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AND INDUSTRIAL WORLD.

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OF THE
DOMINION.

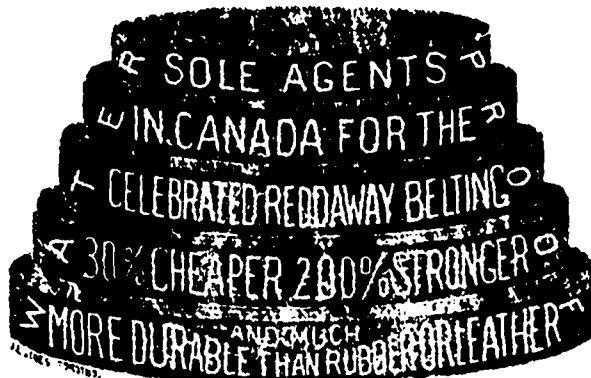
Vol. 5.

TORONTO, AUGUST 20, 1886.

No. 16.

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THE CANADIAN MANUFACTURER

DEVOTED TO * → THE MANUFACTURING & MINING INDUSTRIES, OF THE * → DOMINION.

INDUSTRIAL WORLD.

VOL. V.

TORONTO, ONT., AUGUST 20, 1886.

No. 16.

WHAT CHARCOAL MIGHT DO FOR CANADA?

THE Province of Ontario has no coal, but it has in inexhaustible quantity the material for charcoal. This material, too, is every year going to waste, whereas it *might* be utilized in some way—who knows! The raw material of charcoal is burned in log heaps and brush heaps, or by great forest fires, involving a loss to the country of untold millions. Now, have we any respect at all for the teachings of science? It is now a little over thirty years since Mr. Grove, then President of the British Association, made authoritative statement of the doctrine of the convertibility of forces. He announced it as a fact settled in the minds of all scientific men, that heat, light, magnetism and electricity, also force, power, motion, or whatever else we may call it—were convertible—any one of them into any other one of the group. “The convertibility of forces”—say that over again, and keep it in your mind till you realize what it means. Take this for an illustration: Ages upon ages before Adam was a boy, the heat of the sun, working upon an atmosphere largely composed of carbonic acid gas, caused immense forests of gigantic fern plants to grow to the height of our forest trees to-day. Our little bits of fern plants, now cultivated and admired by lady botanists chiefly, were then the great trees of the immense “forest primeval”—that real old forest, compared with which Longfellow’s misnamed primeval forest was but a thing of yesterday. Well, these forests of gigantic ferns grew up, withered away and fell dead to the ground, and the result was—what? Few words suffice to tell: that old fern timber has by the chemistry of nature been transmuted into the coal which we are mining and burning to-day.

The heat which the sun threw upon this earth thousands of years ago is now available for use in the form of coal. Coal will make a steam engine go, and after that come a great many other possibilities. Right here appears to be a good place for repeating a story which has been told before, *apropos* of the electric light. Says Brown to Jones: “Why, my dear air; you have no idea of what this electricity is going to do. It is bound to supersede everything else, even the steam engine. In just a few years more, the great inventions of James Watt and George Stephenson will be antiquated, kicked out of date, and buried among the old lumber of the past.” “Indeed!” says Jones; “and where does the electricity come from?” “From the dynamo,” says Brown. “And what makes the dynamo go?” says Jones. “Why, a steam engine, of course,” says Brown. “Oh! I see,” says Jones, reflectively; and he goes away, wondering whether it can be true that the steam engine is to be superseded after all. Having studied into the subject

pretty deeply, Jones comes to the conclusion that Watts’ utilization of the power of steam, and Stephenson’s discovery of the exhaust blast, which gave wings to the locomotive, are not likely to be played out for some time yet.

An immensity of power, and heat, and light, is stored away in the coal mines, that people generally know. But what our Canadian people don’t generally know, or don’t seem to think about, is the vast power now unused, or going to waste in the forest regions of Canada. Enough, we should say, to turn all the wheels, and to make all the machinery go for several nations. What the Falls of Niagara might do if proper mill-races were constructed, has been speculated upon: drive all the machinery in New York State, also in New England, and you may throw Canada in too, if you like. The power of Niagara is great indeed—how great we do not exactly know. But have you ever thought of what an immensity of power, and heat, and light, there is in the forests of Canada, were the raw material there lying waste made into charcoal? Why, it would suffice to light up half a continent, and to make the machinery of a thousand Manchesters, and Sheffields, and Birmingham hum. Nature has given us the materials in abundance, in the form of iron ore, also in that of our immense forests—the latter being convertible into heat, light, power, electricity, or what you please.

Political conditions do not alter natural facts: what is true with regard to charcoal over the border ought to be substantially true in Canada too, natural facts being about the same in both cases. A recent publication by the Department of Agriculture gives the following facts concerning the manufacture of charcoal in Vermont. Timber used for the purpose is chiefly birch, beech, maple, spruce and hemlock, the lower portion of the tree being commonly used as lumber and the remaining portions cut into cordwood and subsequently burned in charcoal pits. It requires twelve days to char the wood and six days to cool. A cord of dry, hard wood yields fifty bushels of 2688 cubic inches each, green hard wood forty-two bushels; dry spruce and hemlock wood yields seventy-five bushels, green sixty bushels. Margins are very small in some sections of Vermont, and one correspondent says it cost 6½ cents per bushel to make and deliver coal into cars, while it sells for 6½ to 7½ cents.

The following are the statements given concerning the charcoal burners of the Green Mountains:

“The walls of the kilns are twelve inches thick, and the kilns from twenty-five to thirty feet in diameter, twelve feet high to the crown, and about seven feet crown, with a circular opening in the crown of five feet diameter. The only other opening (except the vents) is the door, which is closed by a

heavy slab of No. 8 iron. The floor is of clay and well tamped, and the foundations are thoroughly grouted before the structure is commenced, as the kilns expand with the heat and contract while cooling. There are three tiers of vents or openings the size of a brick left in the walls for the purpose of drawing the fire back and forth 120 vents to each kiln—and they are called 'waist, knee and ankle vents.'

"In preparing a kiln for firing, a foundation of logs is first laid upon and covering the floor, except a fire arch from the door to the centre. Then the logs are piled as above described until the kiln is full, when the centre is filled with kindling, and the pile is ready for firing. A rag saturated with kerosene is attached to a pole, and, being lighted, is thrust under the fire arch to the centre, igniting the soft kindling; the door is closed and hermetically sealed, the thimble, or iron circular plate, placed over the opening at the top, and for ten or twelve days the process of charring goes on, being regulated by the vents around the base of the kiln. It is necessary that the fire should begin at the top and burn downward, and for this purpose two openings are left in the thimble at the top, each of which is easily covered with a brick. These are left open or closed as emergency requires, and the vents are opened as needed, to draw the fire downward through the pile. When the wood is sufficiently charred above these vents, which is ascertained by the smell of the smoke, or by thrusting a bar into the vents to feel whether it is wood or coal, the knee or middle row of vents, and the ankle vents, are opened in succession, although the lower vents, as a general thing, are not opened, the collier preferring to burn the lower tiers of logs in another kiln rather than run the risk of over-firing.

"The kilns have a northern exposure, and when the wind is from that direction great care is necessary not to burn too fast. When it is from other quarters the burning is more regular. Sometimes a sink occurs, which means that the fire is drawn down too rapidly, leaving a middle portion uncharred. This is to be avoided, and can only occur through the carelessness of the collier. After the charring operation is complete the vents are stopped, the body of the kiln is thoroughly white-washed, and the crown covered liberally with coal-tar, to make everything air-tight, and the kiln left for two days to cool off. It is then opened, and the coal can be taken out immediately. Thus it requires fourteen days at least to burn a kiln; two to fill, ten to burn and six to cool. The secret of good coal, however, is to take time, and it is preferable to give it twelve days to char."

Canada imports every year large quantities of charcoal iron, every ton of which could be and should be made at home. Our advantages for the economical production of charcoal iron are certainly not surpassed, probably not equalled, anywhere else in the world. It so happens that in Ontario, where the iron ore is, the material for charcoal is too, and in quantities practically inexhaustible. For, in the rough, rocky districts, where iron ore most abounds, and which are of no use for agricultural purposes, the timber growing there, if all taken off, would soon be replaced by a new growth, provided only that cattle and fire be kept out. But besides our import of charcoal iron, we bring in from abroad ship loads and car loads of iron of other and inferior kinds. Now, those who ought to know do say that, were we for many important purposes to use Canadian

charcoal iron, instead of this inferior imported iron, we should be gainers every year to a large amount by the change. The country would gain by using its own charcoal iron, worth \$10 a ton, instead of inferior iron brought in from abroad, at \$20. Be this as it may, however, it is surely the merest folly for us to continue sending money out of the country for charcoal iron, when we ought not only to be making all we want ourselves, but also a surplus for exportation.

But there is something in the way that stops us—there is a lion in the path, which appears to us so terrible that we dare not advance. The old free trade superstition still throws its baleful shadow across the land, and hinders us from doing many a thing that we might easily do did we but know our own strength, and did we understand what our opportunities really are. Had we the courage to put upon all imported iron specific duties, calculated on the basis of twenty-five per cent of the value, we should in a few years afterwards find ourselves nearly independent of imported supplies altogether. Here let us quote from the first chapter of Mr. Bartlett's valuable book on iron, steel and coal in the Dominion of Canada.

"The manufacture of Iron and Steel is, in most countries, considered of National importance; and there can be no doubt that England's present advanced position in the Sisterhood of nations is largely attributable to the development of her Coal and Iron deposits.

"The Dominion of Canada, however, which holds its own in so many other industries, which among the nations 'stands third with regard to its population, as to the tonnage which it floats on every sea,' which 'in 1883 had 39,350 miles of telegraph and nearly 10,000 miles of Railway in operation,' which has '\$104 invested in Railways for each inhabitant, being only excelled by the United Kingdom, which has \$107, and the United States, which have \$112,' is behind the rest of the world in that special industry which may be regarded as the Keystone of all manufactures, failing indeed, in this particular, as respects other nations, to obtain the slightest nominal rank or recognition. In any statement of the world's production of Iron and Steel, after Great Britain, United States, Germany and Luxemburg, France, Belgium, Austria and Hungary, Russia, Sweden, Spain, Italy, are mentioned, the name of Canada never appears, but is simply supposed to be included under 'other countries.' There is no other country in the world with TEN THOUSAND MILES OF RAILWAY that does not make its own rails.

"The subject of the manufacture of iron and steel has at various times and places been discussed, for, in the Dominion Board of Trade reports from 1871 to 1879, the question is almost annually referred to. In the Houses of Parliament, both Dominion and Local, the matter has at times created some interest, and a feeble effort has been made to assist it, but no material progress has been made.

"Not only does the position of the few iron manufacturers we have steadily get worse, in fact they can hardly be said to exist, but from its being *the most important manufacture in the late Province of Canada*, fifty to seventy-five years ago, when iron and stoves were articles of export, it has fallen off to such a point that a sort of hopeless feeling has been engendered, and a great number of people believe that we have not the facilities to enable us to manufacture iron in Canada. The actual facts of the case are that there is very little known in regard to this subject, that very few people know the difference between cast and wrought iron, and that this being essentially a wooden country there are few opportunities of seeing or hearing anything about the detailed processes of manufacture.

"If it was true that Canada had not the materials out of which to make iron or steel, or had never attempted to do so, there might be some reason for the apathy which exists; not

only is such not the case, but it can be proved, without fear of contradiction *that there are few, if any places in the world which have such natural advantages for the manufacture of iron, as we possess in Canada.* In addition to this, our annual consumption is of sufficient extent to justify the erection of works and the expenditure of capital necessary for the production of what we require, and it only remains for us to follow the example of EVERY NATION WHICH TO-DAY HAS ANY IMPORTANCE IN THIS MANUFACTURE, and make use of the advantages so bountifully provided for us by nature."

We have been speaking above of Canada's advantages for making the speciality of charcoal iron, but there is coal as well as the material of charcoal in Canada, and we ought to be using both in the building up of that greatest of all manufactures—the making of iron. This, however, remains—that not until the free trade superstition has been wholly driven out of our heads shall we be able to make Canada what Nature designed it to be—an iron producing country.

THE COTTON MANUFACTURERS' CONVENTION.

UNDER our heading of "Textiles" we copy pretty full reports, taken from the *Montreal Herald*, of the convention of cotton manufacturers held in that city last week. Never had Canada any important branch of manufacturing industry which had more need of wise and harmonious co-operation on the part of those carrying it on, and we are happy to be able to add that this time the gathering of the cotton men was a marked success. Their experience of former efforts in the same way was discouraging, but shall we say it? the luck appears to have changed at last.

It would have been strange indeed had the free trade papers let the occasion slip without indulging in their oft-repeated sneers at our "cotton lords," as a set of plunderers who are enriching themselves by robbing the public. However, we must in candour add that on this occasion the attacks of the papers aforesaid have been milder than in time past. For one thing, cotton goods of home make are and for some time back have been so ridiculously cheap in the stores, that even zealous free-traders could not have felt themselves much encouraged to "pitch in" with denunciations of the way the poor man was robbed every time he bought a cotton shirt or the material for it. The fact is, that never since Canada was a country could the poor man buy clothing (both cotton and woollen) for himself and family as cheaply as he can now. But the wages of mechanics and labourers are higher now than in time past, and so the poor man has benefitted in two ways. As for the farmer, there never was a time when any certain given quantities of the various products of the farm would buy as much of store goods as now. True, wheat is outrageously cheap; but the fair way would be to take the price of say thirty bushels of wheat, one fat steer, two fat hogs, two fat sheep, also a load each of oats, hay and barley, and then compare the quantity of store goods which the aggregate price of all these would buy now, with what it would have bought seven or eight years ago, before the National Policy. We feel quite sure that such a comparison would show that on the whole things have greatly improved for the farmer since then.

The "cotton lords," so-called, have had a hard struggle these few years past, during which time they have been working for nothing and boarding themselves. They have risked an im-

mense amount of capital altogether in enterprise which has greatly benefitted the country, even when it was bringing them in nothing, or something that was worse than nothing. The single fact that our imports of cotton have trebled within eight years speaks volumes. It shows how protecting manufactures makes work for our own people; which latter is most emphatically for the good of the country.

ALMOST TOO GOOD TO BE TRUE.

We give what prominence we can to the following editorial, which appeared a week or two ago in the *Montreal Star*—
AN IRON POLICY.

