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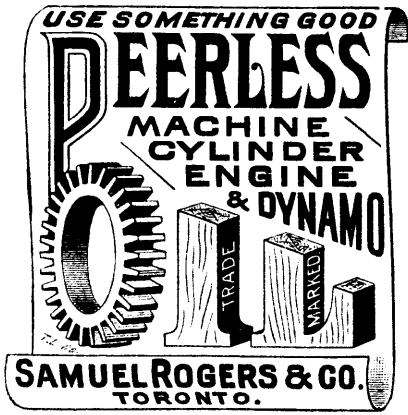
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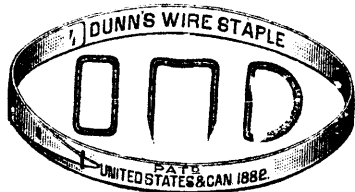
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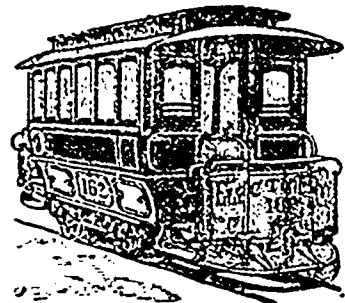
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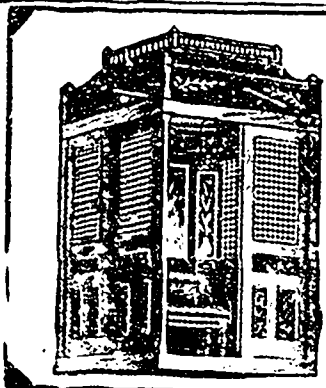
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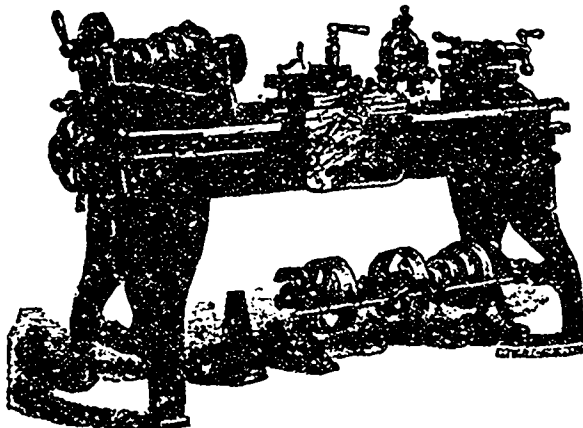
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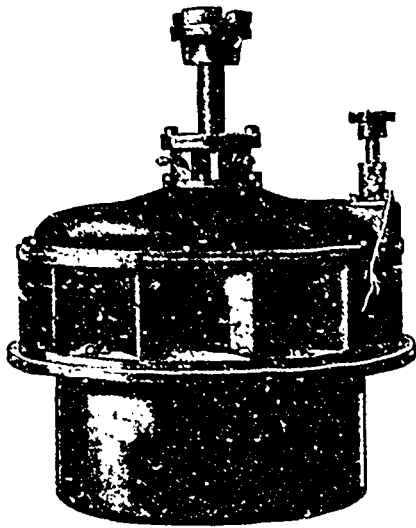
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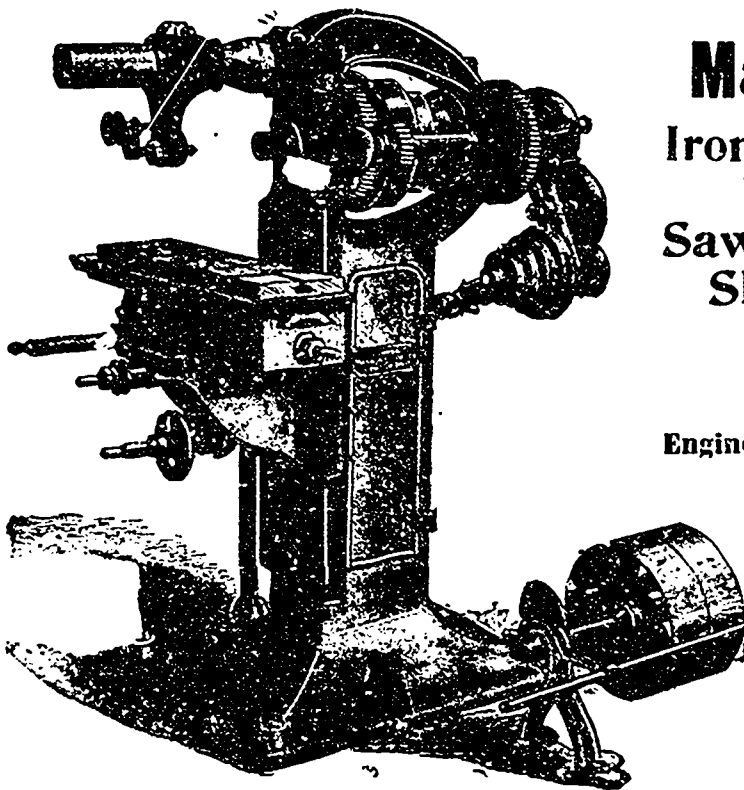
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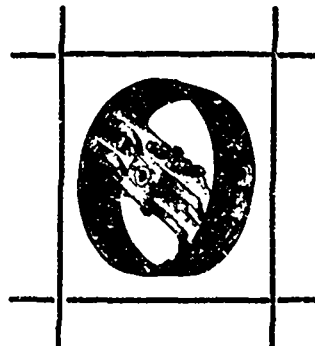


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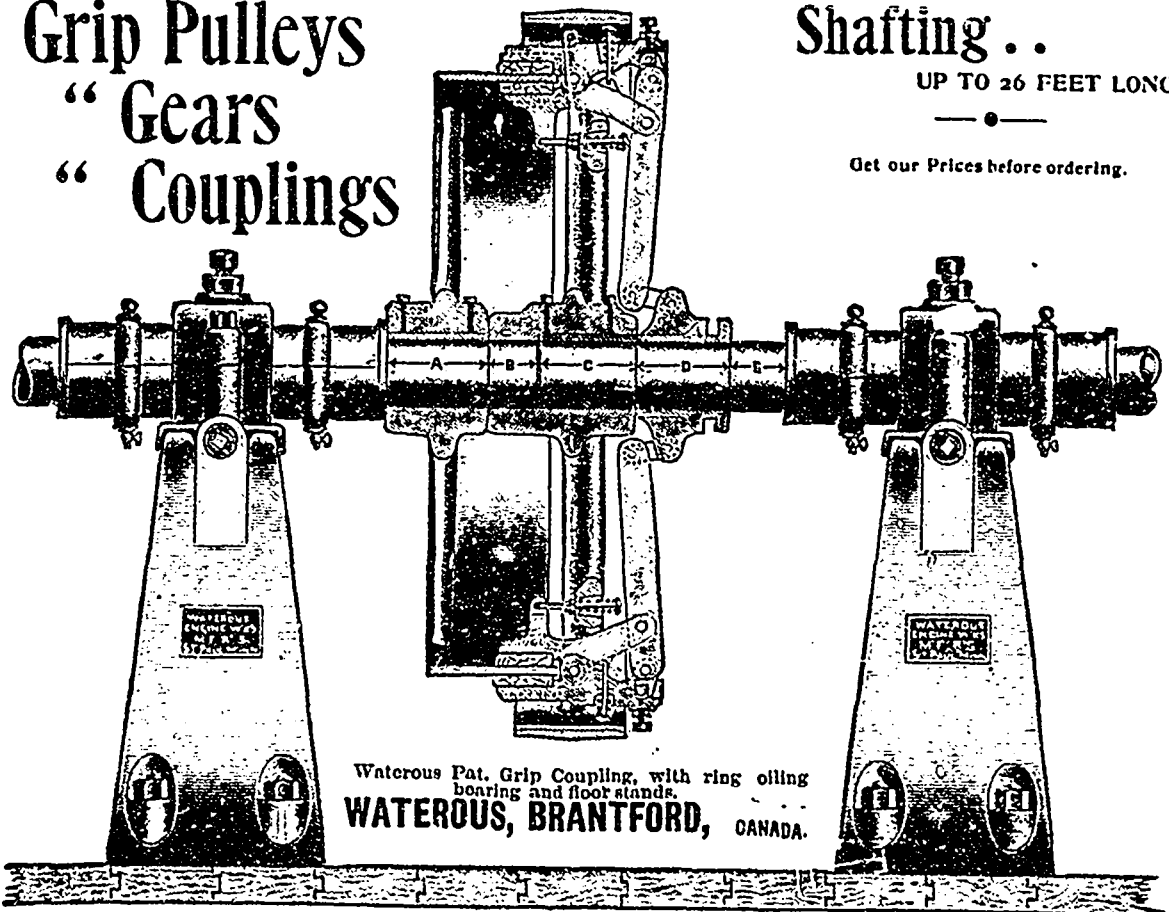
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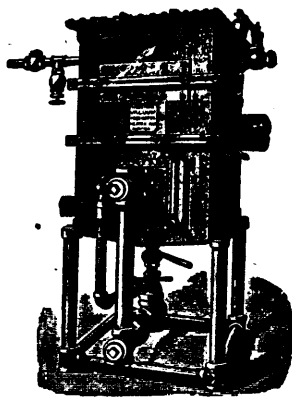
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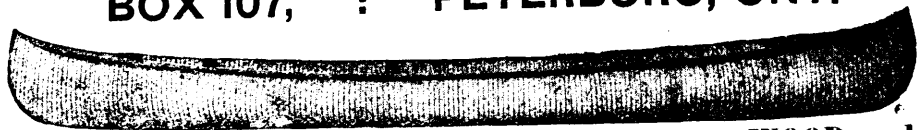
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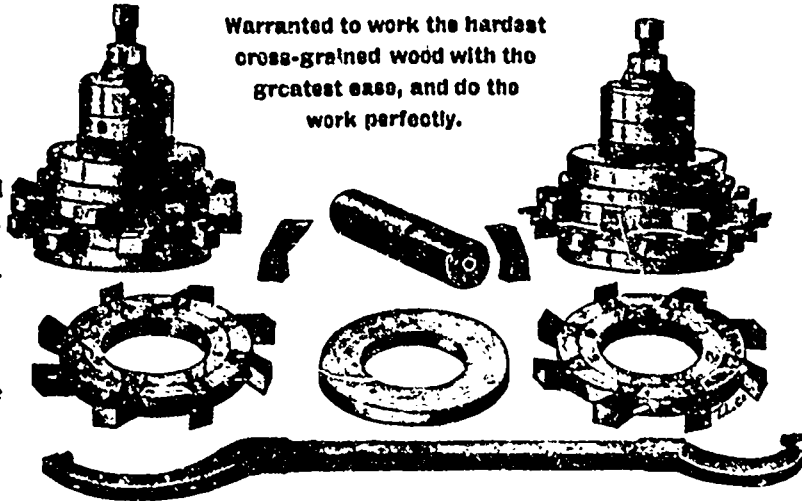
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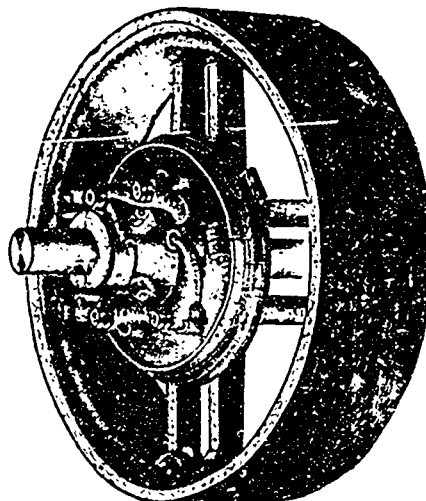
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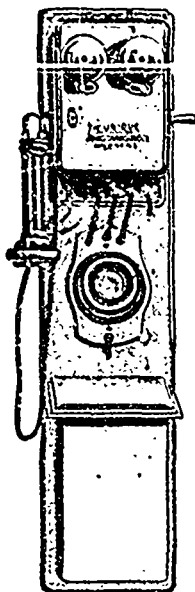
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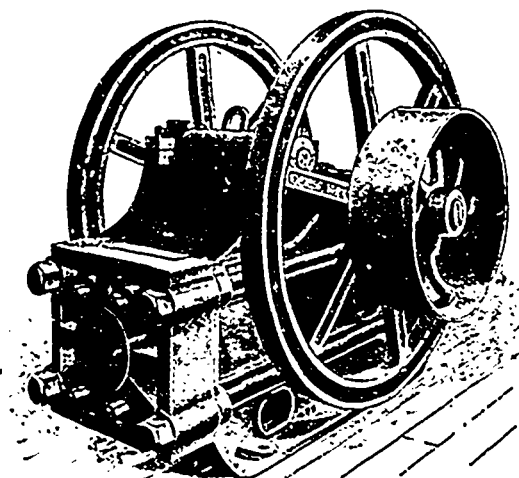
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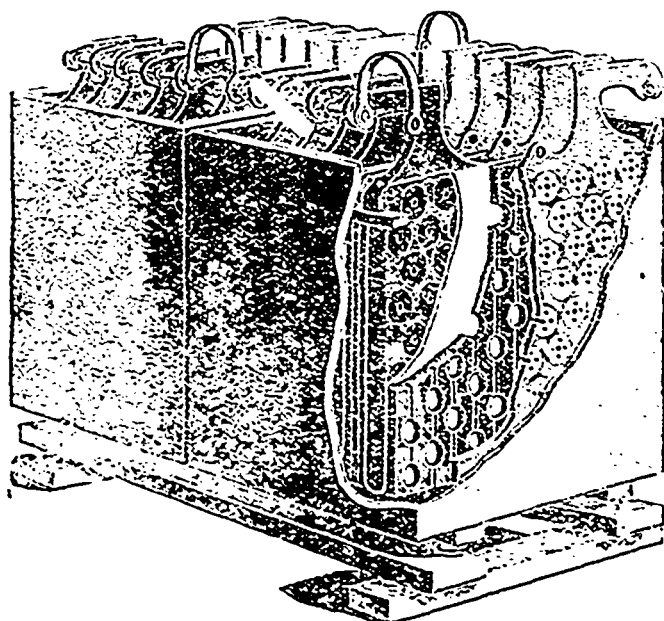
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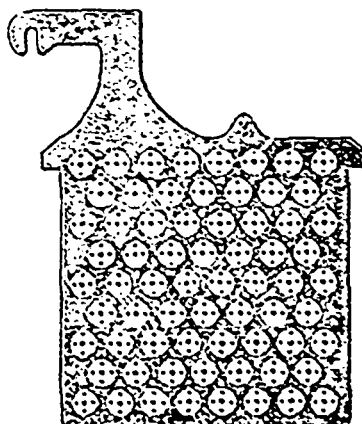
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PRECOCITY.

The Toronto Globe has an editorial based upon the freaks and antics of a singular child whom it has read about in a family paper published "on the other side," in which a mother complains that she really don't know what to do with her little baby girl aged sixteen months. The anxious mother says that when she places her little girl in her crib at night she immediately springs to her feet, shouting, laughing and mimicking the severest tones in which she is commanded to lie down. No words and no tones have the slightest effect except to increase the

merriment of the little one, who has to be put down twenty or thirty times every night before she gives up and goes to sleep.

