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BOILERS and ENGINES

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CANADIAN MANUFACTURER
 AND INDUSTRIAL WORLD
 DEVOTED TO THE MANUFACTURING INTEREST OF THE DOMINION

Vol. 25. TORONTO, NOVEMBER 17, 1893. No. 10.

... ESTABLISHED FIFTY-FIVE YEARS ...

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Dyewoods, Dyeing Drugs
ACIDS
 PURE DYEWOOD EXTRACTS
CHEMICALS, ALKALI, ETC.

SOLE AGENTS FOR THE CROWN ANILINE DYES ALIZARINES, ETC.



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 Manufacturers of Aniline Dyes and Alizarines
 Read, Holliday & Sons, Ltd., Huddersfield, England
 Manufacturers of Aniline Dyes
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F. E. DIXON & CO.
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LARGE DOUBLE BELTS
 Made up to any width.

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THE J. C. McLAREN BELTING CO., TORONTO AND MONTREAL

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Canada Tool Works
 Dundas, Ont.

See Advertisement, Page 435

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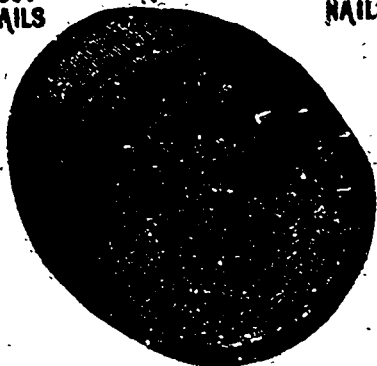
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ASK FOR THE GRAHAM NAILS

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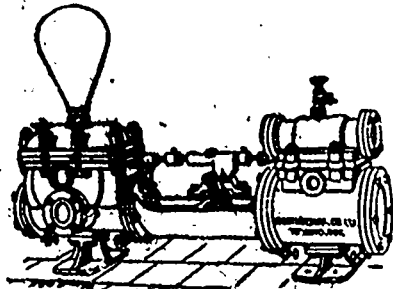
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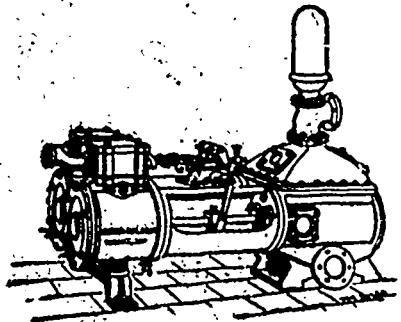
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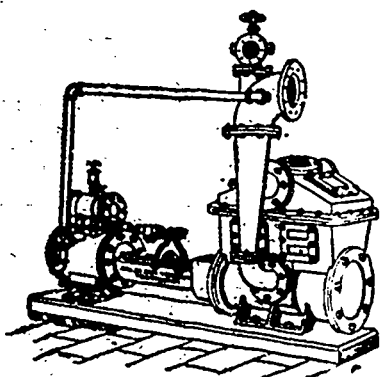


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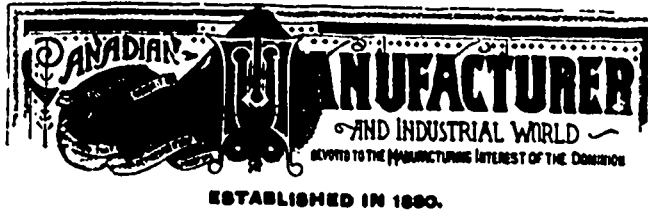
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BOILER EXPLOSIONS.

WITHIN the past few days exchanges reaching this office have contained accounts of quite a number of boiler explosions, each of which caused great and lamentable loss of life and destruction of property.

The most terrible of these explosions was that of a boiler in the engine room of the stables of a street railway company, in Fourteenth street, New York, which occurred on November 2. The boiler gave way in the middle, the two halves being propelled in opposite directions with the force and awful effect of high projectiles of war, accomplishing a ruin almost unparalleled in that city from similar cause. One half of the boiler crashed through three walls and into a court beyond, and penetrated another building. The other half burst through the front brick wall of the building in which it was situated, proceeding across the street and into a building which it wrecked. Five men were killed outright, nineteen persons were injured, some of them fatally, eighteen

horses were killed, and the damage to property was about \$53,000. The Chief Boiler Inspector, of New York is reported as having said that throughout that city are hundreds of steam boilers which are never officially inspected, and which are managed by engineers who do not possess licenses. These boilers are exempt by law from inspection because they are supposed to carry only a low pressure of steam, his opinion being that the limit allowed is exceeded in many instances. Many of these boilers are supposed to be in use exclusively for heating purposes, and are to be found in apartments and flats, warehouses and hotels.

Another explosion which was very disastrous, though not attended with so great loss of life and destruction of property, was that of the boiler in the shingle mill of Messrs. Goupil & Bruneau, at Ste. Anne du Sault, Que., on November 5. The mill was wrecked and three human lives sacrificed, one of which was that of one of the owners. Some remarkable facts have developed in connection with this explosion. The Quebec Superintendent of Factory Inspectors sent Mr. Louis Guyon, an inspector, to visit this wreck and obtain all possible information concerning it. Mr. O. E. Granberg, inspector for the Boiler Inspection and Insurance Company accompanied Mr. Guyon. On examining the fragments of the boiler it was discovered that this was the one which Mr. Granberg had examined in Montreal in July last, at the request of a dealer in second-hand machinery. The boiler had then been carefully inspected, and an attempt made to test it by hydraulic pressure at the request of the dealer. The test showed the great weakness of the boiler, and the inspector refused to give a certificate, and warned the owner that it was not fit for steam pressure, and advised him to break it up for old iron. Notwithstanding this, the boiler was sold and erected in the shingle mill at St. Ann du Sault. Some time after that another inspector of boilers is said to have called at the mill, and after looking at the boiler said it was good for 65 pounds steam pressure. The boiler had only been in use under steam pressure for about five days when the explosion took place. That the explosion was due to inherent weakness, and not to the manner in which the boiler was managed, is made quite clear by the appearance of the remains. There is no evidence that the water was too low, but all the indications were that there was abundance of water, and that the explosion took place simply because the worn out boiler could not retain the steam which had been generated in it.

We have been shown a letter written by Mr. Granberg on July 19 last to the head office of his company, in reference to this boiler, in which he stated that he had only the previous day inspected it at the request of a dealer in old boilers. He discovered it to be an old saddle boiler, which would not stand the test the owner desired for it. The owner had sold it, and agreed to supply a certificate from Mr. Granberg that he had tested it up to 125 pounds pressure. Under the hydrostatic pressure applied by Mr. Granberg, when 110 pounds was reached the interior straps broke, and the flat surface bulged some two inches out of shape. "The man then had the cheek to ask me," writes Mr. Granberg, "to give him a certificate for 110 pounds test. I would not give him a certificate of any kind, and I told him the boiler was entirely unfit for use. I could not find out who was buying the boiler. I object to a boiler of that description going into use to kill people; and

if I knew of any way to stop it I would do so, for it is a death trap. There ought to be a law forbidding the sale of second-hand boilers unless they are properly inspected and tested, and their working pressure fixed by men who understand their business and are honest. I feel that if this boiler goes into use, and as much as 80 pounds of steam is carried on it, as I understand is to be required of it, it will certainly be the death of some poor fellows." Mr. Granberg was a prophet.

How many cities and towns are there, like New York, or even provinces, where there are no laws requiring the frequent inspection of boilers by competent men, who, as Mr. Granberg puts it, "are honest?" In New York an exploded boiler goes hurtling through a crowded street, carrying death and destruction with it; and, according to the Chief Boiler Inspector of that city, there are hundreds of boilers there which are never officially inspected, and which are managed by engineers who do not possess licenses, simply because there is no law requiring either inspection or license. In many streets of Toronto and other places in Canada are steam boilers located beneath sidewalks, over which men and women are passing constantly, all unconscious of the pent-up power that lies beneath their feet. Who knows whether these boilers were ever inspected, or when; and if they are in charge of competent licensed engineers? Reference is made to this phase of the question in a letter published in another page. As our correspondent expresses it, the question of licensing stationary engineers, and requiring that all stationary boilers be frequently inspected, is one well worthy the attention of the Government.

The incidents which are herein alluded to should arrest the attention of all users of stationary boilers. Here we see that great loss of life and property resulted from neglecting an evident duty. The owners of the boilers never expected that they would explode; probably they never gave the matter a thought; and it is to guard the innocent and the unsuspecting from the consequences of such neglect that suitable laws should be enacted and enforced. There are many steam users, however, who would not be thus disregarding of their own interests and of the lives of human beings were their unthoughtful neglect brought to their attention, and it is our desire to thus remind them.

It used to be that when a boiler exploded and killed people the verdict of the coroner's jury usually was, "Died by the visitation of God," or "Unavoidable accident," or something of that sort. We know better than that now. We know that God does not cause boilers to explode; we know that the explosion of boilers are not unavoidable accidents; and we know that if boilers are kept in good condition, and are in the care of reliable engineers, explosions are not apt to occur. Wise laws provide that on steam vessels no engineer is allowed to have charge of boilers who has not been granted a certificate from proper authority allowing him permission to act as such. These laws are strictly enforced, particularly where passengers are carried. But it is not so on land, where boilers are in use in hundreds of places where people are constantly passing, unconscious of the fact that no law exists, or is in force, requiring the frequent inspection of boilers, and that they shall be in the control of licensed engineers. The cupidity of many owners of steam plants restrains them from observing the proper precautions regarding them; and when so-called accidents occur, if none but they were injured or

killed, perhaps the public would not shed many bitter tears. But usually when boilers explode the resultant death and destruction reaches far beyond the man whose culpable negligence caused it. The law should make frequent inspections imperative, and make it a criminal offence for any man to take charge of a boiler who does not hold a license or certificate from proper authority to do so.

ADVERTISING CORMORANTS.

For some time past the Toronto World has been waging war upon the Toronto Mail because, as it alleges, the Mail is in the habit of cutting rates when soliciting advertisements. It classifies the Mail crowd of advertising solicitors as master fakirs, fakirs and underfakirs, and declares that those who own or run the Mail try to bulldoze those interested in certain sales into advertising them in that paper. It also says that the Mail proposes to bullyrag the business men who decide for themselves how they shall advertise. The reason assigned by the World for taking notice of such things is because the Mail had attacked it by asking the invariable and impertinent question of business men, "Why do you give advertisements to the World?"

We quite agree with what the World says in the following:—

Business and professional men surely have a right to place advertising in whatever newspaper they think best. They are not bound to put it in every paper, as The Mail imagines. Newspapers have no "rights" to this or that patronage. And yet, "Why don't you give it to us," is the half-cry, half-threat of The Mail, and the reason for their attacks on the auctioneers. The truth is, as everyone knows, there are too many big morning dailies in Toronto. Three of them have been fighting for life for five years back. The Globe is climbing up out of it, but The Mail and Empire are down in the midst of it, scratching and clawing. And who should suffer but The Mail? It brought the Empire into existence. Business and professional men say: "We are not to be compelled to support unnecessary newspapers, papers that have either lost caste or have arisen out of political squabbles." Business men select a paper known for its business character, that has the patronage of business men, and whose main mission is to promote the trade, commerce and business interests of Toronto.

In the World's attack upon the Mail it calls the attention of business men to the fact that there is no limit to the advertising demands of the Mail people; that they have all under one management a morning paper, an evening paper, a weekly paper, a Saturday paper, an illustrated supplement, an art supplement, a farm and fireside branch, etc; and they have turned loose on the town never less than thirty advertising solicitors. They have been in all sorts of fakes and gift enterprises; they believe that the business men of Toronto are bound to advertise in their publications; that the Mail crowd expect too much, and are cormorantish in their appetite. "What more can the Mail expect from the town?" it asks. "Do they think they are free to flood it with sheets to catch advertising and to turn thirty fakirs on the business man to dog his life out?"

The fight is interesting in that one of the Toronto daily papers shows up some of the methods of another Toronto daily paper in endeavoring to obtain advertising business by methods that are not considered fair and legitimate; and our purpose in alluding to this matter is to show that not only the Mail but all the other Toronto dailies are in the same boat, special re-

ference being had to the methods pursued by those papers at the recent Toronto Industrial Exhibition. Hundreds of manufacturers were induced to bring exhibits to the Fair, and perhaps not one in ten of them received any compensation whatever for the care, labor and expense they were at in thus exhibiting. The object of the Industrial Exhibition Association was to show to the country what Canada could do in the way of manufacturing all kinds of machines and machinery; and the object of the manufacturers was to show that they were the ones who could produce the goods. And while the displays there made reflected much credit on Canada, the Fair itself was of great value to Toronto in that it brought hundreds of thousands of visitors into the city who distributed much wealth in it, and who could not but sing its praises afterwards. This is where Toronto was and is benefited by the Fair, and by the hundreds of exhibits made by the manufacturers. Of course there were many most interesting exhibits at the Fair other than those here alluded to; and without doubt these added vastly to the interest of the occasion. Horses and cattle, sheep and hogs, poultry and apiary products, the fruits and flowers and the grains and vegetables all possessed interest as showing that the agricultural, farming and kindred industries of the country were in a most flourishing and encouraging condition.

It might be reasonably be supposed that with so large and important an attraction as the Toronto Fair in active operation within the limits of the city, where scores of thousands of people assembled every day, the Toronto daily papers which profess so much attachment and devotion to the interest of the city would have found pleasure in giving generous space in recounting and enumerating the attractions of it. And so they did in certain directions. They told about all there was to say about the sights to be seen in front of the grand stand; of the acrobatic and trapeze performances; of the trained horses and dogs; of the wild Arabs of the desert, imported direct from the Midway Plaisance, and of the camels they rode; and quite vivid descriptions were given of the Nautch girls and their sinuous and suggestive dances. They gave, too, the names of the fast horses and the time they made; and when the awards were declared for the prize animals, they were published. It was all right that this information should be given, for if it had not been, together with the names of the favored ones who were invited to partake of lunch with the directors, the public would not have known that the Fair was in operation. These announcements were made as matters of information to the public of what was going on at the Fair; and from the nature of them no money was paid for their publication in the Toronto daily papers.

But when it came to noticing the exhibits of the manufacturers the methods of these papers were entirely changed. There were many valuable exhibits of machines and machinery shown there upon which the manufacturers had expended a great deal of money, had been at heavy expense in setting up and operating, paying hotel bills for attendants and large charges for incidentals; and which were centres of attraction to large crowds of intelligent visitors at all times. And here it was that the advertising cormorants of the Toronto daily newspapers got in their fine work. It was an understood thing with them that no mention would be made of any such exhibit unless paid for at so much per line.

The performances of fast horses were described with much

minuteness, but no mention made of an automatic machine that seemed endowed with more than human intelligence. The names of dogs and their owners were given, and genealogical histories of pugs and pets of no intrinsic value whatever, but no mention of a carriage elegant enough for the uses of a princess. The suggestive dances of oriental ballet girls were mentioned, and how these same newspaper fakirs were admitted on the sly to witness their capers, but nothing said about iron working machinery, the like of which excite the admiration of the best scientific machinists and engineers at the World's Fair. The Punch and Judy show received newspaper comment, but never a word about agricultural machinery that surprised Europe and won the highest awards at the Paris Exposition. If the exhibitors of any of these specimens of the handiwork of Canadian mechanics, and the products of Canadian workshops desired to have any mention made of them in the Toronto daily papers, it could only be obtained by paying so much per line.

Of course under these methods such notices could possess but little if any value. In many instances the very language of them betrayed the fact they were not the observations of intelligent reporters desiring to tell readers what was to be seen at the Fair, but the "write up" business obtained by what the World calls the advertising cormorants, whose sole object was to book orders for as many lines as might be obtained. Some of these notices were no doubt quite free from exaggeration, but others of them showed but too plainly that they were written by unwise men who imagined that the public would give credence to claims that the articles written about were of quality superior to all other similar articles, and that the manufacturers of them were the only ones in existence who knew how to properly construct them. This feature of these write up notices has degenerated into a farce, with the result that intelligent readers of the Toronto daily papers usually turn from such disgusting puffery, leaving it unread.