Mr. James E. Wolff, special agent of the customs, has just returned from the iron districts of Pennsylvania. It is reported that the object of his visit was to obtain information regarding the prices of iron for the Government. Now, why does the customs department wish to know the prices of iron? Is it with a view to encouraging the home production of iron by a high protective tariff? It looks very much like it. It is to be hoped that the Government has decided upon a bold policy in this regard. Halfway measures will not do. A low duty on iron will only have the effect of increasing the price of iron without inducing its production in Canada. The duties must be high enough to insure the home market to the Canadian manufacturers of iron and steel, or it will not be effective. It is most important also that the railways which are in a certain sense public works even when constructed and run by companies, should be obliged to purchase materials in Canada."

"A half policy will probably prove a failure. The iron duties must not be arranged with a view to obtaining revenue. A revenue tariff is always a tax. It will have the effect of increasing the price of iron, and manufacturers generally would strongly oppose that. With a revenue tariff on iron it would be the aim of the Government to encourage the importation of iron in order to increase the revenue. But we want a tariff that will discourage the importation of iron. Let us have it, and let the Government announce its intention at once. If the Government will advertise in the leading papers of Canada, England and the United States, that after a certain date high protective duties will be placed on imported iron, and that all railways receiving public aid will be obliged to purchase supplies in Canada, there will be a rush of capital to Canada for the purpose of investment in the iron industry. In pursuance of this policy the Government should prepare a book setting forth the natural iron and coal resources of the Dominion for distribution among capitalists, especially those already engaged in the production of iron and steel in England and the United States. Now is the time to do it. The indications are that another iron boom is beginning. How important the manufacture of iron is to any country is evidenced by the fact that business men and speculators in all kinds of produce watch the prices of iron, knowing that a revival in the iron industry always precedes a general business revival."

The *Star* is a promising pupil—a pupil of our own, we mean. It talks well, and takes the true National Policy ground—that Protection is wanted for its own sake, and not "for revenue only." We sincerely hope that our contemporary's surmise will prove correct, though to us it appears almost too good to be true.

TRADE WITH FRANCE.

CANADIAN COMMERCE WITH FRANCE IN THE LAST FISCAL YEAR.

Le Monde publishes a lengthy article on the trade of the Dominion with France in the fiscal year ending 30th June last, from which it appears that the exportations from Canada to France have varied from \$212,000 in 1877 to \$225,000 in 1882 and 303,000 in 1885-6. The lion's share of exportations last year fell to New Brunswick, which sent France timber to the value of \$170,106 and fish to the value of \$9,895. Quebec sent France timber valued at \$74,947 and products of manufactures and animals valued at \$411; Nova Scotia \$22,515 worth of fish, a little coal, some manufactures and \$6,724 worth of timber, while Prince Edward Island sent \$15,117 worth of agricultural products and Ontario exported \$2,564 worth of goods. The imports from France amounted to \$1,935,581, principally consisting of brandy and wines, perfumery and religious articles.

The following table shows the distribution of the French imports into Canada and the Dominion exports to France:

	Imported from France.	Exported to France.
Ontario.....	\$ 600,688	\$ 2,584
Quebec.....	1,186,048	75,361
Nova Scotia.....	42,533	30,040
New Brunswick.....	63,507	180,227
Manitoba.....	22,949
British Columbia.....	11,182
Prince Edward Island....	8,673	15,117
Total.....	\$1,936,581	\$303,309

France has the best end of this trade; selling to the Dominion nearly two millions' worth, and buying only to the extent of one-sixth as much. Singular to remark, while doing a large trade with foreign nations, France does very little, comparatively, with her own colonies. Her trade with her own colonies amounts to only about ten million dollars; while her trade with the various States of South America alone foots up to two hundred millions per annum.

A COMPLAINT AGAINST TANK STEAMERS.

Up to this year American petroleum has mostly been exported to Europe in barrels, some of it in square tin packages, boxed; but recently the plan has been tried of shipping it in tank steamers—the vessels being fitted with large tanks, perfectly tight, into which the oil is pumped. The longshoremen at New York and other shipping points are strongly opposed to the innovation, and lately appointed a committee of seven to confer with the ship brokers and the merchants of the city who are engaged in exporting oil to Europe. Their grievance, as stated at a recent meeting, is as follows: Not long ago W. A. Riedlmann, the owner of a line of oil ships, bought a tank steamer and began exporting oil in bulk. By this means the vessel can be loaded in three days, where by the old method it took a month properly to load a vessel with oil in barrels, the capacity of the tank steamer is 22,000 barrels, which would load three ships not fitted with tanks; and altogether the experiment has been so successful, that more tank steamers are about to be purchased and the old trade revolu-

tionized. Such a course, it is claimed, will throw thousands of longshoremen and lightermen out of employment. More than 15,000 coopers who find employment in making oil barrels will lose their occupation. The refining of oil can be more cheaply done in the Old World than in America, hence crude oil only will be exported, and American oil refiners and their employes suffer in proportion.

The committee of longshoremen was assured by the merchants and brokers that the latter would do all they could to stop the exportation of oil in bulk. The committee will wait upon the Standard Oil Company and request them to furnish no more oil to the tank steamer. They have also taken under consideration the advisability of refusing to load Riedlmann's other vessels, if he persists in exporting oil in bulk. Much excitement prevails among the members of the New York Produce Exchange over the question, which threatens to destroy their business entirely.

A NOVEL METHOD OF MAKING A FORTUNE UPON A VERY SMALL BEGINNING.

No sign in town attracts the attention of strangers to a greater degree than that which appears on a number of stylish wagons that are ever to be seen rushing about the business streets of the city, says a Chicago letter. It is that of the "Clean Towel Company." A young man is at the head of this concern and is making a considerable fortune out of what was merely a happy thought. He conceived the idea that men who rent offices, such as lawyers, brokers, dentists, agents and the like, must be put to a great deal of trouble to get clean towels and to keep them clean after they get them. He decided to go into the business of supplying these conveniences.

He had some little boxes made to hang upon a door or wall by means of two hooks. On the front of each box he had a plate of looking-glass, and the top was made like a lid. He hung a brush and comb to each box, put four clean towels in each one, and then started out to get customers, promising four clean towels a week, and to keep each customer supplied with toilet soap for a dollar a month, or six towels a week for a dollar and a quarter and eight for two dollars. The idea took like wildfire. A company was formed, and it now serves not only half the offices in town but a great many stores, factories, and in fact, places of all sorts where men or women are employed and cleanliness is respected. The dirty towels are taken away and clean ones substituted each week. The boxes are never removed until they are broken or grow shabby. The cost is very slight, the tax on customers is a mere trifle, and the profit is enormous.

Mr. J. W. JOHNSON, F.C.A., principal of Ontario Business College, Belleville, recently returned from a visit to Bermuda in the interest of the college, which is largely patronized by Bermudians. Several students accompanied him to Belleville.

How acids in lubricating oils can be detected is told by Power as follows: By analysis in a laboratory, or by putting the sample to be tested in a clear glass bottle with a copper wire running down through the cork air tight. Stand the whole in a sunny place and leave for two or three weeks; then if on removal verdigris or green rust is on the copper, there is an acid in the oil. This is a rough effective test for engine-room use.

I HAVE been asked the question: "Does friction increase with speed, or decrease?" Both. Where the speed is slow, increasing it may decrease the friction per turn, but where the speed is fast, it may be found that increasing speed increases the friction per turn also. There are two sides to almost every question, and particularly so in this case. The more viscous the lubricant, the greater pressure can be carried upon the bearing. *Grasshaver.*

THE
Canadian Manufacturer
 AND INDUSTRIAL WORLD.

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 6 WELLINGTON STREET WEST, TORONTO.

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EDITOR: FREDERIC NICHOLLS,
Secretary Canadian Manufacturers' Association.

This Journal has won for itself an acknowledged position amongst Trade Journals and is recognized as the representative industrial paper of Canada. All the various industries of the country are represented in its columns, and it has been for years the fearless and consistent advocate of those reforms which were indispensable to the success of the Manufacturers. It now reaches nearly every mill and factory in the Dominion, and its influence is constantly increasing.

As a medium for advertisement of machinery, steam appliances, mill and factory supplies, etc., it is unequalled, and our rates will be furnished on application.

Communications from Manufacturers, Exporters, and others, are respectfully invited.

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Editorial Notes.

OWING to pressure on our advertising columns, and the space that the occasion compels us to devote to "Textiles," we have to leave over some interesting matter relative to other departments of manufactures.

REGARDING a certain new avenue of trade, as yet only in prospect, but soon to become a reality—the *Montreal Gazette* has an interesting article, which we copy in another column. The new avenue does not lead from the Northwestern States to Sault Ste. Marie, thence by the Canadian Pacific rails to Montreal. "The consummation of this project is nearing," says the *Gazette*, and we believe it.

THE attention of Textile Manufacturers is invited to the second edition of the United States Chemical, Dyestuffs, Machinery and Mill Supplies Directory, published by Mr. J. E. Palmer, New York, whose advertisement appears in another column. Other valuable information, arranged for quick and ready reference, is given in the book. Indispensable for every manufacturer of textiles, we should say. See advertisement.

PROF. LESLIE, an American authority, says:—"I take the opportunity to express my opinion in the strongest terms that the amazing exhibition of oil and gas which has characterized the last twenty, and will probably characterize the next ten or twenty years, is nevertheless not only geologically but historically a temporary and vanishing phenomenon—one which young men will live to see come to its natural end. And this opinion I do not entertain in any loose or unreasonable form; it is the result of both an active and a thorough acquaintance with the subject."

THE fact is noted in the American papers that, even with the present import duty of \$17 per ton on steel rails, large importations of English-made rails are coming to the United States. The Alabama and Great Southern railway, 295 miles long, is to be relaid with foreign-made rails, imported via New Orleans. Home-made rails can be obtained at eastern mills for, say, \$35.50 per ton, and at western mills at \$37.50 per ton; so that to compete with products here the foreign rails can yield the manufacturers only \$18.50 or \$20.50 per ton, according to the point in this country at which they are delivered, and assuming they may come across the ocean as ballast.

ONE old free fallacy is pretty well knocked on the head in an article from the *New York Tribune*, which we print under the heading of "Iron and Machinery." Protection, it has been argued, makes commodities scarce and dear, and the public buy and consume less in consequence. But American trade figures show that, with high duties on iron and iron goods generally, the consumption of the same has greatly increased over the border. Our contemporary's article deserves careful reading. It will be noted that the *Tribune* is careful to acknowledge that its figures come from that most reliable source—the reports of the American Iron and Steel Association—otherwise from our old friend, Mr. James M. Swank.

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

A CONFERENCE of Free Traders, called by the National Committee of the American Free Trade League, was held in New York recently. David A. Wells presided. There were present among others R. R. Bowker, Everett P. Wheeler, E. P. Doyle and J. S. Moore. It was determined to send out an address to all prominent Free Traders in all the States, urging vigorous action in Congressional districts this fall. Resolutions were adopted commending President Cleveland for his adherence to administrative reform, praising Secretary Manning as a true American statesman, thanking Mr. Morrison for his action in Congress on the tariff, and asking every revenue reformer to contribute \$1 for the cause.

UNDER our heading of "Lumber" will be found a report of an interesting speech on lumbering in Canada, which was delivered in Boston, before the last annual American Forestry Congress, by Mr. J. K. Ward, of Montreal. While declining to endorse extreme views as to the probable early exhaustion of our forests, Mr. Ward still thinks that we do not need to be in any particular hurry about clearing off what standing timber we have, as if it were a nuisance to be got rid of as quickly as possible. Let us repeat here one of his sentences: "Now," says he—"as a means of making our timber hold out as long as possible, I am decidedly of the opinion that the United States Government should gratify its lumber manufacturers and stick to Protection." These words will bear some thinking over.

THE manufacturers of Bessemer steel rails held an important meeting at Long Branch recently. A year ago they formed an organization at Long Branch for the purpose of so regulating the output of rails that over production and ruinous prices, which had for some time prevailed, would be prevented in the future. The arrangement which was then made has worked so well, not only for the immediate interests concerned, but also for the general business interests of the country, that the manufacturers at this meeting decided with complete unanimity to continue it for another year. The demand for steel rails is now active and the immense steel rail industry is in a healthy and prosperous condition, supplying all the rails to the railroad companies that their wants require and at reasonable prices. It is believed that during the coming year the capacity of the steel rail mills will be fully equal to the demand. There will, therefore, be no necessity to import foreign rails, and a steel rail "boom" and its attendant evils will be avoided. The organization of steel rail manufacturers does not undertake to fix prices, each company making its own contracts and fixing its own prices. The organization is simply a check to over-production.

OUR CARD BASKET.

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

William Bell, of Messrs. William Bell & Company, organ manufacturers, Guelph; J. B. Armstrong, of the J. B. Armstrong Manufacturing Company, carriage goods manufacturers, Guelph; G. P. Sharkey, of Messrs. Brayley & Dempster, Hamilton; A. B. Cowan, of Messrs. Thomas Cowan & Company, Galt; Mr. Petman, Toronto; Mr. Smith, Toronto.

ABOUT A "GIANT MIND."

(*Newton's Textile Gazette, Woonsocket, Rhode Island.*)

DISCUSSING the question of free trade versus protection, the *Lynn Reporter* succeeds in adding to the literature of the subject the wise conclusion that "this country needs a giant mind that will work out the system of political economy best adapted to secure the greatest prosperity of all its people." Perhaps so, but it would be better to demand something which we are more likely to get. In this country, where the thousands are highly educated, there is no occasion for any particular giant mind. If such a person were to appear he would be relegated to obscurity as a first class crank. All changes with us must result from the gradual development of our political institutions and a general uplifting of the masses. No theory, scheme, or law, though it were made by an all-wise angel from heaven, would be accepted in America, unless the great majority of the people had been first prepared to receive it. Free trade is largely a moral issue. It concerns humanitarian interests. Until considerable human selfishness is eliminated, any giant mind which may come will be likely to address an audience which, having eyes, see not, and having ears, hear not.

WATER TESTS.

Test for Hard or Soft Water.—Dissolve a small quantity of good soap in alcohol. Let a few drops fall into a glass of water. If it turns milky, it is hard; if not, it is soft.

Test for Earthy Matters or Alkali.—Take litmus paper dipped in vinegar, and if, on immersion, the paper returns to its true shade, the water does not contain earthy matter or alkali. If a few drops of syrup be added to a water containing earthy matter, it will turn green.

