the cotton, the woollen, the lace, the iron, the pottery, and, indeed, the principal manufacturing region of the Empire, and embraces all the great industrial towns. To thoroughly study this part of England is the only road to the secret of her wealth and the only way of forecasting the probabilities of her continued progress; and in prosecuting this work what a rich cluster of great industrial centres must be visited! Probably in no country can be found in such a narrow area as I have described so many cities famed throughout the globe for the products of their workshops. Beginning at the north-western corner of our imaginary continent, with Preston, we find it noted in the seventeenth century for its "checks and unbleached grays"; Burnley is the place where Hargreaves, the carpenter, invented the spinning jenny; Burnley, a modern town with extensive cotton mills; Chorley, celebrated alike for its slate, coal and cotton; Rochdale, the centre of the flannel trade; Wigan, famous for its canal coal, tall chimneys, quaint streets and a church built in Edward III.'s reign; Bolton, a city, in which as early as 1760, cottons, velvets and muslins were first manufactured on a large scale by Arkwright's machinery, and in which Arkwright once lived as a barber; Oldham, a noted manufacturing town, whose inhabitants seemed rough, hearty and industrious, and Warrington, known alike for its cotton, fustians, pins, glass and beer. Besides these, Lancashire boasts Liverpool, which was made "a port of the sea forever" by Henry II, and Manchester and Salford, the industrious progress of all of which will in themselves be worth the space devoted to this entire letter.

In the West Riding of Yorkshire we have Leeds, with 310,000 inhabitants, which before the woollen trade drifted to Yorkshire was nothing but a moorland tract of little value. Bradford, with a population of 180,000, the great seat of the worsted trade, is only eleven miles from Leeds. It is located on the Yorkshire Hills, where three valleys and three branch railroads meet, and of it was said three centuries ago, "it stood much by clothing." Mr. Walter White, in his record of a walk in Yorkshire, distinguishes between the glories of Leeds and Bradford by describing Leeds as famous for broadcloth, and Bradford as really a grand mart for stuffs and worsted goods. It was probably a boy belonging to a Leeds school who replied to a query put to him at an examination, as to what Bradford was famous for, by saying that Bradford was famous for shoddy. It has been said, and I must say after spending a couple of days in both cities, with some truth that with prosperity, something like the envy that exists between Chicago and St. Louis moves the susceptible and sensitive pulses of Leeds and Bradford respectively. The former triumphed when it not only built a lofty town-hall, but crowned it with a lofty tower. A story is told of how painfully the heart of all Leeds was stirred when it was known that a letter had reached the post-office there bearing the inscription, "Leeds, near Bradford." It was as if the Bradfordians had erected a loftier town-hall and crowned it with a more majestic tower

than the edifice of which Leeds was proud as a symbol of its supremacy. Near here is Halifax, noted four centuries ago for "a gallows on Gibbet Hill and thirteen houses," now the centre of the cloth trade, and containing 74,000 inhabitants. Sheffield, with 285,000 people, black, dingy and unattractive, in some parts abounding in wretchedness, and yet the great seat of the cutlery trade, and situated in a beautiful location on the River Sheaf, where it joins the Don. Huddersfield, with 88,000 population, stands on the hill over the Colne, and near here was the nunnery where Robin Hood was bled to death by a nun, and here may still be seen his grave. Dewsbury, where broad-cloth and cotton goods are made, and Wakefield, celebrated for wool and worsted yarn and rope factories.

In that part of Nottingham included in the area to be visited we have East Ratford, noted for "hats, sail-cloth and paper"; Mansfield for hosiery and lace, Newark manufacturing "a little lace and more beer"; Southwell, and many smaller manufacturing towns, and lastly, the Queen of the Midland Districts, beautiful Nottingham. Of this city Herr Hemnich said: "That seems to me the most ancient city that I have yet seen in England." But it has been aptly said that in Nottingham the useful always had precedence of the ornamental. Nottingham made stockings before it made lace; but it was a gentleman, says Dr. Doran, who invented the stocking frame, and an ordinary Nottingham stocking weaver who first made bobbinet by so adapting his frame as to make it produce the imitation of lace after it had woven the reality of stockings. Soon after the Rev. William Lea invented the stocking frame, at the end of the sixteenth century, the old trunk hose slipped away from the limbs of our ancestors. Nearly two hundred years later—that is to say, in 1770—Hammond, a weaver, was sitting at one of Lea's old-fashioned frames, and as he plied his task his thoughts dwelt on the expensive pillow lace made of flax thread, by aid of fingers and bobbins, and he thought of the old Italian lace made by the needle, of the costly productions of Brussels, Alençon and Valenciennes, of Honiton lace, made like the Italian, and of Buckingham lace, which more nearly resembled the commoner point d'Alençon. The result of these thoughts was the far famed bobbinet, which made Nottingham famous even in bazaars of Eastern Ind. It is still the centre of the cotton-hosiery and bobbinet trade.

In the portion of Derbyshire included in the area under discussion we have the interesting town of Stavely; Derby, noted for lace-making, iron and brass manufacturing, for its ribbons and for silk-throwing; Buxton for its "Buxton diamonds," and Chesterfield for its tobacco factories.

As we enter Staffordshire, the entire county being included in our area, the first important district is the pottery region, including Stoke, Burslem, Hanley, Tunstall, and a number of other places, all of which, since the time of Wedgwood, have been noted for the manufacture of earthenware. The account of the trip through this region will be of considerable interest on the other side of the Atlantic, as the United States still imports over half the earthenware and glass consumed. Stafford is noted for boots and shoes; Burton and Litchfield for their famous ale, and Dudley, with 88,000 inhabitants, raised into importance by its iron and coal works; Wednesbury, with 125,000 people, almost wholly engaged in the iron trade; Wolverhampton, an ancient town founded by King Egbert's sister, now the seat of the iron trade of the "Black Country," and containing 165,000 inhabitants. The "Black Country" is a region of Staffordshire covering about thirty square miles of barren soil, beneath which are rich crops of coal, iron and stone. There are no fields, no trees, nothing in the landscape but smoking chimneys, heaps of slag, blast furnaces belching forth red flames, and the most dilapidated houses where the operatives live. About the mines and furnaces and around the heaps of slag in the Black Country may be seen by the glare of the furnaces by night and day the stolid animal faces of the women, with shoeless feet and uncovered legs and arms begrimed with clotted filth, assisting the men in their work. Indeed, savage-featured, reckless

dirty men and women, whose main enjoyment seems fighting and carousing, form the chief attraction of this rich mining and manufacturing district. It has been said that setting aside the romance of the manufacture of iron under the Britons, we may assert that it is reeking but healthy labor, and not royalty with an offensive *impetigo*, that has made Birmingham one of the most remarkable cities in the kingdom. Labor and the sons of labor have done it all—not suddenly, but by slow degrees. Leland could only say of Birmingham that it was inhabited by “smiths that use to make knives and all sorts of cutting tools; and many lorimers that make bits, and a great many nailers.” Camden, travelling in the sixteenth century, says, “Most of the inhabitants be smiths.” Thus did the great city commence a career of prosperity and usefulness, and to-day, with over 400,000 population, is one of the noted manufacturing cities of the world.