It is no part of our business to criticise the business, or the reportorial methods of these daily papers. If by the methods which they pursue they forfeit the good opinion of business men, it is their lookout. It is evident that when intelligent people scrutinize the matter they will conclude that when the daily papers prostitute their columns by thinly disguised efforts to palm off as fair and legitimates notices of displays at the Fair such advertising fakes as they admit at so much per line, allowing all sorts of ridiculous and improbable assertions to be made, frequently reflecting very unjustly upon other concerns, confidence is weakened in what may be said regarding other things, and feelings of pity and disgust are awakened that such an objectionable and short sighted policy should have been adopted.

Our concern, however, is for the manufacturers who exhibit at the Toronto Fair, and that they be protected against the advertising cormorants of the Toronto daily papers who infest it. Something should be done to abate the evil. We have knowledge that the continuation of this evil will drive some exhibitors to abandon the Fair, and cease lending their endeavors to make it a success. We have knowledge that already certain exhibitors have so determined; and if the officials of the Fair would prevent what may sooner or later result in a stampede, they should devise some way of abating the evil here alluded to.

MISSPENT MONEY.

RECENTLY one of the daily papers of London, Ont., induced the city council of that city to subscribe for a large number of copies of an alleged trade edition, in which the beauties and glories of that town were to be set forth in glowing colors and the attention of the whole country and the rest of the world directed to its advantages as a manufacturing centre. The venture did not give the unbounded satisfaction that had been hoped for, and when the matter came up for discussion in the city council many cold, cruel and sarcastic remarks were made concerning the abortion. An alderman asked the mayor if it were the intention of council to pay good money for the work; that his personal opinion was that it was a disgrace to those who got it up, a disgrace to the office that published it, and a libel upon the gentlemen—meaning the aldermen—who were represented in it. Another alderman produced a copy of an American paper which also contained a write-up notice of London, for which the city council had paid several hundred dollars, a large number of copies of the paper being then stowed away in the basement of the city hall. After further discussion the conclusion was arrived at that inasmuch as five thousand copies of the local paper containing the write-up had been ordered, without stipulation as to the particular matter which should be included, the copies would have to be accepted and paid for; and it was determined that they should be distributed freely on the railway trains passing through the city.

Without doubt all money expended in this fashion is wasted. It is all well enough for authorities of cities and towns to endeavor to bring their places to the attention of the public, and to show the advantages they possess as manufacturing, business and social centres. Quite a large number of Canadian towns have been pursuing this course, going to considerable expense in having their chief places and objects of interest photographed and photo-engraved, and entertaining descriptions written to accompany them; and the business men of the places have contributed liberally in having pictures of themselves and of their places of business included in the write-ups. These illustrated descriptions usually look well on paper; and the publisher who has scooped the business is always shrewd enough to obtain orders for large numbers of copies from the municipal authorities, and also from such individuals and concerns as may be mentioned or pictured in the paper. It is doubtful, however, that such advertising pays. To whom, as in the London incident, are the five thousand copies subscribed for by the city to be distributed? And to whom are the other thousands of copies, subscribed for by individuals, to go? As far as the retail trade is concerned, business is not likely to be diverted from other towns. If it is hoped to build up the churches and similar institutions, people are not likely to migrate from one place to another merely to enjoy some peculiar religious and social privileges. If it is to direct the attention of manufacturers, or of those who might be inclined to invest money in manufacturing enterprises, to the peculiar advantages of the place, it ought to be known that such people do not usually look to write-up notices in the daily papers for such information. In considering business of this character, men with factories to move, or with money to invest, are not influenced by pictures of city aldermen, or of churches and other public

buildings. And in the distribution of papers containing these write-up notices, to whom are they sent? How is the town clerk to know to whom should be addressed the thousands of papers he suddenly finds thrown on his hands? And the merchants and others who also find large supplies of these papers at their disposal—what do they do with them? Perhaps the London aldermen did the best thing possible under the circumstances in scattering their papers broadcast on the railroad trains, but the Chicago Fair is now a thing of the past, and the example is not available with other towns. If the paper had no ink upon it it might be useful for commercial purposes, but the ink spoils it for many uses, and, as with the silly venture of London in advertising in an American paper, cellar vaults are likely to become the repository of the ill-advised investment.

It is not a mistake to advertise the advantages possessed by a town, but the advertisement, to be efficacious and valuable, should be judicious. It is not judicious to advertise in papers that do not reach those for whose eyes the matter is intended; or in papers that are worse than thrown away promiscuously on railway trains, or that are stored away in cellars and vaults. If it is desired that the advertisement shall reach the attention of manufacturers who might be induced to examine into the matter, it should be placed in journals that reach that class of people. When a manufacturer lays eyes on such a journal as THE CANADIAN MANUFACTURER he knows that he will not be confronted therein with love stories, poetry, recitals of rape and debauchery cases, scandals and all manner of objectionable stuff published specially to pander to the tastes of the purient. He knows that what he sees there is business straight and simple, and he goes carefully through all the pages to learn what other business men have to say. And it is in such journals that such advertising can best be done, and from which the best results are to be obtained.

STUDENTS' PRANKS.

It is the boast of some people that Toronto is most emphatically a university town, seeing that it has so many institutions of learning, and that the students attending them are numbered by thousands. In the abstract learning is a good thing, and if it is of the right sort; if it does not cost too much, and if the expense of maintaining universities and colleges does not bear with too much unequalness upon those least able to stand it, it may be well to give the boys a chance to become doctors of law, of medicine, of divinity, of horses, of cattle or of swine, if their inclinations flow in such directions. There are other good honest people in Toronto, however, who do not think that the fact that this is a university town is cause for unadulterated and exuberant joy. They remember that taxes are to be paid with most faithful and unvarying regularity; that they are levied only upon taxable property, and that the property exempt from taxation in Toronto is valued at some twenty million dollars. They know that hundreds of acres of the most valuable and desirable land in Toronto are exempt from taxation because they are devoted to educational purposes—that upon them are the colleges and universities and their appurtenances aforementioned. This fact strikes the poor man with much violence. He does not object to the exemption of the public schools, because he knows that they are open for

his children to enter, and that in them they may obtain an education that will fit them for all the ordinary avocations of life. He thinks that all children should have the opportunity to acquire that sort of an education, and that the proper time for this acquirement is before the children are old enough to go to work to earn their own living. He also thinks that when young men and women have absorbed all the learning possible in the public schools, and desire to take higher courses, not absolutely required in the ordinary avocations of life, but to fit them for professions, such education should not be imparted at the public expense. In other words he thinks that the poor man's cottage should not be taxed to support colleges and universities into which it is impossible for the sons or daughters of poor men to enter. Therefore he does not feel hilarious over the fact that Toronto is a university town.

Further consideration of the matter reminds him that he is not only obliged to help support colleges where the sons and daughters of the more wealthy citizens of Toronto are educated, but that the sons and daughters of citizens of other parts of the country, who do not pay any taxes whatever in Toronto, are the recipients of educational facilities which are denied to his children. And this is another reason of his declining to exultate over the event.

If all the young men who attended Toronto colleges were gentlemen, and behaved themselves as such, this fact would be a mitigating and extenuating circumstance in considering the situation. But unfortunately they are not; and this is another thorn that wounds the poor tax payer. He knows that time and again when a pack of hoodlum students go out on a rare, it is not always quite safe for ladies or young girls to walk the streets unattended by male friends with stout sticks. It is not pleasant for respectable females to be ogled and quizzed and leered at on public streets by students, mis-called gentlemen. And then when the inmates of these penitentiaries—now we mean the colleges—make up their minds to take charge of the town, and adorn it with vermilion hues; when they desire to visit a theatre and give a grand "send off" to some stage celebrity, it is usually done in the style that reminds one of the antics of wild Comanche Indians performing a war dance. If these raids were previously announced, and if it were known just what character the pranks of these young hopefuls would assume, decent people would not venture upon the streets, and ladies would certainly remain behind closed doors at home. They certainly would not venture to visit the places of amusement where the entertainment presented would not be mentioned on the bills.

It is this sort of ruffianism on the part of students that makes the poor tax payer fervently wish that Toronto was not a university town.

It has become painfully evident that society is divided into a privileged class, and a class who not only have to bear their own burdens, but are outrageously taxed to help support the others. As in days when the Israelites were in bondage in Egypt, there are taskmasters, and there are servants who labor for them. If a parent desires to give a son a collegiate education, let him pay for it out of his own resources, and not compel others to do it for him. The system that allows this to be done is inherently wrong. The colleges are not accessible to the poor man's son, but the poor man is forced to con-

tribute to the education of the rich man's son. Millions of dollars worth of property in Toronto is exempt from taxation to benefit wealthy people, and the poor have additional burdens laid upon them. Hundreds of young men who might make good farmers, or blacksmiths, or coal heavers, or scavengers, or stablemen, are ruined for all useful purposes by a system which draws them away from the occupation for which they are best fitted, and at the expense of the public galvanized into professionals for which the country has no possible use. And these are the ones who imagine that because they are students they are privileged to be rowdies and blackguards, superior to the law which they set at defiance whenever it is their sweet pleasure to do so.

THE AMERICAN IRON INDUSTRY AND THE TARIFF.

On a recent occasion representatives of many of the iron and steel industries of the United States were accorded a hearing by the Ways and Means Committee of the House of Representatives. The delegation, which was headed by Joseph Wharton, of Philadelphia, vice-president of the American Iron and Steel Association, was composed of some of the most influential men in the business; and Mr. James M. Swank, general manager of the Iron and Steel Association, was also present.

The testimony submitted by those who spoke for the delegation and the interests which they represented was to the effect that the condition of the iron and steel industries of the United States—whether in Alabama and Tennessee, in Michigan, Wisconsin and Minnesota, in Illinois or Ohio, or in Pennsylvania and West Virginia—is deplorable, and the prospect for the future gloomy and disheartening. Without exception they ascribed the condition of affairs mainly to threats of a radical reduction of the tariff, and to the consequent uncertainty. All alike told the same story of thousands of men thrown out of employment, of other thousands who find work only one, two or three days in a week, of other thousands who will soon be forced into idleness if no relief comes, of mines closed, of smokeless furnaces and silent mills, of idle shipping on the great lakes, and miles upon miles of railroad tracks filled with empty and idle freight cars, of silent limestone quarries, and of idle coke ovens; and all alike declared that this condition had not been solely or mainly produced by the currency panic, but by fear and uncertainty caused by threats of a reversal of the tariff policy of the country. They also declared that, in their judgment, the only way that confidence can be restored, business revived and prosperity regained, is through a decision by Congress to postpone, for a time at least, a revision of the tariff, and a speedy announcement of that decision.

Mr. Wharton was the first speaker. He stated that iron and steel mining and manufacturing are carried on in twenty-nine of the States, and furnish directly employment to about 450,000 men, and means of support to about 2,500,000 people. This does not include persons employed in the work of distribution and transportation, nor does it include the great army of consumers who are able to obtain better wares at lower prices as a result of the growth of manufactures and the sharp competition in which domestic producers are engaged. He contended that the existing tariff is the fairest

and best one the country ever had, and that it should be maintained. It would be especially unwise to substitute ad valorem for specific rates of duty, or to weaken any of the safeguards against fraudulent and undervalued importations which are found in the provisions of the Administration Act of 1890. The tariff law of 1890, he said, had reduced the rates of duty on iron and steel manufactures, except cotton ties, tin plates and a few other articles. Frequent changes of the tariff, he argued, are injurious to the country, and a change now, when business is depressed and industries are paralyzed, would be especially unfortunate and disastrous. The prospect of such a change has already caused a sharp contraction of credits, which are necessary to the prosperity of the industry, and the result has been ninety-three failures within the last three months, some of which have been very heavy ones, while many other establishments are in a precarious condition, and must go to the wall unless relief is afforded. He submitted that this was not a good time "to knock the pins from under an industry of such importance and magnitude."

President Ely, of the Western Iron Ore Producers' Association, said that this was a most unfortunate time to agitate the subject of tariff legislation. The iron ore industry of the Lake Superior region is in a condition of complete paralysis. The output last year was over 9,000,000 tons. This year it will not exceed 5,000,000 tons, and iron ore is a drug in the market. Three-fourths of the mines are closed and the miners are idle. Six railroads which are wholly dependent upon the mines for traffic are virtually without business, the men who have been employed on the ore docks of the great lakes are idle or working short time, and the immense lake towage employed in ore transportation is largely without cargoes. Mr. Ely read figures showing that the total amount of capital invested in the iron mines of the Lake Superior region, and in ore docks, railroads and vessel towage employed in the transportation of ores, amounts to about \$156,000,000, not including \$20,000,000 of capital invested in railroads between Lake Erie and Western Pennsylvania and West Virginia, a large proportion of whose business is the freighting of iron ore and coal. Tens of thousands of men with their families, who are dependent upon this industry for a support, have been thrown out of employment or are working short time or at reduced wages. Mr. Ely submitted many other facts, and declared that the admission of iron ore free of duty would not only cut off a large part of the demand for Lake Superior ores, but would result in a heavy reduction in the wages of everybody engaged in the industry.

W. K. Sterling, of the Illinois Steel Company, who for nine years was a manufacturer in Scotland, and who has been during the past fourteen years a manufacturer in the United States, was the next speaker. The company which he represents had 9,500 men on its pay-rolls a few months ago. Nearly 5,000 of them are now idle, and on October 1 only 1,100 will be at work. This paralysis of business has been caused by fear and uncertainty regarding tariff legislation, and it affects not only the capital invested and the labor which has been employed, but also the transportation companies and their employes who have been engaged in carrying the material to the mills and finished products to the markets, but the farmers, merchants, mechanics and others whose

prosperity so largely depends upon that of the concern which Mr. Sterling represents. Mr. Sterling submitted a great number of interesting facts showing the rapid growth of the iron and steel industries in Illinois during the last few years and the steady reduction of cost to the consumer on account of domestic competition. He said that wages are much higher than in Great Britain—from two to five times as large. He was strongly opposed to free "raw material," and he was able to say from personal knowledge that labor in the United States is about as skillful, efficient and productive as in Great Britain.

Mr. Lambert, of the Joliet Steel and Wire Company, supplemented Mr. Sterling's statements by giving many additional interesting facts in regard to wages, prices, cost of production, etc. Ten years ago English wire rods cost \$68 a ton in Chicago, and to-day domestic wire rods of equal or superior quality cost \$30 a ton. If the duty of 6-10 of a cent a pound had not been imposed, the industry could not have been established in the United States, and wire rods would now cost \$68 a ton, or whatever the foreign manufacturers in Free Trade England chose to ask for them. In 1883 barbed wire cost the American farmer 8 to 10 cents a pound; to-day it costs him 2½ cents. Wire nails then cost \$10; they now sell at \$1.90 a keg. In Europe there is a combination of manufacturers to keep up prices; in this country no such combination exists.

Col. A. M. Shook, of Nashville, Tenn., and James A. Spalden appeared in behalf of the iron ore and pig iron producers of the South, and they united in saying that these industries are paralyzed, and tens of thousands of men idle on account of the fear and uncertainty produced by proposed tariff legislation. Free iron ore would destroy these industries. They appealed for an assurance that Congress will defer action until the iron ore and pig iron producers "shall be better able to stand it."

George M. Laughlin, of Pittsburg, attributed the present condition of the iron and steel industries to fear and uncertainty in regard to tariff legislation. Mr. Laughlin also remarked that the reports to the effect that 25,000 men have lately returned to work in the iron mills of the Pittsburg district are misleading. Mills have been re-opened, it is true, but not to give steady employment. There has been no such revival in the iron and steel industries as has been represented, he was sorry to say. The concern he represents has about 40 per cent. of its 3,500 regular employes at work two or three days a week, and that was as well as other concerns could do. Every day's run was a loss.

The hearing was closed by Cyrus W. Elder, of the Cambria Iron Company, of Johnstown, Pa., who laid before the committee a mass of interesting and pertinent information and facts.

MERCHANDISE MARKS.