Test for Carbonic Acid.—Take equal parts of water and clear lime water. If combined or free carbonic acid is present, a precipitate is seen, to which, if a few drops of muriatic acid be added an effervescence commences.

Test for Magnesia.—Boil the water to a twentieth part of its weight, and then drop a few grains of neutral carbonate of ammonia into a glass of it, and a few drops of phosphate of soda. If magnesia be present, it will fall to the bottom.

Test for Iron.—Boil a little nut gall, and add to the water. If it turns gray or slate, black iron is present. 2. Dissolve a little prussiate of potash, and if iron is present, it will turn blue.

Test for Lime.—Into a glass of water put two drops of oxalic acid, and blow upon it; if it gets milky, lime is present.

Test for Acid.—Take a piece of litmus paper. If it turns red, there must be acid. If it precipitates on adding lime water, it is carbonic acid. If a blue sugar paper is turned red, it is a mineral acid.

It is estimated that between \$3,000,000 and \$4,000,000 worth of manufactured articles have been ordered from Europe since the labor troubles began, all of which were heretofore manufactured in the States. Contracts of ten times this amount with European manufacturers are threatened by jobbers who are becoming importers.

THE Rothschilds some time ago gave Marcel Deprez unlimited credit for the prosecution of researches in the problem of electrical transmission of force. The result has just been submitted to a committee of inspection composed of thirty scientists. The committee by a unanimous vote, pronounced the results obtained by Deprez worthy of the highest congratulation.

BUMBLEBEE honey is said to possess fine medicinal qualities, and in some parts of the country is in great demand for the sure cure of invalids. The name might possibly suggest that the honey is manufactured by bumblebees, but, like many another name, is employed simply for effect. Whether in church creed or political platform, in health or in sickness, real bumblebees are not wanted half so much as real credulity.

F. E. DIXON & Co.

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LEATHER BELTING

SOLE AGENTS FOR

PHŒNIX BELT OIL

The Only Perfect Belt Dressing.



IT will make the leather more durable.
 It will effectually prevent the slipping of the belt.
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The DODGE "INDEPENDENCE" WOOD SPLIT PULLEYS



WITH PATENT BUSHING SYSTEM

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

EVERY PULLEY A SPLIT PULLEY.

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

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

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

EVERY PULLEY WARRANTED.



We will furnish a Pulley for any service for 30 days free of charge, if it does not meet the warranty. Prices as low as any other good Pulley. Send for Catalogue, Price List & Guarantee

70 PER CENT. LIGHTER THAN CAST IRON

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

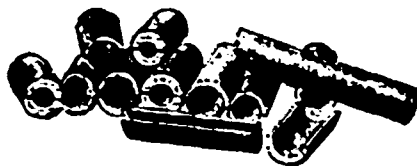
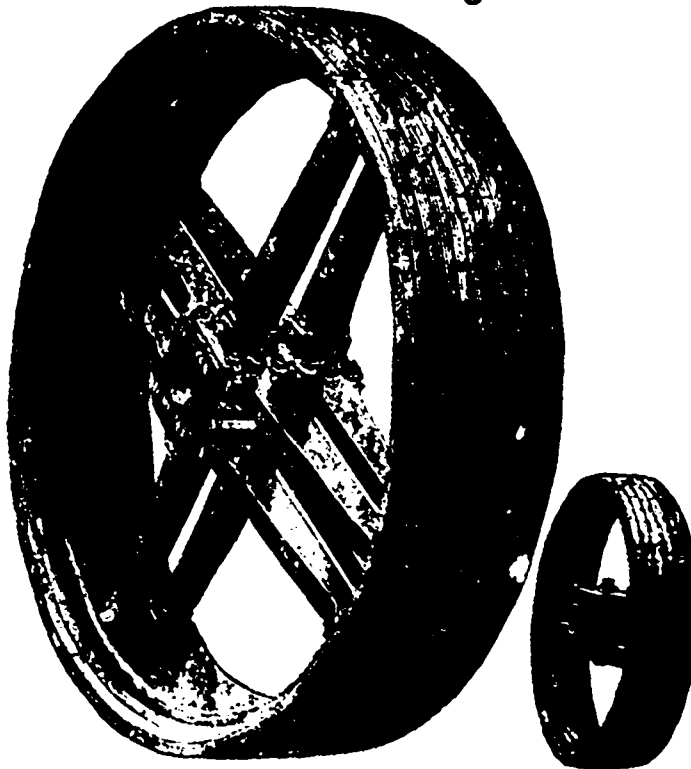
READ THE FOLLOWING.

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

C. L. RICH, AGENT, CHICAGO, ILL.
OFFICE OF NEWTON WAGON CO.,
BACATA, ILL., Feb. 17, 1885
Dear Sir: Replying to your favor, I would say that after using the Dodge Wood Split Pulley for a year or more we are satisfied they are a good thing, if not the best Pulley made, and shall use them hereafter, in preference to any other we know of.
Yours truly,
NEWTON WAGON CO.

We have sold these pulleys for one year, and they have been put to every kind of service, and their popularity is wonderful. We refer to the following users for proof of the above statements: Pillsbury & Hollett Flour Co., Minneapolis; K. M. Pratt & Co., Elevators; Northern Pacific Elevator Co., The Pacific Elevator Co., Minneapolis; Harvester Works; Minneapolis; The Furniture Co. M. & St. L. R. R. Co.; Willford & Northway, Washburn, Crosby & Co.; St. Paul Electric Light Co.; St. Paul Roller Mill Co.; Minneapolis Brick Co.; W. W. Mfg. & Car Co., Stillwater, Minn., and very many others.
SHAWTO & DENNIS, MINNEAPOLIS, MINN.

W. H. DODGE, PRATT,
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THE WORLD'S INDUSTRIAL AND COTTON CENTENNIAL EXPOSITION,
NEW ORLEANS, March 19, 1884
Dear Sir: I have a number of your Patent Wood Split Pulleys in use here at the Worlds Fair and Cotton Centennial Exposition, driving Dynamos for Electric Lighting. They are doing heavy work, and are held upon the shaft by the compression of wood on iron. They hold firmly, and do not slip. I have watched with a great deal of interest the many Pulleys of your make running at this Exposition, and I think them the best Pulley I have ever seen. I believe them to possess the following points of merit over any other Pulley: All Pulleys being split or in halves; best belt surface; best shaft fastening; best method of stuffing Pulleys to shafts of different sizes; best balance; lightest on the shaft; strong, and I believe durable. I heartily recommend them.
Yours very truly,
S. H. GILMAN,
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Waste of Power.

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

Send for Illustrated Circular and Reference List.

THE DODGE WOOD SPLIT PULLEY CO.,

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

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

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

CANADA'S MANUFACTURING PROGRESS.

(Canadian Gazette, London, England, July 21.)

CANADA is justly proud of the position she occupies to day as a manufacturing community. A few weeks since we spoke of the development in mining since the last great effort of the Dominion in the way of exhibitions. The result of the comparison then made was most gratifying. And yet it is probably within the mark to say that the growth of Canadian mining is small as compared with the growth of Canadian manufactures. The increase in all branches has truly been marvellous. Take, for instance, the year of the Paris Exhibition, 1878. It is seen that the number of factories in Ontario and Quebec has risen from 167 in that year to 725, or 100 per cent., according to the last return; the value of the product has risen from \$31,131,100 to \$77,267,100, or 126 per cent.; and the capital invested from \$26,160,500 to \$48,425,100, or 85 per cent. Then, again, in the Maritime Provinces, the number of industries has grown from 376 to 1,410; the value of the product from \$15,832,182 to \$25,603,066, an increase of \$9,770,884, and the capital invested from \$11,659,431 to \$18,868,273, an increase of \$7,208,842. Seeing this substantial growth, it is natural to expect that Canada's actual representation of manufactures to day will at least proportionately exceed its display of eight years ago. "We are," says Dr. S. P. May, who is in charge of the Ontario Educational Exhibit, and whose official position at Paris and at Philadelphia enables him to speak with weight, "we are far ahead to-day in number of exhibitors and character of exhibits to the collection at Philadelphia or at Paris. Owing to various circumstances, a large number of manufactures have since been developed. Canada is, as people here are beginning to realise, very rich in natural products, and those which we previously sold in the raw state to the United States and England are now largely manufactured in our country. They are shown here in their manufactured state with a practical end in view—that they may be ordered and purchased at any time. We don't care about bringing forward our aboriginal tribes as perhaps our Australian friends do, everything is in our section of a practical character to lead to business with other countries."

The force of Dr. May's statement must be accurately gauged by a comparison of the position of Canadian manufactures to day with the status at the time of the Philadelphia and Paris Exhibitions. That Canada made a creditable display on these occasions no one will question. Colonel Sandford, the British Executive Commissioner at Philadelphia, felt compelled in his report to affirm that the Dominion had made "a display of fine arts, raw produce, and manufactures in all departments which excited the astonishment of even Canada's immediate neighbors." Another British official reported, "No other country produced a stronger feeling of surprise by the extent and excellence of the general machinery exhibits than did the Colony (Canada)." At Paris much the same was said. The Right Hon. Lyon Playfair, who was at that time a prominent member of the Royal Commission, expressed the surprise with which he had examined the specimens of raw material and manufactures sent by Canada, adding: "In leather and tweeds I had no idea that Canada was so far advanced." It is, therefore, very evident that Canadian manufactures were by no means insignificant at the time of these displays, and that, in comparing their present position with that of the last decade one is speaking of a period when they had already arrived at some degree of importance and excellence. Of all industries, it is probable that that of manufacturing musical instruments will most forcibly strike the inquirer at the Colonial Exhibition. At the time of the Philadelphia Exhibition the trade was but an insignificant one, and at Paris, two years later, only four individual exhibits were made, of which only one could be compared with either of the twenty collections of organs, pianos, and other instruments to be found in the Central Gallery of the Canadian Section. As a matter of fact, the make of instruments was at

that time very limited, and chiefly confined to a common and cheap class. How far this is from being the case now is patent to the most indifferent visitor to the Exhibition, for otherwise the exhibits of Canadian musical instruments would hardly have attracted so great an interest during the last few months in musical circles in London representing communities in almost every part of the globe. At least 70 per cent. of the demand of Ontario in this direction, and 50 per cent. of that of Quebec is now met by Canadian makers and the time will soon come when the rapid substitution of Canadian for American instruments will be even more general through Canada, while the trade with Great Britain, Europe, and Australia will show that it is capable of almost unlimited extension. In furniture also a marked change has taken place. Since 1878 the number of hands employed in Ontario and Quebec has increased by nearly 61 per cent., and the production to almost a corresponding extent, largely owing to the improved plant and machinery. In manufactures of machinery, too, Canadians have since 1878 been gradually supplying the home demand which was formerly met by the United States, so that in the general lines of the trade it may now be said to be entirely in the hands of Canadian manufacturers. In the case of agricultural implements, so admirably represented in the Machinery Court of the present Exhibition, much the same tale is told by the increase in output of over 106 per cent. Textile fabrics is another representative instance. At the time of and after the Paris Exhibition a very large importation of woollen and other goods of this class was going on from England. Since then some twenty new factories have been started in Ontario and Quebec alone, to say nothing of the remarkable growth in the Maritime Provinces; and these with the old factories turn out each year \$4,131,300 worth of goods as against a former total of \$2,022,400. The same might be shown in many other departments of the manufactures of Canada. The growth in old industries has been in many ways marvellous, while of those opened up since the time of the former display, the following may be named—Iron bridge building, sugar refinery, cotton printing, rice hulling, and the manufacture of cutlery, emery wheels, pins, crocks, haircloth, enamel oilcloths, jute, felt goods, organ reeds, writing papers, silver tableware, organ and piano key-boards, Britannia metal work, cashmere and other dress goods, glucose, steel, and many lines of textiles in cotton and wool. In examining the evidences of Canada's present industrial position, supplied by the Colonial Exhibition, it is right to keep these facts in mind, and to read in them one chief reason for the confidence of Canadians in the future progress and development of their commerce.

CANADIAN MANUFACTURES.

(Hamilton Spectator.)

THE people of Great Britain are accustomed to think of Canada as a grain producing country. Its manifest destiny, in their opinion, is to produce food for the mother country and to buy manufactured goods from her. The Colonial and Indian Exhibition is doing much to change this view and to convince the people at home that Canadians have skill not only to raise wheat but to make goods for their own use and even for export. The *London Globe* says:

"It comes as a surprise to find, on entering the numerous galleries fitted with Canadian produce, that Canada is not only a manufacturing country, but that her manufactures are such as will hold their own in any part of the world. If any cause for disappointment is to be found with this section of the exhibition it is that too little attention has been paid to the display of her natural products, and too much to her manufactures, which cover approximately seven-eighths of the total floor space, and contain an endless series of repetitions somewhat wearying to the spectator."

And again, in coming to a more particular consideration of the manufactured goods, the same paper says:

"Organs, pianos, furniture, wall papers, biscuits, tinned provisions, cotton and woollen manufactures and furs are all highly creditable, but represent nothing that is not also produced in this country. It is when entering the west gallery, devoted to agricultural machinery, that the visitor is struck with surprise by the originality of the multitudinous exhibits. Farming in Canada is carried on under different conditions to those of the old country, and various processes have to be gone through which are practically unknown here. To effect these, special machinery has been devised. A second Birmingham has sprung up in Hamilton, a town of 41,000 inhabitants, situated on the western shore of Lake Ontario, whence many thousands of machines, as ingenious and as well finished as anything ever done in England, are turned out every year. Among others, the mowing machines with horizontal action, the reapers and binders, the threshing machines and the steel plows, are especially worthy of note. Nor are the Canadian factories entirely devoted to agricultural machinery. We have in the same gallery a most ingenious saw-grinding machine, a set of lathes, emery wheels—a speciality of Ontario—and many other pieces of mechanism. Among the smaller objects we also note steel axes, admittedly the best in the world; tin boxes, cans, jars, and culinary utensils galore."

It is only the Canadian Grit who runs down the industries of his own country and even those of his own city. The British journalist acknowledges that our goods "will hold their own in any part of the world," that they are "as well finished as anything ever done in England;" and that at least some Canadian manufactures are "admittedly the best in the world." It is time the Canadian enemies of Canada were properly rebuked. This country must be built up by the earnest effort of all her sons. The fellows who are eternally decrying everything Canadian are like men on a ship trying to bore holes in her bottom.