The Globe admits that it has often heard of the growing irreverence of children for their superiors. but it has never realized the full evil thereof until it heard of this awful example of juvenile perversity; and it hopes that, as the case is not a common one, when the parent goes to the trouble of getting up a severe tone the labor will not be in vain. "If American infants," it tells us, "were addicted to becoming extremely lively at the time when they are wanted to go to sleep, the gloomiest predictions that have been made concerning the future of the republic would probably be verified. Happily, Canada such an experience is practically unknown."

We do not understand why there should be any gloomy predictions concerning the future of any country because of the irrepressible hilarity of babyhood, or even of the optimism of riper years; and we quite disagree with our contemporary in saying that in Canada such joviality and good nature are unknown. We do know, however, that there are some in Canada who quite agree with The Globe in insisting upon and practising a strict observance of pessimism in all its worst and most disagreeable forms, Sir Richard Cartwright for instance, with a spirit entirely unlike that of the little Yankee baby who finds delight in fun and hilarity. Sir Richard's greatest pleasure seems to consist in lugubrious lamentations and a continuous persistence in howls, groans and moans that are well calculated to drive his hearers to distraction and despair. The Globe tells us that during the day the hilarious little baby seizes knives, forks, delicate dishes and valuable ornaments from the tables; she empties the writing desk; she hauls clean clothes out of trunks and drawers, scrubbing the floor with them; she carries weights that would crush her feet, and drops them; and she pulls kettles of boiling water off the top of a hot stove. She does all these things and innumerable others, although she is "commanded in the firmest tone not to touch."

How like and yet how unlike our own Sir Richard; and certainly he is a most intracable child, partaking very much of the character of the bull in the china shop. He is like the inconsiderate baby in his impetuosity and in the inability of his friends to restrain or control him. He is unlike her in that while the baby creates lots of fun and amusement, and is the personification of optimism in all that she says and does, Sir Richard's pessimistic delight consists in painting everything a very black black, and making every one with whom he comes in contact, or who happens to come within the sound of his harsh and rasping voice, as miserable and uncomfortable as possible. The knives, forks, delicate dishes and valuable ornaments that Sir Richard seizes and hurls to their destruction are the hopes and ambitions of the Canadian people. The writing desk that he empties is his Pandora box containing the false facts and figures that he spends his most congenial hours in gathering, the difference between his box and that of Pandora being that while that goddess of evil emptied all her collection of woes and disaster upon the people, hope was left behind, while with Sir Richard his box contains nothing but woes, and containing no

vestige of hope whatever for the Canadian people. The little baby of sixteen months mops the kitchen floor with clean clothes hauled out of trunks and drawers, which is bad enough, but Sir Richard drags in the mire and filth of cesspools the good reputations of honest men who are doing all they can to make this Canada of ours a great and self-sustaining country. The baby carries weights that would crush her feet, and drops them, not, however, upon her toes, but Sir Richard takes good care to drop all the heavy weights of his abuse upon the Trilby feet of Canada, just through the pure cussedness of his soured and disappointed nature. The precocious child handles kettles of boiling water without injury to herself or others, but our Don Quixote pours the scalding water of his vituperative vengeance over all those who may happen to differ from him. He knows that he fights windmills and village pumps, but his hope is that Canada, a simple maiden, may imagine that he is a veritable Sir Knight of the olden time fighting valiantly in her behalf.

Although the case of the sixteen months' old baby is one which lies far beyond the range of ordinary parental experience, The Globe "takes a whirl" at giving some calm, wise words of counsel, and suggests that the infant might derive benefit from the perusal of some solid ethical works, such as Grote's Treatise on Moral Ideas, Mackintosh's Progress of Ethical Philosophy, and Spinoza's Ethics Demonstrated in Geometrical Order, and that should these fail, that the storehouse of literature be further searched for works calculated to discourage mirth, wakefulness and activity. We fail to see why the mirth, wakefulness and activity of the little baby should be discouraged, but if it must be so, we are sure the anxious parent could save the expense of purchasing the ethical works recommended by The Globe, by reading to her little one the speeches of Sir Richard as published from time to time in Hansard and reproduced in The Globe, and the editorials contained therein thereon. Meantime a simpler course of reading might be taken up by Sir Richard de Quixote. The Honorable Sir Knight has evidently been studying the wrong books. His education has been misdirected. He has mistaken his calling. In considering the interests of Canada he gazes through the wrong end of the telescope. His sunlight is all darkness. His most beautiful dreams are all hideous nightmares. He feeds upon the East wind of disappointment, and his digestion is impaired. Even the solid ethical works prescribed by The Globe for the little baby girl of sixteen months are entirely too indigestible for the flatulent stomach of Sir Richard, and even the Trade and Navigation Returns, or Mr. Johnson's Year Book are too rich for his digestion. Give him something to quiet his nervousness—soothing syrup, fairy tales, paregoric, Mother Goose's Melodies, anything that he can assimilate, and that will give relief to a long suffering people from the acidity of his dyspeptic disposition.

OVER EDUCATION.

Our esteemed contemporary The Week alluding to the anxiety that it says is felt by many lest the over education of the young should result in a general desertion of the farms and a state of universal famine because no one can

any longer be found willing to till the soil, says that such notions are being re-echoed from city and country newspapers, and repeated parrot-like by readers, until one might almost fear that we are on the eve of a re-action against popular education. Its ideas are these:—

If it were true that ignorance is the foster-mother of agricultural and manual industry, even that fact would fail to prove that ignorance is the ideal condition for the masses. It would rather give rise to the enquiry whether, since mental development and all the higher enjoyments of life are to be denied to the masses, life for them would be any longer worth living. Grant that the tendency of enlarged mental capacity is to lead its possessors to seek the more congenial and remunerative pursuits for which it fits them. Who can blame them? The corrective is to be found in wider and better education. Suppose that all the children in the country should complete not only the public but at least the full High School course. Does anyone suppose that the soil would no longer be cultivated? On the contrary the direct and sure result of any growing scarcity of farmers would be to raise the remuneration, ameliorate the conditions, and improve the status of farm life, until the reflux of the tide of industry would set strongly in that direction, and a much more intelligent class would become the tillers of the soil, to the great advantage of all concerned. May we not reasonably expect that we or our children shall see the day when farming will become so honored and enviable a pursuit that the graduates not only of our High Schools but of our Colleges and Universities will crowd into it, with the greatest possible benefit to the country and to all concerned. In a word, "More education, not less," should be the universal watchword.

Education is certainly of great value to intelligence, and the intelligent man always appreciates the benefits arising from any education he may acquire in such things as he may be interested in. Thus an intelligent farmer is benefited by any education that teaches him how to conduct the operations of his farm to the best advantage, but education in theology can be of no possible advantage to him in laying drains, cutting ditches, plowing corn or digging potatoes. So it would be with a mechanic. A knowledge of the laws of mechanics would be of great benefit to him, but, being a mechanic, whatever education he might acquire in a law school would be of no special advantage to him, and he might reasonably conclude that any time and money appropriated towards obtaining such an education would be worse than wasted. If all young men desired to be professionals—theologians, lawyers, physicians or schoolmasters—then it might be well for them to be educated with such occupations in view. But it is evidently impossible that all young men should eventually become professionals, and therefore it cannot be to their best interests that they should be thus educated. It is not true that ignorance is the foster-mother of agricultural and manual industry; and it is equally untrue that ignorance is the ideal condition for the masses. But saying that it is not necessary in striving for the acme of happiness that the masses should be classically educated it is not implied that the higher enjoyments of life are denied to them. Theoretically the higher education is not a drawback to the attainment of success as a farmer or a mechanic, but it is not essential to that success. The higher education can only be gained at the expense of time and money; and while it cannot be doubted that such education might bring more or less enjoyment to the farmer or mechanic after the burdens of the day had been laid aside, it is

doubtful if when the average hard-worked man had ceased from his toil he would look for recreation in studying abstruse metaphysical or scientific questions which can only be solved by thoroughly educated scholars. Cui bono? It does not answer the question to say that some hard worked mechanic or farmer might thus find recreation after the cares and labors of the day. The question is, Would the masses be thus benefited? If they would not, seeing that they themselves would have to bear their full share of the expense of imparting such education, it does not appear that any good can result in maintaining at the public cost establishments where education is imparted to any higher or greater extent than what is calculated to fit pupils for the common, everyday avocations of life.

We conceive that where the youth of the land have been afforded full and proper facilities for acquiring a good common school education—and such education should be placed within the reach of all; and made compulsory upon all—there is no denial of mental development nor of any of the higher enjoyments of life to the masses because the curriculum does not include courses in Greek, Latin, Hebrew and other languages; in theology, law and medicine and in other pedagogical accomplishments. If, having acquired a good common school education, a youth develops an enlarged mental capacity and desires yet higher education, by all means let him have it, but at the expense of himself or his friends—certainly not at the cost of the masses, who are not thus able to educate their own children. It is just as reasonable to demand that the children of poor people, of whom it is desired to make architects, builders, engineers, surveyors, electricians, etc., should be instructed in those liberal arts and sciences until they become adepts thereat, at the public expense, as to maintain universities and colleges at the public expense for the purpose of flooding the country with theologians, lawyers and physicians for which the country has but little need. It is but too frequently the case that these graduates become anything else than what they were educated for.

Our contemporary thinks that the higher education of the masses would result in raising the remuneration, ameliorating the conditions and improving the status of farm life—and of mechanics also, of course—until a reflux of the tide of industry would set in, and a much more intelligent class would become farmers—and mechanics—to the great advantage of the country. And it expects that some of us will see the day when farming—and mechanics—will become so honored and enviable a pursuit that the graduates of our colleges and universities will fairly crowd and jostle and elbow each other in their wild scramble to get between the handles of the plow, to milk the cows, to cart cabbages and potatoes to market and haul back return loads of manure—to pump the bellows in the blacksmith shop, to turn the grindstone, to crawl through manholes into boilers, to stand at the lathe in machine shops, and to fill all such places where labor finds occupation. The Week tells us that education higher than what can be obtained in the common school—education that can only be had in colleges and universities—is what the laboring classes require to fit them for the only occupations open to them, and for the higher enjoyments of life. In a word, that more education, not less, should be the universal password.

It does not so appear to us.

THE VALUE OF A TRADE MARK.

What the average daily newspaper don't know about some things would fill a large book. A few days ago The Montreal Star, related a story to the effect that the United States Customs officials in that city had made some startling discoveries which would create a sensation among smugglers of phenacetin and sulfonal not only in New York and Boston, but also in Montreal and Toronto. It tells us that the headquarters of the leader of the gang of smugglers had been located in Montreal, that he was under the surveillance of a Secret Service officer, who, when the trap is ready to spring on the gang, will be arrested. The Star tells us also that phenacetin and sulfonal are two expensive German drugs on which there is a very heavy duty when imported into the United States, while in Montreal it can be purchased at 32 cents and 45 cents per ounce respectively, the value in the United States being \$1 per ounce. The arithmetician of The Star figures out that by purchasing these drugs in Canada at the prices named, and avoiding the United States duty, selling them at \$1 per ounce, leaves a profit of \$76.50 on every five pounds the smugglers succeed in getting safely across the line. The description of the way the smuggling is done is quite interesting. Hear it:—

The men at the head of the gang are wealthy, having accumulated all their riches by the smuggling of these two drugs. Naturally there is a wide field for the smugglers to "work" and they get orders for more than they can, with safety, get across, so every day they grow bolder and invent new schemes to get the drugs through. The most ingenious yet tried is the one just brought to light by the Customs officers, and by which the smugglers are saved the trouble and anxiety of long, roundabout trips in order to evade the officers. The new scheme is to drill out thick walking sticks and umbrella handles, leaving merely a shell. The drugs are then packed into the hollows and the tops neatly replaced, defying detection. In some of these sticks as much as five pounds of sulfonal have been packed. By this new process hundreds of pounds of the drugs have been safely taken into Uncle Sam's territory and disposed of during the past month.

The Canadian cost of these drugs, as given by The Star, is approximately correct, but the prices fixed upon them in the United States by Schieffelin & Co., as per their most recent trade circular, is \$1 per ounce for phenacetin and \$1.35 per ounce for sulfonal. Neither of the articles are made in Canada, nor in the United States, as we are informed, Germany being the chief place of production. The Canadian duty upon them is 20 per cent. ad valorem, and the American duty 25 per cent., and they are not prohibited by law from entry into either country. They may be entered at any port in the United States upon the payment of 25 per cent. duty, and it is ignorance of the facts in the case that leads The Star or any one else to suppose that the high duty there prompts the operations of the smugglers.

The case is simply this:—Before these articles became well known by their commercial names in the United States the firm of W. H. Schieffelin & Co., a large concern in New York, dealing in drugs, medicines, etc., through their attorney named Dickerson, obtained United States Letters Patent on the preparation of both phenacetin and sulfonal, and these names were registered as trade marks

in that country. Schieffelin & Co. do not manufacture these drugs, all their supplies being made for them in Germany by Friedr. Bayer & Co., Elberfeld, one of the largest and best known concerns in Europe manufacturing such articles. Upon the packages containing phenacetin is a label announcing the name of the article as follows:—"Phenacetine" Bayer, Farbenfabriken vormals Friedr. Bayer & Co., Elberfeld, Germany;" that "The resale and importation to the United States of America are prohibited;" and that "Phenacetine is protected by United States Patent No. 400,086, dated March 26, 1889. Registered Trade Mark No. 16,392, dated March 19, 1889." Packages containing sulfonal bear a notice to the effect that the article is protected by United States Patent No. 391,875, dated October 30, 1888. Registered Trade mark No. 16,986, dated March 6, 1888.

Neither phenacetin or sulfonal are patented in Germany, Great Britain or Canada, nor are the names registered as trade marks in these countries; and there is no more restraint placed upon the sale of them than upon quinine or any other drug; and the manufacture of them is not confined to the one concern of Bayer & Co., but may be engaged in by whoever may desire to do so. The articles are so well known in the drug trade and among practising physicians in Great Britain, and because there is no taint or suspicion there that they are of the nature of patent medicines, they are enumerated in the British Pharmacopœia. Such is not the case, however, in the United States. Schieffelin & Co. do not manufacture the articles, but purchase them from the German makers, just the same as any other person is at full liberty to do; and this American concern have a legal right to prevent the sale of the articles in the United States under the respective names of phenacetin and sulfonal. The use of the articles is not prohibited, but the unauthorized use of the names by which they are known.

There is no need, then, for smuggling the articles into the United States upon the ground of exorbitant duties. Any person is at liberty to purchase them in Canada, Germany or elsewhere, and to import them into the United States; but no one is authorized to dispose of them in that country under their respective names, or in packages bearing these names. The trade marks owned by Schieffelin & Co. give them a monopoly in selling the articles to druggists and any who may desire to purchase them. There being no restriction upon the importation of them into the United States beyond the payment of the 25 per cent. duty, any importer is free to sell them under any other names than those covered by the trade marks owned by Schieffelin.

It can readily be seen, however, that, these names attached to these articles, being so well known all over the world, and there being no other names by which they are generally known, no matter what the intrinsic value of them may be; they would be comparatively valueless for commercial purposes without their names. If any surreptitious business is to be done in the articles the purchaser in Canada or elsewhere need not put himself to unnecessary trouble to escape the American Customs officers, but rather to sell to prescription drug stores and to physicians who compound their own medicines, and who will con-

ceal the fact from the owners of the trade marks. We do not doubt that while Schieffelin & Co. will not sell phenacetin and sulfonal for consumption in the United States for less than \$1 per ounce or whatever the price may be, they would be quite willing to sell to Canadian druggists at quite as low a price as they can be bought for from the Canadian importer.