The Department of Trade and Commerce has sent out a circular which is of special interest to manufacturers. It says:—

The attention of manufacturers and shippers to or through Great Britain, of goods manufactured in Canada, is called to the British Merchandise Marks Act (50-51 Vic. Chap. 25, 1887) and amendments thereto; which act is by the Customs

authorities in England, strictly interpreted and rigidly enforced, and which sometimes, unless carefully complied with, gives trouble and annoyance, if nothing more, to those innocently unacquainted therewith as well as to those who carelessly disregard its requirements.

Without quoting the text of the act it may perhaps suffice to point out that among other things it provides that every person who forges any trade mark; or falsely applies to goods any trade mark or any mark so nearly resembling a trade mark as to be calculated to deceive, or applies any false trade description to goods, shall be subject to the provisions of the Act.

For the purposes of the Act the expression "trade mark" means a trade mark registered in the register of trade marks, kept under the Trade Marks Act of 1883, and includes any trade mark which, either with or without registration, is protected by law in any British possession or foreign state to which the provisions of Section 103 of the Trade Mark Act of 1883 are, under Order in Council for the time being applicable. The expression "trade description" means any description, statement or other indication, direct or indirect, as to the place or country in which any goods were made or produced. It prohibits the importation of goods which, if sold, would be liable to forfeiture under the act. The Act provides that all such goods, and also all goods of foreign manufacture bearing any name of any manufacturer, dealer or trader in the United Kingdom, unless such name or trade mark is accompanied by a definite indication of the country in which the goods were made or produced, are prohibited to be imported into the United Kingdom, and, subject to the provisions of the Section, shall be included among goods prohibited to be imported as if they were specified under Section 42 of the Customs Consolidation Act of 1876.

It also provides that where there is on any goods a name which is identical with, or a colorable imitation of the name of a place in the United Kingdom, the name, unless accompanied by the name of the country in which such place is situated, shall be treated for the purpose of this Section as if it were the name of a place in the United Kingdom. It also provides that the Customs entry relating to imported goods shall for the purpose of the Act be deemed to be a trade description of the goods. It provides also for the forfeiture of every chattel, article, instrument or thing by means of or in relation to which the offense has been committed, and that every person guilty of an offense against the Act shall be liable to certain penalties.

The difficulty sometimes experienced by Canadian manufacturers or shippers is that their goods bear what the Act terms "a trade description," the name of some place in Canada which is identical with the name of some place in Great Britain, such a name not being qualified by the addition of the word "Canada." The importation of goods so marked without the qualifying addition being prohibited, the goods become liable to forfeiture on landing in Great Britain whether intended for consumption there or for reshipment. Thus for instance goods manufactured by John Smith, of London, Ont., and so marked, would be held to have been illegally imported under a false trade description, and subject to forfeiture, whereas if marked as manufactured by John Smith, of London, Ontario, Canada, they would not come

within the prohibition. The initial of the abbreviation usually used in Canada to indicate a Province, as Ont., P. Q., or Que., or N. B., &c., added to the name of a place is apparently held by the officials in Great Britain as not a sufficient compliance with the terms of the section which requires "the name of the country in which the place is situated."

A knowledge of and a little care on the part of those interested in complying with the requirements of the Act referred to may be the means of avoiding unnecessary trouble and loss.

EDITORIAL NOTES.

INVENTORS are still at work on the problem of electrically propelling canal boats, and a series of interesting experiments are to be tried on the Erie canal near Rochester, N.Y. One of the chief difficulties in the way of a successful adaptation of the trolley system to the propelling of canal boats has been that the boats, unlike street cars, are not guided by tracks, and besides, very rarely travel in a straight line. To overcome this difficulty a laterally moving trolley wire has been invented, which moves sidewise in accordance with the motion of the boat, and permits the trolley wheel to be kept in constant electric contact with the feed wire. The laterally moving wires are supported on transverse guy wires by travelers which permit a sidewise motion of the wire. The use of the laterally movable induction wire permits a fast boat to pass a slow one going in the same direction, and enables the boatmen to run their boats to a dock on either side of the canal and to turn the boats around where the width of the canal permits. The canal at Rochester, where experiments are to be made with the new system, contains sharp curves, long curves, overhead bridges and a lock, so that the practical operation of the new system can be demonstrated under all the circumstances that would be encountered anywhere on the Erie canal. If the experiments prove successful, as expected, it is estimated that an introduction of the system would double the present carrying capacity of the Erie canal.

FOLLOWING is the text of the bill which passed the United States Senate on October 30, and the House on November 1, and was signed by the President on the latter date:

That so much of the Act approved July 14, 1890, entitled "An Act directing the purchase of silver bullion and issue of Treasury notes thereon and for other purposes," as directs the Secretary of the Treasury to purchase from time to time silver bullion to the aggregate amount of 4,500,000 ounces or so much thereof as may be offered in each month at the market price thereof, not exceeding \$1 for 371 25-100 grains of pure silver, and to issue in payment for such purchases Treasury notes of the United States, be and the same is hereby repealed.

And it is hereby declared to be the policy of the United States to continue the use of both gold and silver as standard money, and to coin both gold and silver into money of equal intrinsic and exchangeable value, such quality to be secured through international agreement or by such safeguards of legislation as will insure the maintenance of the parity in value of the coins of the two metals and the equal power of every dollar at all times in the markets and in the payment of debts.

And it is hereby further declared that the efforts of the Government should be steadily directed to the establishment of such a safe system of bimetalism as will maintain at all times the equal power of every dollar coined or issued by the United States in the markets and in the payment of debts.

In speaking of "Newspaper Puffery" such as is indulged in by the Toronto daily papers, the *Monetary Times* has this to say:

The custom is growing in Canada, as it has done in the States, of permitting advertisements to be inserted in the news columns and even in the editorial columns of newspapers, being paid for at so much a line. These advertising puffs are often inserted just as they are written by the parties who are to be benefited by them. No matter how extravagant and unlikely the statements, no matter how strong the adjectives, the influence of the advertising agent appears so to overcome the better judgment of the editor, that he will pledge the reputation of his paper to the truth of the statement that Jones & Jones are the oldest, richest and best tinsmiths in America, although he knows, or ought to know, that Smith & Smith are older, that Robinson Brothers are better off, and that Thomson & Co. are better workmen. The same adjectives are too often employed in describing the wares of the deserving merchant and the snide concern. This policy may do for a while, but its falsity is sure to be found out, to the injury of the paper which makes such untrue, and often ridiculous statements; sensible people find it nauseating. It is homely truth that, as Abraham Lincoln put it: "You may fool some people all the time, you may fool all the people a part of the time, but you cannot fool all the people all the time." While it is a well understood rule among newspaper folk that editorial notices are to be reserved for people who advertise in the paper, no amount of preference for an advertiser should lead the newspaper to a stupid untruth in his interest.

A MATTER of considerable interest to merchants was brought before the Controller of Customs on the occasion of his visit to this city on Monday last. It was in regard to the depreciation of silver currency in those countries where silver is the standard. The Custom authorities, in view of the action of the United States Government in reducing the value of silver currency, have indicated their intention of immediately meeting the conditions resulting from the depreciation of silver, and of proclaiming a new value for the currency of those countries where the depreciation has arisen.—The Shareholder.

Our esteemed and wise contemporary is wrong in supposing that the United States Government have reduced the value of its silver currency; or that the United States is a country where silver is the only standard. A silver dollar has as great purchasing power in that country as a gold dollar, and a gold dollar has no more purchasing power there than a silver dollar. And while the market value of silver is so fluctuating how is it possible for the Dominion Government to proclaim a new value for American silver coin to-day that would properly represent its true value to-morrow? Meantime American silver dollars are received at face value at this office for subscriptions to THE CANADIAN MANUFACTURER.

THE Comptroller of Customs has acted with promptness and vigor in the great heather dispute. The minions of the tariff law and red tape have been crushed. The representative of the genus *Erica* that glorifies with its purple beauty the wastes of the Scottish moors and hillsides has been elevated to a special place in the tariff free list. The Caledonian society

will save forty cents. And its concert has received a free advertisement that would make a theatrical advance agent turn seven colors with envy. It is a newspaper man who is running the Caledonian concert this year.—*Montreal Gazette*.

All right for the heather. Now let the Controller act with some promptness and vigor in declaring that blast furnace slag, for the manufacture of mineral wool, shall also be included in the free list.

A TORONTO man has written the following letter to the editor of the *Buffalo Express* which explains itself:—

In your esteemed journal of the 21st you say: "The settled portions of the United States have not in many years, and possibly never, suffered so much from train-robberies, highway robberies, during burglaries, etc., as at present. Is there not an explanation of these crimes in the prevailing hard times?" I answer yes, there is a splendid remedy to inaugurate the reign of law and order, this is my patent medicine, to wit: Pitch Republican rule overboard and run up British monarchy, under which wing life, property and progress are duly respected. Now know ye! that the brightest star that brilliantly glitters these fine October nights with resplendent rays amid gorgeous myriads of overhanging nebulous corruscations sailing under the Allwise Great Captain of the universe unruddered through infinite constellations of magnificent magnitude around this terrestrial sphere is called Britannia, and "don't you forget it."

AMID all the confusion about the silver question, it may be well to remember that the nation is greater than its Senate and greater still than its transient recalcitrant element. Its commerce and its finances may be embarrassed; but who that understands the omnipotence of those forces will count despondently upon the continuance of any obstacles that a handful of obstructionists can raise? The public will may be defied; but is there any American who so lightly values the principle of popular sovereignty as to imagine that a score of selfish schemers can successfully defy that supreme authority? It conveys a ridiculously exaggerated compliment to the recalcitrant Senators to imagine that the silver deadlock is due to any power or sagacity of theirs. The whole trouble centres in a defect in the machinery of the legislative branch of the Government, which makes it possible for the popular will to fail of its due expression. The only credit the defiant minority can claim is that they have the brute courage to use this organic defect for the service of their own selfish purposes. That credit will have to be set off by the infamy their names will bear in the records of national legislation, and by the absence of success even in the infamous sense upon which they put most value. To suppose that this defect in the rules of Senate debate will be more than momentarily permitted would be an insult to the national common sense; and that repair being effected, the popular will in respect to silver will be immediately executed. Surely this assurance should suffice to prevent the public impatience from lapsing into despondency. If we cannot safely act upon the assumption that this question will be disposed of in accordance with the public demand, we cannot be properly said to have the power to govern ourselves.—*New York Journal of Commerce*.

Here's dignity from the Lord Chesterfield of the New York press. United States Senators who do not bow their necks to the behests of Mr. Cleveland, and who dare to act upon their own convictions, are a recalcitrant element, obstructionists, defiers of the public will, selfish schemers, defiant minority, users of brute courage, infamous, insulters of the national common sense. The *Journal of Commerce* represents the sentiments of the free traders of New York.

The supremacy of the United States over Great Britain in the production of iron and steel is very marked. It is the more noticeable because it was so few years ago that the relative position of the two nations was just the opposite of what it is now. In 1877 England produced so much iron and steel and the United States so little that the British island was pointed to as a shining example of what "unrestrained commerce" could accomplish for a nation. In that year Great Britain produced 6,608,000 tons of iron, or almost half of all there was made in the world. In the same year the United States furnished 2,066,000 tons, or only 15.3 per cent. of the world's supply. In 1892 Great Britain's output had increased to only 6,616,000 tons, while her contribution to the world's supply had fallen from about 50 per cent. to 25 per cent. The United States had not only overtaken her, but surpassed her, her total production of iron in 1892 being 9,157,000 tons, or 35.2 per cent. of the world's supply. In steel production the two countries have almost exactly changed places. England in 1878 produced 48 per cent. of all the steel made in the world, and the United States 25 per cent; in 1892 the United States contributed to the world's supply 42 per cent. and Great Britain but 15 per cent. The production in Great Britain arose from 762,000 tons in 1878 to 1,501,000 in 1892; in the United States it rose from 548,000 tons in the former year to 4,168,000 in the latter year.

The use of oil instead of coal under the boiler at the World's Fair is likely to result in the much greater use of liquid fuel by manufacturers than has been the case heretofore. The experiment at Chicago has proved in almost every way a satisfactory one. The oil has cost much less than coal for the same purpose would have cost, while there have been no ashes to bother with, and the emission of smoke, a very essential point where cleanliness is so important as it is at the Fair, has been entirely avoided. The heat, moreover, has been much more uniform than could have been obtained had coal been used. The handling of the fuel has necessitated the employment of only about one-fourth as many men as must have been employed had coal been burned instead of oil. The experiment is certainly a strong argument for the use of liquid fuel, especially in large cities and localities where coal is so inaccessible as to be extravagantly high in price.

The New York Legislature at its last session passed and Gov. Flower approved a law making it a crime in that State to combine in any way to prevent competition. The law is far-reaching. It applies equally to combinations of labor to enhance prices, and of capitalists and manufacturers to put up the price of products. It was earnestly opposed by labor unions. Ever since the conviction of James Hughes for extortion in a combination to boycott Rochester clothing manufacturers, the labor leaders have seen that their most powerful weapon has been taken from them. The first case under this new law was not a labor case, but a suit against Lockport coal dealers, who were convicted under it in the County session of the crime of conspiracy to raise the price of coal. A fine of \$50 against each party in the combination was imposed. The defendants appealed to the general term, which affirmed the conviction. Now it has been again affirmed by the New York Court of Appeals, than which there is no

higher authority in the State. Nearly every city in New York has such a combination as is here pronounced illegal. In Rochester last year leading coal dealers were indicted and convicted under the common law which makes combinations to force rivals out of business a case of conspiracy and punishable. Most of the dealers were convicted and their cases are now pending appeal. No matter whether this appeal be successful or not, it is certain that no more such combinations can be made in New York State. The new law makes that impossible.

Mr. E. J. Davis, who represents North York in the Ontario Legislature, has recently returned from a business trip to England, and in an interview with a newspaper man says:—

"On the way across the Atlantic I met with a number of English and Scotch people who had visited Canada and United States and who were much more agreeably impressed with this country than that across the line. They were very highly pleased with the material progress and the moral standard of the people of Canada. I found that there is a great deal of interest being taken in England in the tariff discussion here. The almost unanimous opinion over there is that it would be a great advantage to Canada to have a considerable lowering of the tariff. I heard nobody express himself as being in favor of the idea of preferential duties. A subject of surprise over the water is that in many respects we are giving the United States advantages under our tariff which we do not give to Great Britain, who opens her ports to us, while the United States refuses to allow us to trade with them on anything like equal terms."

Mr. Davis is a gentleman of education and keen observation, and it is therefore surprising to hear him talking nonsense. No doubt people in England take interest in the discussion in the Canadian tariff, but the almost unanimous opinion that they entertain that it would be to our advantage to lower our tariff is of no value whatever. We know what this country needs better than our English friends do; and then Mr. Davis knows perfectly well that in no respect do we give the United States tariff advantages which we do not give to Great Britain. If he can mention any article upon which less duty is paid coming from the United States than from Great Britain, he can, by showing that fact to this journal, be made the recipient of a fine silk hat. Come, Mr. Davis, and win the hat or acknowledge that you talk nonsense.

The Young Liberal Conservative Club, as we learn from the Empire, is fast getting into shape for the winter's labors. At a meeting held a few days ago Mr. A. R. Hassard gave notice that he would at next meeting move that compulsory labor of any and every nature, except whatever may be absolutely necessary, should be caused to cease each week at the hour of 12 o'clock noon on Saturday, and that efficient legislative measures for the speedy attainment of this object should be incepted by the proper authorities while the present year is waning to its close. Without stopping to express our great joy that the present year is not waning to its opening, we rise to enquire why this so-called Conservative Club should undertake to disrupt business and disorganize about every industrial and manufacturing interest in the country by making it unlawful for any labor to be rendered after the hour of noon on Saturdays? We suppose Mr. Hassard aims to win over a large number of labor votes to his party by this

effort, oblivious to the fact that the labor organizations are not a unit in the matter—that they have tussled with the question repeatedly and without arriving at a conclusion as to whether a compulsory Saturday half holiday is desirable. Perhaps Mr. Hassard is a walking delegate, or desires to be one, with a soft place and easy joy, spying around factories, workshops and stores to discover some working man or woman who is bad and bold enough to work on Saturday afternoons when Mr. Hassard thinks he should be idle.