In the district of Worcestershire, included in the imaginary lines I have drawn, are Stourbridge, where glass was first manufactured in 1557; Kidderminster, long celebrated for its carpets; Droitwich, for manufacturing fine salt; Evesham, for its “stockings and ribbons; and Tewkesbury for nails, cotton, lace and mustard,” for Shakespeare says, “as thick as Tewkesbury mustard.” At Worcester, in 1751, the manufacture of porcelain was first established, for which it is celebrated to-day, as well as for the manufacture of gloves. This, with a few important places like Stockport, Norwich, Macclesfield, and Crewe, in Cheshire, comprises a bird’s-eye view of the industrial regions of England. From here we proceed to South Wales, and to obtain a clear idea of the work it will be best to include Monmouthshire, for that with Glamorganshire properly constitutes the great iron and coal district which has Merthyr Tydvil for its centre. A general view of this section and of the great flax-raising and linen-manufacturing regions of Ireland and of the south-western counties of England, around all of which clusters much of interest and importance for an inquiry like this, must be left for subsequent letters, as the present one has already reached the limit of the space allotted.

Edison guaranteed six A lights per horse to the Wamsutta mills. This A light is equal to sixteen candle power, or the light from two four foot burners using good gas. By actual tests the results exceeded the guarantee, as 721 lights were operated by 82.7 indicated horse power, or 8.6 lights per horse power.—*American Paper.*

It is now established beyond a doubt that Mr. J. M. Hanson will open a large boot and shoe factory in town early in the coming spring, for which purpose he will put in use the whole building now occupied by him as a dwelling, work-shop and salesroom. A large addition will also be erected at the rear of the present building for the accommodation of an engine, by which the factory will be run. The establishment of such a factory is a circumstance over which St. Andrews should rejoice, as it will, when put in operation, give constant employment to about fifty hands.—*St. Croix, N. B., Courier.*



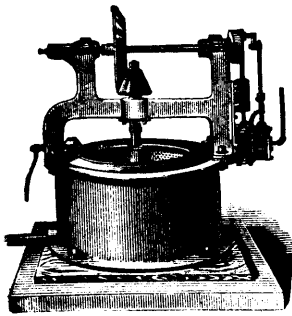
Boilers of either Iron or Steel

IRON MASTS,

CASTINGS of Every Description.

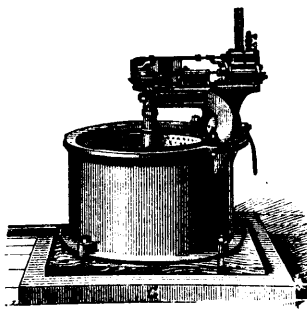
IMPROVED CENTRIFUGAL HYDRO-EXTRACTORS.

MACHINE **A**



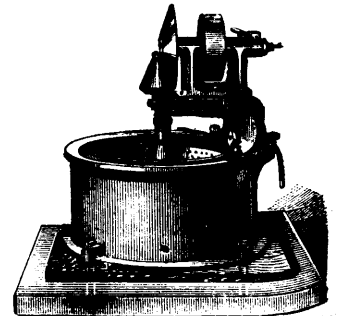
For Silk Dyers, with vertical engine on the side and cone pulley friction.

MACHINE **B**



For Wool and Cotton Dyers, with direct acting steam engine.

MACHINE **C**



Runs by Belt and Friction Cones Suitable for water-power.

THREE SIZES OF EACH KIND BUILT BY

W. P. UHLINGER, Nos. 38 to 48 East Canal-st., PHILADELPHIA, Pa.

East of Front-st., between Laurel and Richmond-sts.

SEND FOR CIRCULAR AND REFERENCES.

J. McLAUGHLIN'S SONS, GROWERS,

Merchants and Exporters of Assorted and Sized

American Teasels,

SKANEATELES, N. Y.

We respectfully call the attention of woollen manufacturers to an important addition we have made to our method of preparing Teasels for use. We have succeeded in perfecting a machine which automatically performs the work of grading Teasels into *perfect exact diameters*, making, instead of the *six* sizes of the old way of assorting, *thirty six* perfect grades, beginning with the smallest, which is 61-64 of an inch in diameter, and is numbered 61, and so on in consecutive order, each number or grade increasing 1-64 of an inch in diameter, to number 96, which is 96-64 or 1 1-2 inches in thickness and is the thickest grade.

We have had our attention repeatedly called to this subject and it has been suggested by practical manufacturers, that having teasels agreeing as to thickness, while saving labor in placing upon the "gig," will require less experience in the "gigging" to avoid *streaked cloths*, and assure more uniform work generally.

The "gig" makers have, to some extent, obviated this difficulty, by making the "gig" cylinder "vibrate," which prevents teasels of uneven thickness striking the cloth every turn of the cylinder at the same point; but this has only been a makeshift, as zig-zag streaks are often traced upon the surface of faced goods finished upon a vibrating cylinder gig.

As teasels were assorted, viz: 1 to 1 1-2 inches, 1 1-4 to 1 3-4 inches, 1 1-2 to 2 inches, 1 3-4 to 2 1-4 inches, 2 to 2 1-2 inches, 2 1-2 to 3 inches, sized as to *length only*, streaks in goods more or less could not be prevented.

In the above classification teasels will be found of the *same diameter* in each of the six sizes, although differing in length. Such assorting is very faulty, as the *diameter* of the teasel should regulate its grade, and this is what our invention does. In some of the best regulated mills skilled labor is employed in selecting from such a diversity of sizes, those that will answer for the work to be performed, *accuracy* being out of the question, and more or less imperfections in the finishing are sure to follow even with the best of help and with the greatest care.

The saving made by using gauged teasels, both from rejected teasels on account of some being uncommonly thick or thin, and in the labor of selecting these suitable to set is fully equal to their first cost, and an equal gain is made in the perfection of cloths, thus saving twice the cost of the teasels, besides having the satisfaction of making perfect goods, and no claims for damages or tender cloths.

Our teasels are neatly clipped, and the quality well graded, carefully hand packed with stems only 3 inches long. We shall sell them strictly gauged an exact diameter at the very lowest price in the market for the quality with 2 1-2 cents per pound additional to pay for extra labor in gauging them, and we trust you will appreciate our efforts in your behalf.

The great demand made upon us for our teasels sorted per an exact diameter, having rendered it necessary to meet a much larger demand than we could have reasonably anticipated, we have just completed an extension of our works, and secured an abundant water power to drive our sorting machinery which doubles our capacity for business.

Parties desiring to order from us, may therefore depend on having their orders executed with the same care as heretofore, and within reasonable time.

Reference to all the leading Canadian users.

CORRESPONDENCE SOLICITED.

Post Office Address,.....Skaneateles Falls, N. Y
Telegraph Address,.....Skaneateles, N. Y

TELEPHONE CONNECTIONS.