It seems to be ridiculous that a person who desired to take a five-pound package of an article which cost in Canada from \$25 to \$40, into the United States, would, to avoid the payment of from \$6 to \$10 duty, put himself to as much trouble and expense as indicated by The Star, besides incurring the risk of losing his liberty and spending several years in a penitentiary.

CANADIAN MADE SUGAR.

Citizens of Belleville have procured a large amount of sugar beet seed for free distribution among the farmers of the vicinity. The object is to test the capacity of the district for the growth of sugar beets. If the tests are successful, a beet sugar factory will be established in Belleville. There seems to be no reason why this industry should not flourish in Ontario.—Hamilton Spectator.

It is one of the strange features of political journalism in Canada that in the question of establishing a new industry—an industry in which Canadian farmers and Canadian manufacturers are both most deeply interested, and in which one is essential to the other—an industry that would, if established, be of such incalculable benefit to the country, and that would keep at home and among our own people the millions of dollars that are now being sent out of the country every year, such little intelligent interest is taken in it by Canadian papers as is indicated in the above.

As to testing the capacity of both Ontario and Quebec for the growth of the sugar beet, that was long since demonstrated to a certainty. Several years ago experimental tests were made in quite a number of counties in Ontario, and it was shown that both the soil and climate were such that the sugar beet could be grown to quite as good advantage here as anywhere else in the world; and it is well known that the production of the beet, and the manufacture of sugar therefrom in commercial quantities, have been in successful operation in Quebec for a number of years. It is strange, then, that these facts being evident and established, there should be so little interest taken in the industry, and that Canadian newspapers should have so little to say in the matter.

This journal has frequently made mention of the condition of the beet sugar industry in the United States, showing that wherever it is carried on it is in a most prosperous condition, and arguing that whatever may be done in that direction in that country may be quite as successfully done in this. Mr. Lewis S. Ware, editor of The Sugar Beet, published in Philadelphia, takes a most intelligent interest in this industry; and in a recent issue of his journal, in an article entitled Progress of Beet Sugar Making in the United States, he sets forth some facts and figures that cannot but be interesting to our readers.

Alluding to the fact that in conducting the industry so that the best results may be obtained, Mr. Ware says that intensive farming and minute details in manufacturing

methods are new departures for people who have heretofore been favored with such an abundance that waste was seldom if ever considered. Hence, he says:—There is no necessity for the tiller, after his land is ploughed, harrowed and planted with seed for future crops, to give further thought to his work, but simply wait until the harvesting period arrives. In most of the industries of the United States it has not been found urgent to give waste more than a secondary consideration. Great and important industries, such as the manufacture of iron and steel, had not, some years since, well-trained chemists to watch the various phases of the manufacture by constant analysis. In fact, most of the large sugar plantations in tropical climes were contented to work regardless of waste.

Now all this has changed or is undergoing important changes; competition among iron manufacturers has compelled the introduction of careful technical work. Competition between beet sugar and cane sugar upon the markets of the world, has forced improved methods upon them which under other circumstances would never have been adopted. The farmer in the West, owing to decline in the value of cereals, has been compelled to direct his attention to other channels, either by introducing some new product upon the market, or attempting to increase his yield by fertilizers and more careful cultivation.

Just at this time the beet has been introduced to him; at first he has great hopes as to its possibilities, but the care before and after the crop is planted is so different from what he has been accustomed to, that in cases where the money returns are not up to his expectations he becomes discouraged, and in some exceptional instances is unwilling to renew his contract for the coming year. However, when more thoroughly grasping the situation, and learning that every hour devoted to the cultivation of his beets means an additional money return, by reason of the increased sugar percentage of the roots, he becomes an enthusiast, and offers—as in the vicinity of Alvarado, for example—to contract for more roots than the factory can possibly utilize during its working campaign.

The increased yields for future crops, the increased value of land is being appreciated in Utah, Nebraska and California; and in those States ere many years an unheard-of prosperity is certain to prevail, that will be entirely due to the stimulus of the sugar-beet industry. The semi-death blow caused by withdrawal of bounty has not prevented the existing factories in California doubling their capacity, and thereby diminishing working expenses; producing sugar equal, if not superior, to any hitherto furnished on the market.

In a previous issue of The Sugar Beet was published a synopsis of the yields of sugar for campaign 1891-92 for all factories of the United States. It is interesting to place these side by side with those official figures as given in the Internal Revenue Reports recently published:

	Tons of beets worked or harvested.		Sugar per ton of beets worked.		Percentage extraction
	1891-92.	1893-94	1891-92.	1893-94.	
Chino	13,167	40,353	156 lbs.	305.2 (?)	15. (?)
Alvarado	10,941	20,322	163 "	220.7	
Watsonville	19,313	65,291	225 "	238.0	
Lehi	10,117	26,891	168 "	153.3	
Grand Island ..	10,863	11,149	130 "	164.7	
Norfolk	8,480	22,625	155.5	181.5	

Many conclusions may be drawn from these figures; not only has the number of tons worked been more than doubled, but the extraction of sugar has made an extraordinary progress.

To permit comparison of what is accomplished in Europe another table is given:

Years.	Raw sugar. Average yield per acre.			American factories.	Sugar. Yield per acre.
	Germany.	Austria.	France.		1893-94.
1889-90	3,792 lbs.	2,429 lbs.	3,278 lbs.	Chino	3,611 lbs.
1890-91	2,486 "	2,394 "	2,631 "	Alvarado.....	2,488 "
1891-92	3,051 "	2,213 "	2,275 "	Watsonville...	2,432 "
				Lehi	1,491 "
				Grand Island..	1,093 "
				Norfolk.....	1,463 "

From these data we may conclude that the yield of sugar per acre at Chino during 1893-94 was superior to that obtained in Germany, Austria or France. In fact, all United States factories, in their yields, compare favorably with those of Europe.

The total area devoted to beets for the seven beet-sugar factories in the United States (this includes the small output of Virginia) was in 1893-94, 19,647 acres, from which were obtained 195,895 tons beets and 45,191,296 lbs. sugar, corresponding to a yield of 2,300 lbs. sugar per acre, and an average of 230.7 lbs. per ton of beets worked on an average extraction of 11.5 per cent. The average yield of beets per acre was 9.9 tons. Accepting these figures as a basis of calculation for the requirements of the Union, the consumption of sugar during 1894 was 2,024,648 tons or 4,535,211,520 lbs. To obtain this sugar there would be needed at least 2,000,000 acres of land if the yield be 10 tons to the acre, and beets sell for \$4.00 per ton. The money for these roots represents the enormous sum of \$80,000,000, that would be put into circulation among our farming population.

We do not consider it worth our while at present writing to show the benefits to be derived by railroads, iron and steel manufacturers, etc., etc., from the introduction of the beet-sugar industry. However, there is a question that appeals to the population at large, and that is, the cheap production of meat. If we admit that farmers receive gratuitously 50 per cent. in weight of beets furnished by the residuum pulp as it leaves the process, this would be sufficient to feed not less than 2,000,000 head of cattle during the three winter months when fodders are the most expensive. If we admit two pounds increase per head and diem, then would result 400,000,000 lbs. meat obtained from a product that is now receiving only a limited attention.

If the entire residuum should find utilization in the United States when the industry exists fully, there would be not less than 550,000,000 lbs. meat obtained at a minimum cost.

To make this matter thoroughly clear from a farmer's standpoint we can suppose that 10 acres of land yield 100 tons of beets, which are sold at the factory for \$400. In return he gets for nothing 50 tons or 112,000 lbs. residuum pulp. We may admit that the ration consists of about 100 lbs. pulp (combined with other products) per

diem for 100 days; the consumption per head would be 10,000 lbs. pulp, or sufficient for 11 beeves. If the rate of increase is 2 lbs. per head per diem, during the time of feeding, the total increase is 2,200 lbs. If the farmer clears 4 c. per pound on this meat he has 88 additional dollars that his land yields him. The resulting manure from this feeding is an item of considerable importance not to be overlooked.

Acres under cultivation and sugar produced were :

	Acres planted.	Total sugar made.
Chino	4174	15,063,000
Alvarado	1803	4,486,572
Watsonville	6388	15,539,000
Lehi, Utah	2755	4,708,000
Grand Island } Neb.	1617	1,835,900
Norfolk }	2804	4,107,300
Staunton, Va.	50	50,627

According to Willett & Gray the entire consumption of sugar in the United States during 1894 was 2,024,648 tons; i. e. 265,500 tons domestic cane sugar, 20,000 tons domestic beet sugar, 300 tons sorghum sugar, 5,000 tons maple sugar, 15,000 tons domestic manufactured molasses sugar, or 305,800 tons home-made product, to which must be added 1,554,528 tons of foreign cane sugar, 159,796 tons foreign beet sugar and 14,524 tons foreign refined sugar, or a total for foreign product of 1,718,848 tons.

CANADA AND THE INTERNATIONAL CONVENTION AS TO INDUSTRIAL PROPERTY.

Messrs. Ridout & Maybee, solicitors of patents, Toronto, are sending out a circular, the salient features of which are here reproduced, by which it is claimed that it would be greatly to the advantage of manufacturers and inventors that Canada should become a party to the International Convention relating to patents, trademarks and designs. In the circular it is stated:—

On the 6th of June, 1884, The United Kingdom joined the Convention, reserving the right to accede thereto on behalf of any colonies on due notice given, and by Orders in Council subsequently passes the provisions of the Patents, Designs and Trade Marks Act, 1883, (Imp.) were made applicable to the following countries, viz., Belgium, Brazil, Denmark, France, Guatemala, Italy, Holland, Norway, Portugal, Servia, Spain, Sweden, Switzerland, Tunis, the United States, New Zealand, and Queensland, these seventeen countries, with the United Kingdom, comprising at present all the countries acceding to the Convention. Two colonies, New Zealand (1890), and Queensland (1885), have availed themselves of the benefits of the Convention, while Canada, by a strange apathy, still remains excluded.

By the mere asking the adhesion of Canada could be notified officially through the Imperial diplomatic channel to the Government of the Swiss Confederation, and by the latter to all the other countries; and by Imperial Order in Council, the provisions of Sec. 103 of the Imperial Patent Act would be made applicable to this country. To give effect to the Articles of the Convention in the Courts, it may be necessary to pass a Dominion Act,

legislation was deemed necessary both in England and in the United States.

The benefits obtainable by Canadian inventors would be great. Legal remedies and protection would be accorded in the United States. Rights of priority to one who has applied for a patent, trade mark or design in Canada, would exist for seven months in the case of patents, and four months in the case of trade marks, designs, etc., and within these periods no rights would be invalidated by publication of the invention, by another registration, by the importation of the article, by the working of it by a third party, or by the sale of a design or use of a trade mark. All goods bearing illegal trade marks would be seized on importation, etc. Trade marks duly registered in Canada would be admitted to protection in the form originally registered. Trade names would be protected without registration, whether forming part of a trade mark or not.

From the failure of our Government, since 1888, to apply to enter the Convention, it is known that a large number of foreign patents are annually obtained by residents in Canada, which are absolutely invalid, owing to the invention having been published on having reached Europe. The publication of the Canadian Patent Office Record, which is sent to all the principal countries of Europe, alone suffices to render these foreign patents invalid, and in France and Germany even before it reaches these countries. And then there is a great difficulty, delay and expense, in obtaining a British or foreign trade mark, which would not exist if we were parties to the Convention.

We have some legislation necessary to become parties to the Union, as far as trade marks are concerned; for besides our Trade Mark Act, the Merchandise Marks Offences Act of 1888 was passed, evidently with the view of joining the Convention, as it relates to both Canadian trade marks, as well as to those protected by law, either with or without registration, in any British possession or Foreign State, to which the provisions of Section 103 of the Imperial Patent, Design and Trade Mark Act, 1883, apply.

Why should Canada in this matter (as well as in the matter of Copyright) deliberately, year after year, adopt a policy of isolation, to the destruction of the interests of the inventors, merchants and designers of the country? There are annually about 725 Canadian inventors, and 375 parties who obtain trade marks and designs in Canada.

The obtaining of invalid foreign patents by Canadians is an evil which prompt action on the part of the Government, in joining the Convention, would tend to minimize, and, now that we are to have a Franco-Canadian Treaty, and are seeking other foreign treaties, no time should be lost in protecting our interests.

The other side of this question presents arguments that are strongly antagonistic to these here produced, and which will in a future issue be discussed.

EDITORIAL NOTES.

The Montreal Trade Review mentions the fact that at a recent meeting of the American canned goods packers the

subject was debated as to the right course to take in labeling second quality of goods. It does not need an expert canner to know that in putting up fruits and vegetables there must be a selection of the best articles if the reputation of the concern is to be maintained; and the disquieting question is what is to be done with the remainder when the first quality stock is taken out. We are not prepared to answer the conundrum, but the matter reminds us of a statement recently made by an Ontario official to the effect that he had observed in a certain canning factory that the fruit to be canned was dumped in heaps and piles upon the floor, and that the girls employed in preparing it for canning were seated thereon. Perhaps this solves the question. Of course all such fruit would possess the proper flavor, and would be much sought after by the consuming public.

The Canadian Grocer charges that a certain soap and perfume manufacturing firm in Toronto secures a rebate of 90 per cent. on alcohol used in its factory, while the same is denied to other firms in the same line of business. Toronto Globe.

The Canadian Grocer certainly does not know what it is talking about, or it is grossly misrepresented by The Globe. What does it mean by a rebate of 90 per cent. on alcohol? Rebate from what? From the price of the goods? Or on the duty charged against imported alcohol? If the latter, a rebate can only be had where the article is consumed in manufacturing an article that is exported. If this is what is meant, why ask a rebate of only 90 per cent. when the law allows 99 per cent.? And why should a rebate be allowed to one concern alone while the same is denied to other firms in the same line of business? If The Grocer is guilty of uttering such twaddle as that imputed to it by The Globe it displays as dense ignorance of the subject as The Globe itself. And the idea, too, is ridiculous, that any concern can obtain a rebate that is denied to other similar concerns.

There passed through Brantford yesterday afternoon a special train consisting of twenty-eight flat cars loaded with wood and steel work for the Lake street Elevated Railway from Phoenixville Steel Works, Phoenixville, Pa. Two engines were required to pull it, and a third engine had to assist it over the Paris grade.—Brantford Courier.

There are plenty of bridge works in Canada capable of building any railway, highway or other bridges that may be required in the country. Unfortunately, however, in some of the forms of iron and steel required in the construction of such bridges the duty is higher than upon the bridges, hence we see Canadian bridges being built in the United States, and Canadian bridge works in idleness as far as such jobs are concerned.

There are many directions in which the Government could improve the tariff, but there is one class of duties that should be dealt with this session. The duty on dairymen's apparatus should be radically modified. Some heroic pruning in this line would be of infinitely more advantage to butter-makers than the plan of purchasing a portion of their product at a stated price. The heavy cost of cream separators is a serious check upon butter dairying, and to add to that cost a heavy tax is a poor way of encouraging the butter industry. Good judges declare that the general use of separators is at the basis of good butter-making,

and if that be so their use should be encouraged rather than repressed by taxation.—The Globe.