In our last issue we reproduced what the Montreal Herald said in criticism of our position that the duty upon scrap iron should be made practically prohibitory, alluding to the matter the Empire says:—

The Montreal Herald had the courage of its convictions in moving that "the duty of all kinds of iron be abolished in toto." Mr. Laurier said the same thing at Hamilton a year ago, so we may fairly assume that the Opposition policy is to sweep away every vestige of protection to this great national industry. We do not believe, as The Herald asserts, that 95 per cent. of the people would be in favor of such of a radical and disastrous policy. It would be a public misfortune if Canada could not look forward to a time when in the near future she could make her own iron, and utilize the vast and rich resources possessed in this line. This cannot be done without state aid. No country has developed its iron industry without protection, and Canada cannot hope to be the first. Besides, free iron would turn much of the trade to the United States which we now do with Great Britain. There is room for improvement in the way the iron duties are levied, but to abolish them in toto would be a surrender of a legitimate national hope.

If the Empire has any conviction regarding the iron duties, it has never yet had the courage to express them. There is no question having greater bearing upon the welfare of Canada than that of the iron duties, but while the Empire can learnedly discuss the war in Africa, or the eclipse of the moon, or the effects of climate upon the inhabitants of Greenland or Patagonia, it has never a word to say, nor an opinion to express whether changes are in the tariff are imperatively demanded with a view to the establishment of a comprehensive pig iron industry in Canada.

A few days ago a young woman in Toronto died from the effects of a criminal operation that had been performed upon her by a notorious abortionist known as Dr. Andrews; and the investigations of the police had disclosed the fact that many other such operations have been performed by this man, some of which resulted fatally. Of course the daily papers, in Toronto and elsewhere, discuss the matter quite exhaustively, deploring the conditions of society which produce such events. The moral lessons taught by these papers might have some weight if it were not plain and evident that to all readers of them that the very papers lend themselves continually to the dissemination of matter of the most pernicious character. If may be said that the business card of Dr. Andrews, announcing himself as an abortionist, and inviting ladies in trouble to call, and saying that all communications would be considered strictly confidential, never appeared in just these words in any Toronto daily newspaper, but any one who will take the trouble to do so can find in about every one of these papers personals and other notices which evidently refer to just the same business. One does not require to be told in unmis-

takeable language just what this sort of advertising means, an indiscreet woman with shame and disgrace staring her in the face, and anxious to avail herself of any proposed help to get her out of her trouble, with such clues constantly before her, would understand that the advertisement possessed a meaning not written on its face, and that if she acted upon it she would most probably find what she desired, and if she does not catch on, her male friend is very apt to prompt her. The advertisement offering a safe, sure and speedy safeguard for women could not well be more explicit in announcing that the article was intended to produce abortion. Another and most disgusting phase of this immoral newspaper advertising literature is that where specific remedies are bluntly and plainly offered for the cure of private diseases and the restoration of health shattered and broken by criminal sexual excess. Some of these advertisements show pictures of woe-begone emaciated victims of lust when hope had about departed, and how they looked after taking the advertised remedies. It is bad enough for persons to be victims of loathsome disease, but in our mind it is wrong to induce them to attempt to prescribe for themselves, and this is just what the newspapers do when publishing these advertisements, and what is to be thought of the character of the newspapers that publish them, and the proprietors that allow it? Many of these papers, nay, all of them claim to be suitable for the home and fireside where the innocent loved ones have their refuge from the circumstances of the outside world. In these days of enlightenment women and the older children, youths and maidens, desire to keep abreast with the times and to learn what is going on in the world, and to enable them to do this they must read the newspapers, But such papers as are pub-

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Base Frames with Regulating Boxes and Amperemeters attached.

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APPLY TO

**G. W. TAYLOR, Business Manager "Globe,"
TORONTO**

lished now a days pander to the tastes of the purient and vulgar, and devote long columns to police court cases, and give verbatim the testimony brought out in such cases as this of the notorious Dr. Andrews, carrying probably in contiguous columns the advertisements of just such scoundrels which point but too plainly to the places where drugs to procure abortion may be had, or to the persons who are ready for money to perform criminal operations. The publication of this sort of literature and advertisements is a social evil that ought to be stamped out. Let us hope that it will be abated.

MR. ERASTUS WIMAN, in an article in a Canadian magazine, undertakes to show that the duty upon steel rails imported to this country has added 260 unnecessary millions to the cost of our railroads, and has imposed a permanent annual tax upon the people of 12 million dollars a year. His method of reaching this conclusion is to multiply all the rails used by the amount of the duty. He ignores the very important fact that the domestic competition created by the duty tumbled the price of rails from \$130 a ton to \$30. He also overlooks the further fact that at one time the actual price of rails was less than the amount of the duty. It would be interesting to have Mr. Wiman try to explain how the duty could have been added to the price under these impressive circumstances. Furthermore, it is well known to everybody that transportation of rates in this country over dutiable rails, are about one-fourth what they are in England, where the railroad companies have the privilege of buying rails free of duty. When Mr. Wiman has time, and is feeling right well, we would enjoy having him make an effort to show how it is that the American people bear that heavy extra burden of 12 million dollars a year when they pay less for transportation than Englishmen who, according to Mr. Wiman, have no such burden to carry.

Like all the other free traders, when they come down to practical fact, Mr. Wiman has no case against the rail-duty. That duty has never cost the American people a dollar. It has saved them millions of money.—*The Manufacturer.*

The question of steel rails in Canada is studiously avoided by the party paper; by the Conservatives because a Conservative Government placed steel rails in the free list, and by the opposition because they are on the free list. Our Philadelphia contemporary shows that although the policy of the American Government has always been to levy a duty on steel rails, that duty has never cost the people of that country a dollar, but on the contrary has saved them millions of money; and it also shows that although there has always been duty levied on rails in the United States, and although no duty has ever been levied on their rails in Great Britain, where railroad companies may purchase rails at free trade prices, railroad transportation rates in the United States, under protection, are about one-fourth what they are in England under free trade. If it is because the railroad companies in Canada have a cinch upon our lawmakers that would enable them to strangle any attempt that might be made to impose a duty on rails, it is high time that that influence were thrown off. Putting rails on the free list was a fearful blunder—keeping them there is a political crime. If we are ever to have a comprehensive iron and steel industry, a duty should be levied upon steel rails, and a bonus should be offered and paid for such steel rails as might be made in Canada. With such inducements, and with a prohibitory duty levied upon scrap iron, Canada would soon be in condition to make all the refined iron and steel rails she might require.

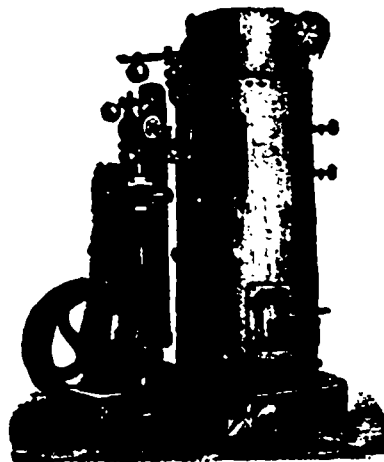
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BERTRAM ENGINE WORKS COMPANY

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At the recent World's Fair Congress on Good Roads at Chicago a paper was read by Professor Lewis M Haupt, of Philadelphia. The argument in this address was opened by a statement of the total tonnage of the railroads in the United States in 1891, amounting to 704,399,000 tons, carried an average distance of 115 miles, and given a ton mileage of 81,210,154,000. This movement cost the shippers \$755,254,430. To produce this result there had been invested in railroads the incomprehensible sum of \$10,389,834,228, an average of \$61,878 per mile, and it had paid a fair revenue. The speaker then showed the enormous economy resulting from reduced resistances to locomotion, as instanced by the waterways, and cited the case of the improvements on the great lakes, where a total expenditure of \$30,000,000 had saved in the cost of transportation by water, as compared with rail, nearly \$150,000,000 in one year. He emphasized the fact that a very large percentage of the tonnage moved by rail or water must first traverse the common road over which the resistances, as measured by the cost of movement, are 22 times greater than by rail, and 266 times greater than on the ocean—that the earth roads could be greatly improved at comparatively small expense, and that the resulting benefits would be general, affecting all classes of the community and all other systems of transportation.

HERE is a potent fact for Canadians to ponder over and appreciate. They may have heard it before, but it will bear repetition. Mr. Van Horne, the able president of the Canadian Pacific, returned from England in the *Lucania*, the new fast Cunarder. He reminds our Montreal correspondent that

a vessel of similar sailing qualities running between Liverpool and Quebec could put passengers in New York 30 hours quicker than by the southern route. In other words, if A. started for America via New York and B. via Quebec, and both had particular business requiring attention in New York, B., by taking the Canadian route, would be one day ahead. How long would A. and men like him continue to take the slow and long route? Crossing the Atlantic has become a great business as well as a pleasure. But the passage itself, to the average man, is a trial. Reduce the time and sickness of the trip to a minimum and you vastly increase the traffic. Nature has intended Canada to be the great highway of commerce and transportation. How long shall we delay taking full advantage of our opportunities?—The Empire.

If Canada could afford it, it would be a fine thing if we could have steamers plying regularly between Quebec or Halifax or St. John and Liverpool equal in speed and accommodations of the new Cunard steamers. It would cost us hundreds of thousands of dollars annually to indulge in such a luxury, but it would be difficult to point out wherein we would be specially benefitted. Freights would not be lessened, in fact freight rates by such steamers would be practically prohibitory; and there are already established lines of steamers which fairly meet all our requirements in that direction. And as to the quick time in which passengers could travel via such steamers between New York and Liverpool, in what way would such speed benefit us? Why should we spend hundreds of thousands of dollars annually to enable rapid travel between New York and Liverpool? The money could be expended to much better advantage in improving our canals, making it possible for cargoes of grain loaded at

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(NEW DESIGNS)

STEAM PLANTS EQUIPPED FOR ALL PURPOSES

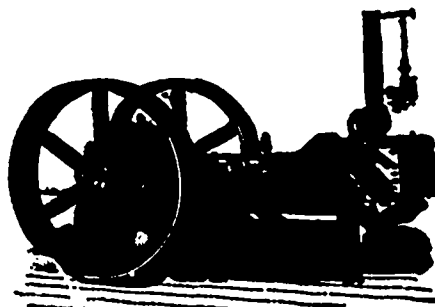
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General Machinery

Nie & Whitfield - HAMILTON, ONT.

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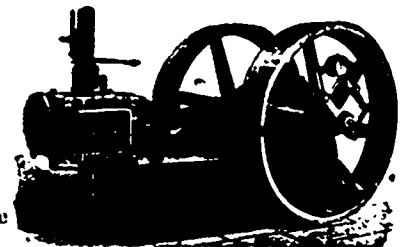
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EVERY VALVE TESTED

THE KERR ENGINE CO. (Ltd.)

WALKERVILLE, ONT.

Sole Manufacturers for Canada

Send for Price List.



Duluth to be carried without breaking bulk alongside of freight steamers at Montreal. That is what we need, and need very badly. With our waterways thus available we would secure much of the freight traffic of the western states that is now forced towards New York via Buffalo. We cannot afford to put on the fancy frills of rapid ocean passenger traffic at the cost it would be, while grain carrying vessels are compelled to break bulk at Kingston or Ogdensburg.

MAJOR MCKINLEY, sustained by the thought that his phenomenal Tariff Bill has raised him to the eminence of a statesman, and accounts for the electoral revolution in the different states, will now sit down to amend that famous measure by putting up the duties all round, with a view to squeezing the life out of Canada and the rest of the world. But responsible government does not exist in the States, and President Cleveland will round out his term by emphasizing the live and let live policy, which American Ambassador Bayard so neatly expressed in his speech at Sheffield, Eng., a few nights ago.—The Empire.

It is somewhat difficult to tell just what this involved paragraph means. Mr. McKinley not having been elected president or even a member of Congress, but merely governor of a state, will have no occasion or opportunity to now sit down to amend the American tariff with a view to squeezing Canada or any other country. Responsible government must surely exist in the States, else Mr. McKinley would not have been elected governor of Ohio, and President Cleveland could not round out his term of office, having now more than three years of official life before him.

A COMPLAINT is made that copies of Hardware Merchant get into the hands of consumers. This is not as it should be. It is intended for the trade only, and when it is known subscriptions are not accepted from others, merchants should not allow their copies to get into the hands of consumers. They see the prices and then endeavor to get the retailer to cut, knowing what he pays for his goods. In several instances the Patrons of Industry subscribed, but as soon as it was found out the amount of their subscription was refunded.—Toronto Hardware.

There are many machine shops, boiler making and repair shops and blacksmith shops scattered throughout Canada, and sometimes stray copies of our esteemed contemporary find their way to them. It may be true that the merchants who sell iron to these consumers find it to their interest to suppress such circulation so that the consumers may not know the wholesale price of what they buy; but we do not see why there should be any secrecy in the matter unless exorbitant prices are charged. One matter, however, in which these consumers are interested is this: There is not a boiler, machine or blacksmith shop in Canada where there are not accumulations of number one wrought scrap iron; and the proprietors of them are all interested in knowing just what the market value of such stuff is. If they look in Hardware they observe it quoted at 40 to 45 cents per hundred weight, or \$8 to \$9 per long ton of 2,240 pounds. If they look a little further they will see that such iron as they buy is quoted in Hardware on a basis of 1.95 cents per hundred pounds, or \$39 per short ton of 2,000 pounds. But according to the Hamilton Spectator these figures are all wrong, and it

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The above Engines and Boilers have been replaced by Wheelock Engines of greater power, and will be rebuilt and sold at very reasonable figures.

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**Steam Boiler Inspection
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**STEAM BOILER & PLATE GLASS
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Authorized Capital	Subscribed Capital
\$500,000	\$200,000
FULL GOVERNMENT DEPOSIT	

When were your Boilers last inspected by a competent engineer
Do you know what pressure your Boilers can safely stand
Is your steam Gauge registering the correct pressure
Are your Water Gauges free and in good working order
Is your Safety Valve working properly ?

Do not trust to luck; the unexpected generally happens. Avoid the calamity of an explosion. Protect life and property by taking out one of our Inspection and Insurance Policies.

claims to speak by authority because the only rolling mills in Ontario are owned by the Ontario Rolling Mill Company, of that city, which is the concern that buys scrap iron and makes bar iron. The Spectator says that this iron-making concern pay from \$15 to \$16 per ton for scrap iron and sells bar iron at 1.8 cents per pound, or \$36 per ton. Which is correct? Is Hardware depressing the market when the rolling mills want to buy scrap, and elevating it when consumers want to buy iron, and is this why it says that merchants should not allow their copies to get into the hands of consumers?

Those of us who were bored a year ago by the long-winded discussion of the tin plate industry until we hated the very words and didn't care where tin plate was made provided we didn't have to hear the subject debated, have at last some facts which we can tie to, and we need not read whole broadsides to get at the truth, either. A special agent of the treasury department has submitted to Secretary Carlisle a report upon this industry in the United States, in which he says that more than half the tin and terne plate made here is entirely of American manufacture, black plates and all. If half as much were done to establish the beet sugar industry, it would not be long before we should pay our own people the \$120,000,000 a year we now send abroad for sugar.—Farm and Home.