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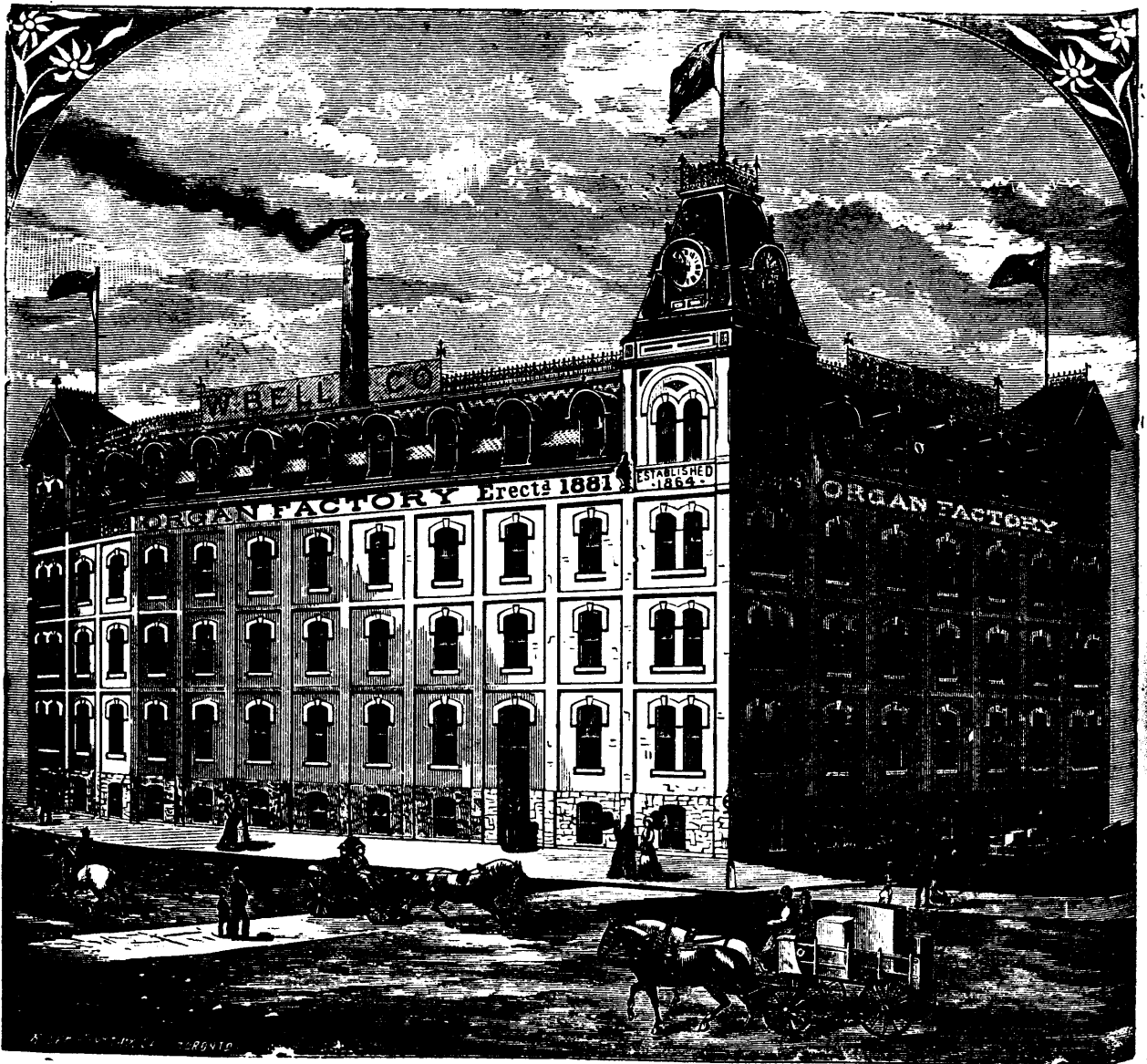
**THE GENUINE
BELL ORGAN**

Still continues to be



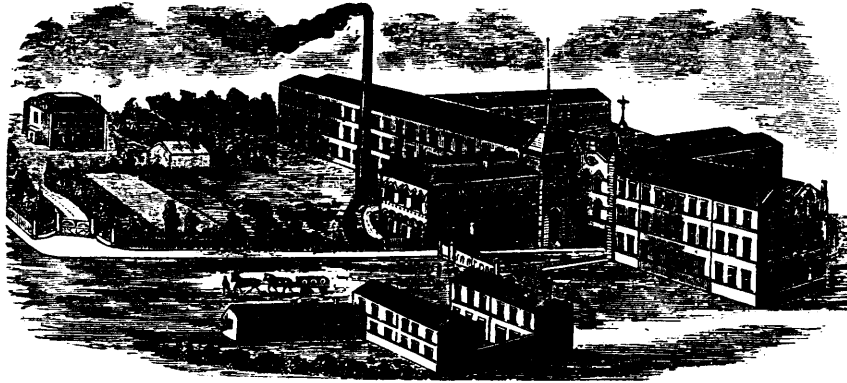
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THE FAVORITE
Among all Critics and music
loving people.



Beware of Inferior Imitations. All of our Organs have the above Trade Mark on the name board. Established 1864. Capacity, 25 Organs a day, or more than double the capacity of the other manufacturers in Canada put together. Send for catalogues to

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Especially adapted for Fine Spinning.

RUBBER and NANKEEN CLOTHING for Cotton Cards, VULCANIZED RUBBER for Worsted Cards, with tempered steel, or ^{ti}nned wire,
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ELEVATORS.

CORNER REBECCA & HUGHSON STREETS,

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THE ROYAL HOTEL FIRE.

MESSRS. HOWARD & SONS write:—"The safe lay among the blazing timbers of the Royal Hotel, exposed to full fury of the conflagration, intensified by a quantity of pork stored in cellar. Speculation was rife as to how it would stand the severe test. After the fire we were rejoiced to find the contents uninjured, the varnish inside being as stainless as when it left your factory. A reliable safe being the most essential article of a business man's outfit, we are doing the public good service in thus bearing testimony to the merits of your safes.

To MESSRS. GOLDIE & McCULLOCH.

ALFRED BENN, Sole Agent and Manager,
ST. JAMES STREET, HAMILTON.

Dominion Organ & Piano Comp'y,

BOWMANVILLE, ONT.,

—MANUFACTURERS OF—

**CABINET, COMBINATION, CHAPEL & VILLA
ORGANS.**

Pianos, Upright & Square.

DOMINION ORGANS AHEAD OF ALL COMPETITORS

—AT THE—

GREAT EXHIBITION, DERBY, ENGLAND.

We are to-day in receipt of the following letter, sent through our English House—Messrs Forsyth Bro's., of Manchester and London, England:

DERBY, ENGLAND, Oct. 11, 1882.

MESSRS. FORSYTH BROS.:

GENTLEMEN,—I have been exceedingly busy during Church Congress week at the Exhibition, or I should have written you sooner respecting the Organ you kindly sent for exhibition. When your traveller was here I mentioned that Chappells (of London) were sending me the largest organ that Clough and Warren made, Metzler, a Mason & Hamlin large size, Bell Organ Co. (of Guelph),—a largest size also—the Smith American Organ Co., one of their largest size; and as I wished to make the exhibit as complete and telling as possible, you might perhaps be willing to send a representative instrument on same terms, viz., that I paid carriage each way. I am bound in truth to tell you, that although the organs I have named were fine instruments, everybody of the large number who tried and examined the stock, was of the opinion that the DOMINION ORGAN was certainly the best, and at the price (the Clough & Warren was £225) there was no comparison. I think so highly of the organ personally, that although I have in stock two large ones of Clough and Warren manufacture, I am convinced that if I keep it, and place it at the end of my long show room it will soon sell and lead to a good business in that style of instrument. The exhibition is now over, and the organ looks splendid where I have it placed; and I feel so sure that it will lead to so many sales that I am loath to part with it, and have therefore decided to keep it.