AN AVENUE OF TRADE.

(*Montreal Gazette.*)

It is not novel or new to say that in the early future a very large traffic will be diverted to an output at Montreal from the northwestern states of America. The experience of Duluth proves what can be done. When the advantages of that site were first discovered—shall it be said for speculative purposes only—Congressman Proctor Knott made a speech of remarkable power and well nigh unequalled satire in ridicule of the optimistic plans of the promoters of Duluth, its grain trade, street railway, breakwater, harbor and historic pictures. For it had historic pictures. The president of an elaborate system of street railways had made a plan, the excellence of which every resident was willing to attest—having a personal interest in corner lots—floated his scheme in London, amassed an immense fortune on paper, erected a magnificent mansion a mile or two from the town site, and then in common with the great majority of the residents of Duluth succumbed under the pressure of financial obligations. In those days even a President of the United States had an interest in Duluth real estate, the post office being located in his building. But the past is to be outlined only as a guide and a warning for the future. Duluth ran the natural course of all places of apparent illimitable possibilities, enjoyed its "boom" and suffered the reaction, reaching again in later and recent years the dignity of an important port of export for the products of the northwestern states of the neighboring Republic. To-day Duluth ranks among the foremost of exporting points west of Lake Superior, and if geographical conditions permitted would within a comparatively short time usurp, or at least rival, the business of railways finding their termini at Chicago. The picture of

Duluth's early importance has, however, been lately dimmed by the projection of a line from Minneapolis to Sault Ste. Marie, there to connect with the Canadian Pacific Railway, whose branch to Algoma can be extended to the Sault within three or four months. The consummation of this project is nearing. It means not only the diversion to Montreal direct and the other ports served by the Canadian Pacific of an enormous traffic now poured into Duluth, but also of a considerable traffic flowing to Chicago, the new route having an advantage of several hundred miles in distance to the seaboard. We now learn that a race is on foot between the Northwestern lines to reach the Sault first, a recent telegram informing us that:

"A few days ago attention was called to the rapid progress made by the Minneapolis, Sault Ste. Marie & Atlantic, now building east from Turtle Lake. The Detroit, Mackinac & Marquette, which now has a line from Marquette to Point St. Ignace, will at once build a branch to Sault Ste. Marie, thus completing the connection in less than a year. This will shorten the distance to the Atlantic by way of the Canadian Pacific over forty miles, and the new line will divert a large amount of grain both from Duluth and Chicago."

The connection alluded to above as likely to be first made is of less importance than the direct line projected from Minneapolis, although the former is important in itself, and develops a distinct territory. What our people should awaken to is the possibility of a great trade with the northwestern states *via* Sault Ste. Marie, a trade apt to be lost sight of in the discussion of the possibilities of Asiatic and Australian intercourse, but which is not less profitable and desirable and more easily obtainable than the latter.

EXPERIENCE ON BOTH SIDES.

THERE have been within a few months a good many things taught by experience on both sides of the labor questions.

The first is that public opinion determines whether a strike shall succeed. If there is good sense in a strike, it is a success. If there is no sense in it, it is a failure.

The unions should be strong enough not only to make war, but to keep the peace. They must be able to sustain contracts. The building trades are immensely damaged by the capricious policy of some of the unions.

If building trades cannot contract in the spring to do certain work at certain rates, building must stop. If the country is to be squeezed into an eight-hour measure, there are houses enough.

The responsibilities of the unions to keep faith would be a great element of safety. This requires that the unions should be at once strengthened and enlightened. — *Cin. Commercial.*

"SPENCER RIOT GUNS."

THE Spencer riot gun, which Gov. Foraker is procuring for the Ohio militia, is attracting much attention in the States among military men. It is a magazine gun that can be fired from two to three times per second, and at each fire discharge nine buckshot, or three buckshot and a two-ounce ball. After a most thorough trial and test at the Springfield Arsenal, this gun was put on the issue list, and the States can now draw them from the general government. The inventor of these guns is the same Spencer who invented the Spencer carbine, which decided several engagements for the Union troops during the war. This weapon is on an entirely new plan, and is operated without taking the gun from the shoulder, or the eye from the sight. It can be used as a single breech-loader, or as a magazine gun. The main idea about the charge is that the use of buckshot is much more effective in quelling a riot than the projectiles from the army rifles, and at the same time there is no danger of wounding or killing innocent persons blocks away from the scenes of the disturbances.

Iron and Machinery

IRON CONSUMPTION AND THE TARIFF.

(New York Tribune, Aug. 14, 1886.)

So long as our demagogues in Congress and elsewhere pretend that industries are depressed because the tariff closes foreign markets to their products, or because the country has not money enough, it is pertinent to prove that the people are consuming of the products of their own industries more largely than ever before. Let iron and steel be taken as an illustration. The production of pig iron, according to the statistics of the American Iron and Steel Association, during the twelve months ending June 30, was 5,333,253 tons of 2,000 pounds each. That is the greatest quantity ever produced in this country in any fiscal year, the nearest approach being 5,178,122 net tons in 1882-3. In addition, however, there were consumed in this country of domestic production 222,495 tons from the product of previous years, the stocks on hand having been reduced by that quantity from June 30, 1885, to June 30, 1886. This makes the quantity of iron consumed of home production no less than 5,555,748 net tons, or more than 185 pounds per capita, a quantity considerably larger than has been consumed in any previous year.

But an important part of the consumption is supplied by imports from abroad. The imports during the year ending June 30, of quantities officially reported, were as follows:

	1885-6.	1884-5.
Pig iron, lb.....	686,149,760	340,388,160
Scrap iron and steel, lb.....	119,225,520	54,116,160
Rails, iron and steel, lb.....	23,535,680	9,414,720
Manufactured iron and steel, lb.....	589,116,678	435,936,693
Tin plates, lb.....	572,252,699	507,154,935
Total imports, lb.....	1,990,290,337	1,347,010,668
Home production, lb.....	10,666,506,000	9,179,226,000
Stocks reduced, lb.....	444,990,000
Total consumption.....	13,101,786,337

This makes the total consumption during the last year, exclusive of exports, more than 218.36 pounds per capita, of which, as before, 185 pounds were of domestic production, and 33.36 pounds imported. The imports have been much larger, especially in the years 1880, 1881, 1882 and 1883. But so greatly has the home production increased that the aggregate consumption is undoubtedly greater than it has been in any previous fiscal year. In 1882-3, the aggregate of domestic production and known imports amounted to 13,132,885,507 pounds, but there was an increase in the stocks of pig iron on hand from the beginning of 1882 to the close of 1883, the amount of which for the fiscal year is not precisely known, but probably exceeded 200,000 tons. This would reduce the actual consumption, exclusive of exports, to about 12,933,000,000 pounds in that fiscal year, while in 1885-6, the aggregate, including decrease of stocks, was 13,101,786,337 pounds. And as to the exports it is enough to say that the officially reported quantity in 1883 amounted to only 21,932,936 pounds, and in 1886, more articles being reported by weight, to 47,477,921 pounds, while the value of all iron and steel exported in 1883 was \$16,092,853, and in 1886 only 15,745,569. The quantities are evidently so insignificant in comparison with the difference in consumption that it is not worth while to be more particular.

With the largest consumption of iron and steel in any year of its history, the country imported remarkably small quantities of manufactured iron and steel, excepting in two forms, tin plates and wire rods, of which the imports were the largest ever known. Cr. raw and scrap iron and steel, the imports were 402,500 net tons, against 571,517 in 1882-3, so that the proportion of raw iron drawn from foreign sources of supply

has greatly decreased. Of imported rails only 10,507 tons came in last year, against 95,000 in 1883, and over 300,000 in each of the years 1881 and 1882. Of manufactured iron in other forms, exclusive of tin plates, the imports last year were about 589,000,000 pounds, including 303,000,000 pounds wire rods, but in 1883 they were about 988,000,000 pounds. The imports of tin plates, however, were larger than ever before, amounting to more than 572,000,000 pounds.

It seems not out of place to contrast the effect of two distinct national policies, as tested in the treatment of two branches of industry. Twenty years ago this country imported 118,000 tons of rails and 111,000,000 pounds tin plates. At that time practically all the tin plates used were imported, but there were made in this country 431,000 tons of rails. The imports rapidly increased for a time, reaching 530,000 tons of rails in 1872, against 1,000,000 of home production, so that over a third of the supply was imported. The imports of tin plates in that year reached 181,000,000 pounds. Presently steady and continued protection for rail-makers began to have an effect. Last year there were produced in this country 1,329,608 tons of Bessemer steel rails, besides some open hearth and some iron rails, while there were imported only 10,507 tons. But the production of tin plates was not protected, and the country produces not a single pound, while it imports 572,000,000 pounds. The country has deliberately chosen to be dependent upon foreigners for the supply of tin plates into which more than 286,000 tons of iron are manufactured. With a sufficient protective duty, this country could as readily and surely make every pound of tin plates and wire rods as it now supplies substantially its entire consumption of railroad iron.

CALLANDER EXTENSION ROLLING STOCK.

The contract for the rolling stock of the Northern and Pacific Junction Railway Company was let a few days ago to the Crosser Company, of Cobourg. The specifications conform to those of the Canadian Pacific Railway. The contract for the locomotives for the same road have been let to the Kingston Locomotive Works. The locomotive contract calls for the delivery of two engines in September, three in October and the remainder in November. Altogether ten locomotives will be required for the traffic.

Buying a boiler which figures up largely in heating surface is one thing, and getting good evaporative results from this surface is quite another thing. It was supposed by many persons some years back (and is supposed yet by some) that the more tubes you could crowd into a steam boiler the better "steamer" it would be; but time and experience have proved to manufacturers that free circulation of water in the boiler is much more important. It has been proved repeatedly that boilers having from six to ten tubes less than others with a good open space in the centre of the cluster of tubes, and also ample space between the tubes and shell of the boiler, evaporated more water per pound of coal, besides giving good room for cleaning and a freedom from expensive repairs. Practical illustrations bearing out the truth of this are not uncommon, and have frequently taught good lessons.

A PROMINENT pig iron commission merchant remarked to the writer that before the year was out non-Bessemer ores would be as low as any time last season, and that a price had been named to him by an ore seller as low as it sold for last year. He was certain that a less price must be made, as furnaces could not pay the price and come out even at the present prices of pig iron, and in his opinion there would be a large surplus left on dock. This opinion is quite contrary to the opinion of parties equally well posted, who predict a shortage rather than a surplus of all grades, and believe that prices will experience a sharp advance in the fall. An effort has been made by the Pittsburg furnace men to have the railroad reduce the freight rates on ore to those prevailing before the advance. A committee appointed by the railroad commissioners governing the pool decided not to make any reduction, which gives rise to a great deal of dissatisfaction on the part of furnace men, who claim that the present rates are excessive, and are not warranted by the state of the pig iron market.—Iron Trade Review.

Textiles.

THE MEETING OF COTTON MANUFACTURERS AT MONTREAL.

THE MANUFACTURERS MEET WITH CLOSED DOORS—THEY FORM AN ASSOCIATION TO FURTHER THEIR INTERESTS.

(*Montreal Herald, August 10, 1886.*)

THE meeting of the Canadian Cotton Manufacturers opened yesterday at the Balmoral Hotel. There were present among others, Mr. A. F. Gault, of the Stormont Factory; Mr. D. Morrice, of the Hochelaga Factory; Mr. McInnes, of Kingston; Mr. W. V. Stevenson, of Halifax; Messrs. Harris and Wright, of the Moncton Cotton Co.; J. H. Parkes, of St. John, N.B.; Hon. D. McInnes, of Cornwall; Mr. Cantlie, of Montreal; Mr. Selater, of Brantford; Mr. Harvey, of Hamilton. The meeting was held with closed doors. The Manufacturers were very reticent as to their intentions. They were not at all disposed to take the public into their confidence. They spoke of the evil effects of undue competition and of the losses caused by over-production, but regarding what they designed to do in order to bring about a better state of matters they were silent. It has transpired, however, that the manufacturers divided themselves into sections, each considering the interests of its own department of the trade, and that a Textile Manufacturers Association was formed, though the organization was not completed. Mr. John Harvey, of Hamilton, presided over the deliberations of the Manufacturers. It has leaked out that the objects of the Association are: 1st. To regulate production so that the market may not be at any time overstocked. 2nd. To make the production of the mills more varied than they have hitherto been. The cotton manufacturers have confined themselves to a few lines of the most easily manufactured goods, they will hereafter endeavour by combined action to increase the number of those lines so that a greater area of the market may be covered by home manufactured goods. 3rd. To fix a minimum price for the different fabrics, and to agree not to sell any lower than that price. This, it is hoped, will put a stop to the "cut-throat competition" of which such bitter complaints are made. * * * *

It was found, in consultation, that the manufacturing business is now, in one respect at least, in a much healthier condition than it was some time ago. They had no large stocks of goods on hand. They have been of late manufacturing just sufficient to supply the actual demand, and have not been speculating on the future.

SECOND DAY.

(*From the Herald, Aug. 11, 1886.*)

The cotton manufacturers were in council all day yesterday. The committee were hard at work until late in the evening, and have agreed upon a scale of prices which are somewhat in advance of the present market rates. The price decided upon for each line of goods is a *minimum* price and not a "maximum" one, as by some unaccountable mistake of the printer and proof-reader, appeared in yesterday's notice of the meeting.

It is evident that the cotton men have found the work they have undertaken more difficult of performance than they anticipated. They have now been at work two days and have not completed their organization. It will require another day at least to complete their work. The object of the Association, as Mr. A. F. Gault explained to the *Herald* reporter, is not to impose upon the public, but, if possible, to save the manufacturers from further loss. There are hundreds of thousands of dollars invested in the cotton industry that have not for years returned one dollar of dividends, and some concerns have lost money.

An attempt is now being made to remedy this state of things.

The following is the draft of the agreement which it is proposed the members of the association shall sign:-

The undersigned members of such association hereby mutually, both for themselves and their respective companies or corporations, covenant and agree with each other, as follows:

1. That they and each of them will strictly observe and adhere to all such rules, terms, prices and by-laws for the sale of their respective manufactures as have been fixed and adopted by this association at the meeting held in the city of Montreal, on the 6th day of September, 1883, and that they will also hold themselves responsible for the same observance by their agents and employees, and that they will not directly or indirectly seek to evade the true intent and meaning of said rules by making allowances, or drawbacks, or extra discounts on sales made, unless as provided for in the by-laws, or in any other way offering them inducements contrary to the letter or spirit of the agreement.