Our contemporary intimates that what the United States Government is doing for the beet sugar industry is not half as much as what it is doing to encourage the manufacture of tin plates. But what is being done in that country to encourage the beet sugar industry is to pay a bonus of some two cents per pound upon the production of beet sugar. Of course the desire of Farm and Home is to open up a new

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Or the new process of Direct Black Print Paper

(Black Lines on a White Ground), just as simple as the Blue Print Process. We prepare our own Blue Print Paper, supplying a very Superior Article at a low figure. We keep a very large variety of

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The Dominion Leather Board Company

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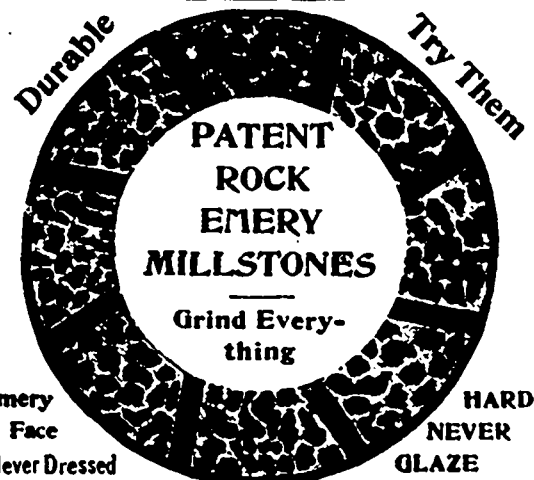
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MONTREAL

FASTEST GRINDER KNOWN



Sturtevant Mill Co., Boston, Mass.

industry for American Farmers. Whatever may be the result in the United States in this direction, the farmers of Canada would receive inestimable benefit if our Government would promise just the same as was promised by the American Government—a bounty of two cents per pound upon the production of beet sugar, to be continued for a period of some fifteen years. But the Canadian sugar refiners seem to have the ability to choke off any legislation in this direction.

It is to be hoped that the fight now on between the Toronto World and the Toronto Mail will be continued with much vigor. At the Toronto Fair these and the other Toronto daily papers stood together to squeeze the last possible dollar out of the exhibiting manufacturers, and in doing this the advertising cormorants, as the World calls them, bulldozed not only the exhibitors but even the officers of the Fair Association and all others who stood in their way. They had been given an inch and they take an ell. Like beggars on horseback they are riding in the direction of what will ultimately be their sheol. The World calls them master fakirs, fakirs and underfakirs; and they seem to have been properly designated by one of themselves who ought to know.

THE CANADIAN MANUFACTURER wants the duty on scrap iron made prohibitory. The Herald begs to move in amendment, seconded by 95 per cent. of the people of Canada, that the duty on all kinds of iron be abolished in toto. This is a bad time to talk about increasing duties.—Montreal Herald.

Don't get worried, sonny. When 95 per cent. of the people of Canada, or even 51 per cent., want the duties upon all

kinds of iron abolished in toto, they will have it in short order. But as long as a majority of the people want Canada to have an iron industry of its own, duties will be imposed upon iron. And pray keep this fact fresh in mind. Don't forget it. By increasing the duty upon scrap iron, making it practically prohibitory, we will have what we have not yet had, a comprehensive iron industry; and when we have that, all forms of iron will be cheaper than they now are.

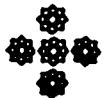
It is scarcely possible to suppose that any person in Canada would import into the country such things as jewelers' sweeps and photographers' waste for any purpose than to be refined with fire and the precious metals extracted therefrom. The articles have no value whatever until refined and the precious metals thus recovered; but it has taken many months of serious consideration on the part of the Government to convince them of the propriety of issuing an Order in Council to this effect. Wonderful is the operation of red tape.

A press telegram from Portland, Oregon, a few days ago was as follows:—

Portland's second street railway catastrophe within a year occurred yesterday morning when an electric car from Milwaukee, an East Side suburb to this place, plunged through the open draw of the Madison-street bridge and sank in the Willamette River. There were 18 or 20 passengers aboard when the car started to cross the bridge and all but seven of them saved their lives by leaping from the car on the brink of death. Five corpses have been recovered from the river and a man and boy are missing. It was about 6.45 p. m., when the car arrived at the bridge. A dense fog covered the river

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Patented



THE Cheapest Black-producing Dye for Wool on the Market. Has all the advantages of Logwood, with none of its inconveniences. Can be Dyed in one Dip, or may be employed in Wool Dyeing as a self-color, or in combinations, wherever Logwood is used, by following practically the same recipes.

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Duplex Compound Steam Air Compressor with Halsey's Mechanical Valves.

AIR COMPRESSORS

Of the Most Efficient and Economic Type—Straight Line, Duplex, Compound, and Condensing.

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For Mines and Quarry Work.

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HALIFAX HOTEL, HALIFAX, N.S.

If contemplating transmission of power any considerable distance write to us for estimate

and a sharp frost covered the rails with a coating of ice. The draw had just opened to allow the passage of a river steamer and the usual precaution of closing the gates and displaying the red signal lights had been taken. Owing to the frost, however, the car could not be stopped in the usual distance and crashed through the frail gate and into the river.

Perhaps it is true that such brakes as are now in use on electric cars cannot stop them very quickly on steep down grades, or when the rails are covered with frost or ice, but that is no reason why brakes that can stop the cars, even under the most emergent circumstances, should not be used. Herein lies one of the greatest dangers in the use of electric motor cars using the overhead trolley system. But a few days ago a car on the Niagara Falls electric road jumped the track and came nearly going over the brink into the Whirlpool some two hundred feet below, because of an inefficient braking appliance.

THE latest ice bicycle news comes from Leavenworth, Kan. It is said that Dr. E. Christiansen, of that city, owns the American patent right to a bicycle sled or velocipede sled, as its inventor, Leonard Thanner, of Germany, calls it. "The

SAMUEL FUGE

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VEGETABLE BOILER COMPOSITION

For the prevention and removal of Incrustation, Corrosion, and Pitting; also for Preserving the Plates, and for Preventing Leakage.

OBSERVE THE FOLLOWING:

Mr. S. FUGE, LONDON, ONT. THE CONSUMERS OIL REFINING CO., PETROLEA, ONT. August 22, 1893.
 DEAR SIR.—Replying to your letter of the 18th inst., we would say that the drum of "Anti-Scale" which we purchased from you gave us good satisfaction. We have found it very efficient in removing the scale, and keeping the boiler clean, without injury to the steel. Yours truly,
 THE CONSUMERS OIL REFINING CO., T. WOLFE, Manager. (Signed).

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original German patent was granted May 4, 1890, and the American patent May 9, 1893. The sled has also been patented in England and Canada. One hundred and thirty three thousand of these novel contrivances have been sold in England so far. The manufacturing price is low because of the machine's simplicity. Bicycle enthusiasts by means of these machines, it is said, would be enabled to follow the sport the year round, and its use with pedals, or a small sail, on the ice would revolutionize the sport of skating or coasting. The velocity of the sled as tested at Munich, Bavaria, showed it to be as speedy as the safety bicycle, and in a long run it excelled, as it required less effort of the rider. The levers work as speed producers and as a brake. The machine is very light, and can be readily taken apart and packed in small compass, making it as portable as an umbrella.

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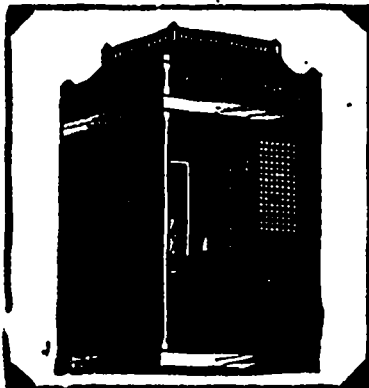
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BOILER INSPECTION.

Editor THE CANADIAN MANUFACTURER :

I have read with much interest your article on Boiler Inspection in your last issue. Since then there has been a number of disastrous explosions, one of which, occurring in New York City on Nov. 3, resulted in great loss of life, and damage to property to the extent of \$53,000. On Nov. 5 there was an explosion at St. Anne du Sault, Que., which resulted in the loss of three valuable lives, and the entire demolition of a mill and machinery. A few days before, on Oct. 31, an explosion occurred at Three Rivers, Que., which was also attended by loss of two lives and of considerable property. All of these boilers were under the supervision of Government inspectors, and thus it appears that inspection by Government officials is not by any means a guarantee that these terrible fatalities will not occur.

The plan of having an official investigation, as suggested by your American contemporary, with reports published officially, placing the blame where it belongs, would without doubt have a wholesome effect, and boiler owners would under that arrangement give the question considerable more thought than they now do.

In face of the numerous explosions that have occurred in Canada since the beginning of the present year, it is remarkable that steam users are so indifferent to the actual conditions of their steam plants; and the fact can only be attributed to oversight, resulting from the pressing demands of immediate business. The business of looking after their boilers seems to be left entirely to men who are too often unacquainted with the conditions which renders them liable to explosion.

A large number of engineers are in favor of insurance and inspection by incorporated companies, as they know that as soon as a policy is issued the insurance company has a monetary interest in the boiler, and will see that the owners are compelled to make the repairs necessary from time to time to insure safety; and they also know that the regular periodical visits from the inspectors of the insurance companies, who supervise their work and give instructions as to the proper management of the boiler, will tend to reduce the danger of explosion to a minimum.

The writer finds with reference to the blue books that during the last fifteen years not more than two boilers in Canada, under the supervision and care of insurance companies, have exploded, while the number of boiler owners carrying policies of insurance and inspection amounts away up in the thousands, and judging from these facts, one would naturally conclude :

(1) That explosions can be prevented by the rigid periodical inspection by the officials of an insurance company, with a sufficient monetary interest at stake to compel the owners and the engineers to follow instructions which, if carried out, make explosions well-nigh impossible.

(2) That Government inspection, so-called, has not prevented explosion of boilers.

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(3) That nearly all explosions are due to carelessness or ignorance of those in charge; carelessness as to the proper use of a boiler, ignorance as to the conditions which render boilers liable to explosion.

(4) That owners of boilers will carry out the instructions of inspectors when they are convinced that these are in the interests of themselves and their employers.

Boiler explosions have been very numerous in agricultural communities during the past few months, which were no doubt all owing to the ignorance of those in charge--men who had no previous experience to teach them the dangers attendant upon the careless use of steam.

The question of licensing stationary engineers, and requiring all boilers to undergo frequent inspections, is one well worthy of the attention of the Government, and in fact it is a measure in which all are more or less interested, for explosions not only endanger the lives of those in immediate charge, but also the lives of those who may be in the vicinity.

We hope that you will keep this matter before the public, and particularly before the manufacturers, for I am sure that if the matter received the attention that its gravity merits, proper precautions would be taken by boiler owners who had never given the matter a thought, and many valuable lives would be saved.

November 8.

BOILER.

It is announced that the great Manchester ship canal is now entirely completed, and water will be at once admitted to its entire length. It will take two weeks for the canal to receive its full depth of water. The first steamer to traverse the full length of the canal will, it is expected, make the trip on the first day of December.

DURING the fiscal year ended June 30, the St. Mary's Falls canal was open to navigation 220 days. It was closed for the winter on Dec. 6, 1892, and opened on May 1, 1893; 12,160 vessels, aggregating 10,226,971 registered tons, and carrying 10,846,404 tons of freight and 23,919 passengers, passed through the canal in 5,611 lockages. The staple articles transported were 2,771,667 tons of coal, 73,606 tons of copper, 5,627,778 barrels of flour, 40,959,960 bushels of wheat, 2,446,159 bushels of grain other than wheat, 4,668,807 tons of iron ore, 620,531,000 feet B. M. of lumber, 47,116 tons of building stone, and 371,359 tons of miscellaneous or unclassified freight. The amount expended in operating the canal, etc., during the fiscal year ended June 30, 1893, was \$41,828.07.

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The November number of the "*Canadian Magazine*"—the great monthly of Canada—contains a rich variety of contributions. The articles are timely, well-written, and interesting, and many of them will receive world-wide attention. In "Down the Yukon," Wm. Ogilvie, F. R. G. S., continues his story of sub-Arctic explorations, narrating wonderful winter experiences in the country between the Yukon and Mackenzie. In "Banana Cultivation in Jamaica," a beautifully illustrated article, Allen Eric tells much that is novel, and even surprising. "The Battle of the Eclipse," by E. B. Biggar, is a well-told tale of the Isandula slaughter and Rorikos Drift, thrilling in its descriptive power. "Plebiscite," by Edward Meek, will be read with great interest by every student of political institutions. Mr. Meek thinks that the United States is tending to the establishment of Caesarism, and gives cogent reasons for his opinion. In "State Education and Isms," W. D. LeSueur writes well in reply to a former article by J. S. Ewart, Q. C. Other articles are "The Old Bastille of Paris," by H. S. Howell, "Problems of Home Winnipeg," by J. L. Payne, "Mirage in Western Canada," by Mrs. John Flesher, "The Canadian Club Movement," by W. Sandford Evans, "Beowulf, the English Homer," by Prof. Horning, of Victoria University, and "Peculiarities and Illustrations of Wit," by Dr. T. V. Hutchinson. The fiction is bright, and the poetry of considerable merit. "The *Canadian Magazine*" with this number enters upon its second volume, with an established place amongst the best magazines of the day. Published by the Ontario Publishing Co., Ltd., Manning Arcade, Toronto. \$2.50 per annum.

GOOD HOUSEKEEPING for November is naturally a Thanksgiving number, and the spirit of the anniversary pervades a large portion of the contents. Miss Maria Parlow contributes the leading paper, which is devoted to the great national festival; while the serial, "A Noble Girlhood," which has been running during the year, appropriately presents scenes and occurrences with a Thanksgiving flavor. There is also an abundance of practical matter, relating to all the interests of the household, and this standard magazine was never more valuable or more deservedly popular than now. It promises numerous features of special interest and value for the coming year. Clark W. Bryan Company, Springfield, Mass.

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In a series of interviews with members of the last United States Congress, 31 out of 43 remarked that they were readers of *The Youth's Companion*. For definite and trustworthy information on the questions of the day it is really unique, while the high character of its stories, the wide fields covered by its special articles, and its contributions from the most famous writers in Europe and America, are well known. Its programme for next year seems brighter than ever. Some of the important stories are: "The Deserter," by Harold Frederic; a "Tale of the Great Mutiny in India," by Sara Jeannette Duncan; several Romances of the Sea, by W. Clark Russell; Tales of the War, and of the Frontier in Early Days. Henry M. Stanley contributes two thrilling narratives from Darkest Africa, and Archibald Forbes writes of his "Closest Call." Naval Battles are described by Admirals, and Military Life by Generals. Then there are articles on Choosing Occupation, Boys Who Should Not Go to College, Physical Training, Recreations of all kinds, and many other practical subjects. Another pleasant feature is the charming picture of a young lady of colonial times, "Sweet Charity," reproduced in colors from a painting by Ferris, which is presented to all subscribers who send their \$1.75 for a new subscription or a renewal. Perry, Mason & Co., Publishers, Boston, Mass.

Having a farm, a garden, a village lot, a home in the city or village or country, or expecting to have one, it will will pay you well, to secure the Invaluable Help, the Best Information the thousands of Plain, Practical, Useful Hints and Suggestions given in the *American Agriculturist*, all prepared by thoroughly experienced, intelligent men, who know well what they talk and write about. Nine Hundred Engravings in each volume, bring clearly to the understanding a great variety of Labor-Saving, Labor-Helping Plans and Contrivances, Illustrations of Animals, Plants, Buildings, Household Helps and Conveniences, Pleasing Pictures for Old and Young, etc., etc. It is impossible for anyone to consult these pages without gathering many hints and suggestions, each one of which is worth many times the small cost of this Journal for a whole year—only \$1.50, postpaid. Sample copy free on application. Address, *The American Agriculturist*, 52 and 54 Lafayette Place, New York, N. Y.