Yours faithfully,

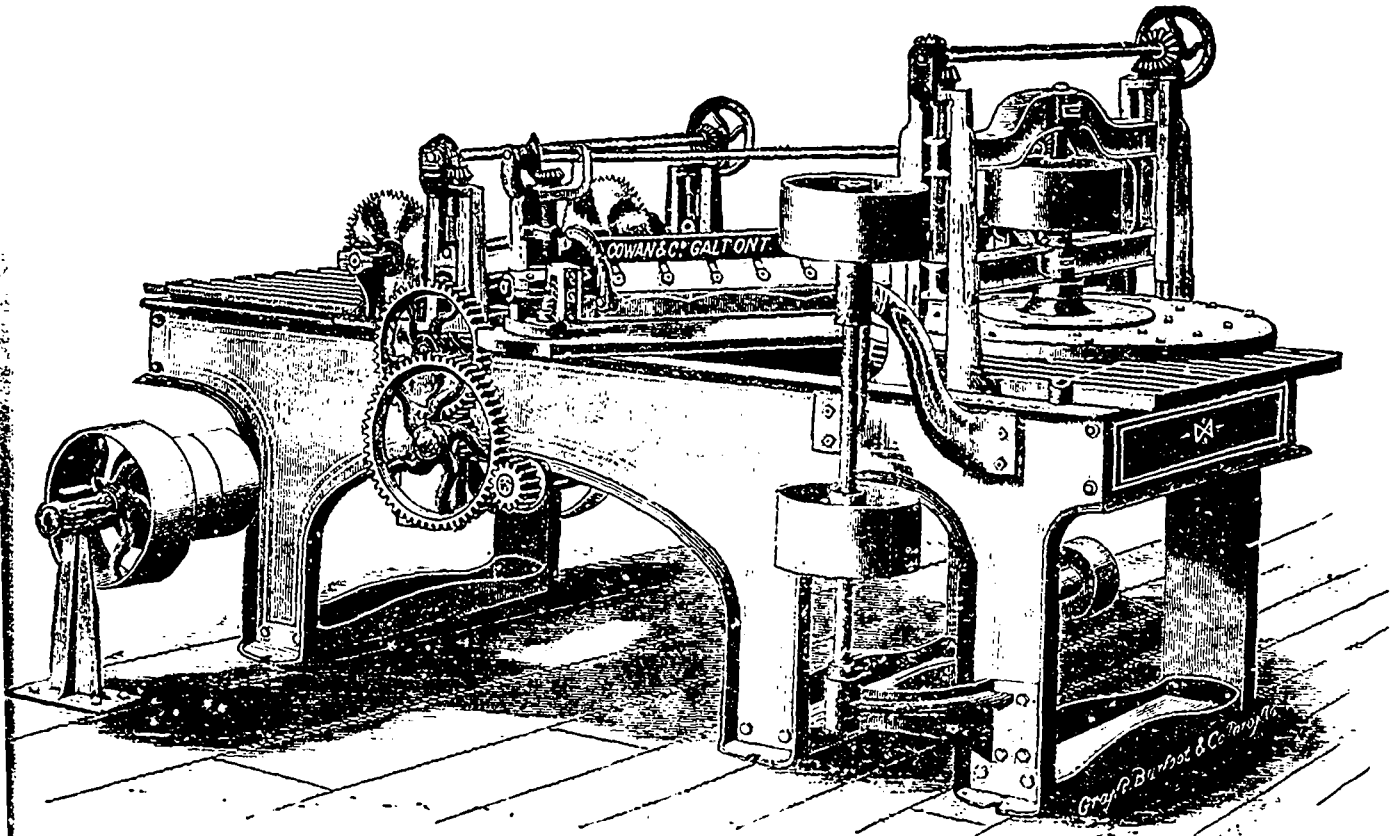
EDGAR HORNE.

P.S.—The above is only a sample of the many letters we are constantly receiving from all parts of the world (unsolicited on our part), and proves to a certainty that the "Dominion" is the finest Organ manufactured. Purchasers will do well to make a note of this.

DOMINION ORGAN & PIANO CO.

BOWMANVILLE, Ontario, November 1st, 1882.

THE "GALT FOUNDRY," ENGINE & MACHINE WORKS.



DOOR PLANER AND POLISHER.

WE DEVOTE SPECIAL ATTENTION TO

WOOD WORKING MACHINERY,

Which are built from new patterns, with all the latest improvements, many of which we have secured by patent. We also supply Common Slide, Valve and Corliss Engines, and Return Tubular Boilers, Shafting, Hangers and Pulleys, and complete outfit for first-class Planing Mills, Saw Mills and Furniture Factories.

COWAN & CO.,
GALT, ONT.

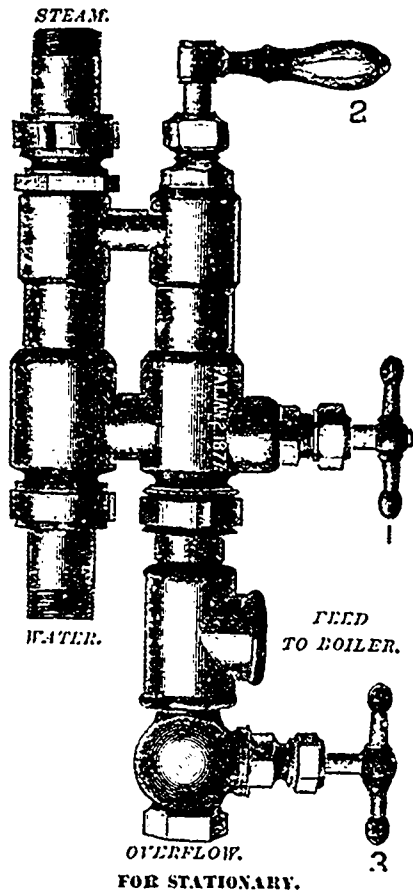
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**The Hancock
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**STATIONARY, MARINE, &
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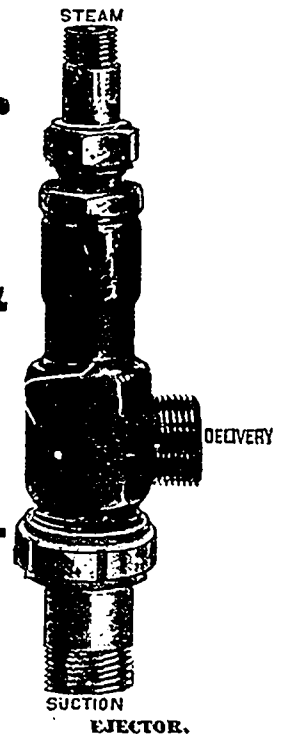
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All Sizes Lift Water 25 Feet.

NO ADJUSTMENT REQUIRED

For the varying steam pressures.

**No Movable Parts and no Oiling
 Required.**



The Hancock Ejector, for Filling or Emptying Tanks, Raising or Transferring liquids, hot or cold. Convenient, Compact & Effective.

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“ **MACDONALD & CO.,** Halifax, N.S.

THE NATIONAL POLICY.

**Manufacturers,
Manufacturers,
Manufacturers.**

We are instructed to offer for sale a block containing 5 1/2 acres of freehold, in the business part of the City of Toronto, three sides of which are bounded by main streets, and the rear by the Grand Trunk Railway, and all the railways entering the city with a switch running into the grounds.

The block has a frontage of about 650 feet on the railway, and about the same frontage on each of the streets.

There are erected on the south side of the premises, along the line of the railways, a one-storey foundry and machine shops, 70 x 500, laid out as a moulding shop; blacksmith shop with forges, boiler shop and large machine shop, having 3 cupolas, brass furnaces, etc., etc. On the north-west corner a two-storey frame building, 80 x 100, and a one-storey building, 25 x 240, very substantially built: convenient to these are brick stables and three-story brick building laid out as a dwelling and for offices.

Adjoining and connected with the above is a vacant lot through which the railway switch runs, containing about an acre, suitable for the storage of material.

These premises are the most suitable, most convenient, the largest and best situated for a large manufactory, or for railway purposes, of any premises in Canada.

Parcel 1 is just the spot for a first-class foundry. Parcel 2 offers a choice location for a grist mill or small manufactory. Parcel 3 has no equal as a site for a manufacturer, who could utilize part as a door and sash factory, for which the present buildings are very suitable, erect buildings on the vacant land, and rent steam power to smaller or other manufacturers, and thus be able to build up a great property and reap therefrom a very large income.

Such premises and power are required in Toronto, and a fortune awaits the man or company who can take advantage of the present opportunity. Enough brick can be made from the land for all building purposes.

The railway, banking and other facilities and benefits which can be had at Toronto, offer to manufacturers every inducement to locate here.