Our esteemed contemporary has scratched its head and sat up of nights to discover wherein the butter makers of Canada are hard hit by the tariff, and the only thing it can point to is cream separators. If it were not for the heavy duty on this article the butter industry would be in a most flourishing condition. Perhaps The Globe lost its copy of the tariff in the fire that recently destroyed its library, and therefore we beg to assure it of the fact that in the tariff of 1890 and also in that of 1894, cream separators are enumerated in the free list. No duty whatever is imposed upon the article.

If the N. P. papers could have protection restored in Great Britain the Canadian farmer would be shut out of the British market, and that surely would not be an advantage to Canada.—The Globe.

Not at all. When Great Britain returns to protection it will be co-incident with preferential trade with all British Possessions, and the Canadian farmer would not be shut out of the British market.

Mr. Joseph Wharton, of Philadelphia, who in his own country and by his friends is considered quite a financier and political economist, has written a letter to the New York Herald in which he instructs the United States Congress what it should do next winter, and included in his instructions is that "the extraordinary favors and privileges gratuitously given to the Canadian Pacific Railroad Company must be promptly terminated." Mr. Wharton may pose as the champion of American railroads, but when he undertakes to interrupt the best and cheapest route of railroad communication between New England and the North Western States he tackles a job at which he will prove a dismal failure.

On May 7 a very disastrous fire occurred in the village of Moretown, Vt., in which considerable property was destroyed and the surrounding forests were set burning. The cause of the fire was an overheated journal box in a large mill. It soon spread to other buildings with the result stated. Had the bearings in the mill been provided with some reliable sort of electric heat alarm no serious damage could have occurred. It would seem to be a good thing for the factory mutual insurance companies to insist upon an electric alarm being used on all bearings in mills and shops where there is danger of fire. A slight reduction in the premium as an incentive would undoubtedly result in decreased losses to the insurance companies and at the same time make it easy for the policy-holder to adopt the alarms.—Electrical Review.

Mr. McMullen, of the Opposition debating talent in the Commons, made a speech yesterday, in which he asserted that the Canadian manufacturers of agricultural implements had special good reason to be in sympathy with the National Policy, by reason of the fact that that policy put money into their pockets and did an injustice to the consumers of the country. The remarkable thing about Mr. McMullen's speech is that it followed, by only two days, a long article in the London Advertiser, in which the writer

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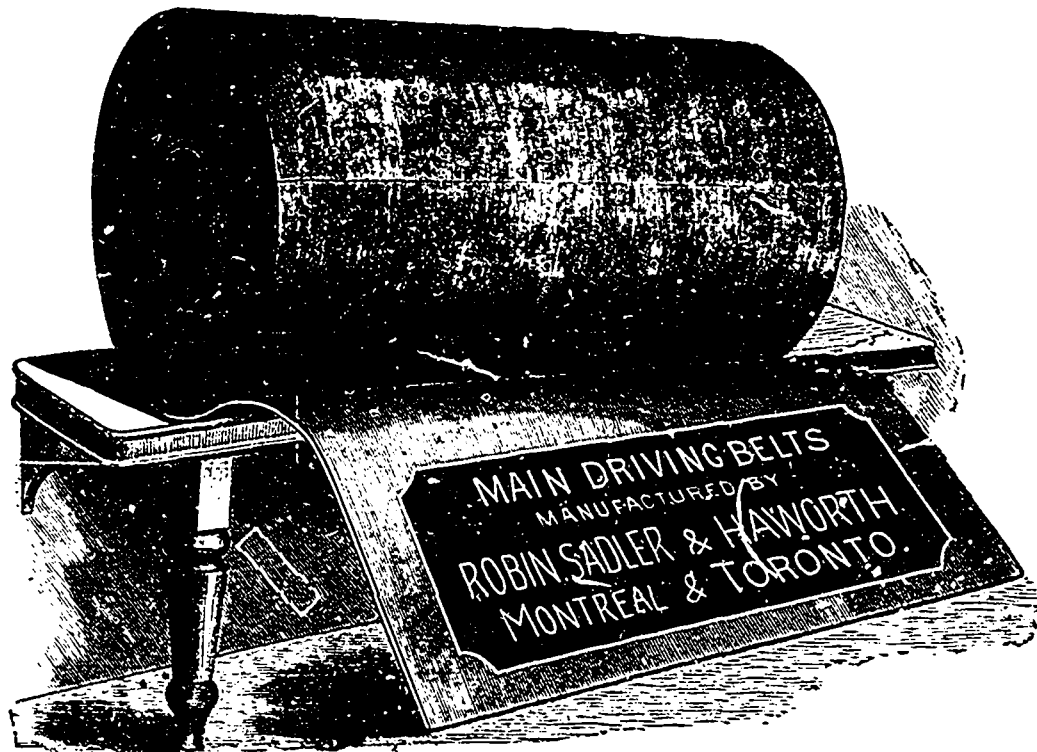
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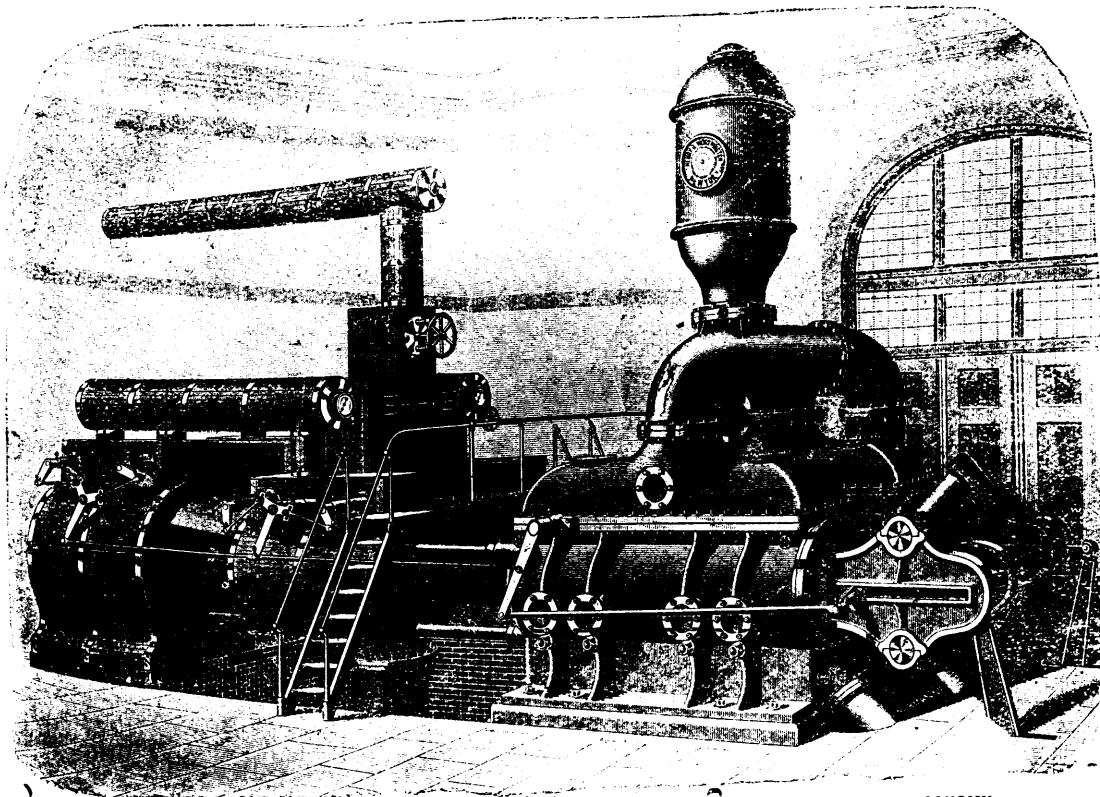
proved to his own entire satisfaction that Mr. Watson, of Ayr, agricultural implement manufacturer, recently gone bankrupt, failed because of the same National Policy, and for that cause alone. When Massey, agricultural implement manufacturer, builds a big hall and gives it to Toronto, the Grits cry aloud that the National Policy is enabling Massey to rob the farmer to such an extent that he does not know what to do with the swag, and his remnant of a conscience forces him to give the people a hall. When Watson, agricultural implement manufacturer, gets into the sheriff's hands, the same National Policy has so severely borne down upon the poor man that he was compelled to bankruptcy. All of which leads us to believe that the National Policy is a somewhat remarkable institution.—Hamilton Spectator.

In an article showing the importance of the St. Mary's Falls Canal traffic, assistant U. S. Engineer L. C. Sabin, of Sault Ste Marie, Mich., goes into the following statistics:—The total tonnage of the sailing and steam vessels of the merchant marine of the United States in 1893 was 4,825,071, or less than one-half of the freight tonnage passing St. Mary's Falls Canal in that "off" year. The St. Mary's Falls Canal freight in 1894 was equal to the total foreign tonnage entered at all the ports of the United States from foreign countries in 1893. The total tonnage entered from and cleared for foreign countries at the customs district of New York for the fiscal year ending June 30, 1893, was 7,015,030, and the number of vessels was 5,037. Comparing these with the similar quantities

for St. Mary's Falls Canal we see that the latter passed 30 per cent. more freight and more than twice as many boats. In 1892 there were 1,168,849 freight cars on the railways of the United States. Every car would be required to carry more than ten tons of freight in order to carry the amount passing the canal in 1894. The amount of coal passing the Canal in 1893 was more than all the coal exported from the United States in that year. The lumber passing in 1893 was nearly equal to the lumber of domestic production exported. The wheat produced in the United States in 1892 was 515,949,000 bushels. The amount consumed in the United States during the fiscal year ending June 30, 1893, was 324,431,740 bushels, and the amount of domestic wheat exported was 119,912,633 bushels. Thus the wheat (including flour) passing the canal in 1893 was 12 per cent. of the production, 20 per cent. of the consumption, and 56 per cent. of the exportation. Or, in other words, the wheat passing the canal in that year was sufficient to supply bread to all the people in the United States for about two and a half months. Passing to the estimated value of the freight in 1893, it was in excess of the estimated value of the state of Vermont, including real estate and improvements; more than one and three-quarter times the total expenditure of the post office department of the government; more than 90 per cent. of the value of the world's production of gold, or of the total value of exports of domestic manufactures from the United States, or of the amount expended for public schools in the United States, or of the amount paid in pensions in that year. If to the value of the freight

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were added the value of the craft engaged in the transportation, any of the above-mentioned items would be far outstripped.

In a recent issue of this journal mention was made of the proposal of a company of capitalists of Youngstown, O., to construct and operate a blast furnace at Kingston, Ont. The Industrial World, of Chicago, reproducing our article and commenting thereon, says :—

The protective policy of the United States Government for a period of a generation, seems to have operated as an object lesson to the people of Canada. They saw that on this side of the line general prosperity was realized during that period, beyond that in the whole history of the government before, and assumed that if protective tariffs had proven a blessing to the people here, it would to people there. They have accordingly adopted the principle and the practice of protection, and this Kingston enterprise is an illustration of the faith of Canadians in its ultimate success.

The Electric World publishes a letter from a correspondent at Lamar, Colorado, that tells of a peculiar electrical phenomenon as follows :—

On the night of April 26, 1895, a friend and myself were riding our bicycles through some of the irrigated country nine miles north of Lamar, and my attention was attracted by the electricity on the barbs of the wire fence. Next I noticed it on all metallic parts of our bicycles. There seemed to be a concentration at the hub when we rode fast, and when we rode slowly it scattered over the whole wheel. The electricity came up the fork, separated and traveled along the handle bars, going under the cork

handles and sending a jet of electricity at least three inches beyond the end of the handles. I felt as though I had hold of an electric battery. This lasted about 30 minutes, leaving gradually. The ground was damp but not what might be called wet. I should be pleased if some of your readers would offer an explanation of this peculiar phenomenon.

The Guelph Herald has tried to prove that protection has cheapened things, and with the usual result. Our contemporary says tin is \$1 a box cheaper since one-third the amount consumed has been produced in Canada, and that plate-glass cost only one-fourth the price charged in England and France. Protectionists will never learn the folly of defending their system.—Toronto Globe.

We failed to observe that our Guelph contemporary made use of any such language as that attributed to it by The Globe, but it is rather remarkable that any enlightened newspaper should intimate that either tin or plate glass is or ever was manufactured in Canada. Nor will they ever be until the industries receive proper tariff protection.

The Star of Bethlehem, a newspaper published at Leeds, Eng., told its readers in the following words, all about the Chicago railroad strike: "A big revolution is now going on in the United States of America, and there is little doubt that the Government will be defeated. The Dictator—Debs—has been driven from his palace, and he and his ministers are now hiding in the mountains. The greatest trouble has been experienced in the capital of Chicago where Grover Cleveland, the ringleader of the

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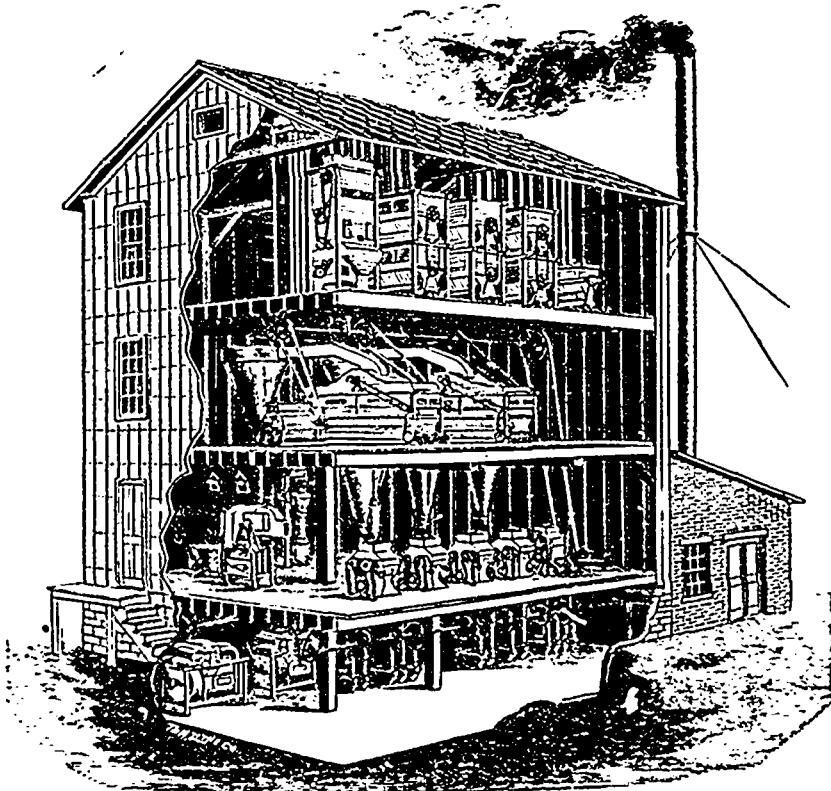
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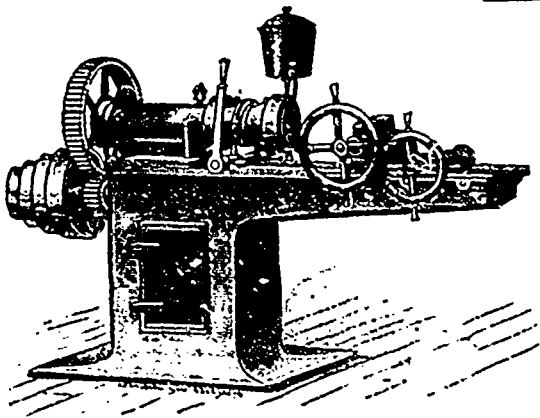
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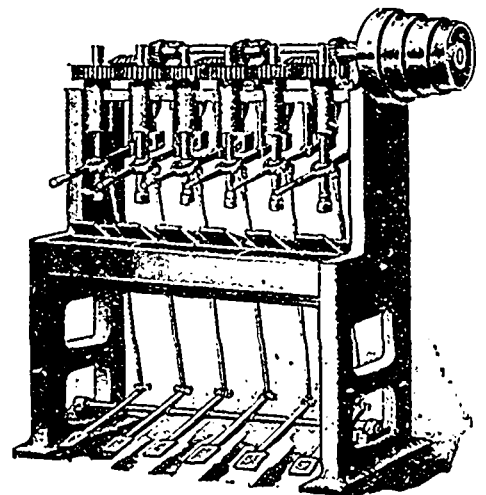


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Rebels, has obtained complete control. The railroad track at that place was torn up and thrown into the Mississippi river, a stream considerably longer than the Severn and the stock yards, where the Government palaces are situated have been razed to the ground. The trouble was started by a man named Pullman, who had a strong hold in the mountains of Illinois, one of the most considerable provinces of the country. The man Pullman manufactures a cattle car."