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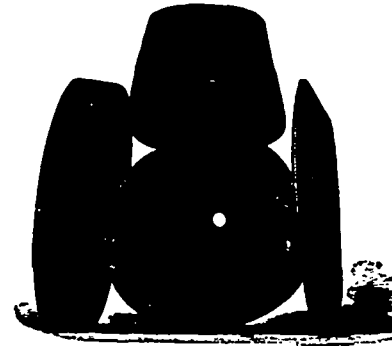
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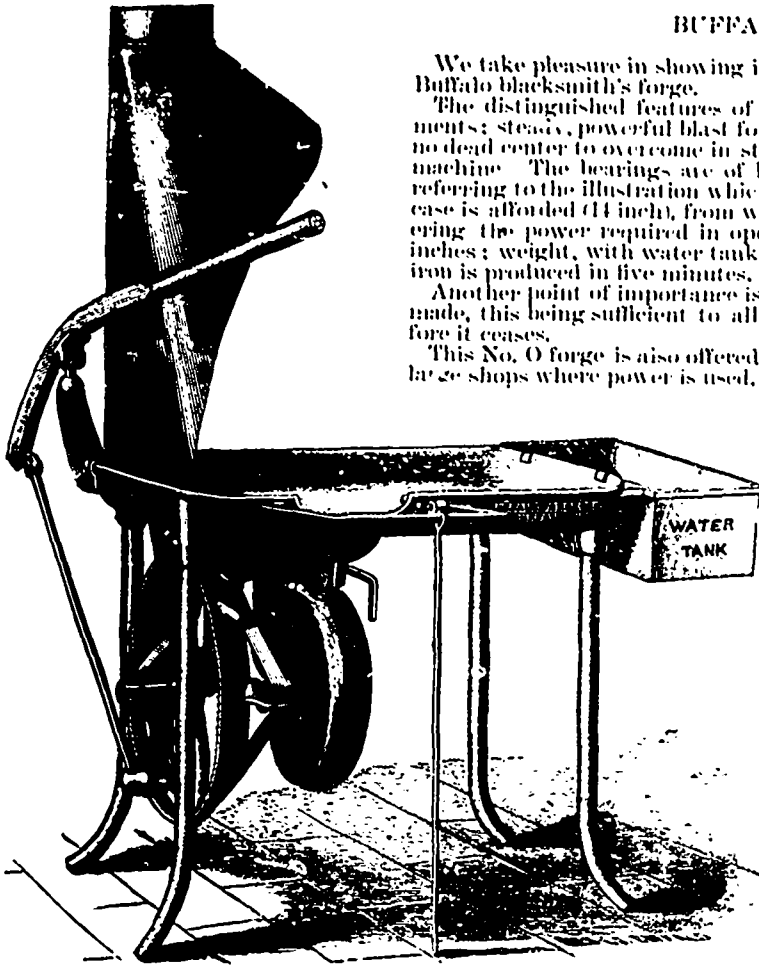
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WATEROUS

BUFFALO BLACKSMITHS' FORGE.



We take pleasure in showing in the accompanying illustration the latest pattern of the Buffalo blacksmith's forge.

The distinguished features of this make of forges are: Easy lever and swivel movements; steady, powerful blast for heavy work, as well as even light blast for light work; no dead center to overcome in starting, all of which are important factors in a perfect machine. The bearings are of hardened steel and of more than ordinary length. By referring to the illustration which shows the No. 0 size, it will be seen that a large fan case is afforded (14 inch), from which a remarkable amount of blast is produced, considering the power required in operating. The height is 30 inches, size of hearth 28x50 inches; weight, with water tank, three hundred pounds. A welding heat on three inch iron is produced in five minutes, and on four inch iron in ten minutes.

Another point of importance is the length of time blast continues after the stroke is made, this being sufficient to allow the operator to work upon the iron quite a time before it ceases.

This No. 0 forge is also offered in form arranged for attaching belt for general use in large shops where power is used, being built complete with tight and loose pulleys, also cut off for the blast, which permits the fire being regulated to any degree.

It is safe to say that not more than one out of every ten of the oldest users of the brick forge and bellows, no matter how suspiciously he may at first look upon the improved machines, now so widely supplanting these old timers in modern shops, will refuse to concede the points of merit claimed, when once a thorough test is given.

The secret leading to the wide spread popularity of the Buffalo blacksmith's forges and hand blowers is soon revealed when one looks into the conscientious manner of their manufacture; nothing but the very best of material and workmanship being employed.

For catalogues and prices, address the Buffalo Forge Co., Buffalo, N.Y., who make a variety of forges and blowers for every possible duty, and all blacksmith shop equipment.

Andrew Machen, of Kingston, Ont., is replacing his boilers. The Jencks Machine Co., of Sherbrooke, Que., are supplying the new plant.

Messrs. Lippert, Schaefer & Co., Waterloo, Ont., have placed their order with The Goldie & McCulloch Co., Galt, Ont., for engine and boiler for their new factory now being erected in Waterloo.

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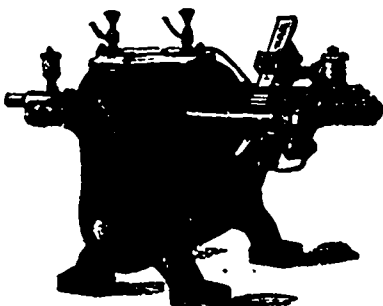
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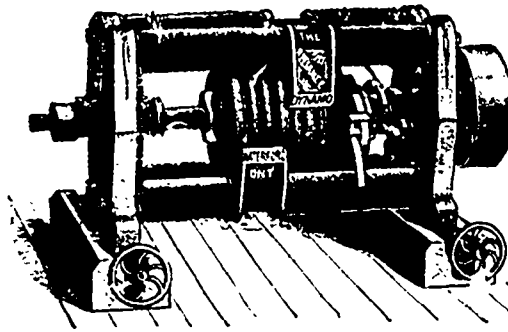
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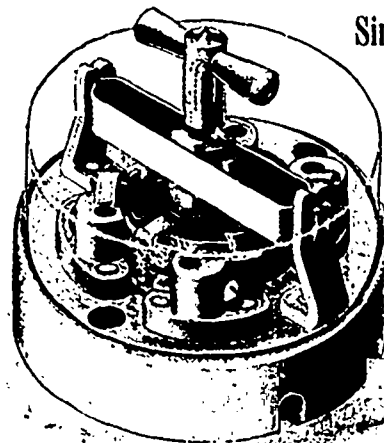
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THE BRISTOL MANUFACTURING COMPANY'S EXHIBIT.

One of the attractive exhibits in Machinery Hall, at the World's Fair was that made by the Bristols' Manufacturing Company of Waterbury, Ct., as shown in our illustration. Since its establishment in 1880, this company has developed an extensive business with Bristol's recording pressure gauges and steel belt lacing. Its lines of gauges is now we are informed, the most complete ever produced, comprising a list of over 20 different ranges, from vacuum to 1500 pounds per square inch, and adapted to record continuously day and night pressures of air, gas, steam, water and liquids.

The corner space occupied was diagonally spanned by an excellent imitation of a stone arch, the facing of fine leather and the stones fastened together with the company's patent steel belt lacing. To each of the stones was attached one of their gold-plated recording gauges, every alternate instrument being provided with an electric light. On one pillar supporting the arch was a gauge in operation recording the pressure of steam used in the building. On the other pillar of the arch was one of their new recording voltmeters in operation, recording continuously the voltage of the alternating current which supplied the lights. An artistic and ornamental feature was the semi-circular grille of wrought iron which filled in the arch and bore the name of the company and its specialities.

Models of the different recording instruments were arranged on tables so that visitors might examine the construction. For the high pressures a hand screw pump was provided, but for low pressures a gauge was fitted with a mouth piece, and each visitor could operate the model by blowing. A new recording thermometer was also shown in operation, but it will not be placed upon the market until the company's recording pyrometer is ready. A complete line of their patent steel belt lacing, for all kinds of belting, was also attractively displayed. Outside of its exhibit there were eight of Bristol's recording gauges in operation at different points within the Fair grounds.

As the new recording voltmeter for alternating or direct currents has not been previously described we illustrate the instrument in Fig. 2, complete and ready for connection, and also in Fig. 3 with front of case removed, from which the extremely simple construction and manner of operation will be readily understood.

The coil is mounted on the spring knife edge, supports D and E, and free to move toward the parallel and stationary coil B, when they are mutually attracted to each other by a current passing in series. The current is conducted to the movable coil A through the supporting springs D and E, and this, together with the special feature of the moving coil being mounted on frictionless spring knife edges, renders the instrument extremely sensitive to the smallest changes of voltage. The marking arm F is attached directly to the spring E and partakes of its motion, recording the changes of voltage on a uniformly revolving chart.

It will be observed that the instrument is constructed on the electric-balance principle without permanent magnets. The divisions on the chart are on an increased

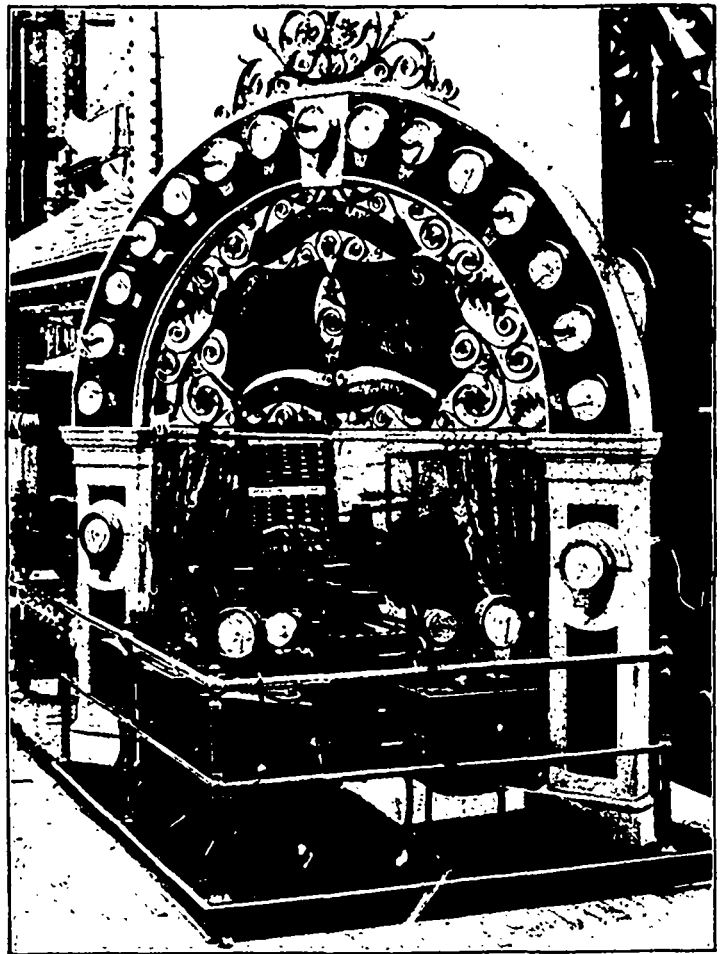


EXHIBIT OF THE BRISTOLS' MFG. CO. AT WORLD'S FAIR.

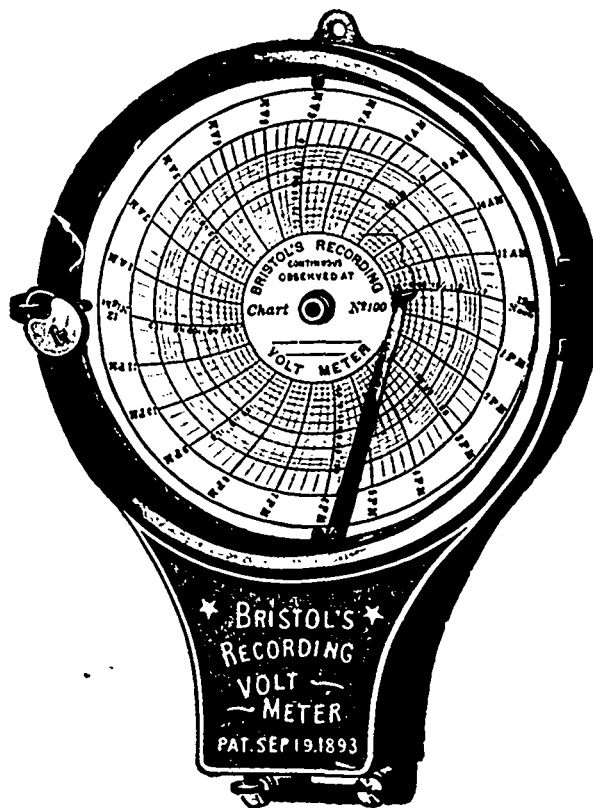


FIG. 2.

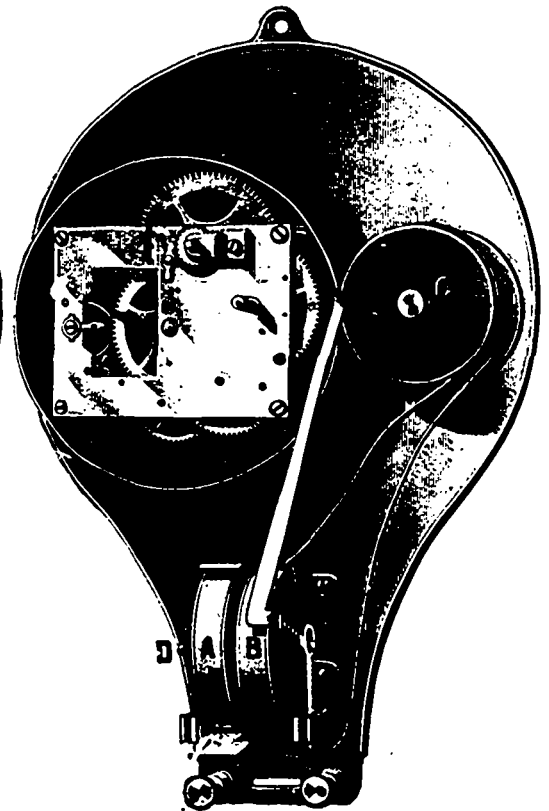


FIG. 3.

THE BRISTOL RECORDING VOLTMETER.

scale in the vicinity of the voltage to be maintained, thereby making it possible to note the variation of one volt. The chart shown in Fig. 1 is intended for 110-volt circuit. The coil C is an auxiliary resistance. With the alternating current voltmeter the auxiliary resistance is furnished in a separate rheostat, which may be adjusted to suit the rate of alterations of the current to be measured.

Several of these instruments have been in use in large electric-light stations for several months, and are giving the highest satisfaction. Two of the voltmeters, one alternator and one direct current, were used by the committee on awards in connection with the life tests of incandescent lamps.

BRITT'S AUTOMATIC SAFETY BIT.

The accompanying illustration is of the automatic safety bridle bit, invented by Dr. L. P. Britt, 37 College Place, New York. As will be observed, a pull upon the lines shuts off the horse's wind, immediately bringing him under subjection to the driver.

The Farmers' Tribune, of Des Moines, Iowa, has the following to say in a recent issue regarding this ingenious device:

After giving the bit a thorough and severe test on an heretofore uncontrollable animal that had defied the master power of the horse tamers, the writer is so delighted with the results that he wants every reader of this paper who ever handles the reins over an equus, spirited or otherwise, to profit by Dr. Britt's valuable invention. Under the influence of this wonderful and humane bit the wildest mustang, the highest strung thoroughbred are brought completely under the control of the rider or driver. Breaking the most unruly colts becomes a pleasant pastime of but short duration when this bit is used; and the most commendable thing is that there is absolutely no pain or punishment inflicted upon the horse, yet he is completely subjugated, thoroughly conquered.

What a remarkable invention! a vicious animal made as gentle as a lamb without any severity and with scarcely any expenditure of force. How is this accomplished? So easily that a child can do it. You simply pull on the reins and the nostril pads attached to the bit do the rest. A horse can't run without breathing. Well, you pull the lines and that shuts off the horse's wind partially or totally, according to how hard you pull.



What more simple? What more effective? What more humane? But you say, "My horses are not dangerous or vicious, or run-aways, so I have no use for such a bit."

Yes, you have! It is the "didn't-know-it-was-loaded" pistol that sends the most innocents over the "divide;" and it's the gentle, docile, lazy old nag that develops an unlooked-for freak or takes sudden and unprecedented fright and the result is that you are wifeless or childless, and all because you didn't get one of Dr. Britt's safety bits to insure the safety of yourself and family against disasters from riding or driving.

We doubt if any invention pertaining to the equestrian world has ever been more highly and universally endorsed than this bit invention of Dr. Britt's. It is the only bit ever endorsed by the society for the "Prevention of Cruelty to Animals" the highest of authority. In fact it is a perfect subjugator and tamer of wild and unruly and too spirited horses and colts; and we want every one of our readers who ever drives a horse, to send at once to Dr. Britt for illustrated catalogue and price list of his safety bit.