2. That they shall, each of them, within thirty days from the date hereof, pay to the Treasurer of the Association, a legal bond of agreement for the sum of \$1,000 in the case of mills having 25,000 spindles and under; and in the case of mills having over 25,000, a bond of agreement for \$2,000, to be held by him as a security for the observance and performance by each one so making payment to the covenants and agreement of this Indenture.

3. That they and each of them shall receive, accept and conform to all the decisions of the Board of Referees or of the Association, so long as they shall remain members thereof.

4. Should the Board of Referees decide that any member of the Association has violated any of the covenants or agreements of this Indenture, either by himself or by his agent or agents, then in such case, it is hereby stipulated and agreed that such amounts stated in the bonds of agreement which such member has paid into the Treasurer, shall be forfeited to the Association, and be paid over to the Treasurer within ten days from the time of confirmation by the Referees.

5. Each member hereby promises and agrees that any violation of the covenants and agreements of the indenture which may come to his knowledge shall be formulated by him into a charge against the offending party, to be dealt with by the Board of Referees in accordance with the Constitution of the Association; also that he will assist, should it be in his power to do so, any other member bringing similar charges at any time.

6. All moneys forfeited to the Association in the manner described in the fourth clause hereof shall be disposed of as follows:

All the expenses of the investigation of the matter before the Board of Referees, and any other expense incurred by the Association in connection with the proceedings, shall first be paid, and the balance of the money shall then be dealt with as may be directed by the Executive Committee of the Association.

7. The member whose bond has been forfeited for any other cause shall within ten days thereafter replace the same by depositing a new bond with the Treasurer for an equal amount.

8. This agreement shall continue in force for the current year. Should any member withdraw from the Association before the expiration of that time, all moneys or obligations deposited by him with the Treasurer shall be forfeited to the Association and become their property. Any member desiring to withdraw to give the Secretary thirty days notice of the same, prior to the annual meeting.

9. Each company, proprietor or corporation hereby promise and agree that they will, at the end of each month, during the currency of this agreement, execute and forward to the Secretary an affidavit in such form as the Secretary shall furnish, setting forth the manner in which they have during the preceding month observed the terms and conditions of this agreement.

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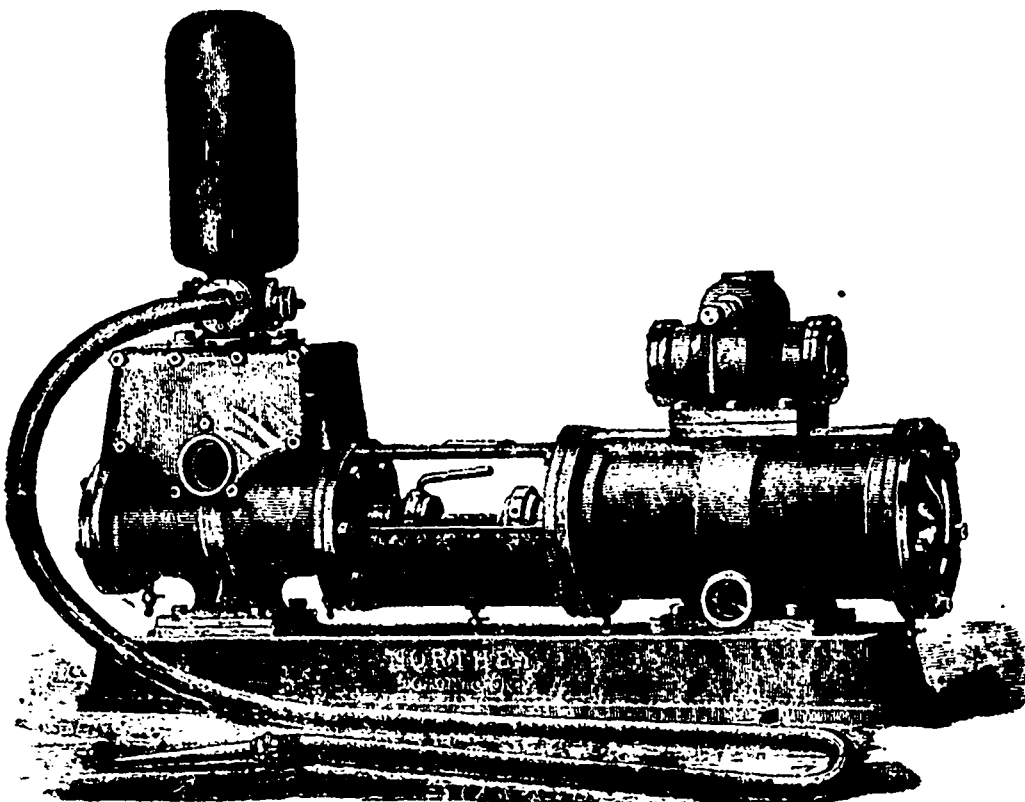
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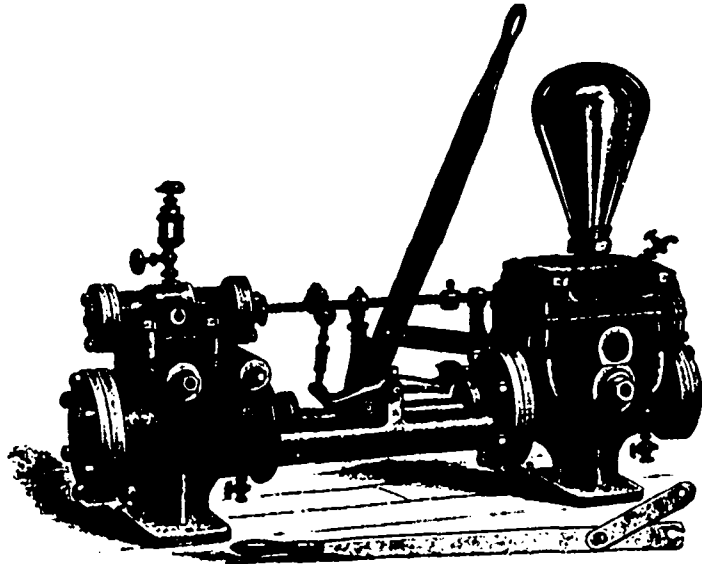
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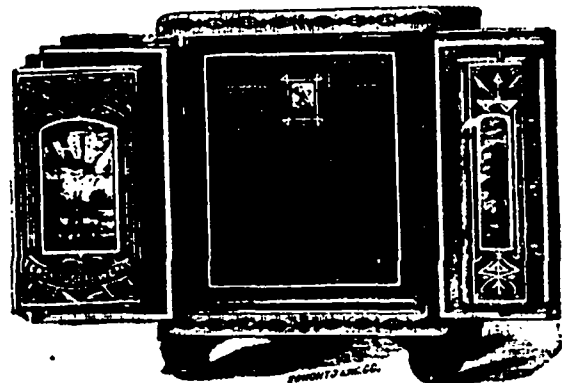
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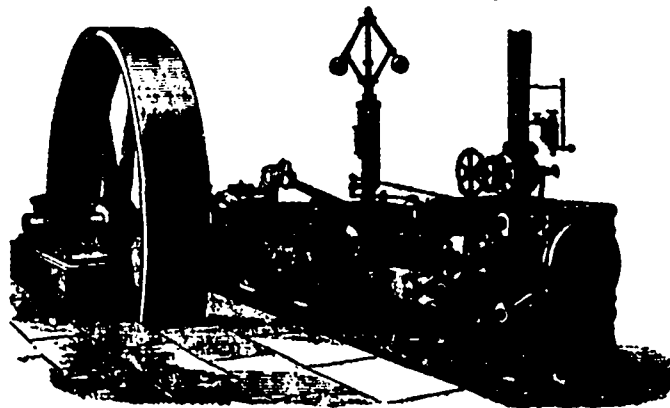
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CONCLUSION OF THE PRESENT MEETINGS.

(From the Herald, Aug. 13, 1886.)

An English historian relates how the best deliberations of a cabinet were upset by the indisposition and bad digestive condition of one or two of its members. The former meetings of the representatives of the cotton mills have been held in the cold season, when long journeys were not conducive to comfort or equanimity of mind: but on this occasion, when nature from one end of the Dominion to the other is appearing in all the rich luxuriance that any country in the world could exhibit, and the whole surrounding of Montreal in bright, sunny, holiday aspect, business men even cotton men who have been losing money for years—must have addressed themselves earnestly to the difficult work of forming an unanimous agreement upon the many details of such a large and varied nature as the cotton industry of Canada presented.

However, under the influences mentioned, and the happy combination of having an excellent representation of commercial and practical men, every difficulty in every section seemed to melt away, and each rule, motion or amendment stood out clear and distinct to every mind as a true expression of the whole meeting.

There were gentlemen there—such as Messrs. Gault, McLinnis, Harvey, Morrice, and many others who have tried to ante the industrious forces in cotton for years, but their wishes did not take the effect they expected; but their labours have now resulted in forming what is hoped will be a strong and permanent association.

There can be little doubt in the minds of well informed parties that with the increasing diversity of goods manufactured, both in colored woven goods, prints and other fancy lines, that the gray trade is placed in a better position, none too good yet, but perfectly hopeful for the future. The advance is from five per cent to ten per cent., which, it is expected in well regulated mills will yield five per cent. to seven and a half per cent. to the shareholders.

Each section, viz.: grey cottons, coloured goods, bleached goods, warps and yarns, was presided over by the several chairmen of their sections:—

Mr. Mimes, of Kingston, on greys.

Mr. Harvey, of Hamilton, coloured goods.

Mr. Morrice and Mr. Cantlie, of Montreal, bleached goods.

Mr. Young, of Dundas Cotton Company, warps and yarns.

Mr. Harvey presided at the meeting of the general association formed of all the sections throughout all the meetings, for the purpose of hearing and adopting reports drafting the constitution of the association agreements, etc., necessary for the whole working details of the association. When this was concluded the sections were all most anxious to retain the services of their chairman for the important work of their sections.

Mr. A. F. Gault was elected president, whose experience in this industry will be most valuable, and Mr. J. H. Parks, of St. John, vice-president, who represents one of the oldest cotton mills in the Dominion. Mr. Arthur H. Plimsoll is secretary-treasurer. The annual meeting of the association will take place on the first Wednesday of June in each year, and provisions are made for any special meetings that may be deemed expedient.

The President yesterday received a letter from Mr. Gibson, of Marysville, N.B., expressing his full accord with the objects of the association, viz.: to improve the cotton business. His letter gave much gratification to the delegates from all the mills, as it makes the unanimity complete.

PHASES OF COMPETITION.

(Boston Manufacturers' Gazette.)

In the course of the meeting of the committee of the dry goods merchants, held at Commissioner Fink's office, New York city, recently, with reference to freight classification, some in-

teresting facts were given pertaining to the rivalry now existing between Eastern and Southern manufacturers of certain lines of dry goods sold in the West. It was held that the trunk roads discriminate against the Eastern dry goods trade, in violation of former decisions of the State and Federal courts, and of the letter and spirit of the United State laws, which regulate inter State commerce and which define the right and duties of common carriers.

Among other points brought out at the meeting, it was shown that the main difficulty in regard to the transportation or sale of dry goods, is the new markets that have risen lately nearer the point of consumption; that is, the main market is in the West. Now the Southern man, with the raw material at his door, has been erecting manufacturing establishments, and shipping the products of those establishments West at better rates than can the Eastern man; he is put in the position to have to draw the material from the South, and manufacture it and send it to the West at almost the same price. If the rates on dry goods are reduced, one thing inevitably follows; that is, a reduction from the competitive points nearer the point of consumption. "Can we do anything in the bound of reason in the way of freight business that will protect the Eastern manufacturer of cotton goods against the Southern and Western manufacturer nearer home?" asks the railroad people. The distance from Augusta, Ga., one of the prominent cotton-manufacturing points in the South, to Chicago, is 918 miles, about the same as from New York. There is a discrimination of twenty-five per cent. between the Eastern and Southern manufacturers. All that the Eastern men ask is an equal rate of transportation after the raw material is manufactured. Mr. Fink suggested that if the rates devised by the Eastern men could be obtained the roads are not bound to keep the present rates, and at the same proportion we reduce they reduce. This is a factor in the problem. "And we put ourselves in the competition of the trade; then we are protecting the Eastern trade against the Southern trade, so I think there is no reason for reduction of our rate on account of the Southern competition. I don't think it amounts to much. We are bound to protect the Southern roads and the Southern manufacturers, and you must be prepared to meet the Southern competition, says Mr. Fink. Again, the question was raised by the commissioners as to the difficulty of ascertaining the contents in classification. Mr. Fink told the dry goods delegation that they were "cheated in everything," third and fourth-class goods, in some instances, turning out to be first class goods. It was also shown that, in addition to the existing high rates of freight, the consignee of Eastern goods has to pay the freight, and that the Western jobbers have the advantage of us on low rates.

The policy of the roads protecting the South was criticised in general terms, and one of the prominent Eastern manufacturers took occasion to remark that the Southern mills have increased yearly at the rate of seventy per cent. and that the Eastern man had never been able to get round all the difficulty in the country, but that the commissioners could smooth the way by careful discriminations. "It is not that the output of the Southern mills regulates. But what we sell abroad regulates at home. If you will only sell one bale for five cents less in the South, you will have to sell them for the same in the Eastern States. The classification is down to sixth class now in the South, and I hear that there is dissatisfaction among the Southern steamship companies with the policy of protecting the South. The sea-board lines are getting very restive because the New England mills are giving up their making of these goods, and the Southern steamship companies lose their share of the carrying. Another thing that you will have to look out for is that as the South grows in population the tendency is for the rates to fall; the classification does not rise, and it will not be long before a mill at Atlanta will be down to thirty-five cents freight to Chicago. One hundred pounds of cotton when manufactured will only lose between ten and fifteen per cent. In other words, you have to pay the price from New England

to Chicago on almost the whole 100 pounds of cotton. That is the discrimination in favor of the Southern mill, and it is not affected by the quantity the Southern mills make. The cheaper thing regulates the price the same as with exports; if it comes to a question of competition, rates govern. *Beyond Chicago there is no competition.*

RECLASSIFICATION OF DRY GOODS.