Scribner's Magazine for June opens with a dramatic presentation of the three epochs in the history of Chicago—Before the Fire, After the Fire and To-day. The author, Melville E. Stone, has long been associated with the growth of Chicago, as the owner and editor of a great newspaper there. The illustrations, which show Chicago as it was before the fire and is now, are from exactly the same points of view, and give a vivid idea of what the growth of Chicago has been. The most popular outdoor exercise of the present season is undoubtedly bicycle riding. This number contains four articles by riders who are particularly well-versed in the subject, on various phases of the present popular amusement. P. G. Hubert, Jr., writes of The Wheel of To-day, describing all the latest mechanical features of the best wheels, with valuable suggestions as to long tours in summer. Marguerite Merington is enthusiastic as a wheelwoman and writes on Woman and the Bicycle, with joy in its many pleasures. James B. Townsend, one of the organizers of the Michaux Club, describes the spread of the sport among society people in New York, Washington and other cities, with something about the various clubs that they have organized; and Dr. J. West Roosevelt, a high medical authority, gives his warmest approval to the exercise, with certain necessary precautions. The article is illustrated. There is also a splendid picture of Zimmerman, the champion bicycle rider of the world, showing more clearly than any amount of text how that every muscle of importance is brought into play in riding a wheel.

The charm of listening to a famous man as he tells of the greatest influence upon his life comes very strong upon one in reading the article which the Rev. Robert Collyer, D.D., contributes to the June issue of The Ladies' Home Journal. It is in the magazine's series of

The Woman Who Most Influenced Me. The personal interest, so fascinating to most of us, is also very strong in Arthur Warren's article descriptive of A Domestic Court, sketching the home life of the King and Queen of Denmark, the home from whence have come more rulers and potentates than any other European court. Dr. Parkhurst, for the first time, writes of woman suffrage in an article, Women Without the Ballot, which will probably call forth a storm of dissent. Edward Bok writes of Girls Who Pose as "Trilby," and of the New Woman, whom he says does not exist. The Flower of June—the rose—is a timely and beautifully-pictured article by Nancy Mann Waddle. Eben E. Rexford writes of Our Poisonous Plants, urging that vigorous efforts to exterminate them shall be made all over the country. One of Alice Barber Stephens' pretty girls adorn the cover. The Journal costs only one dollar a year and is published by the Curtis Publishing Company, of Philadelphia.

Breezy, seasonable and beautifully illustrated, Outing for June will please readers of varied tastes. The contents are as follows:—The Little Tailor of the Ritten, by Jean Porter Rudd; Trotting and Pacing Champions of 1894, by "Dexter;" When Rustics Went Trouting, by Eleanor French; Frogging in Northern Waters, by "Jess;" The Cruise of Two, by Chas. Gordon Rogers; My First Bicycle Tour, by Ernest Ingersoll; Outfit for Camping and Tramping, by Wm. H. Hobbs; Old Uncle Vanderveer, by Edgar Fawcett; Bear Hunting in Japan, by "Rellin;" Lenz's World Tour Awheel; Keep Your Weather Eye Open, by Capt. A. J. Kenealy; Trout and Trout Lake, J. P. W.; Illinois National Guard, by Lieut. W. R. Hamilton, and the usual editorials, poems, records, etc.

In order to present to the world the remarkable increase in the number of cotton mills being built in the South and the great activity which attends this industry at present, the Manufacturers' Record, of Baltimore, issues a Special Cotton Mill Edition, in which the situation is treated from its various standpoints by the most noted textile and other experts. Statistics are given showing the number of mills under construction in the principal manufacturing districts, while all the various features peculiarly favorable to this industry in the South are reviewed at length. This is probably the most complete digest of the subject which has ever been published.

The Popular Science Monthly is fortunate this month in both its authors and its subjects. The number opens with the first of a group of papers under the general title From the Divine Oracles to the Higher Criticism, which will form the closing division of Dr. Andrew D. White's New Chapters in the Warfare of Science. Two prominent professions now generally united—those of the physician and the surgeon—are treated by Herbert Spencer in the second chapter of his

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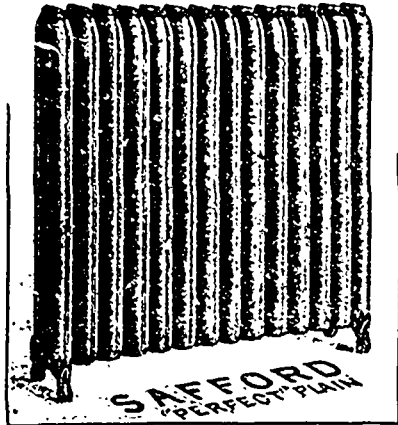
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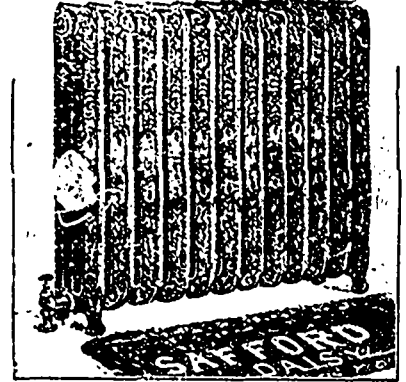


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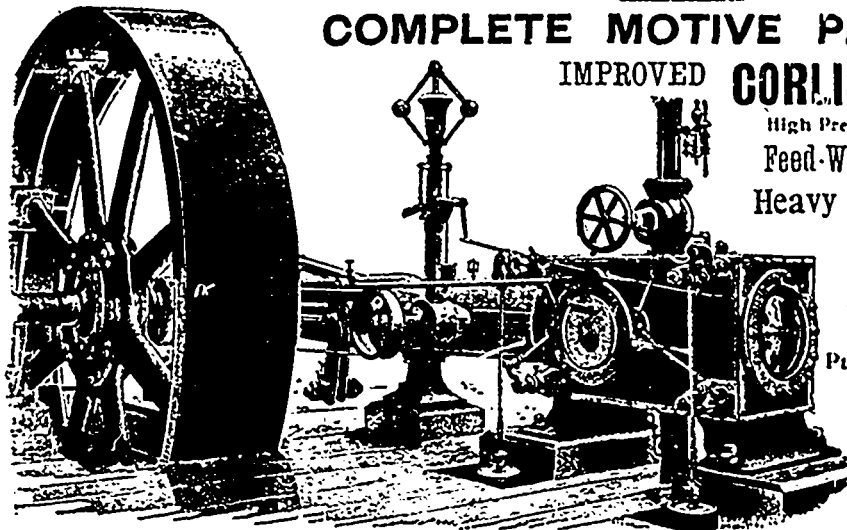
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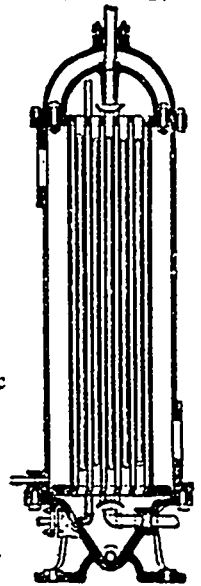
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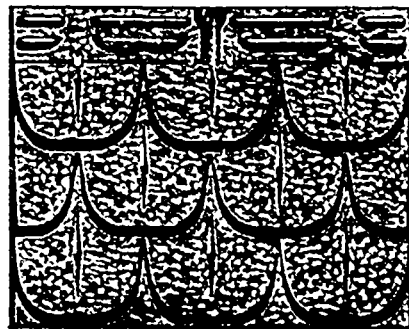
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Those contemplating building the coming season would do well to send for our catalogue. Cheap as a wooden shingle. Will last a lifetime.



Guaranteed to be Water, Wind, Storm, Fire, and Lightning Proof.

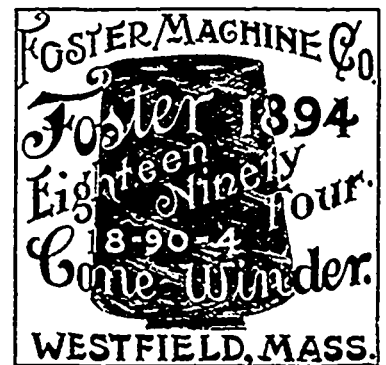
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Office and Works, - OSHAWA, ONTARIO. In answering please mention this paper.

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- 23x60 inch Double Corliss Engine, with Condenser, 800 H. P.
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- 12x20 inch Automatic Engine, 75 H. P.
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- 12x12 inch Ball Automatic Engine, 80 H. P.
- 12x15 inch Beck Automatic Engine, 80 H. P.
- 16x36 inch Allis Corliss Engine, 150 H. P.
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- Boilers, all styles and sizes.
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- Lathes, 1x6 inch, 16x6 inch, 20x10 inch, 24x20 inch, 28x30 inch, 36x18 inch, 36x16 inch.
- 24 inch, 36 inch, and 48 inch Drill Presses.
- 36 inch, 3 and 4 ft. Radial Drills.
- Universal Index and Plain Milling Machine.
- 28 inch and 18 inch Lodge & Davis Turret Lathes.
- Fox Lathes.
- 300, 600 and 3000 lbs. Steam Hammer.
- Large stock of Steam and Centrifugal Pumps, feed water heaters, tanks.
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ADVERTISE IN THE
Canadian Manufacturer.

Professional Institutions. Barton W. Evermann describes Two-Ocean Pass, with illustrations, and tells how trout get through it into the Yellowstone River above the falls. The Decline in Railway Charges is discussed by H. T. Newcomb, who advocates the removal of restrictions on railway consolidation so that closer economy may be attained. An illustrated article by D. T. MacDougal gives the results of experiments and research on Irritability and Movement in Plants. The Spirit of Militarism, whose evils most Americans can see in Europe, is maintained by A. B. Ronne to be rampant in the United States. Frank Vincent describes Journeying in Madagascar in the readable style that has been made familiar by his books of travel. The departments present their usual interesting variety. New York: D. Appleton & Company. Fifty cents a number, \$5 a year.

We are in receipt of a booklet entitled The Alphabet from A to Z of twenty-six letters by twenty-six writers issued by Daniel Stern, Editor of the American Artisan, Chicago. This little book is very uniquely and attractively bound and contains a photo-engraving of Mr. Stern, also a number of letters from leading manufacturers, testifying to the benefit derived by them from advertising in his paper. On the opposite pages to each of these are pleasant, instructive and interesting maxims.

Mr. James M. Swank, general manager of the American Iron and Steel Association, has sent us the Annual Statistical Report of that Association for 1895. This Report gives complete statistics of the production and prices of all the principal iron and steel products of the United States in 1894 and immediately preceding years, and also the shipments and prices of iron ore; monthly prices of tinplates from 1890 to 1895; complete statistics for 1894 and previous years of United States' imports and exports of iron and steel; complete statistics of the construction of iron and steel ships in the United States in 1894 and immediately preceding years; complete statistics of immigration into the United States from the foundation of the Government in 1789 to the present time; a record of the deaths of iron and steel manufacturers in 1894 and 1895; a careful review of the present condition of the iron and steel industries of the United States, etc. A supplement to the Report contains a complete statistical review of the progress of the iron ore, coal, pig iron, and steel industries of the United States and other countries for a long series of years, including statistics of the American production and importation of tinplates, pig iron, iron and steel rails, imports of iron ore, and imports and exports of coal. The Report and Supplement embody what is perhaps the most complete statistical information concerning these industries that has ever been prepared. The Report and Supplement contain 96 pages, which are well printed on good paper. The book

will be sent by mail to any who may order it. Price, \$3, or 12 shillings 6 pence per copy.

The Electric Railway as an Investment.

GEORGE WHITE-FRASER, TORONTO, A. AM. INST. ELEC. ENG.

The attention of the investing public is every day being more strongly directed to the comparatively new field for the profitable employment of capital, now being opened up by the great progress made in the electrical generation, transmission, and utilization of power. The possibility of transmitting the developed energy of a water power, in large or small quantities, in every direction, with small loss, over great distance, by a beautifully flexible method involving a very reasonable-cost, not only permits of a more general, because more economical, application of the electric current to very many industrial and domestic purposes, but it suggests an absolutely new field of enterprise; a quite new business, the technology of which is understood, the advantages obvious, and the problem purely commercial in their nature. This new field is the interurban transportation business, the means are light railways following the regular highways, and giving a rapid service, at frequent intervals by the use of electrically driven cars (both passenger and freight) with a power house which may be situated anywhere convenient.

Light railways have for some time been recognized as a commercial necessity; and the problem has been attacked in many countries from different sides, resulting in cable trains, suspended cars as proposed in the Lartigue system, dummy engine steam roads, pneumatic motors, etc., all more or less satisfactory. The electric motor, however, seems to combine all the advantages of these various systems; and the method of transmission, carrying the power wherever it may be desired, by the means of an ordinary copper wire, is about as flexible and simple as it is possible to conceive.

This urban, and interurban transportation business must be regarded solely from its commercial side, the electric motor question being a mere detail, important, no doubt, as modifying the commercial considerations; but still a detail to be gone into after the commercial investigation. The day is now, happily, rapidly fading into the past on which we base our experience, when it was believed that to run a thing "by electricity" meant the difference between paying and not paying; but it requires still, to be emphatically stated, that the "business" must be there before electricity or anything else will make it pay; although electricity properly handled will probably make it pay better than anything else. There will be a certain amount of business to be done, which may be called natural, that is the usual passenger traffic from place to place, carriage of small freight, mails and so on; and a great deal that can be induced

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TO LIGHTING STATIONS.

OUR NEW
ALTERNATING CURRENT INDICATORS

Are now ready. Before purchasing elsewhere send for our New Catalogue, which contains the prices and description of the above instruments, and also a list and prices of other new instruments of our manufacture.