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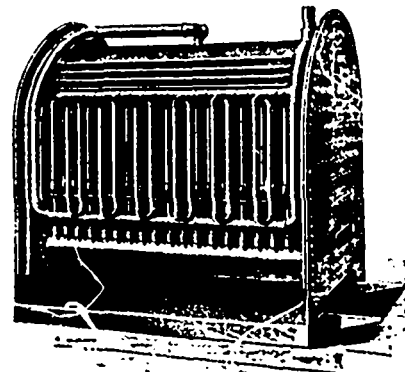
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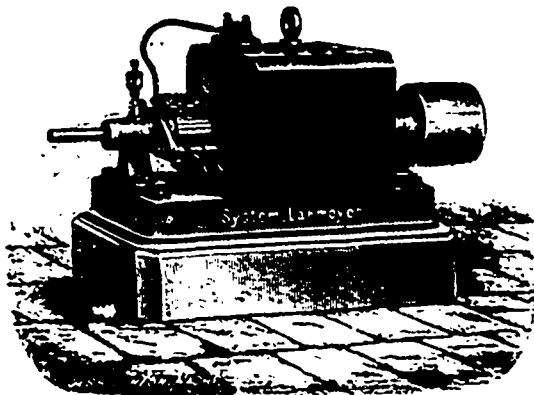
Captains of Industry.

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 J. B. Armstrong Manufacturing Company, Guelph, Ont., of which Mr. R. L. Torrance is manager, made a most attractive exhibit at the Chicago World's Fair; and this is what the Philadelphia Carriage Monthly has to say concerning it:

J. B. Armstrong Manufacturing Co., of Guelph, Canada, exhibit five vehicles, all having special features original with this house. The Armstrong adjustable seat cart is shown with canopy top. The action of the seats is controlled by the tail gate. By raising the tail gate the rear seat is hidden under the front seat. Lowering the tail gate reverses this action of the seats. It is hung on the Armstrong elliptic gear, and has straight wood fenders and lamps. The trimming is dark blue cloth, with dark blue fringe on the canopy top. The painting is black, with lilac stripes; the dash rail is silver mounted. There are two Armstrong adjustable seat open surreys hung on the Armstrong gear, and finished in natural wood. One has grained leather dash and fenders, and the iron work of the gear is painted carmine; the other has fancy stripes on the mouldings. An Armstrong Peerless road waggon hung on Boss side spring gear, is finished in natural wood, with grained leather dash and drab leather cushions with full backs. The fifth vehicle is an Armstrong elliptic spring cart, finished in natural wood and trimmed with drab leather. The iron work of gear is nickel plated. All of the jobs shown have steel heel shafts, and the wheels are fitted with flange tires. There are also models of the Armstrong elliptic spring gear and Boss side spring gear.

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Manufacturers and others requiring dynamos of the above sizes will do well to correspond with us before buying elsewhere. Prices given on other sizes, which can be delivered at short notice. We can furnish all supplies at lowest prices. Correspondence solicited.

JOHN STARR, SON & CO. (Ltd.)

General Canadian Agents
"Lahmeyer" Electric Light System,

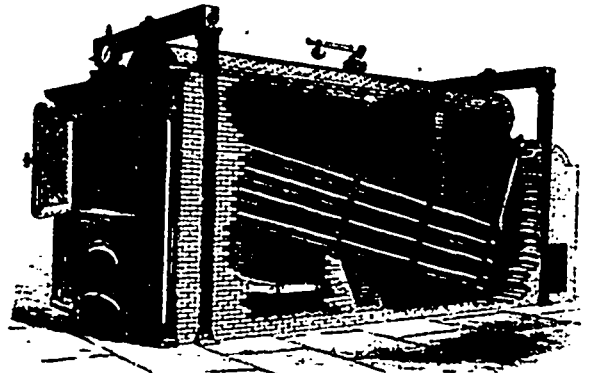
Illustrated Catalogue on application.

HALIFAX, N.S.

We learn that the application heretofore made for the incorporation of the Surprise Soap Company, of Toronto, has been withdrawn.

Mr. F. E. Dixon, manager of the F. E. Dixon Belting Company, Toronto, has shown us a letter received a few days ago from Mr. C. R. Peterkin, proprietor of a planing mill on Bay, between Adelaide and Richmond streets, this city, in which he states that in July, 1873, more than twenty years ago, Mr. Dixon made for him a fourteen inch leather belt to drive his main shaft, transmitting power from a 35 horse power engine; that the belt has been in constant use ever since, and that it is likely to do good service for years to come. This shows the advantage in having a strictly first-class belt, and that Canada cannot be excelled in such a product.

Messrs. T. A. Morrison & Co., 118 St. Peter street, Montreal, are manufacturing the Eclipse door spring and check which, they inform us, for simplicity, utility and cheapness holds the market against all imitations. It effectually prevents the annoyance and danger occasioned by thoughtless people, who either leave the door wide open causing a draft, or jar your nervous system by slamming the door with a bang. The Eclipse Spring shuts the door every time, and the Eclipse Check stops the slamming.



The **Babcock & Wilcox Co.**

WATER TUBE STEAM BOILERS

Now being manufactured in Canada

Agents for the Dominion

A. HOLDEN & CO.

Waddell Building - 30 St. John St., MONTREAL

Send for book "STEAM" free on application.

The **Dominion Cotton Mills Co., Limited**

MAGOG PRINTS

FALL NOVELTIES . . .

ROB ROY SUITINGS, SALISBURY COSTUMES,
WRAPPERETTES, VERONA CORDS,
WORLD'S FAIR COSTUMES.

Also a Full Range in . . .

STAPLE AND FANCY PRINTS,
SLEEVE LININGS, ETC.

All Leading Wholesale Houses Carry our Full Range.

D. MORRICE, SONS & CO., Agents

Montreal and Toronto

At a meeting of the board of directors of the Hamilton Iron and Steel Company, held in Hamilton, Ont., Nov. 13, the following officers were chosen: President, W. Foster, jr., New York; vice-president, J. H. Tilden, city; treasurer and general manager, J. J. Morehouse, New York; secretary, H. N. Curtis, New York. Mr. Morehouse said a portion of the smelting works plant was being constructed, and that the company had an offer to build the whole plant from the Philadelphia Engineering Company; also that work on the foundations would be commenced this year.

The Esquimalt Marine Railway Company, with W. F. Bullen as managing director and \$100,000 capital, have begun construction in Esquimalt, B.C., of a marine railway for docking and repairing vessels. Ships up to 300 feet long and 10 feet depth will be floated on a cradle, upon which they will be drawn up an inclined railway 700 feet long on six tracks by powerful machinery. Shops for repairing machinery and wood work will be erected, the whole to cost \$60,000. The plant will be in readiness for operation in February.

The Niagara Falls Park and River Railway Company, who operate the electric railway between Queenston and Chippewa, Ont., are pushing the work of double tracking their road the entire length. Some of the ties are already laid, and the work of tracklaying will be begun next week. The company have found it necessary to provide repair shops and sheds for storing cars, and are building accordingly. The new machine shop will be 80x50 feet, with capacity to handle six cars at a time, and the car shed will be 100x70 feet, with capacity to store 30 cars.

The Penetanguishene and Midland Light and Power Co., Penetanguishene, have ordered a Wheelock condensing engine and new steel boiler, with condenser and all parts, for their new electric light and railway power house now being erected there. The Goldie & McCulloch Co., of Galt, are doing the job, including the shafting, friction pulleys, etc. The engine will be 140 h.p.

Machinists' Fine Tools

Drills, Chucks, Reamers, Etc.

WILEY & RUSSELL
Screw Cutting

TOOLS

RICE LEWIS & SON, Ltd.

TORONTO

Dominion Wire Manufacturing Company

MONTREAL AND TORONTO.

Wire Drawers, Galvanizers

AND

MANUFACTURERS OF

IRON WIRE BRASS
STEEL WIRE COPPER

FOR ALL PURPOSES

Also

Steel and Brass Wood Screws, and
Wire Nails.

Crescent Coat and Hat Hooks, Steel and
Brass Jack Chain.

2 and 4 POINT BARB and PLAIN TWIST FENCING.

WRITE FOR PRICES AND DISCOUNTS

Mr. C. W. Taylor, business manager of the Toronto Globe, is offering for sale the two Edison incandescent dynamos which were recently placed in the Globe building. These dynamos are described as being No. 10, of 100 light capacity, 110 volts each, compound wound, with base frames, and regulating boxes and amperemeters attached. These dynamos are new and in perfect order. Any who may be in want of such machines might do well to act upon the information.

The Robb Engineering Company, Amherst, N.B., we learn, are building a 250 horse power Robb-Armstrong high speed engine for the Toronto Railway Company, to be used as auxiliary power to their present plant during the ensuing winter. The other steam engines in use in this plant were built in the United States, and this order for a Canadian made engine is evidence of the high reputation the Robb Engineering Company have achieved for their really excellent engine. The plant of the Toronto Railway Company is first-class in every respect, and the equal of any in the United States or in Europe.

The Toronto Railway Company, who now have some 70 miles of track operated by electricity, contemplate making considerable extension of their lines next year, the work to be begun as soon as the frost is out of the ground in the spring. With this in view they are preparing to about double the size and capacity of their power house, their expectation being to have it completed and equipped in time to supply all demands for power next spring, when the extension of their street and suburban lines requires it.

The Dodge Wood Split Pulley Co., of Toronto, report an ever increasing trade in their line. They have recently shipped a car load of large iron centre driving pulleys to one of the leading cotton mills, also put in a very interesting piece of transmission of power in the shape of an intricate rope drive conveying 100 h.p., centres being 151 feet part and with several angles in the same mill. They have also just completed and started running another 450 h.p. rope drive in the E. B. Eddy Co.'s mills, at Hull, Que., and supplied some large belt pulleys for the new electric light and power station at Smith's Falls. They are making weekly shipments to the European markets. The Dodge Co. say their goods are evidently impressing the public as being all that is claimed for them, as new business from the once sceptic ones seems to now come unsolicited.

The Merchants Dyeing and Finishing Co., Toronto, have opened a new steel boiler, 60 inches diameter by 14 feet long, from The Goldie & McCulloch Co., of Galt, Ont. They put in a 40-h.p. Wheelock engine and new steel boiler a short time ago, also from The Goldie & McCulloch Co.

Messrs. H. D. Warren, C. N. Gander, J. H. S. Kerr and others are applying for incorporation as the Toronto Rubber Company, of Toronto, with a capital stock of \$3,000, to manufacture rubber goods, etc.

A Pocket-Book for Pharmacists

By Thomas Bailey. Full of valuable tables and memoranda. 228 pages, 32mo, limp cover. English Pharmacopial. Mailed free to any address on receipt of \$1.00.

SPON & CHAMBERLAIN, 12 Cortlandt St., New York

MAGNETIC METAL

SEPARATORS

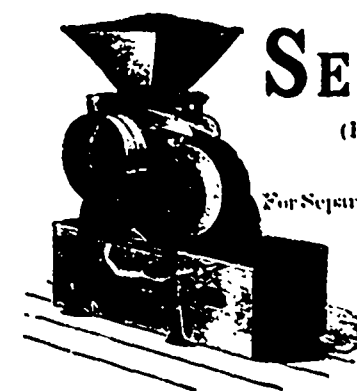
(B. FITT'S PATENT).

For Separating Iron Turnings, Filings, etc.
from Brass and other metals.

Made in Two Sizes . . .

Price, No. 1, \$135; No. 2, \$225

No. 2 is more than
double the capacity of No. 1.



Built by

EZRA SAWYER, WORCESTER, MASS.

The Montreal Rolling Mill Co., Montreal, have ordered two steel boilers, 6 feet diameter with 15 feet tubes, and all mountings from The Goldie & McCulloch Co., Galt, Ont. It is not long since the Galt company placed one of their Tandem compound condensing Wheelock engines and new steel boilers in the Rolling Mill company's new wire factory in Montreal.

Shearer & Brawn, of Montreal, are putting in new machinery in their saw mill. The Jenckes Machine Co., of Sherbrooke, Que., have the order.

The Rat Portage Mining and Reduction Co. have placed an order with the Jenckes Machine Co., of Sherbrooke, Que., for complete hoisting plant for their mines at Rat Portage, Ont.

The Jenckes Machine Co., of Sherbrooke, Que., are supplying Jos. Lafontaine, at Upton, Que., with one of their light plants for creamery service.

The Canadian Rand Drill Co., of Sherbrooke, Que., have just shipped one of their 10x11 air compressors, with drilling outfit, to the Rat Portage Mining and Reduction Co., Rat Portage, Ont.

The Jenckes Machine Co., of Sherbrooke, Que., are now building a complete saw mill for F. E. Swan, Johnville, Que., including steam engine and boiler.

The Bertram Engine Works Company, Toronto, as was recently announced in these pages, are the successors to the Doty Engine Works and the John Doty Engine Co., whose extensive shops are at the intersection of Niagara and Bathurst st., the ship building yards being at the foot of the latter street. Possessing one of the largest and best equipped plants in Canada, they are well prepared to meet any demands that may be made upon them for almost any kind of iron work, particularly marine, stationary and portable boilers, marine and Corliss engines, mining machinery, ore crushers, stamp mills, etc. They make a specialty of the Roberts safety tube boilers, of which they have the exclusive control in Canada. Their ship yard, which is under the management of Mr. Angstrom, is equipped for building all sorts of vessels, the well known reputation of Mr. Angstrom being a guarantee of perfect success.

The Jenckes Machine Co., of Sherbrooke, Que., have supplied the Palmers Asbestos Felting Co., with the special machinery required for extracting asbestos under Palmer's patented process. The plant is located at Thetford Mines, Que.

HARD-MOUTHED HORSES

AND PULLERS CONTROLLED WITH ABSOLUTE EASE.

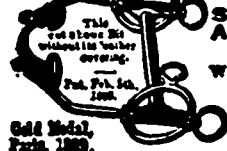
RUNAWAYS IMPOSSIBLE.

This statement is now repeated by thousands who have purchased

BRITT'S AUTOMATIC SAFETY BIT.

SAFETY GUARANTEED

This Bit, by an automatic device, closes the horse's nostrils. **HE CANNOT BREATHE, AND MUST STOP.**

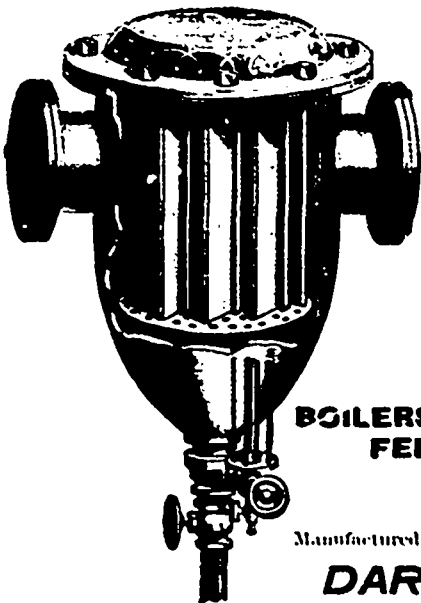


SAFETY FROM RUNAWAYS ABSOLUTELY GUARANTEED WITH THIS BIT. Any horse is liable to run, and should be driven with it. By its use ladies and children drive horses men could not hold with the old style bits.

Send for illustrated pamphlet containing testimonials from all parts of the world, and earnest and candid expressions about the **BRITT AUTOMATIC SAFETY BIT** and its resistless but harmless and humane power in subduing the most vicious horses and controlling the most stubborn pullers and chronic runaways.

The only bit in the world that is endorsed, advocated, used and sold by the Society for the Prevention of Cruelty to Animals, *The Highest Authority.*

DR. L. P. BRITT, 37 COLLEGE PLACE, NEW YORK.



Webster's Separator

FOR LIVE AND EXHAUST STEAM

Separates and Removes Moisture or Entrained Water from Live Steam; Oil, Grease and Other Impurities from Exhaust Steam.

FOR APPLICATION WITH **BOILERS, ENGINES, PUMPS, FEED WATER HEATERS AND STEAM HEATING SYSTEMS**

Manufactured by **DARLING BROTHERS** Reliance Works, MONTREAL

Write for Catalogue.