This property can be purchased *en bloc* or in parcels on easy terms of payment, if required. Plan and full particulars on application to

LAKE & CLARKE,

Estate and Loan Agents, 79 Yonge-street, Toronto, Canada.



McClary Manufacturing Co.,

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In every possible variety.

New designs in Cooking Stoves, High Art and Low feed and Parlor Stoves for the approaching season.

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JAPAN WARE,
PIECED TINWARE,**

Our own manufacture. Full assortment

Metals and Tinsmiths' Trimmings.

Send for Price List and Catalogue. Refer to this advertisement.

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Forge and Ships' Iron

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J. A. & W. A. CHESLEY,

CORNER OF

Harrison St. & Straight Shore Road,

PORTLAND, ST. JOHN, N.B.

—MANUFACTURERS OF—

Shafting, Locomotive Frames, Ships' Iron Knees, Piston & Connecting Rods, Windlass Necks, Truck, Engine & Car Axles, Windlass Breaks, Davits, Truss Bows,

And all kinds of Hammered Shapes.

Diploma awarded at New Brunswick Exhibition of 1880 for assortment of HEAVY FORGINGS, consisting of Locomotive Frames, Locomotive Engine Axles, Shafting, Ships' Iron Knees, &c., with Special Commendation for Excellence of Workmanship. Also—Special Diploma for Hammered Ships' Knees.

TOLTON BROS.,

MANUFACTURERS OF

Creels, Reels, Warping Mills

and Sizing Machines,

Winding Machines for Knitters,

Spooling Machines,

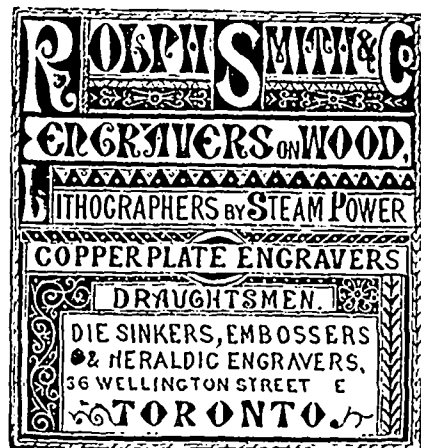
Rolling Machines for Carpets,

Folding Machines for Cloth or Carpet,

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Estimates furnished. Repairing done. For particulars send for Catalogue.

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LIGHT-RUNNING

New Home.

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IN ALL PARTS OF
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It gives in a concise and convenient form the
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PRICE \$5.00.

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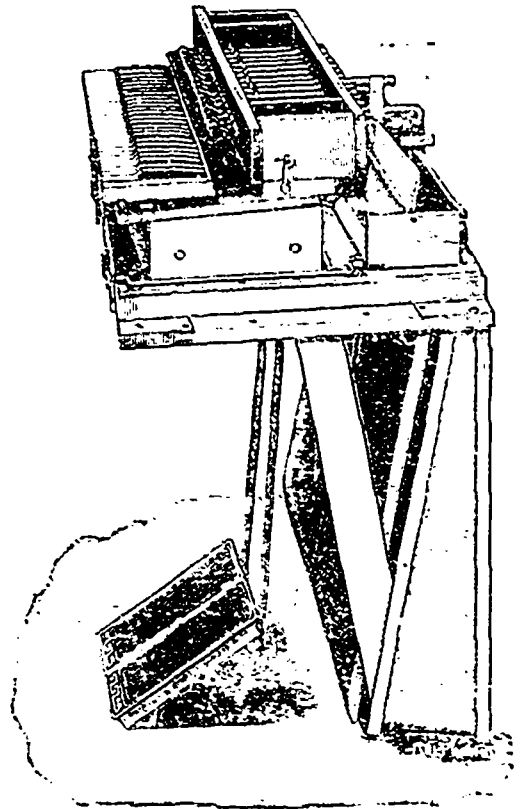
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Fourdrinier and Cylinder Machines, Beating and Wash-
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KINGSLAND'S PULP ENGINE,

The Cheapest and Best in the Market. More than Two Hundred
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Special attention paid to the manufacturing of large **Driving Belts**, 2 and 3-ply, Pegged and Stitched. We are prepared to manufacture any width up to 4 feet.

Raw **Hide Lacing** and Raw Hide Goods of every description on hand or Made to Order.

Larakin Packs and Hunting Boots kept in Stock.

CARD and PICKER LEATHERS a Specialty.

We are always prepared to pay **CASH** and the Highest Price for **HIDES** in car load lots, as the capacity of our Tanneries is 60,000 lbs. per week.

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(LATE OF MESSRS. J. & T. BELL)

MANUFACTURERS OF

FINE BOOTS AND SHOES,

420 Visitation-st., - - MONTREAL.

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LOOM REEDS AND HARNESSSES

OF EVERY DESCRIPTION.

Patent Wire Heddles

Acknowledged Superior to all others by actual test.

FRAMES, RODS AND HOOKS,

SEPARATE OR COMPLETE.

Mending-Eyes and Twine

For Varnished Harnesses.

Very convenient for replacing broken or worn-out Eyes.

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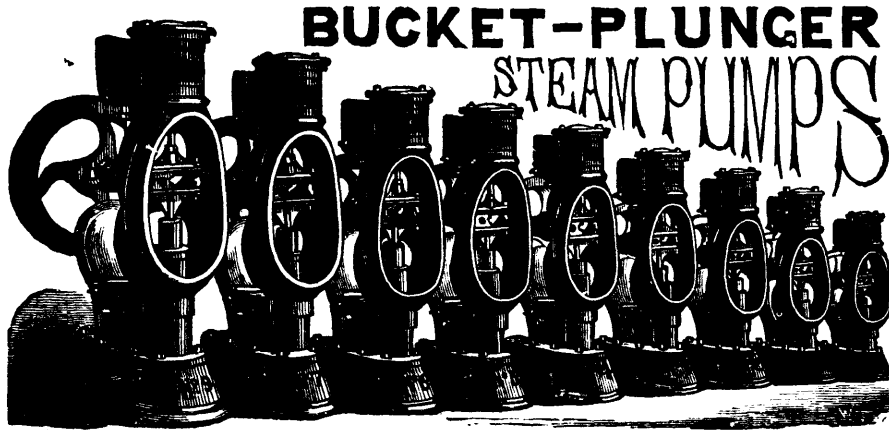
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STEAM PUMPS

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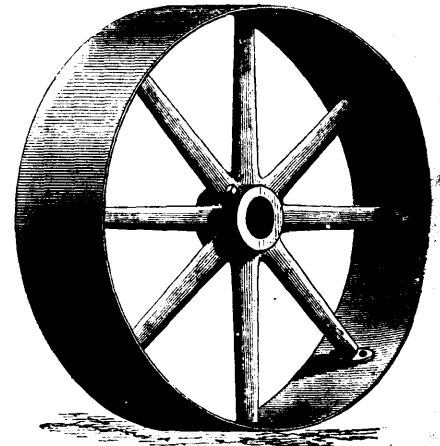
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MONTREAL,

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SAINT JOHN, N.B.

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Have been awarded "PRIZE MEDALS" for 1882—

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Four Silver Medals and Three Bronze.

At the MONTREAL EXHIBITION—
Silver Medal for "Best Exhibit."

At the KINGSTON PROVINCIAL EXHIBITION—
Silver Medal for Best Exhibit, and First Prize,

For their celebrated Beam Warps, Cotton Yarns, Carpet Warps,
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The smoothness and even finish of the goods, and brilliancy of colour,
resulting from the use of the "St. John" Waters cannot be excelled.

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TICKINGS,

BEAM WARPS of every variety.

HOSIERY YARNS of every description.