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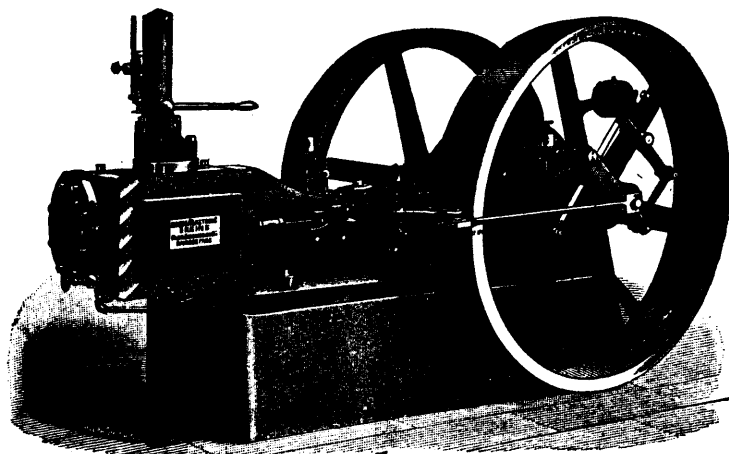
NEW YORK CITY, Geo. L. Colgate, 136 Liberty Street.

SAN FRANCISCO, CAL., California Electrical Works.

TORONTO, ONT., Toronto Electrical Works.

Robb=Armstrong
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SIMPLE, TANDEM AND CROSS COMPOUND.



The following sizes ready for immediate delivery :

10, 15, 20, 30, 60, 80, 100, 125, 150 and 175 H.P.

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AGENTS:

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Wm. McKay, Seaforth, Ont., Travelling.

by enterprising management. What a considerable proportion of the total business may be to the credit of this induced traffic is well shown in reports published from time to time from electric roads in the States. The staff of one such road includes a department whose sole business it is to make people travel, by organizing shows of all kinds at the base ball grounds, the parks, etc., and by getting up picnics, excursions and so on. In summer time movement to the outskirts of the town may be encouraged by the Railway Co., by their owning a park, which they can lay out tastefully and provide with all kinds of attractions, such as swings, switchbacks, music, shooting galleries, and the like, and special occasions may include even theatrical entertainments, acrobatic and circus performances; and in winter, skating rinks and curling matches and carnivals. That this is no fantastic nonsense is proved by the fact that, in the States where electrical enterprises receive probably more earnest attention than in any other country in the world, just such a park is becoming a feature of most electric railway systems, and the pecuniary results are most encouraging. Reports from one road, where this park scheme is specially attended to, prove that by placing the gate money at so low a figure as to just pay expenses of hiring shows, etc., such crowds of people are attracted that the induced extra traffic is a very considerable gain. Baseball matches would be a sure draw, local race meetings, where prizes might even be given by the Railway Co., and a score of other attractions will suggest themselves to anyone and will more the people. Of greater interest to the promoters of light railways intended to connect cities, and to serve a country population is the question of freight traffic, and the extension of the tracks in such directions as will induce farmers to ship their produce by electric railway instead of hauling it perhaps greater distance to the railway depot. This is properly the true mission of the light railway, and its advantages are so thoroughly realized that in various places in the United States it has been seriously proposed to construct a comprehensive system of service throughout farming communities, which will allow of each farmer having a light track running to his barn almost, so that he can use his horses entirely for farming purposes, and ship every grain of produce by the electric railway. For such a network a narrow gauge track, of a meter, would be extremely suitable, and just as satisfactory for most passenger purposes as the Standard gauge, of 4 ft. 8½ in., to which electric railway companies are restricted by the Ontario Electric Railway Act, 1895. It is really difficult to understand why such a regulation has been placed on electric railway enterprises. It is one of those restrictions that seem to serve no useful purpose; and while there may be no very special advantage in using a meter gauge, there certainly is none whatever in forbidding

it. On the other hand, in certain cases a narrow gauge is a distinct advantage, which is placed out of reach by such fussy legislation. The above Act will be considered in its bearing on electric railway extension later on.

Along some part of its route, certainly, if not along most of it, the electric railway will find itself competing with an existing steam road. But this need not in the least deter promoters from carrying their scheme through, once they are quite convinced that there is business to be competed for. In considering the probable results of such paralleling of tracks, what has been already done in that way deserves study. Along the New England coast from Boston to far beyond Salem, the trolley and steam roads run side by side, the trolley cars are generally full, the steam cars empty. The Consolidated Traction Co. is in active competition all over Essex county, N. Y., with the steam roads, and makes it pay. The steam roads in N. Y. have petitioned the legislature against allowing trolley roads to compete with them, because, they say, their traffic leaves them. Figures recently obtained from a considerable length of railway in N. Y. state where such competition exists, show that since the running of the trolley cars the steam traffic has fallen off 90 per cent. between some points—and 70, 60, 50 per cent. between others. Every day new arrangements are being made for such competition. The Galt and Preston electric railway runs in direct competition with the G. T. R. between those points, and finds it is so profitable that not only did they have a satis-

.....THE.....

Goldie & McCulloch Co.,

Limited,

Galt, Ontario,

MANUFACTURERS OF

**STEAM ENGINES,
BOILERS,
WATER WHEELS,**

Steam Engines, Boilers.
Water Wheels, Flouring and Saw Mill Machinery, Wood Working Machinery, Wool Machinery.
Fire and Burglar-Proof Safes, Vault Doors.
Wood Rim Split Pulleys, Friction Pulleys, Friction Clutch, Couplings., etc.

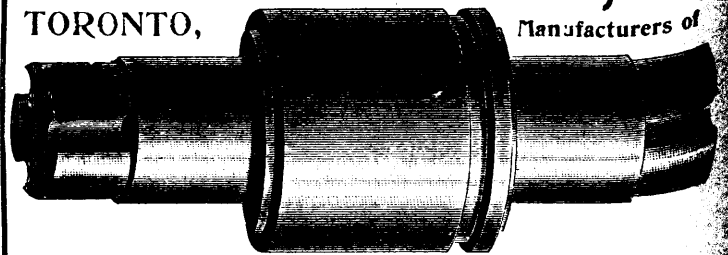
“Dumfries - Foundry,”

Galt, Ontario, Canada.

WM. & J. G. GREEY,

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Manufacturers of



SUPERIOR CHILLED ROLLS.

FOR ALL PURPOSES.

Perfect Surface, Deep Chill, Hard, Tough, Durable,
Guaranteed Free From Flaw.

Have the Largest and Most Complete Plant for Grinding and
Corrugating Rolls in Canada.

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WM. & J. G. GREEY

Carry full line of the

**LINK CHAIN
BELTING**

and ATTACHMENTS,

also manufacture any size of
**SPROCKETS
FOR ANY CHAIN.**

factory showing the first year of operation, but they are building an extension to Hespeler—still in direct competition. These facts may be allowed to speak for themselves.

A careful consideration of local circumstances will generally give a fair idea of the amount of traffic to be expected as normal, and after that a conservative estimate may be arrived at of the possible induced traffic from all sources. The fares are limited by the Act, so that a very fair estimate of the gross income is possible.

(TO BE CONTINUED.)

CAPTAINS OF INDUSTRY.

This department of the Canadian Manufacturer is considered of special value to our readers because of the information contained therein. With a view to sustaining its interesting features, friends are invited to contribute any items of information coming to their knowledge regarding any Canadian manufacturing enterprises. Be concise and explicit. State facts clearly, giving correct name and address of person or firm alluded to and nature of business.

The Union Furniture Co.'s factory, Wingham, Ont., was destroyed by fire May 31.

McCann's saw and planing mill at Dorchester Station, Ont., was damaged by fire May 29.

The St. Catharines Carpet Company will shortly remove their works to Tilsonburg, Ont.

Geo. Schenerman is now running the machine shop formerly run by John Quert, at Arthur, Ont.

W. S. Brown and Co.'s large flouring mills and elevator, at Simcoe, Ont., were destroyed by fire May 15.

The Dinsmore Island Cannery Co., Eburne, B.C., has been incorporated with a capital stock of \$1,000,000.

Moffat and Company, of Renfrew, Ont., are building a large addition to their wood-working establishment.

The Hudson Bay Co. will rebuild their mill at Prince Albert, Sask., which was recently destroyed by fire.

Messrs. Boutillier & Co. will erect a salmon cannery on the Fraser River, B.C., which will have a capacity of 500 cases daily.

Messrs. I. H. Humphrey & Son's woolen mills at Moncton, N. B., were damaged by fire on May 14, to the extent of about \$500.

The Fossil Flour Co. is erecting a mill on the Bass River, N. S.
The Pacific Coast Lumber Co.'s shingle mill at Westminster, B.C., was damaged by fire May 21; a machine shop was also destroyed.

The Toronto Lock Co., Toronto, are applying for supplementary letters patent to increase the amount of their capital from \$2,000 to \$25,000.

The Richelieu & Ontario Navigation Co., Montreal, have ordered five Robb-Armstrong engines for electric lighting purposes on their steamships.

Burns' portable steam saw mill near Bloomfield, N. B., was destroyed by fire May 4; loss about \$700. Mr. Burns will replace the mill immediately.

The Taylor Hydraulic Air Compressing Co., Montreal, has been incorporated with a capital stock of \$500,000 to manufacture compressed air machinery, etc.

Mr. Talbot, the projector of a Brussels carpet factory to be established in Canada, has selected Elora, Ont., for the site of same. The factory will start with 13 looms.

The Pacific Sash & Door Co., Vancouver, B. C., are applying for incorporation with a capital stock of \$50,000 to carry on the business of sash and door manufacturers, etc.

The Tilbury Peninsular Oil & Gas Co., Tilbury Centre, Ont., are applying for incorporation with a capital stock of \$20,000 to search for oil, gas, etc., and to use them for manufacturing lighting, heating, etc.

Messrs. S. B. Chandler Son & Co. are applying for incorporation with a capital stock of \$90,000 to acquire the business carried on under the name of S. B. Chandler & Son, and to manufacture surgical instruments, etc.

The Guelph-Norway Iron and Steel Co., Guelph, Ont., has been organized with a capital stock of \$80,000 to manufacture iron and steel from scrap iron and steel and are advertising for tenders for the erection of their buildings. Instructions have been given for the purchase of the necessary boilers, and arrangements made for the purchase of scrap.

The J. C. McLaren Belting Co., Montreal and Toronto, have sent us a circular which alludes to the fact that at a meeting of the leather belt makers of Canada held in Montreal, May 1, it was resolved that in consequence of the very large advance in the price of hides and leather the prices of belting be advanced and a new price list adopted. The price list alluded to shows that although the prices have advanced the discounts remain the same.

Buffalo Lumber Dry Kilns



The Largest Drier in America is equipped with a "BUFFALO" Hot Blast Apparatus.

THE OWNERS ARE ENTHUSIASTIC

All Users of Buffalo Kilns write letters similar to the one "The Kiln answers every purpose to perfection; the Dry Rooms are run with exhaust steam at mere nothing in the way of cost, compared with the old way. Your arrangement is very simple and easily managed, besides being a money saver in operation. We are able, with the Kiln you sent us, to dry soft woods in three days, and hard woods in five days. That's good enough for anyone."—SMITH BROS., Sayre, Penn.

Send for Catalogue.

BUFFALO FORGE CO., Buffalo, N.Y., U.S.A.

SOLD IN

TORONTO, ONT., BY H. W. PETRIE.

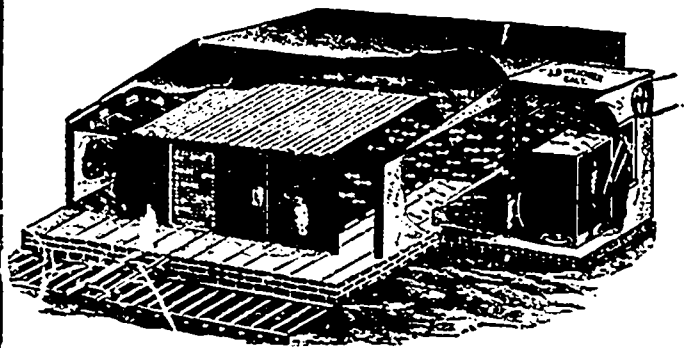
BRANTFORD, ONT., BY CANADIAN MACHINERY & SUPPLY CO.

MONTREAL, QUE., BY CANADA MACHINERY AGENCY.

CHICAGO STORE, 22 and 24 WEST RANDOLPH STREET.

McEachren's System of Drying, Heating and Ventilating

Under Recent Patents.



CHEAP AND EFFECTIVE.

Highly approved of by practical men.

The following is a specimen of letters received from customers.

J. D. McEachren, Esq., Galt, Ont.

Ottawa, April 1, 1895.

Dear Sir, Replying to your enquiry regarding Dry Kiln purchased from you last summer, we beg to state that our lumber is stained hardwood, principally birch, which is put through a chemical process thereby rendering seasoning a very little operation. We tried to have it dried in the several styles of kilns used by factories in this district, all of which failed to take the moisture out of the core of the wood. In August last we put in one of your kilns with a capacity of 10 cars, or 30,000 feet and since that time have seasoned most satisfactorily about 200,000 feet. The boards come out free from checks and warps and we are now thoroughly convinced that it is the only dry-kiln in the market which fills the bill both as to efficiency and economy.

Yours truly,

Mclure Bros. & Co.

For particulars address

MCEACHREN HEATING AND VENTILATING CO.,

GALT, - - - - - ONTARIO.

John O'Donnell, Arthur, Ont., is starting a new machine shop. The Gendron Mfg. Co., Toronto, propose to enlarge their factory. D. W. Hoegg & Co., of Fredericton, N. B., are building a new canning factory at that place.

The Ontario Forge and Bolt works, at Swansea, Ont. have been sold to John Pennell for \$120,000.

The Marion, Ohio, Steam Shovel Company are contemplating the opening of a branch factory in Ontario.

Mr. J. G. Bottomley will remove his cigar manufactory and staff of employes from Tilsonburg to Simcoe, Ont.

The Canadian Paper Company, Windsor Mills, Que., will spend \$200,000 in the extension of their works this summer.

The Lundy's Lane Electric Street Railway Co., Lundy's Lane, Ont., has been incorporated with a capital stock of \$30,000.

The Amherst Boot & Shoe Co., Amherst, N. S., intend building a new engine house, and will put in another engine and boiler.

The Ingersoll Electric Power and Light Company, Ingersoll, Ont., has been incorporated, with a capital stock \$45,000, to produce electricity, etc.

The Canadian Mining & Developing Co., Montreal, are applying for incorporation with a capital stock of \$100,000 to operate and develop phosphate and mica mines, etc.

John Rowe's organ factory, and Chas. Price's planing mills at Aylmer, Ont., were destroyed by fire May 26. The former's loss is about \$5,000 and the latter's about \$2,000.

The Ingersoll Rock Drill Co., Montreal, Que., inform us that they have completed arrangements with the Gates Iron Works of Chicago for the manufacture of their crushing and rock treating machinery in Canada.

The Canada Switch Manufacturing Company, Montreal, are applying for supplementary letters patent to extend the powers of the company to the manufacturing of railway, electrical, chemical and contractors' supplies.

A company proposes to build a bridge over the Detroit River at Windsor, Ont. The bridge is to be a cantilever, with a draw in the centre. The bridge will be forty-five feet above the level of the river, and during the season of navigation will be left open, except when required by passing trains. It was originally the intention of the company to build a tunnel, but it has been found that the railways and the travelling public prefer a bridge, consequently the tunnel idea has been abandoned.

Hugh Strong's cheese factory at Brighton, Ont., was destroyed by fire May 26.

The Oak Island Treasure Company, of Truro, N. S., proposes to put in a 30 h.p. engine.

J. C. McFarlane and Co. have been granted a bonus of \$15,000 for the erection of a cigar factory at Acton Vale, Que.

Messrs. T. S. Simms & Co., St. Johns, N. B., are applying for incorporation, with a capital stock of \$50,000, to manufacture brushes, brooms, etc.