(*New York Tribune, Aug. 7, 1886.*)

The Executive Board of the trunk lines, after giving several days to the discussions of the demands of the dry goods merchants for a fourth-class rate for domestics, have decided to offer a compromise, which the dry goods merchants seem inclined to reject. The offer is set forth in the following letter sent by Commissioner Fink to the Committee on Dry Goods Reclassification yesterday :

The Trunk Line Executive Committee have carefully considered the application of your committee for changes in the classification of dry goods, and they have concluded to make the changes recommended by the Railroad Commissioners of the State of New York, in their report dated November 28, 1883, page 60, viz. :

Changed to Class 3.—Grain bags, cotton, jute or hemp, in original bales or trusses; brown sheetings, in original bales; denims, in original bales; tickings, in original bales; oil cloths, boxed, under 10 feet wide.

Changed to Class 2.—Domestic prints, in original cases; bleached goods, in original cases; cotton flannels, in original cases; hemp carpetings, woven or printed, in original bales; crashes, linen, cotton or jute, in original bales; canvas, linen, cotton or jute, in original bales; warp, cotton, carpet warp or chain, in original bales.

The committee are also in favor of making similar reductions in the classification of goods shipped in assorted packages, provided the railroad companies are protected by law against misrepresentation and fraud in the description of goods, in which case they propose to make the following classification :

Reduced to Class 2.—Muslins (bleached), cheviots, ginghams, glazed cambric, warp, twine (all kinds), carriage and enameled cloth, jeans, prints, silesias, cotton flannels (white or unbleached), yarn, table oil cloth.

Reduced to Class 3.—Muslins (unbleached), denims, tickings, drills, ducks.

The above recommendation of the Trunk Line Executive Committee is subject to the approval of the roads engaged with them in the carriage of these goods. If a further conference on the subject is desired by the interested parties, the Trunk Line Committee will be ready to meet them.

Charles S. Smith, the Chairman of the Merchants' Committee, sailed for Europe a day or two ago, and in his absence Secretary T. S. Greene called a meeting of the Committee to consider the letter. After some discussion a letter was prepared requesting a further discussion of the subject, and was forwarded to Commissioner Fink last night.

A PROPOSED LAW AGAINST CHEATING THE RAILROADS.

(*New York Tribune, Aug. 14, 1886.*)

Many dry goods jobbers who have not taken part in the efforts to induce railroads running out of New York to change freight classifications so that the cheaper grades of dry goods in original and assorted packages may be included in the third and fourth classes, are indignant at what they call an aspersion cast upon their trade by the proposal to enact a law making it a misdemeanor to ship "any freight under any name or class other than that to which it rightfully belongs according to the official classifications of the railroads or transportation company by which the freight is shipped." In referring to the matter, Daniel Robinson, of the firm of H. B. Claffin & Co., and a member of the Dry-Goodsmen's Committee, said :

No honest jobber will object to the enactment of such a law protecting railroads. When it was asserted by the railroad

people that they had no means of knowing whether the contents of packages sent by jobbers were first or fourth-class, we offered to give bonds that all shipments would be as represented. The objection to this was that they had no authority to open and examine packages, and then the law making misrepresentation a misdemeanor was proposed. One railroad man told me that if such a law could be passed it would be worth millions to the railroads. For years they have suffered large losses through improper classifications by hardware men. Nuts and bolts are admitted at the lowest classification, and taking advantage of this fact many dealers ship fancy hardware and expensive cutlery under the guise of nuts and bolts. In the case of packages containing everything from a paper of pins to a silk dress the entire package will be classified according to the highest classification of any article in it. If it contains a piece of silk, no matter what may be the grade of the other articles in the package, it must go first-class. You have no idea what an enormous amount of trade has drifted away from New York because of the excessive freight rates demanded here, and it is not to be wondered at that we are making determined efforts for a change.

TEXTILE NOTES FROM GERMANY.

(*Kuhlow's German Trade Review.*)

THE BERLIN MADE-UP DRESS GOODS TRADE.

A FALLING-OFF in the activity which has distinguished recent weeks must be reported in so far as American and English buyers are concerned, for these have now left the city, though not before giving large orders. The American export business has far exceeded that of last year, and is satisfactory in every respect. The same may be said of the English business. Little home trade can be expected before the middle of August. Firms not interested in the export trade are beginning to receive orders from their travellers, mostly in rain mantles, winter articles being little ordered. The travelling business is poor at home, and normal in Holland, Belgium, and Switzerland. Our woollen and plush goods manufacturers are able to keep their workpeople fully employed, prices being strong. Soleils, chevrons, with mohair loops, bouclés, tricots, plushes, and krimmer with novelties are in demand, and Elberfeld, Gera, and Greiz goods are bought for dolmans. The tricot shape branch continues well employed, American orders decreasing but English orders increasing and France also ordering well. There is work in hand which will last some months. The fringe branch has not much to do; feather and fur trimmings take the lead, beaver, opossum and hare being preferred.

THE CHEMNITZ HOSIERY TRADE.

This trade continues very regular, a large number of buyers having been here of late. There is plenty to do till autumn, and the visits of transoceanic customers will then give a fresh impulse to business. Neither in quality nor colors have plain-colored goods undergone material change. The imitation yarns are still much used for cheap goods. Simple 11 and 12 are numbers much used for stockings and socks made on 16-needle frames. Enormous quantities of these goods are sent away. Prices are, too, so satisfactory that good profits are made.

The amount of wool contained in the wool fabrics imported into the United States in 1885 was about 100,000,000 lbs, while the raw wool imported in the same period, was 56,000,000 lbs coarse carpet and 14,000,000 lbs clothing and combing wools.

The conditions of the American cotton crops by States is reported by the national cotton-exchange as follows :

Virginia, etc.	80.0	Arkansas	97.0
North Carolina	76.0	Mississippi	84.0
South Carolina	71.0	Louisiana	82.0
Georgia	80.0	Texas	98.0
Florida	84.0		
Alabama	82.0	Average for belt	85.4
Tennessee	91.0		

Against 83½ last month and 97 last year.

Business Notes.

DAVIS'S TRADE CIRCULAR NO. 92.

With the encouraging crop reports and the extraordinary demands for all kinds of material for railways, including cars, locomotives and rails, and the heavy expenditures anticipated by the government in ship building, there is a growing feeling of confidence over the industrial conditions of the next twelve months. Railroad reports point to a very heavy increase in construction during 1887. Contracts for 150,000 tons of rails have already been placed for delivery next year. The rail makers are increasing their capacity in several mills, and five or six mills are engaged in rolling foreign blooms into rails to meet the demand which steel rail mills are not able to meet. Merchant bar is improving; heavy plate and structural iron orders are coming in, and in general there is a spirit of confidence which has not been felt for three years.

Anthracite coal has been advanced 15 cents per ton, and heavy orders have been received within a week. A general improvement in demand is probable both for anthracite and bituminous. The September output will be fixed at 3,000,000 tons.

The textile manufacturers report a large influx of orders during the week for all kinds of dress goods, hosiery and for carpetings. Twenty-five upholstery mills are now crowded with orders for hangings, coverings and trimmings. The textile production this year will exceed last years by 10 per cent, and prices will be slightly better. Wool is declining in activity, which is the result of the recent sharp advance in prices. Demand is withheld temporarily. The wool holders are confident.

Boot and shoe orders have been increasing in New England and Philadelphia markets during the week. Prices are weak, but manufacturers are looking up as fast as possible, and anticipate better prices later in the season.

The receipts of lumber at Eastern Atlantic ports from Western and Southern markets are again on the increase. All kinds of wood are held at iron prices, and no reaction is probable. Stocks are large, but the distribution is heavy. The only exception is in reference to white pine, and its dullness is due to the unwise policy of Western salesmen in supplying the retail trade.

The general business outlook is very satisfactory. The volume of business has begun to increase. The country is generally bare of stocks. Jobbers report abundance of inquiries from all parts of the West and South for all kinds of goods. Manufacturers have been very careful to not overcrowd the market, and have very little bad paper out. Collections are much better than they have been, and the percentage of loss is now at a minimum.

Locomotive builders have booked a large number of orders within a week or two and car builders are pretty well filled up. Hardware manufacturers report an urgent inquiry for all kinds of season goods.

ROY BROS., grocers, Montreal, have assigned, owing \$7,200.

A MEETING of the creditors of J. L. Barber & Co., cabinet-makers, Waterford, has been called.

The old-established business of C. H. Dougall & Bro. has been closed and the stock is being sold at 50c. on the \$.

CAMERON & JOHNSTON, general dealers, Granite City, B.C., have assigned. The liabilities are largely to Montreal houses.

A CHATTEL mortgage has been foreclosed on the plow factory of Dennis Hogan, of Scaforth, and the effects are advertised for sale.

AN offer of 30c on the \$ has been made by A. C. Larose, of Ottawa. The creditors number fully fifty and the liabilities are heavy.

The creditors of Jennings & Hamilton have decided to close out the estate by auction, and the stock, valued at \$35,000, is to be sold on the 19th inst.

The estate of Petry & Beaubien, lumber dealers at Wredon, Que., which has been in the hands of a trustee, is to be sold by auction on the 22nd inst.

G. BOIVIN, shoe manufacturer, of Montreal, whose suspension was recently announced has assigned in trust. The liabilities are \$40,000, and assets nominally \$48,000.

For the past two years James J. Kyle has been trying to sell his general stock at Morwood, but without success. The business has been gradually going behind and he has assigned in trust.

JAMES RAMSEY & Co., dry goods dealers of Brampton, have called a meeting of creditors for the 24th inst., at the office of Bryce, McMurrich & Co., Toronto, who are the principal creditors.

The estate of D. H. Warren, merchant tailor, London, will pay about 60c. on the \$, the liabilities amount to \$2,000 and with nominal assets of an equal amount. Geo. C. Gibbons, of London, is winding up the estate.

The creditors of W. H. Ives, merchant tailor, Bowmanville, appear to be anxious to find out what effect a chattel mortgage for \$6,000 given by Ives to his wife will have on their claims which have not as yet matured.

The failure of Wm. Mitchell, of Mount Albert, was unexpected. Coming from East Oro a few months ago he had the reputation of being worth several thousand dollars. A statement presented shows a deficiency and an offer of 65c. on the \$ has been made.

ANOTHER Yonge Street dry goods dealer has suspended owing \$12,000. R. S. Summers, trading under style Summers & Co., complains that competition is too keen in his line and that he has been losing money the last three years. The assets amount to \$10,000, nearly all of which is in stock.

D. C. BULLOCK & Co., doing one of the largest general businesses at Brighton, have given credit too freely and have lost considerable by bad debts. Their creditors are asked to accept 60c. on the \$ which will likely be accepted. D. C. Bullock failed here several years ago, at that time being of the firm Bullock Bros.

The creditors of Walter Coats, general dealer at Tecumseh, are being asked to accept 50c. on the \$. The liabilities amount to about \$6,000, more than half of which is due to his mother, who claims to have loaned him the money to start with. A few months ago Coats stated to a creditor that he was worth \$2,400, and that the capital in the business belonged to himself. An investigation is being made.

THE Montreal Syndicate dry goods firm of Dupuis, Brien, Coutlee & Co., have assigned, owing \$110,000. The assets consist of stock, \$60,000; book debts \$44,000, and real estate \$16,000, leaving an apparent surplus of about \$18,000. The principal creditors are McIntyre, Son & Co., \$17,900; Greenshields, Sons & Co., \$11,800; Ross, Haskell & Campbell, \$4,000; Darling, Cockshutt & Co., \$6,000; A. Robert, \$18,000.

IN September, 1885, Joseph Pitman opened a dry goods store on Yonge Street, dealing largely in mantles and mourning goods. He had the reputation of being a good salesman and having a cash capital of \$2,000, he very easily obtained credit. Selling at close prices and advertising extensively, he has been doing business at the rate of \$65,000 per annum. Through buying recklessly he has accumulated a stock of \$97,000 on which he owes \$33,000. He is asking creditors for an extension of 15 months, some of whom refuse to grant it believing that it would be impossible for him to work through.

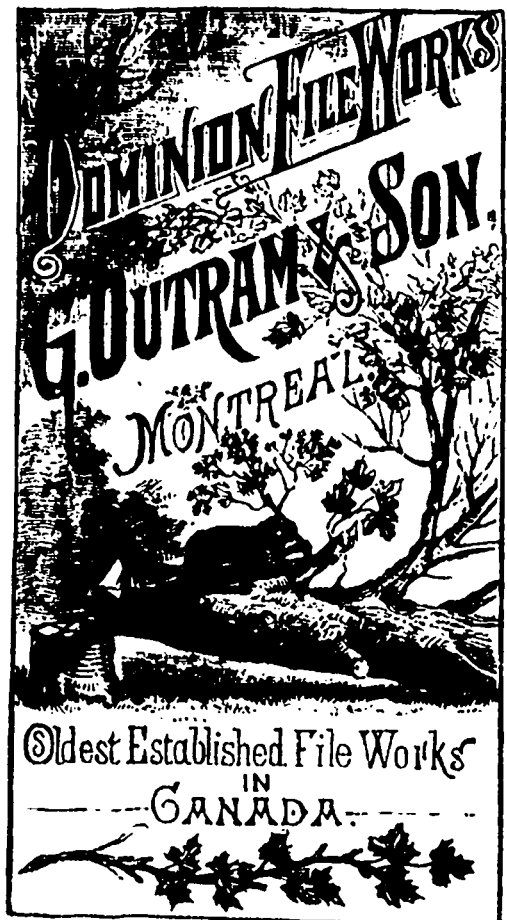
WOODEN FEED FOR CATTLE.

AN Ottawa despatch says:—A German named Frederick William Wendenburg, of Bagenz, Prussia, has made application to the Government for a patent for a process of manufacturing cattle feed from sawdust or wood meal and other materials, and also to have patented the use, application, and employment of the same in Canada. He proposes to reduce the wood of beech, birch, acacia, and other trees to a fine powder or meal, which will be mixed with common salt and scalding water. Muriatic acid is then introduced and the whole reduced to a thin pulp. Soda and other chemicals are to be added and the whole mass allowed to cool. It is to be afterwards mixed with bran, bruised grain, or flour from oily grains, and after some more chemicals have been applied the material is kneaded into dough, which can be pressed into cakes of any size. When dried, these cakes, he claims, will be excellent food for cattle.