BALL KNITTING YARNS,

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and

CARPET WARP.

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

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WINANS & CO., TORONTO.

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No other agency has superior facilities for Reporting or Collecting-- all the agents being men of position and under contract to render their services according to the Tariff of the Association.

For further particulars apply to the Head Office.

Among the many institutions we have for the insurance of life and property there is none more necessary than one which will aid business men in preventing them from making losses, by the timely reports they can obtain through a reliable mercantile agency. Manufacturers often get orders and contracts amounting to large sums for machinery, when if they had a knowledge of the actual present financial standing of the parties they would not lose even the time occupied in making estimates, etc. Institutions of this kind are therefore a necessity in our business relations, and it is gratifying to know that a reliable Canadian institution has been established in the Dominion, having connections throughout the world. We refer to the Canadian Reporting and Collecting Association, having its head office in Toronto. This association has steadily worked itself into deserved popularity by its peculiar system of special reporting, and its success in collections. It numbers amongst its members the leading manufacturers of the Dominion, and those requiring reports furnished or collections made, who have not yet tested the advantages of the Company, should communicate with the Manager at Toronto, who will give them every information.

W. A. LAW & CO., TORONTO:

LONDON, JULY 13TH, 1882.

Dear Sirs—Your favor of 12th is to hand enclosing draft in the sum of \$87.53, in payment of L. O. R.'s note, for which accept our thanks. We will send you some other claims for collection in a few days. We find that your plan of getting difficult cases collected is good and will recommend it.

Yours truly,

(Signed)

JNO. ELLIOTT & SON.

Messrs. W. A. LAW & CO., TORONTO:

TORONTO, JULY 25, 1882.

GENTLEMEN—We beg to acknowledge the receipt of your cheque in settlement of our claim re B. of New York, for which accept our thanks. We are agreeably surprised at your having recovered amount in so short a time, as we were beginning to look upon amount as only good to be posted to profit and loss.

Yours truly,

H. F. CLARKE & CO.

THE CANADIAN REPORTING & COLLECTING ASSOCIATION, TORONTO, ONT.:

HAMILTON, October 16th, 1882.

Dear Sirs—Yours of 14th enclosing cheque for \$88.73, in full for account of R. B. B., is received. We compliment you on the prompt manner you have collected this account, as well as several others intrusted to you.

Yours very truly,

MERIDEN BRITANNIA CO.

Messrs. W. A. LAW & CO., C. R. & C. ASSOCIATION, TORONTO:

LONDON, Nov. 29th, 1882

Dear Sirs—Your favor enclosing cheque for \$83.83 for collections at London and Exeter, is received. Your collection at Strathroy we had written off as lost some time ago, and were agreeably surprised to receive your cheque for the amount, and speaks well for your Association. We are much pleased with the careful attention you have always given our claims, and trust you will be as successful in the future for us as you have been in the past. Some of the accounts which you have collected we had looked upon as lost.

Yours respectfully,

CARLING & CO.

J. L. GOODHUE & SON,

Leather Belting and Lace Leather

FACTORY, DANVILLE, Que.

BURNT OUT! BUILT UP AGAIN! BETTER THAN EVER!

Our New Factory is fitted with the latest and most improved Machinery. None better to be had in the world. We have

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OUR LEATHER,
OUR BELTING,

Carefully

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Tanned.
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Orders for Double or Ribbed Driving Belts, which are not and cannot be excelled, specially invited and promptly executed.

TEES, COSTIGAN & WILSON,
Tea Importers

-- AND --

WHOLESALE GROCERS.

ALWAYS IN STORE, A LARGE VARIETY OF

Japan,

Gunpowder,

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Fire & Burglar-Proof SAFES,
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Wire Window Guards,
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WOOL for Medium Tweeds,
WOOL for Coarse Tweeds,
WOOL for Etoffes,
WOOL for Medium Flannels,
WOOL for Union Goods of all kinds,
WOOL for White Blankets,
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WOOL for everything.

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Knitting Wools a Specialty.

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Send or printed list, no charge.

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The Lights will be fitted as required by the Board of Fire Underwriters, and will be supplied for thirty days on trial. If not then approved as satisfactory they will be removed and no charge made.

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They are neatly boxed and labelled for the Trade, and are sold at lowest living prices.

To large Consumers of Files.

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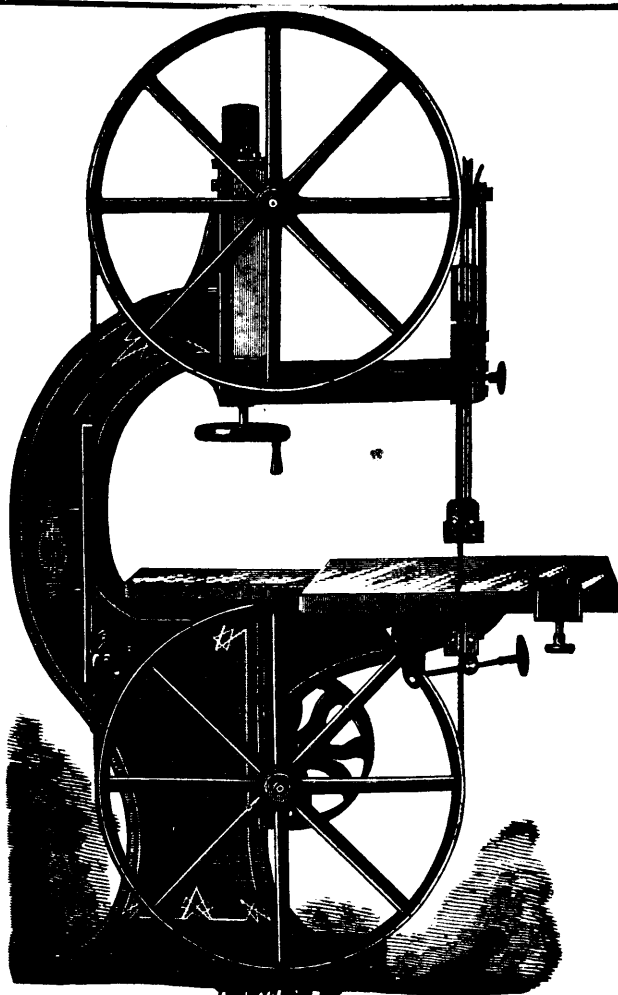
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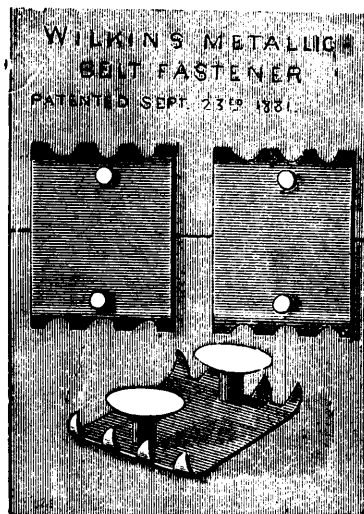
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IMPORTANT TO MANUFACTURERS,
MILL OWNERS,
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A MOST PRACTICAL INVENTION.
SIMPLE, CHEAP,
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Lately Patented in the U. S.

A New Device for Joining together the Ends of Machinery Belting both Leather and Rubber of all Widths and Thicknesses.

Wilkins' Metallic Belt Fastener is made of fine tempered steel with small V shaped teeth projecting from the plate at right angles. Being applied as shown in the foregoing cut with the teeth inserted into the material of the belt, and secured by copper or other rivets, it makes the strongest possible joint.