The Halifax Electric St. Railway Co., Halifax, N. S., have ordered from the Robb Engineering Co., Amhurst, N. S., two 300 horse power tandem compound engines.

George Oille's machine shop and foundry at St. Catharines, Ont., owned by Messrs. Hogan and Leggett, of Montreal, and operated by Wright and Cunningham, was burned May 6; loss, \$10,000.

The Gurney Scale Co., Hamilton, Ont., have secured the contract for supplying scales for the ten new elevators to be erected in Manitoba by the Ogilvie Co. this year. Thirty scales in all will be required.

Oliver G. Anderson, manufacturer, of Walkerton, Ont., has purchased the furniture factory and business of the James Hay Company, Woodstock, Ont. He will close his factory at Walkerton and remove his business to Woodstock, Ont.

The Canadian General Electric Co., Toronto, have ordered three 100 horse power Robb Armstrong engines with extension base and outboard bearing for direct connected dynamos. One of these is to be placed in the building of the T. Eaton Co., and the others in the Union Station of the G. T. R. Toronto.

The stone building, belonging to Messrs. Cowan & Co., situated on the south side of their works, is being taken down preparatory to the erection of a three and a half storey building on its foundation. On account of the extra pressure on the firm's storage space, the addition is a necessity. A large oil house is also in course of erection. --Galt Reporter.

An effort will be made by the Edmonton, N. W. T., Board of Trade to have the Government test for oil at Egg lake. As this point is only twenty miles or thereabouts from Edmonton, it will readily be seen what a great advantage will be had in the way of access to the oil region should it be found there in quantities. There can be no doubt but that great wealth underlies the country north of the Saskatchewan at this point, and with the coming of capital to develop our oil fields will begin a new era of prosperity.

BRUNNER, MOND & CO., LTD., NORTHWICH, ENG.

MANUFACTURERS OF

PURE ALKALI

GUARANTEED 58 DEGREES.

and BLEACHING POWDER.

The Strongest and Purest Form of SODA ASH in the Market and the Most Economical Form of SODA for the Manufacture of

SOAP, GLASS, PAPER,
WOOD PULP AND COLORS,

also for PRINTERS AND BLEACHERS.

WINN & HOLLAND, Montreal

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IMPORTERS AND MANUFACTURERS OF

DYE STUFFS NATURAL AND ARTIFICIAL

Works: Long Island City, Port of New York
Main Office: 178 Front Street, New York

WE MANUFACTURE AND IMPORT

Every Modern Dye Stuff

Sole U.S. and Canada Agents for

Leopold Cassela & Co., Frankfort-on-the-Main, Germany.
W. C. Barnes & Co., London, England.
Manufacture Lyonnaise de Matieres Colorantes, Lyons, France.
Albany Coal Tar Dye & Chemical Co., Albany, N. Y.

One of Craig & Son's cheese factories at Russell, Ont., was destroyed by fire May 22.

The Cannington Electric Light Co., Cannington, Ont., have sold out to Messrs. Dobson & Co., of that place.

The Northern Elevator Co., Winnipeg, Man., proposes to erect a large cleaning and storage elevator at that place.

Messrs. Edwards & Meredith's mill at McAuley's Siding on the C. P. R., near Russell, Ont., was destroyed by fire May 22.

The Pelee Gas & Oil Co., Pelee Island, Ont., have received their boring apparatus and will at once commence boring for oil.

W. H. Cushing's sash and door factory at Calgary, N. W. T., was damaged by fire May, 12 to the extent of about \$3,000.

The Canada Wire Mattress Co., whose works at Toronto Junction were recently destroyed by fire, are removing their business to Montreal.

The Simpson Mfg. Co., Brantford, Ont., are applying for incorporation with a capital stock of \$45,000 to manufacture carriages, waggons, etc.

The Harold Barrett Co., of Port Hope, Ont., have been incorporated with a capital stock of \$49,000 to manufacture flour, cornmeal, cereal food, etc.

The Berlin Thresher & Mfg. Co., Berlin, Ont., are applying for incorporation with a capital stock of \$40,000 to manufacture threshing machines, agricultural machinery, etc.

The municipality of Wallaceburg, Ont., have decided to take \$15,000 worth of stock in the glass works at that place, in order to enable the company to complete their buildings.

The Collingwood Meat Company, Collingwood, Ont., have found it necessary already to enlarge their buildings, and will erect an extensive brick addition, which is to be used partly, or in whole, for the purpose of converting the refuse coming from the main factory into fertilizers. This new addition will require fifteen or twenty men to run it.

Messrs. J. C. Wilson & Co., papermakers, Montreal, have sent us their annual circular for 1895, having reference to the paper industry in Canada. This circular is neatly bound and contains engravings of their warehouses and factories in Montreal, their paper mills and machine bag factory at Lachute, Que., their pulp and paper mills at St. Jerome, Que., also descriptions of the kinds of goods manufactured by them. They also issue a 100-page illustrated catalogue and price list describing their different manufactures. The company will forward this catalogue on application.

Keens' saw mills at Sherbrooke, Que., were destroyed by fire on May 14.

Saml. Patterson's mill at Shanklin Settlement, N. B., has been destroyed by fire; loss about \$5,000.

The Langmuir Trunk Mfg. Co.'s factory at Toronto was damaged by fire May 15 to the extent of about \$20,000.

The works of the Elmwood Saw Mill & Furniture Co., Elmwood, Ont., were destroyed by fire on May 11; loss about \$40,000.

Messrs. Archibald Bros., millers, at Beachville, Ingersoll, and Woodstock, Ont., have dissolved partnership. Mr. J. M. Archibald will continue the business at Beachville, while Mr. J. P. Archibald will run those at Ingersoll and Woodstock, Ont.

In 1892 there was but one cheese factory in Prince Edward Island, Ont. The Dominion Government loaned machinery for more extensive operations, and sent their first consignment of 500 boxes to England for them. In 1894 \$78,000 worth of cheese was made, 10,000 boxes being sold for export. The total revenue for the farmers was \$50,000 more than they had ever realized before from the same cows.

The recent imposition of a higher duty on scrap iron, intended to encourage the development of the use of Canadian iron, is having its effect. The Ontario rolling mills company has been putting in a puddling furnace with a capacity of four tons a day, and will puddle a special grade of iron from Three Rivers, said to be superior to the Norway iron—one of the best grades in the world. In case this new departure proves successful, it may have the effect of largely increasing the consumption of Canadian iron, and will tend to boom the smelting business.—Hamilton Spectator.

Charles Corliss and Thomas Sanders, of Haverhill, Mass., have asked the legislatures of Massachusetts and New Hampshire for a charter to operate an electric railway from Haverhill through the Merrimac and St. Lawrence valleys. The new Hampshire line begins at Haverhill, Mass., runs twenty miles due west to Nashua, N. H., thence up the Merrimac Valley to Manchester, Concord, Franklin and Plymouth, to Fabyan's, thence continuing northerly to the Connecticut lakes and crossing the Canadian boundary to Victoria and the Canadian Pacific Railway at Gould, extends to St. Francis, on the Chaudiere River, and thence to South Quebec. Through the efforts of Hon. Louis Philippe Pellitier, M.P., of Quebec, and his associates, charters have been secured in the five Canadian counties touching New Hampshire on the north. The other branch of the road begins at Haverhill and runs through Maine, traversing the Kennebec Valley and crossing the Canadian border near Bald Mountain. Electrical engineer.

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WESTERN OFFICE. TORONTO, ONT.

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Direct Current Generators and Motors. Switchboards, Instruments, Wire, Electrical Supplies.

Correspondence solicited for

Electric Lighting, Railway, Manufacturing and Mining Work.
Isolated Plants. Central Stations. Long Distance Transmission
For Light and Power.

Orangeville has voted \$45,000 for water works system and will shortly advertise for tenders.

McMaster Manfg. Co., Orangeville, Ont., last week shipped two of their self-binders to the Royal Agricultural Society's Exhibition, which is to be held at Darlington, Yorkshire, Eng., in July next.

An official of the Lake St. John, Que., railway says:—"There are not a dozen people in Quebec or Montreal who have any conception of the lumbering operations being carried on this year on the St. Maurice river. You will be astonished, in fact, when I tell you that the volume of business is almost as extensive as on the Ottawa. One firm alone, and at one point, employ 1,100 men and 600 horses, and the supplies for this little army mostly come from the city of Montreal. Where our bridge crosses the river a pulp mill has been erected at a cost of one million dollars. Both in the mill and in the woods the number of men employed must run up to very near a thousand. As a matter of fact, no one can form any estimate as to the magnitude of the several industries along the River St. Maurice without being on the spot."

The Buffalo Forge Co., Buffalo, N.Y., inform us that during the first quarter of this year they built over 100 engines. They have been unusually busy in their engine department, and in special departments have had to run overtime to keep pace with orders. This company manufacture several types of engines, including single upright and single horizontal engines for direct attaching to fans for heating work; double upright and double horizontal engines for direct attaching to fans for forced draught and other duty where a continuous run without cessation is required; direct connected double engines each of ample capacity to drive the fans independently; single upright automatic enclosed engine; double upright and automatic enclosed engine, especially adapted for dynamos or shipboard; centre-crank automatic horizontal engines for direct coupling to dynamos, and for other power purposes. The electric light engines are a more recent departure, and they are now building a great many of them as they find their trade increasing constantly. This company are preparing a handsome catalogue descriptive of their various engines, etc.

T. G. STEWART, Electrical Expert. C. M. ARNOLD, M. E. F. J. CROSS, E. E.

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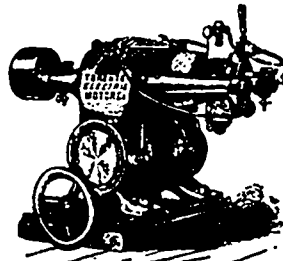
Selling Agents for Beam Warps

The large band saw mills recently added to Messrs. Wm. Mason & Son's mill at Ottawa, Ont. were manufactured for them by the Waterous Engine Works Co., Brantford, Ont.

The number of drying industries to which the Buffalo Fan System has been applied with marked success is really remarkable. The humidity and temperature of the atmosphere and amount of air delivered to a drying room is absolutely under control, and with these conditions it is possible to dry any material as efficiently as it can be done with any other system. The drying plant installed for the American Potato Flour Co., Saginaw, Mich., by the Buffalo Forge Co., is a very interesting piece of work, and the company write concerning it as follows:—"We are pleased to say to you, Gentlemen, that the heater you put in for us last January has done us more service than any other heater we have ever used and it is a complete success for us in drying our potatoes so that we could grind and get them into flour. The potato being about 85 per cent. water we have always found it very difficult to get them dry enough before becoming sour until we put in your apparatus."

Friday, May 24, a pleasing event took place at the glass works, when the great glass tank received its name. The brickwork on the arch was just nearing completion when Capt. J. W. Steinhoff, president of the company, entered the building, accompanied by his niece, Miss Eva Kelly, who mounted the ladder with a Union Jack in her hand, which she unfurled and placed on the arch. She then drove the key brick of the arch and said: "I name this tank the 'Nonpareil,' and trust the works with which it is connected may prove a lasting success to those who are identified with it, and that it may be of great benefit to our town as well as the province in general." Saturday a number of our citizens gathered to witness the completion of the brick-work of the immense smoke-stack at the glass works. The raising took place on Monday. It was then necessary to line it with fire brick from bottom to top before it was completed, which, it was supposed, would take a week or more to do, but by rapid work it was completed on Thursday. A Union Jack was placed on top, where it can still be seen flying in the breeze from its high position. The weight of the smoke-stack, complete, is twenty tons, and it will retain its perpendicular position safely without guys.—Wallaceburg, Ont., Herald.

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UNDERWEAR, HOSE, WHEELING, FINGERING and WORSTED YARNS
EIDERDOWN FLANNEL, Etc.

Selling Agents: DONALD FRASER, MONTREAL: E. H. WALSH & Co., TORONTO

The Ogilvie Milling Co., Winnipeg, Man., will erect eleven new elevators in different parts of that province, and build additions to old ones. The stations at which new buildings will be erected are: Carman, Holland, Cypress, Methven, Virden, Winkler, Hamiota, Oak River, Pettipiece, Emerson and Neepawa.

The attention of our readers is called to the announcement of Mr. W.R. Scott, who has a large stock of shafting on hand, which he is prepared to close out at a sacrifice to make room for other goods. Mr. Scott also represents the Reid Bent Rim Wood pulley, which he says the demand for is increasing daily. If you need anything in Mr. Scott's line he will be pleased to answer all enquiries.

The Robb Engineering Co., Amherst, N.S., have sent us their catalogue having reference to the Robb Armstrong boilers, engines, etc., manufactured by them. It contains illustrations in perspective and detail sections of the different engines made by them, also accurate descriptions of the same and of the parts belonging thereto. We are informed that in 1891 when this company commenced the manufacture of the Robb-Armstrong engine, recognizing how much depended upon adopting the best possible combination of parts in designing an engine of this type as well as in organizing shops to produce a perfect machine, they employed an experienced and skilled American expert (Mr. Armstrong) to design the machine and organize the shops which were fitted with tools especially adapted to the work, and to instruct workmen in the latest and best machine shop methods employed, the interchangeable system, which has proved so successful in the production of watches, fire arms, and other high grade machinery. Regarding their tandem compound engines, we are informed that during the past few years these engines have become very popular, and the development of the high speed compound which occupies but little room, and considering the saving in boiler power, has done much to make compounding acceptable for all purposes. Regarding the engines manufactured by them for electric railways it is stated that when engines are ordered for street railway or other work imposing sudden changes of load and unusually heavy strains, they build them with heavy forged cranks and wheels of about double the usual weight, and with all the parts in such proportion as will give perfect satisfaction under the most trying conditions. Their direct connected engine and dynamo, which is illustrated in the catalogue, is, we are informed, becoming very popular on account of the small space occupied, the absence of belting, countershafting, and other intermediate gearing, thus saving much in friction, wear and attendance. This pamphlet which is well got up and is exceedingly pleasing in design and execution is printed by the Brough Printing Co., Toronto.

Messrs. McLea, Walbank and Thomas Pringle, of Montreal, have applied for permission from the Public Works Department to erect works at the Lachine rapids for generating water power.

The British Columbia iron works, of Vancouver, has secured the order for the equipment of the Sloacan Tramway Company's lines, which are being built from the concentrator at New Duluth to the Idaho, Cumberland, Alamo, Yakima, Twin Lakes, and St. John mines. Capt. Moore, the manager of the mines, was not aware that the articles he required could be obtained in British Columbia, but the Vancouver works have bravely tackled the undertaking. The British Columbia iron works will extend their capacity to manufacture all kinds of concentrator and general mining machinery.