DIRECT DEALINGS WITH CONSUMERS.

(Textile Recorder, Manchester, England.)

THE cost of textile goods to the foreign consumer is greatly increased by the number of hands through which they pass after leaving the factory. It is by reducing to the smallest number the intermediaries between the producer and consumer that manufacturers may be able to obtain more remunerative profits. Mr. E. H. French, acting consul in Siam, gives in his annual report an amusing account of the way in which the Siamese obtain their goods. He says that European articles, before reaching the native consumer, pass, as a rule, through a great number of hands. The manufacturer in Europe sells them to the merchant, who consigns them to Singapore. They are there sold to a Chinese merchant, who sometimes sends them himself, and sometimes sells them to another person, who forwards them to Bangkok. They are then again sold to a native trader, who either sells them himself or re-sells them to another trader, who takes them up country. This may be an extreme case in which the goods pass through so large a number of hands after they leave the manufacturer before they reach the consumer. But the principle is the same in the vast proportion of commercial transactions with distant markets, and it is the manufacturers of those nations who are able to obtain the readiest access to consumers who can outbid in price their competitors. This is a subject to which far too little attention has been given in the past, but it is one that in the present condition of trade deserves careful consideration. Hitherto manufacturers have been content to supply merchants with goods, taking their instructions from them and not bothering themselves further. The merchant has been content to send his consignments to another merchant in the most accessible port of the country for which the goods have been made without troubling himself any more about them. Now it is obvious that something further is necessary to be done in the case of up-country markets. There may be, and doubtless are, great difficulties in the way of direct transactions with them, but the means of transit have in recent years been so much improved, and personal communication made comparatively so easy, that the difficulties in the way are more in imagination than in fact. The pioneers of commerce of the past were not daunted by far greater obstacles in their path, and unless our national fibre is weaker now, and our countrymen, enervated by prosperity, have lost the spirit of enterprise, they will not shrink from the endeavor to obtain more direct communication with consumers. This is not a matter for the Government to do, but should be done by far-sighted manufacturers who must pass by the intermediaries, and thereby confer pecuniary benefit both upon consumers and themselves.



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Printed forms of tenders, containing full particulars, may be obtained from the Department at Ottawa and at the following Militia Stores, where also sealed patterns of all articles may be seen, viz.: The offices of the Superintendents of Stores at London, Toronto, Kingston, Montreal, Quebec, Halifax, N.S., and St. John, N. B.

No tender will be received unless made on printed forms furnished by the Department.

The material of all articles will be required to be of Canadian Manufacture and Canadian workmanship.

Each tender must be accompanied by an accepted Canadian bank cheque, for an amount equal to ten per cent. of the total value of the articles tendered for, which will be forfeited if the party making the tender declines to sign a contract when called upon to do so, or if he fails to complete the service contracted for. If the tender be not accepted the cheque will be returned.

C. EUG. PANET,
Colonel,

Deputy of the Minister of
Militia and Defence

OTTAWA, 5th August, 1886.

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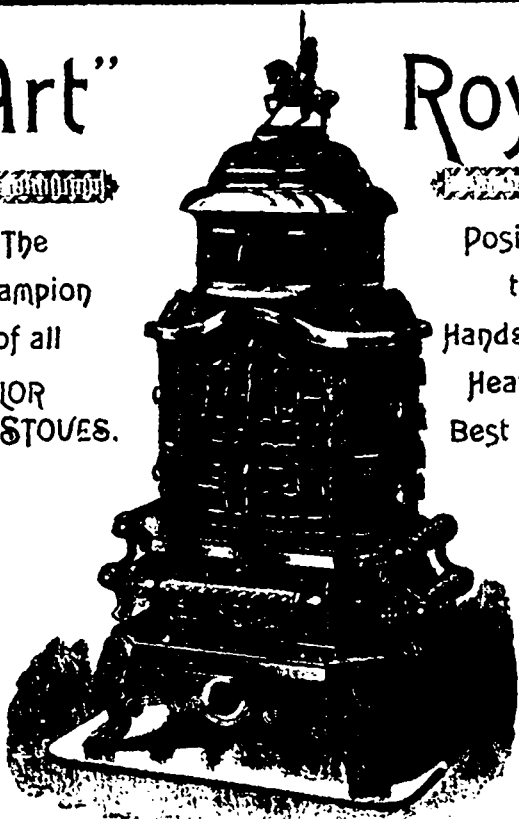
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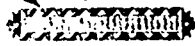


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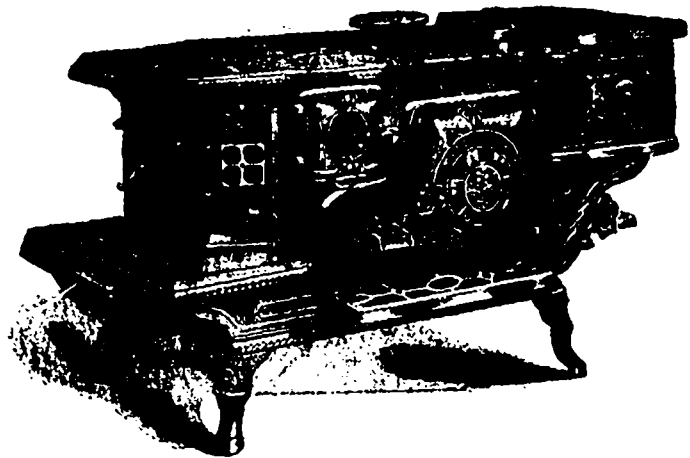


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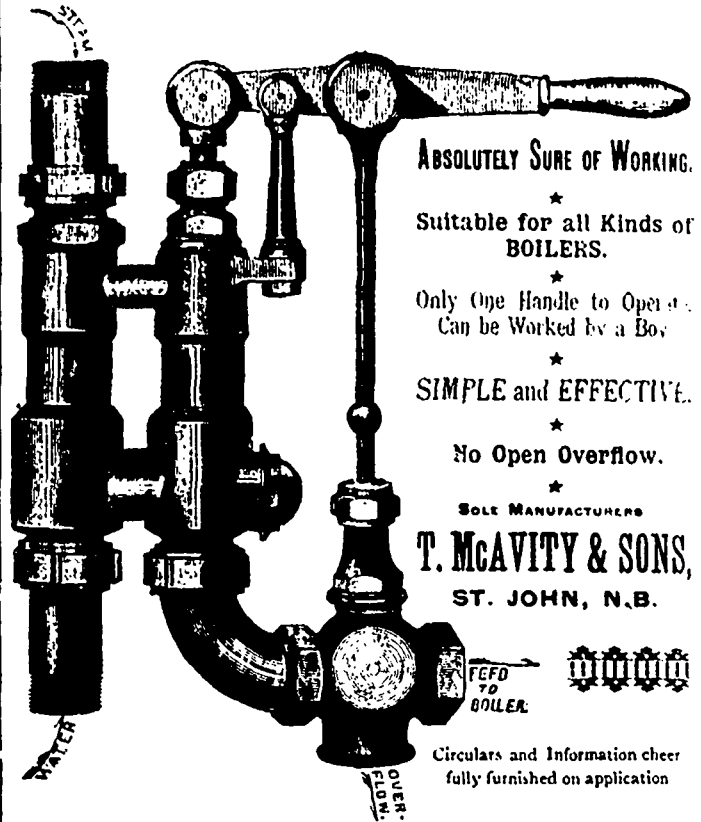
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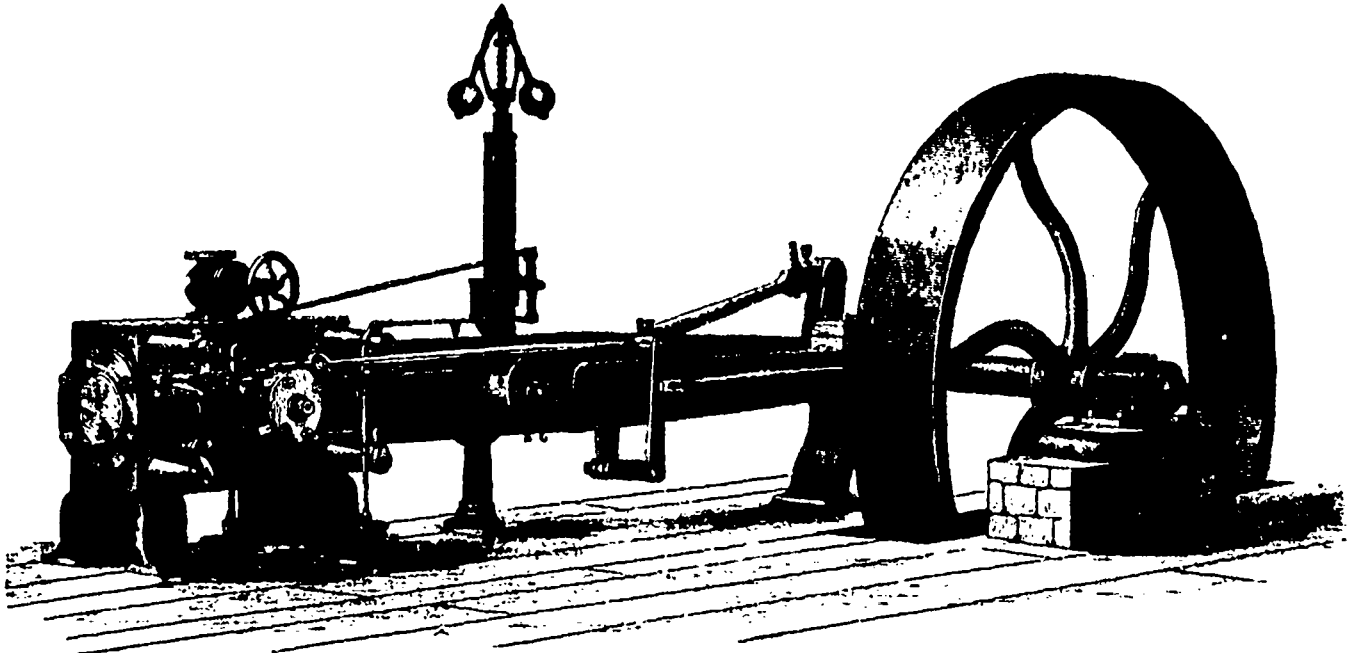
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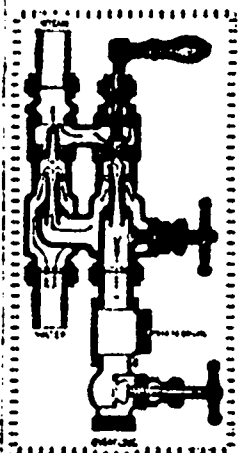
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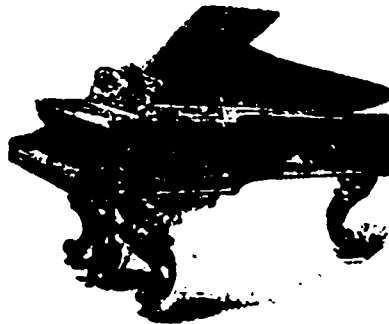
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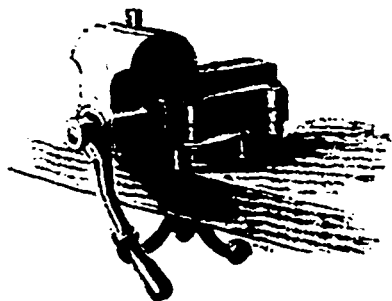
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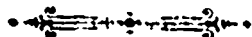
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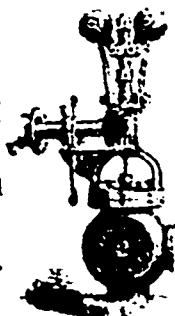
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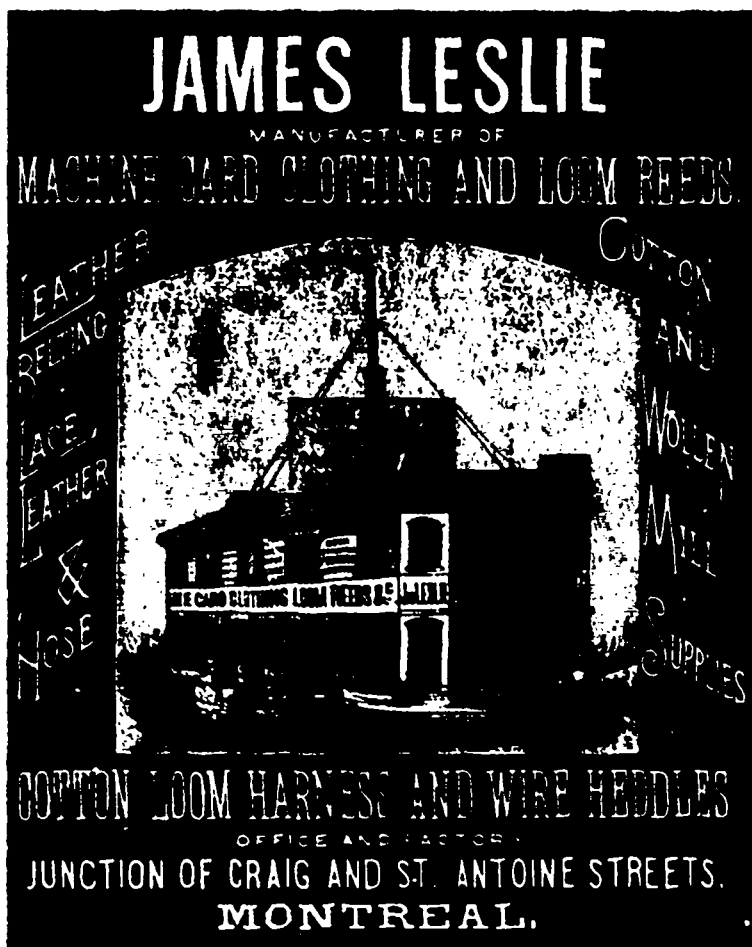
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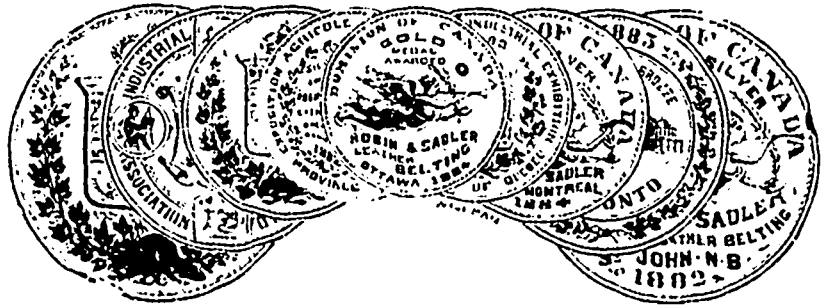