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Give particulars and price of any Machinery you have for sale

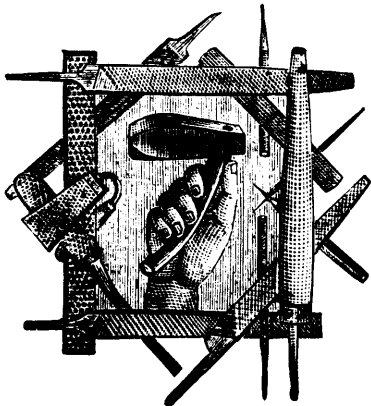
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 Having put up a Woolen and Cotton
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 Brown Cottons,
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 Colored Cotton Yarns,
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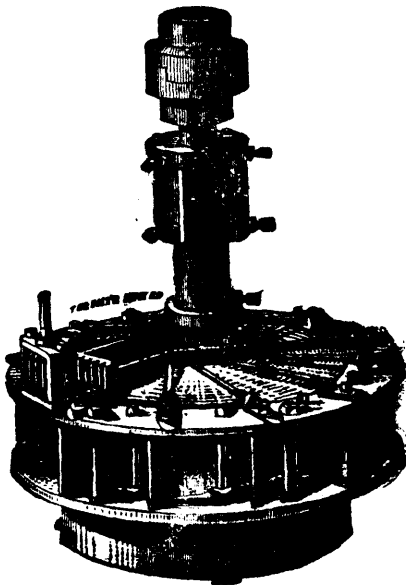
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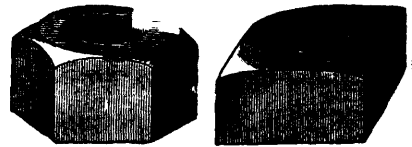
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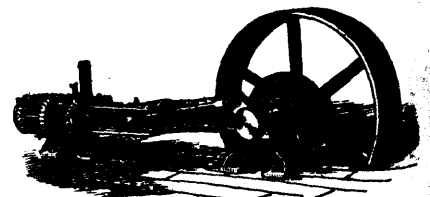
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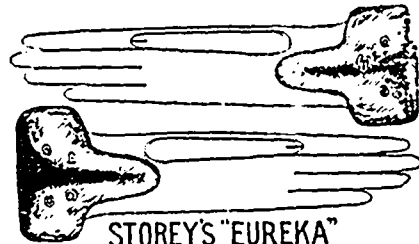
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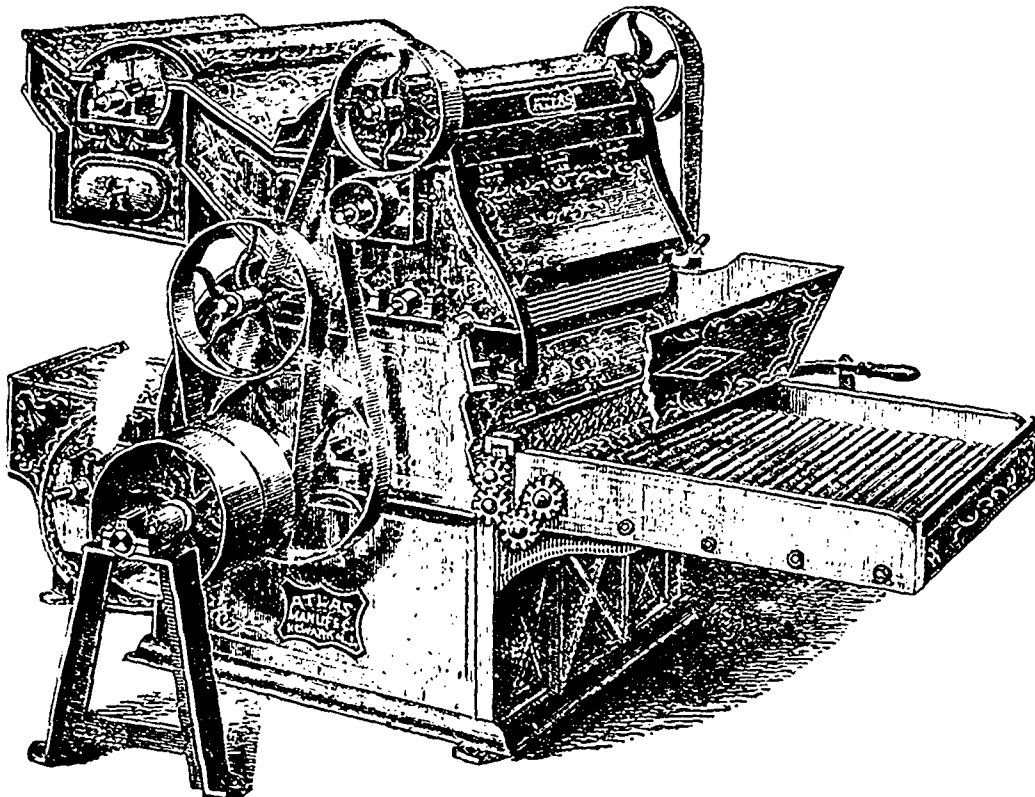
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Patent Steel Ring
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PARKHURST'S PATENT DOUBLE CYLINDER BURRING PICKER,

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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.

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G. C. MORRISON, Hamilton.—Engines, boilers, steam hammers, etc.

J. H. KILLEY & CO., Hamilton, Ont.—Manufacturer of economical, variable, cut-off, high pressure, and condensing engines. Improved boilers, portable engines for thrashing. Saw-mills, hydraulic and hoisting machinery.

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

THOS. WILSON, Dundas, Ont.—Manufacturer of stationary and portable steam engines, boilers and machinery of every description—cotton mill calenders, hosiery steam presses and propeller wheels, all sizes.

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PHENIX FILE CO.—Hand-made files and rasps. No machines in our factory.—Fenwick & Sclater, Agents, Montreal. Anchor Brand. FILE & SPRING CO., Cote St. Paul, Montreal.—All kinds of files and springs. Files recut. Sole manufacturers of Spauldings' patent concave spring.

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FENWICK & SCLATER, Montreal.—Canvas hose, plain and rubber lined, for fire departments and factories.—Write us before purchasing elsewhere.

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JOHN DOTY.—Manufacturer in Canada of the new "Otto" silent gas engine, two, four, and seven horse-power and larger.

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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, Central Iron Works, cor. Rebecca and Hughson Streets, Hamilton, Ont.—Patent safety hand and power elevators.

Hubs, Spokes and Bent Goods.

F. W. HORE & SON, Hamilton, Ont.—Manufacturers of hubs, spokes, rims, shafts, poles, sleigh and cutter stuff, etc.

Iron Works.

CANADA SCREW CO., Dundas.—Manufacturers of iron and brass screws, bolts and rivets.

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

DOMINION BOLT CO., 139 Front St. East, Toronto.—Manufacturers of every description of bolts, hot pressed nuts, railway spikes, bridge, boiler and iron rivets.

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

MONTREAL MALLEABLE IRON WORKS, St. George Street, Montreal.—Manufacturers of malleable iron, steam, and gas fittings.

PILLOW, HERSEY & CO., Montreal.—Manufacturers of cut nails, horse shoes, railway and pressed spikes, tacks, brads, &c.

THE OSHAWA MALLEABLE IRON CO., Oshawa, Ont.—Manufacturers of malleable iron castings; also patent screw wrenches.

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ST. THOMAS RIVET WORKS (Brent & Sherman).—Manufacturers of boiler, tank, and cooper rivets, plate nails, wrought spikes, cotter pins, spring keys, &c.

B. W. RICHARDS, Brockville, Ont.—Manufacturer of selected Norway iron and Lake Superior copper rivets and burs, kettle ears, &c.

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

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

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

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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. In vites special attention to their celebrated crown diamond "engine" and "machinery" oils.