Lois Edworthy, a Hamilton, Ont., pattern-maker, after 18 or 20 years of experimenting has completed a moulding machine for use in foundries, etc. One of these machines, run by a 20 horse power engine and men to pour in, will do the work of 200 moulders. Mr. J. H. Tilden, president of the Gurney-Tilden Stove Co., and Mr. Jno. Milne, of Burrows, Steward & Milne, have given the opinion that it will be a success and will completely revolutionize the moulding business. The machine is strong and simple looking, but its working parts are not so simple, some elaborate machinery having been introduced to do away with the noise which the machine, in its simpler form, made. It is now comparatively noiseless. The moulding machine consists of a frame work about twelve feet long, seven feet high and four or five feet broad. A track runs underneath this frame on which the moulding boxes are carried to their position under the sand pipes. The sand is introduced from overhead and conducted into the boxes in which it is rammed by means of automatic rammers, operated by air pressure through short iron pipes. The moulding boxes are rammed on one side, turned over by the machine and rammed again in the other so as to fill up all blow holes and prevent the possibility of flaws. The pouring in the molten iron is done by hand. So quickly is the making up of the moulds done that the blast can be kept up any length of time and the men kept pouring off. After being poured off the moulds are run out on the track and when cooled off the machine does its own shaking out. Any size or style of moulding box can be put in up to the limit of the breadth of the machine. The one that Mr. Edworthy has made will take in any stove, furnace or machinery moulding that is made in this city.

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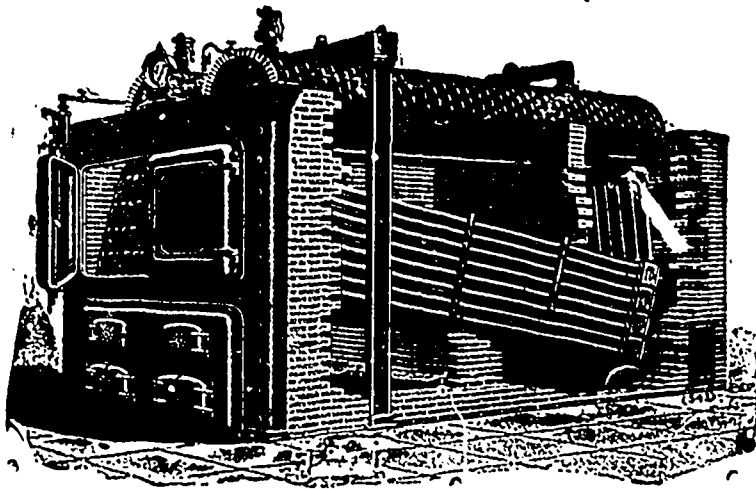
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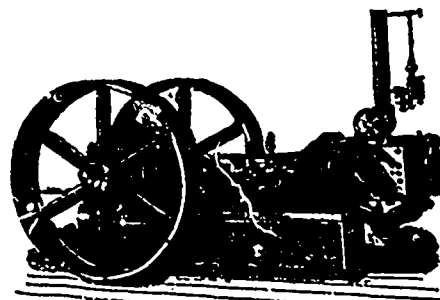
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The Stability of Logwood Colors to Light.

BY PETER T. AUSTEN, PH. D., F.C.S.

During the last few years great progress has been made in the manufacture of logwood products. Extracts of greater purity and strength have been produced and, as a novelty, the granulated logwood product, known technically as "Hemolin," has been introduced. It occurred to me that it would be interesting to make a set of comparative dyeing and determine by exposure if there are any noticeable differences in the stability to light of these various logwood products.

To this end I dyed swatches of woollen cloth with a high grade logwood extract, logwood chips of best quality, Hemolin XS and Hemolin X, on chrome mordants and on tinctorial equality with 8 and 10 per cent. of Hemolin X, which was a blue black. In order that any possible differences arising from variations in the mordanting might not be overlooked, the swatches were mordanted in three ways:

1. 3 per cent. Chrome and 3 per cent. Tartar.
2. 3 per cent. Chrome and 1 per cent. Sulfuric Acid.
3. 3 per cent. Chrome.

After dyeing the swatches were divided, and one-half was exposed

to a strong sunlight for a week, while the other half was kept in the dark.

In all cases the exposed samples lost slightly in bloom and gained in depth of color. The decrease in bloom was, however, more noticeable in the case of the 8 per cent. standard than of the 10 per cent. standard.

The difference between the tones of color after exposure is not very marked, but in the lighter dyeings the extract was not quite equal to the Hemolins and Chip Logwood. No difference in the tones of color after exposure could be observed between the dyeings both light and heavy with the Hemolins and Chip Logwood.

This is probably accounted for by the fact that the manufacture of Hemolin is essentially an oxydizing process as is also the methods of curing chips. Hence the coloring matter in Hemolin and Chips is doubtless in the fully oxydized condition, or as Haemateine, while in the extract the coloring principle, Haematoxyline, has been only partly oxydized into the coloring matter, Haemateine.

From these experiments it is therefore to be inferred that of logwood blacks on chromed wool those dyed with Hemolin and Chips behave a little better on exposure than those dyed with Logwood Extract

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The following patents have been issued from the Canadian Patent Office, from March 1 to March 12, 1895, inclusive.

Information regarding any of these patents may be had on application as follows:—

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- Ridout & Maybee, 103 Bay street, Toronto.
- A. Harvey, Central Chambers, Ottawa.

Copies of American patents corresponding to Canadian patents can be procured from either of these attorneys for the sum of twenty-five cents each.

48,301 Garden rake, Jas. A. Lima, Liberty, Ill.

48,302 Hat fastener, Isabella S. Niles and Geo. Rich, Sturgis, Mich.

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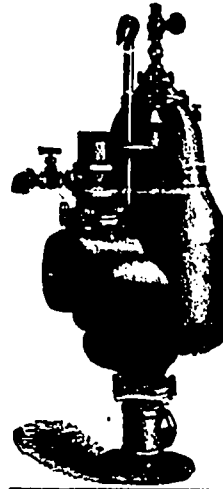
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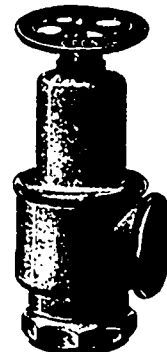
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- 48,306 Needle for weaving cane, Edmund Morris, Michigan City, Ind.
- 48,307 Shaft tug, Jay D. Harrigan, Gouverneur, N.Y.
- 48,308 Gate closer for elevators, Jas. M. Elder, Indianapolis, Ind.
- 48,309 Moquette fabric, Warren B. Smith, Yonkers, N.Y.
- 48,310 Moquette loom, Warren B. Smith, Yonkers, N.Y.
- 48,311 Injector, Wm. H. Sterling, St. John, N.B.
- 48,312 Clothes rack, Thos. Ed. Agan, New Whatcom, Wash.
- 48,313 Paper feeding device, Francis C. Graves and Hy. B. Cooley, Hartford, Conn.
- 48,314 Stave preparing machine, The Pleukharp Barrel Machine Co., Columbus, O.
- 48,315 Envelope and box fastener, Benj. L. Armstrong, Norwich, Conn.

- 48,217 Powder and fuse warmer, Albert Price, Maryville, Mont.
- 48,318 Brick kiln, Wm. Sercombe, Poole, Eng.
- 48,319 Device for drying boots and shoes, Alfred Rodde, Lubeck, Germany.
- 48,320 Method of packing valve stems, Isaac Pierce, West Bay City, Mich.
- 48,321 Infuser for tea pots, Frank W. Bentall, Essex, Eng.
- 48,322 Oscillating device for vehicles, Ed. W. Crane, Oshkosh, Wis.
- 48,323 Crane for manipulating tongs, John F. A. Smith, and Jas. Bryant, Benwood, W.V.
- 48,324 Slop dish and dish pan rest combined, Walter Davidson, Toronto, Ont.
- 48,325 Door hanger, Albert L. Swett, Medina, N.Y.
- 48,326 Moustache adjuster, Jas. J. McCallum, Belleville, Ont.
- 48,327 Gas engine, Homer L. Boyle, Grand Rapids, and Frank R. Gates, Owosso, Mich.
- 48,328 Machine for grinding corles into shape, John E. Howard, London, Eng.
- 48,329 Transmitting mechanism for threshing machines, Chas. Goddard, Chicago, Ill.
- 48,330 Brake adjuster, Martin E. McKee, St. Paul, Minn.
- 48,331 Shaft aligning device, Jacob M. Isgrig, Traverse City, Mich.

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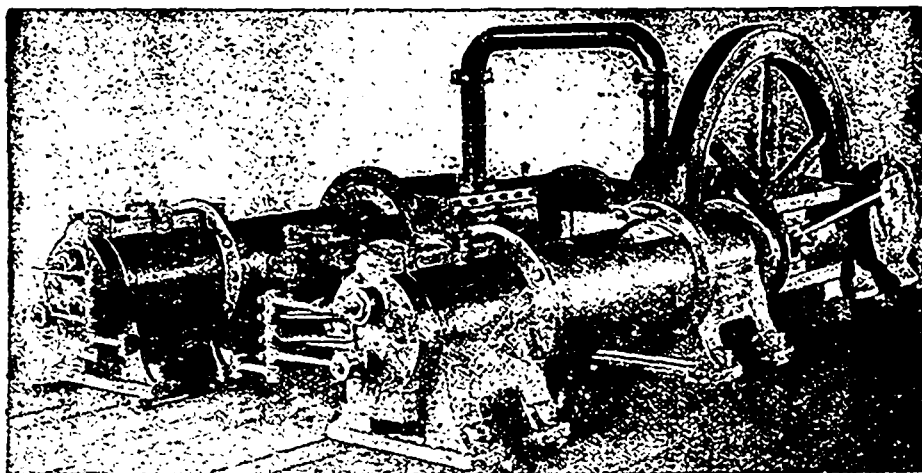
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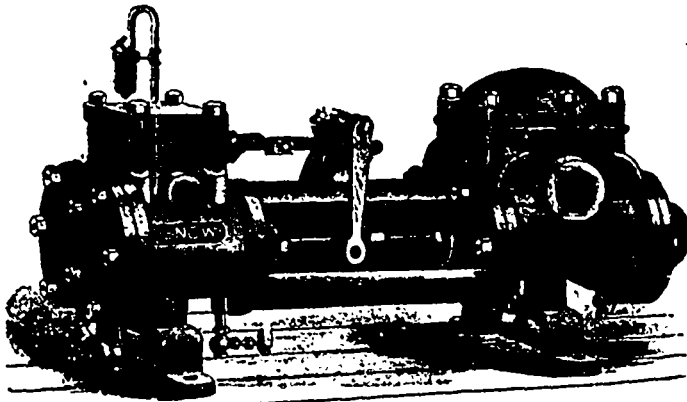
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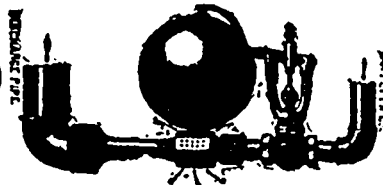
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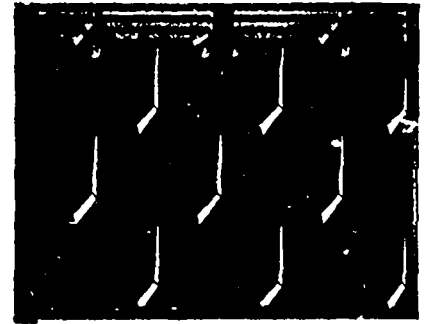
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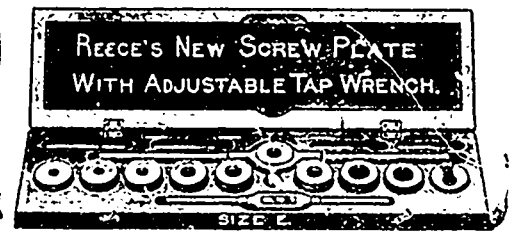
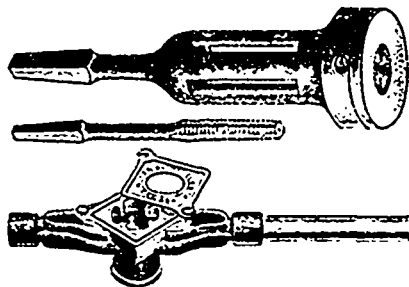
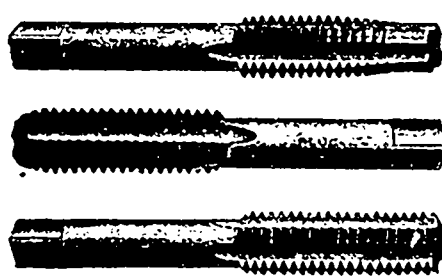
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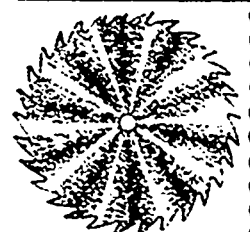


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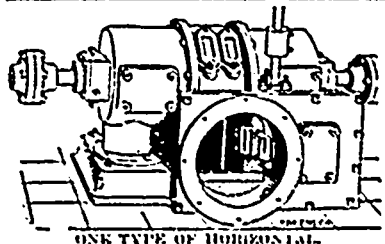
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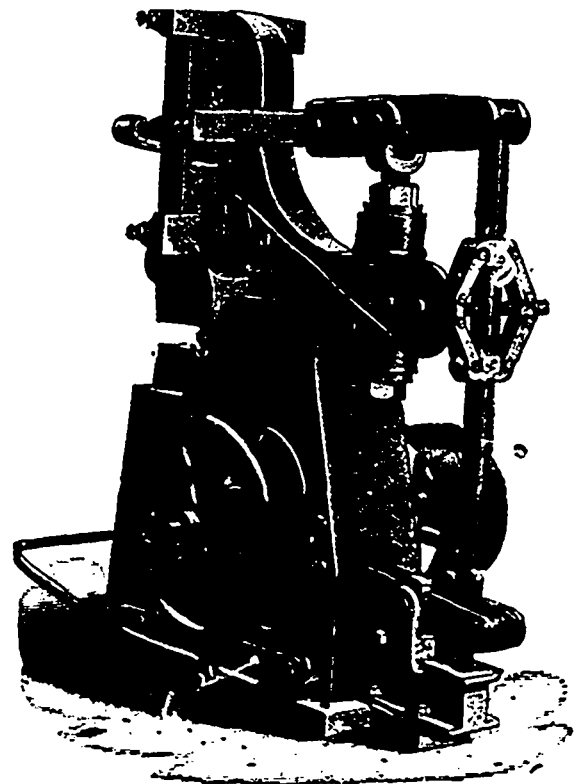
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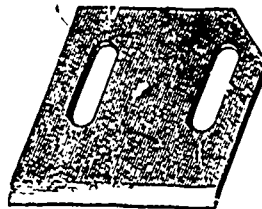


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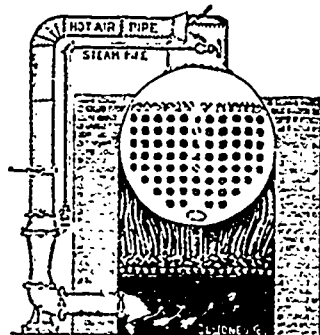
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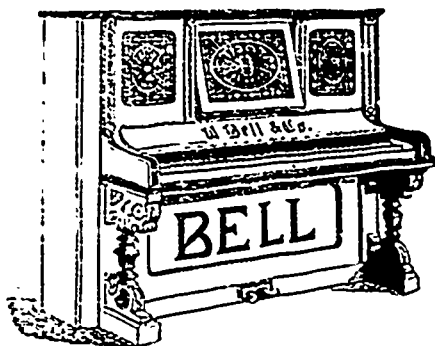
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Other Assets.....	58,039 88	88,330 40	Net Surplus.....	NIL	50,689 72
Total.....	\$293,592 53	\$821,320 88	Income.....	157,354 97	306,716 63
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