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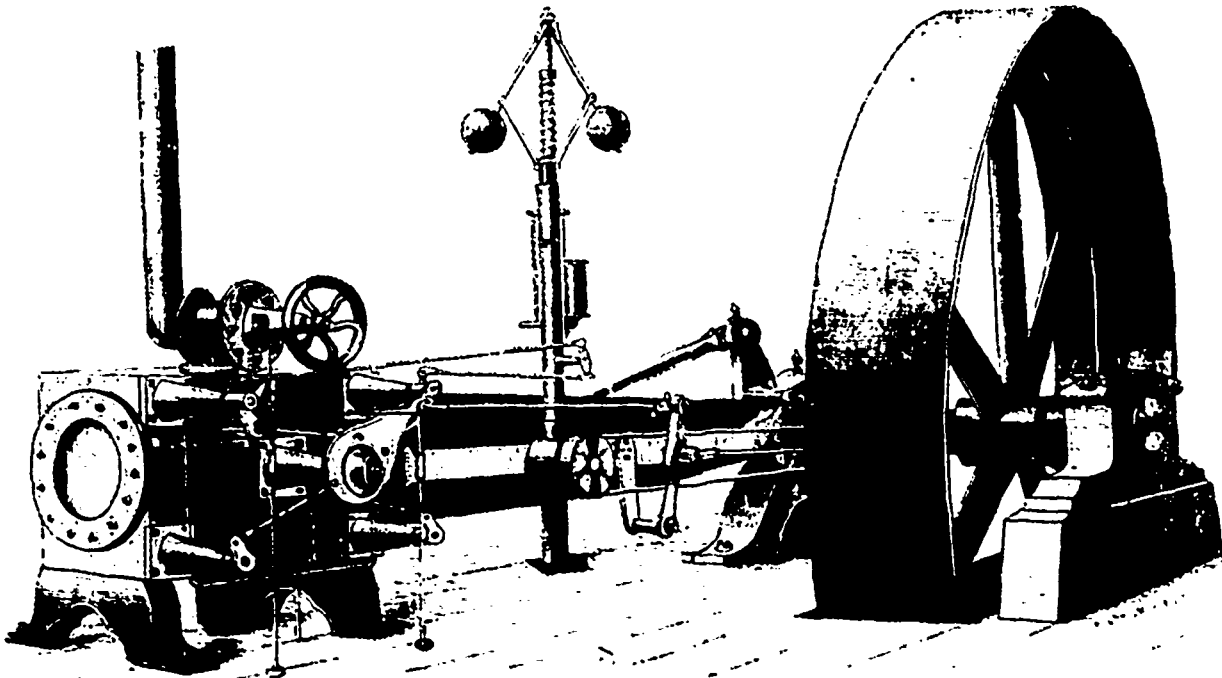
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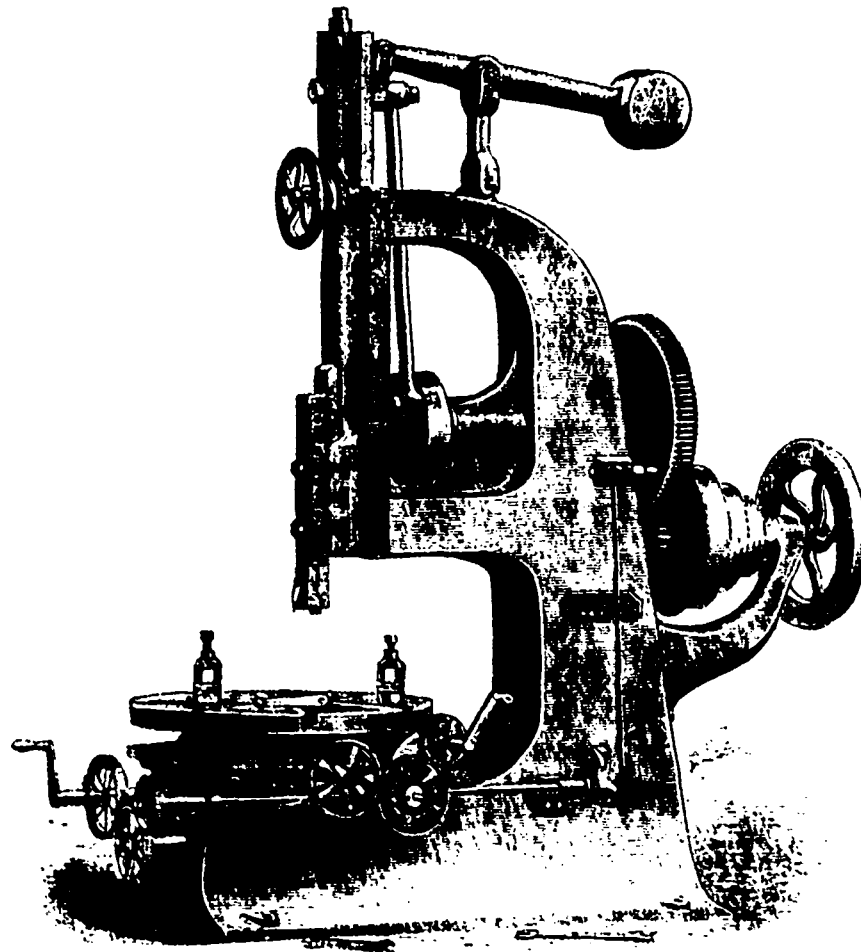
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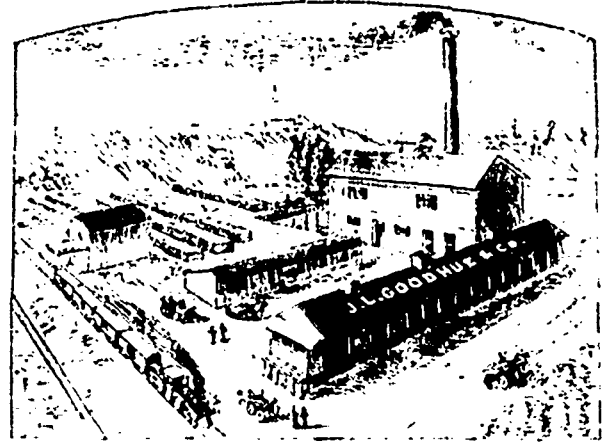
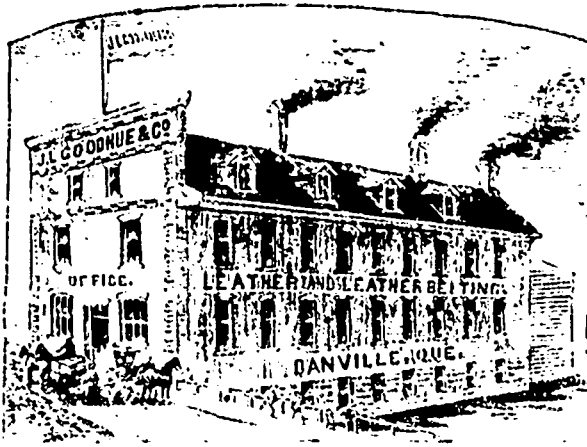
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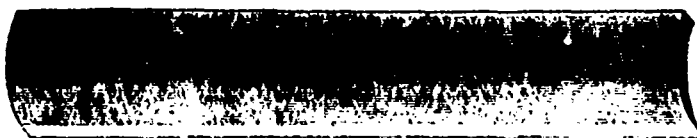
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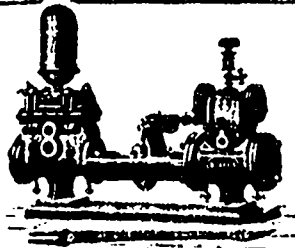
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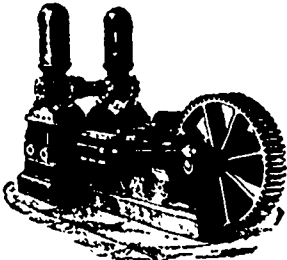
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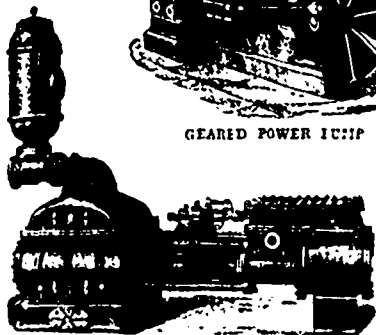
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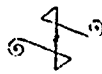


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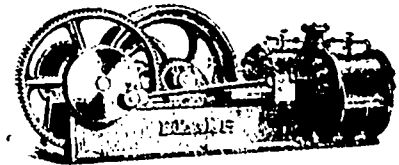
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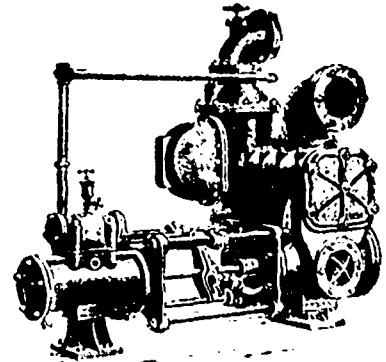
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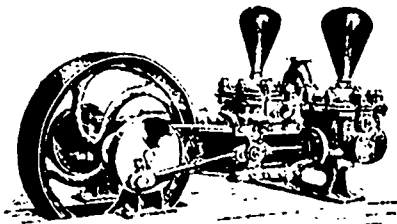
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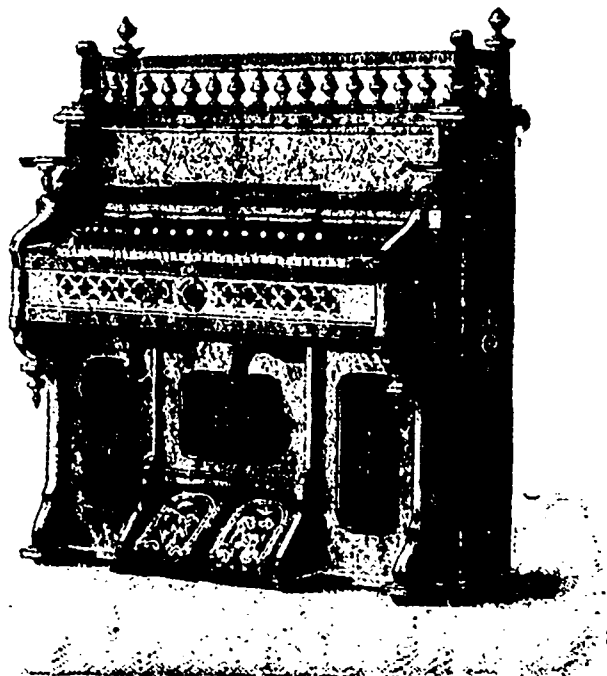
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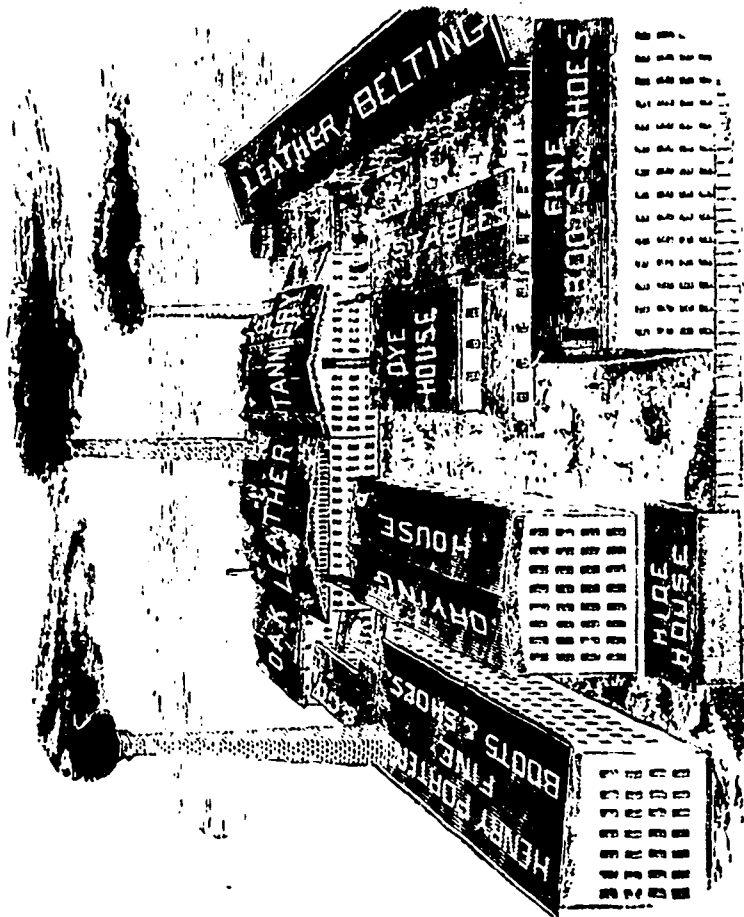
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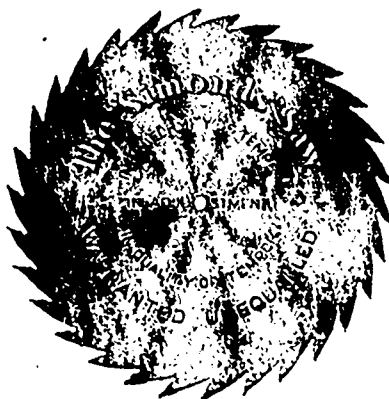
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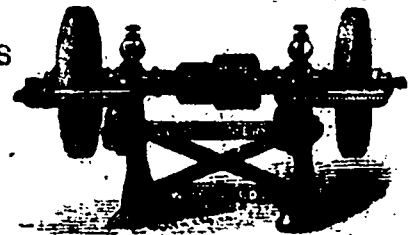
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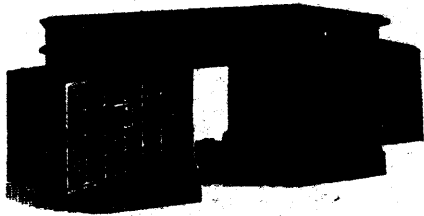
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