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H. STUBBENDORFF & CO., 132 St. James Street, Montreal.—Patents sold and disposed of. Special attention given to the introduction and sale of manufactured articles.

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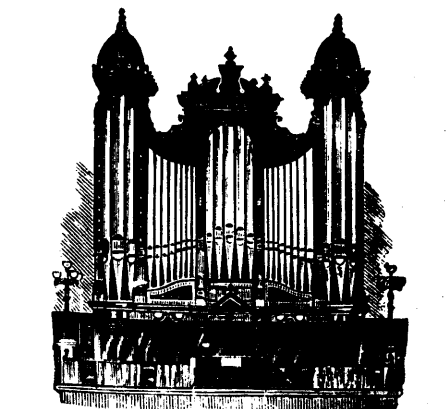
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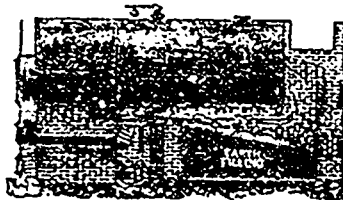
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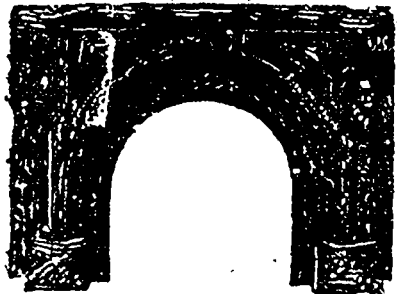
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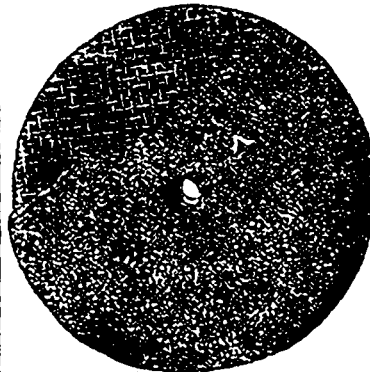
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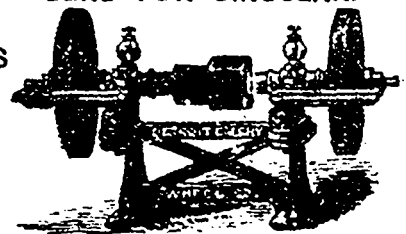
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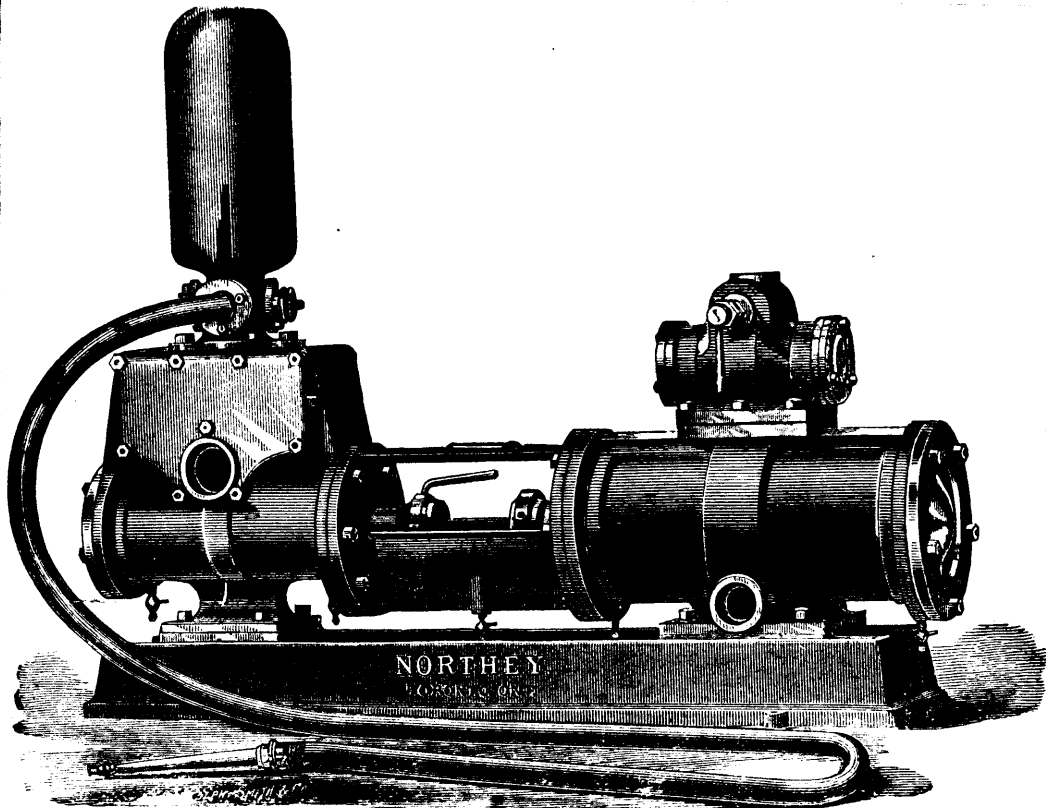
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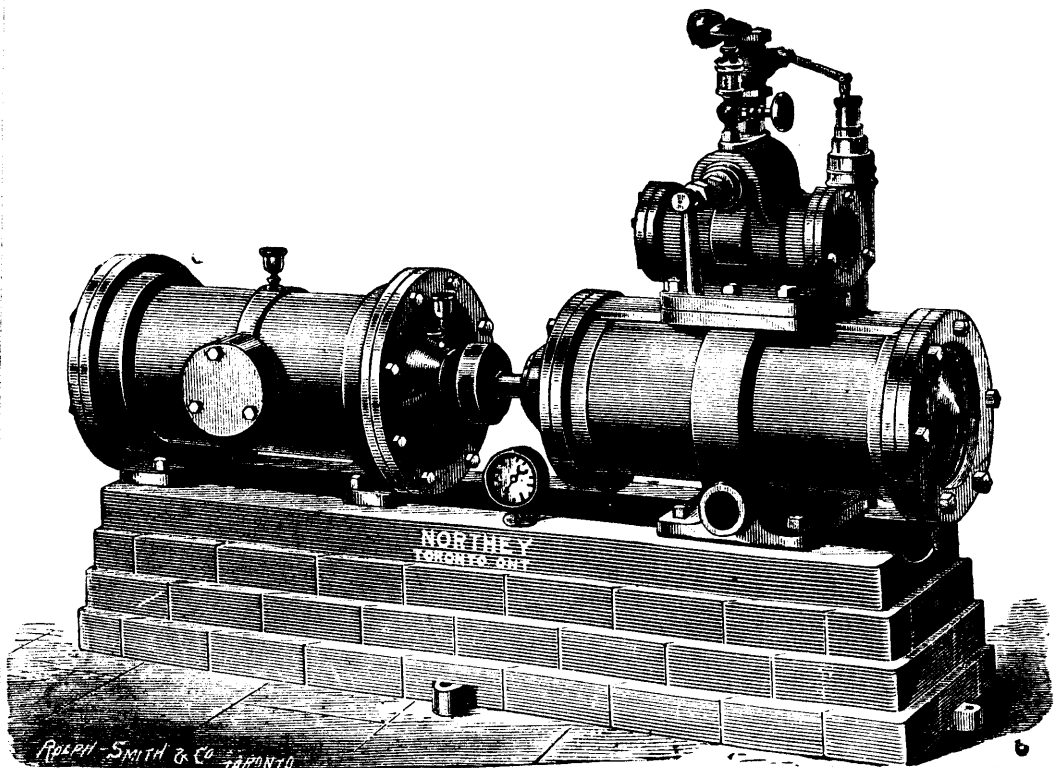
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