Judicious Advertising

CREATES many a new business
ENLARGES many an old business
REVIVES many a dull business
RESCUES many a lost business
SECURES SUCCESS in any business

ADVERTISE IN

Canadian Manufacturer

T. A. MORRISON & CO.

118 St. Peter St., MONTREAL
CONTRACTORS' SUPPLIES
"ECLIPSE" DOOR CHECKS & SPRINGS

Best in the world.
 Notice: The "Eclipse" Checks and Springs are giving the best of satisfaction, and we are selling large quantities.

CANADIAN OFFICE & SCHOOL FURNITURE

PRESTON ONT

FINE BANK, OFFICE, COURT HOUSE & DRUG STORE FITTINGS

OFFICE, SCHOOL, CHURCH & LODGE FURNITURE

SEND FOR CATALOGUE.

Everything points to a change for the better in the cotton industry, if additions and improvements in the local mills may serve as an index. Conversation with the chief representative of the cotton manufacture in the Dominion shows that not only is the general outlook more hopeful than six months ago, but it is such as to demand the substantial importation of extra plant to meet the output. At Valleyfield alone the Montreal Cotton Company, "in order," said the manufacturer referred to, "to meet the growing wants of their business, have erected a very large dye-house, 150 feet long by 87 feet wide, three stories high and of best stone masonry." The upper rooms of this addition to the already large factory, will be filled with spinning machinery from Lancashire. There will also be room for from two to three hundred looms, which with other accessories, will render it when completed one of the finest mills on this continent, or, to use the representative's words, in England itself, in thoroughness of equipment and all that pertains to the enlarged and most perfect manufacture of cotton fabric. The water power of this mill has also been much improved during the past summer by the introduction of two large waterwheels imported from Holyoke, Mass., at a cost of about \$15,000; altogether the new improvements, including buildings and machinery, this year, will cost in the vicinity of \$300,000. The mill, which at present keeps constantly employed 1,500 hands, will, when all the machinery is at work, employ at least 300 more, of course proportionately augmenting the pay roll, which at present is about \$20,000 per month. This is but one mill; and although proportionate "go-aheadness" may not be reported of all others in the Dominion, much business is hoped for, and, all things considered, will in the end be realized. Montmorency mill still turns out goods more or less largely, and still exclusively for the China market. The silver question, as in every other business, has entered as a disturbing element into every branch of the cotton trade generally, but none more so than in that affecting the Dominion and China, and it is needless to say that those engaged in it regard favorably the bill passed by the present United States Senate. --Montreal Witness.

Mr. J. O. Thorn, manager of the Metallic Roofing Company, Toronto, informs us that they are now busy manufacturing five car loads of galvanized corrugated iron for the new Union station in this city.

The factory of the Dominion Horseshoe Nail Company,

Montreal, of which Messrs. Beaudoin & Dagenais are proprietors, was damaged by fire to the extent of about \$5,000 on Nov. 6.

John Starr, Son & Co., Halifax, N.S., have recently supplied their Unique telephones to the Barrington and Liverpool telephone companies, and also private lines at Sheet Harbor and elsewhere in that province.

Mr. Thomas Robson, tanner, Lindsay Ont., is putting in 30 additional vats, and making other important improvements to his tannery.

The Sykes & Ainley Manufacturing Company, Glen Williams, Ont., are applying for incorporation with a capital stock of \$800,000, to take over and carry on the business of the firm of Sykes & Ainley, at that place, and manufacture tweeds, blankets, rugs, linings, carpet yarns, Pannels, etc. Messrs. John Sykes, Norman Ainley, Alfred Sykes, Harry Holdroyd and Martha Sykes are the incorporators, and will be the first directors of the company.

The J. B. Armstrong Manufacturing Company, Guelph, Ont., were highly successful at the World's Fair. For their exhibit of springs they secured a silver medal, the highest award given. A diploma was awarded the company for their adjustable seat body, adaptable to dog carts, surreys or cutters. Mr. R. L. Torrance, the manager of the company, is well pleased with the success at Chicago, and reports that all the goods on exhibition there found ready sale.

Messrs. Drake & Co., Selkirk, Man., have sold their saw mills, logs, etc., at Rice River, Lake Winnipeg, to Messrs. Robinson & Co.

The Diamond Soap Co., of Toronto, are applying for incorporation, with a capital stock of £10,000, to manufacture soap, etc.

**NEW One Dip Black for Wool
One Dip Black for Cotton**

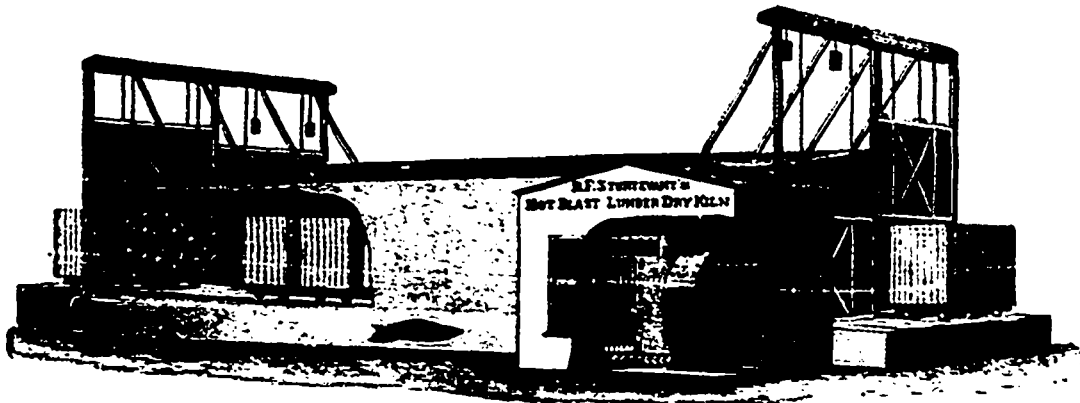
Suitable for Raw Stock, Yarn and Piece Goods.

These Blacks deepen in the atmosphere and in fulling, and dye very economically. Manufacturers and Dyers will do well to send for a sample bbl. of each.

ALEX. P. MENDE, 14 Water Street, NEW YORK

The Sturtevant Progressive Lumber Dry Kiln

- Complete .
- Plans . .
- Furnished .
- With . .
- Each . .
- Apparatus.



Absolutely Safe .

AS A

FIRE RISK

QUICK DRYING

Economical in use of steam

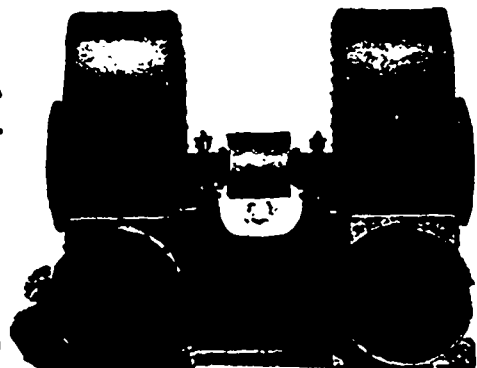
**THE STURTEVANT
Steel Plate Exhaust Fans**

For Removing Refuse from Wood-working Machinery

SEND FOR CATALOGUES

B.F. Sturtevant Co.

BOSTON, MASS., U.S.A.



DOUBLE EXHAUSTER

James Worthington, of Toronto, president of the Ontario Bolt Works, is negotiating the purchase of the Ontario Rolling Mills, Swansea, for something less than \$100,000.—Toronto Hardware.

We are authorized by Mr. James Worthington to say there is no truth whatever in this report.

Mr. William Faint, whose well-known mattress manufactory is on the river bank on the other side of the Otonabee river, has patented an invention that will be hailed as a boon by water-power users wherever King Frost reigns during the winter months. For years, as far back as the memory of man in Peterborough, the user of water power has had a vexatious time during the winter months. Reaching his mill or shop, the morning's duties began with a chopping free of the water wheel shaft from the ice that bound it in an almost iron grasp. This was always a vexatious job, performed in the confined space of the flume or penstock. Mr. Faint's invention, when applied to the wheel, makes this duty a thing of the past. The basis of the invention is the fact that oil is lighter than water, unless it be some very dense mineral oil. The difference in density, and consequently weight, is roughly speaking, about as 2 to 3. In addition to being lighter the further fact stands that oil will not freeze or congeal. These facts are, of course, not new, but the application, in the case of Mr. Faint's invention, is new, and may rank as a discovery. A tube of thin

boiler iron is formed of diameter sufficient to encompass the wheel shaft and allow from one to one and a half inches play between the inside of the tube and the shaft. The tube is made with flanges the whole length, and the tube is sprung around the shaft and the flanges brought together with bolts, and a packing placed between to ensure a tight joint. The tube stands on the wheel casing, or may be suspended from the floor or beams. In length it is sufficient to stand above the surface of the water in the penstock a distance to cover any rise of water, and extends down as far as desired. After placing in position oil is poured into the tube displacing a sufficient quantity of water to ensure a depth of say from 15 to 20 inches of oil in the tube. The wheel shaft revolves freely, and experience has shown that in the coldest weather it is entirely free from ice. The starting shaft is protected in the same way. The invention can be applied to any upright wheel, and requires no special features to ensure its favorable use. Without this protection the wheel shafts will be found frozen in the surface ice to a considerable depth. The invention has been thoroughly tested on Mr. Faint's factory wheel and given the best results. Practical men who have examined it pronounce the idea a boon to mill owners. Mr. Faint has received his patent covering all details, and is prepared to dispose of rights for the use and for its sale in outside territory.—Peterborough, Ont., Review.

WE MANUFACTURE
FANS FOR NOTHING
but hard work, and having had twenty years
experience we know how to get steam out of
Dye Houses and the largest possible
Dry Rooms product from

Our Compound Wheel is the most powerful in the world, and if we can't be of actual value to you we don't want your money. No CUSTOMS DUTIES on our Fans. Send for Circular and Information **BARNEY VENTILATING FAN CO., 70 Pearl St., Boston, Mass., U.S.A.**

The Canadian General Electric Company, Toronto, recently made a proposition to the municipal authorities of Belleville, Ont., to build a street railway in that city. The Executive and Industrial committees of the city council have considered the proposal and unanimously approve of it, and the matter now goes before the council, where it will undoubtedly be ratified.

The Goderich Organ Co'y, Goderich, Ont., are enlarging their works by the addition of a three-storey building, 18x32 feet, an electric lighting plant and considerable new machinery. This will enable them to include the manufacture of water closet seats and tanks, bath rims, etc.

Do You Use Them?

*
To those still in
doubt, we supply a
Pulley for 30 days
on trial.



*
If it does not
meet our warranty
return it
at our expense.

THE DODGE PATENT WOOD SPLIT PULLEY

IN USE ALL OVER THE WORLD. SEND FOR CATALOGUE AND DISCOUNTS.

Sole Manufacturers, **Dodge Wood Split Pulley Company**
68 KING STREET WEST, TORONTO

The Peterborough, Ont., Light and Power Company, who supply the street lighting of that town, and also power, and who drive their machinery by water power, finding that this latter is not always reliable, will place a steam plant - boiler and engine—as auxiliary power to be used when needed.

J. G. Findlay's planing mill at Wallaceburg, Ont., was destroyed by fire Nov. 9. Loss about \$2,000.

Messrs. John Starr, Son & Co., Halifax, N.S., inform us that they are general Canadian agents for the Lahmeyer electric lighting system, regarding which they will be pleased to give the fullest information, sending illustrated catalogue, etc., on application. By reference to their business card in another page, it will be seen that they are now offering a number of the Lahmeyer dynamos for sale. They are compound wound for 110 volts, and are specially suited for factory use. The Lahmeyer generator has the reputation of being one of the best dynamos made in Europe, and is both electrically and mechanically perfect.

Mr. Charles Knees, the well-known tanner of Milton, Ont., has taken over a tannery at Oshawa, Ont., where he will manufacture Russian leather.

The Richelieu Manufacturing Company, Chambly, Que., are applying for incorporation to take over the proposed business of the Chambly Manufacturing Company, that place, and manufacture electrical machinery, appliances, etc.

Mr. Thomas Forrester, 118 St. James street, Montreal, informs us that he has been appointed sole Canadian agent for the North British Wire Manufacturing Company, Glasgow, Scotland, for the sale of their new special alloy wire gauze dynamo brush and other wire goods. Mr. Forrester informs us that he has already supplied these brushes for the lighting

plants of the following parties in Montreal: J. C. Watson; Canada Sugar Refining Company; Ingersoll Rock Drill Co.; and Montreal Gazette, at Montreal; and the Royal Pulp and Paper Company, at East Angus, Que.

The Standard Drain Pipe Company, of St. Johns, is tremendously busy this fall. Orders are coming in from all parts of the Dominion with a celerity unprecedented in the history of this company. Everywhere the pipes give the most complete satisfaction. The joint invention of Maj. Trotter and Mr. Geo. Clayton, whereby the exhaust heat of one kiln, instead of going to waste, is carried successively through a second and third kiln, is an immense saving in fuel, in addition to facilitating the work of the burners. By this invention the company frequently save, in the bare cost of coal alone, as much as \$125 per week.—St. Johns, Que., News.

A two storey extension, 80x80 feet, is being made to the mills of the Montmorency Cotton Mills Company, at Montmorency, Que.

The electric railway power house extension at the Chaudiere, at Ottawa, has been roofed in for the winter. Extra power which was needed to run the two large 400 horse power dynamos in the power house will be secured by the two turbine wheels which were placed in the addition. The wheels are of the latest improved style, and measure 60 inches in diameter, and capable of generating 500 horse power each. Space has been left in the addition for two more water wheels that are not yet required. These latter will likely be put in next summer. The present wheels will begin running in a few days, when an extra 100 horse power dynamo will be set up. The dam which had to be built last June in front of the excavation will be removed shortly. The winter electric car service will be run by 1000 or 1,000 horse power.

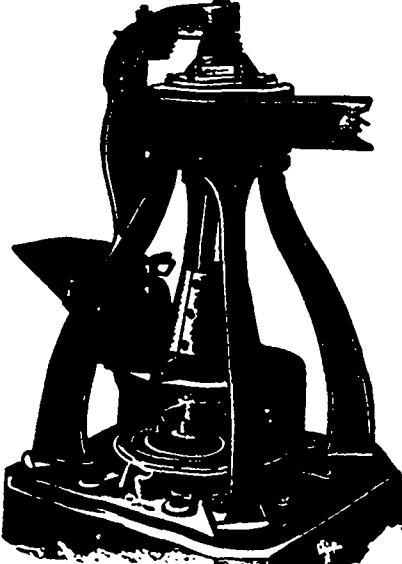
The factory of the British Columbia Juice and Cooperage Company at Vancouver, B.C., was destroyed by fire Nov. 2, loss about \$30,000. The factory will be rebuilt immediately.

Messrs. Finlay & Son, Peterborough, Ont., have erected a new three-storey building, 100x30 feet, in connection with their hub and bent wood factory. This concern is running to full capacity on orders.

The London West Electric Railway, connecting with the street railway system of London, Ont., was opened to the public on Nov. 1, the event being memorable with the children of that city and vicinity in that round trip tickets were issued to them at a cost of one cent each. It was a fine day, and of course the cars were crowded carrying the thousands of little ones and their friends, to whom the occasion was most delightful.

THE GRIFFIN MILL

The Only Perfect Pulverizer



OF

QUARTZ, PHOSPHATE
GOLD ROCK,
OR SILVER FOUNDRY
ORES, FACINGS,
PLUMBAGO, And All Other
PORTLAND Refractory
CEMENT, Substances.

Will work either wet or dry, and deliver a finished product. Capacity, 3 to 4 tons per hour on Phosphate Rock, 1½ to 2 tons per hour on Portland Cement, Quartz or Ores, depending on hardness of material to be pulverized and fineness of product. Grinds from 30 to 250 Mesh with equal facility.

NO JOURNALS IN GRINDING CHAMBER. BALL RIGID ON SHAFT HAVING DIRECT POSITIVE ACTION ON MATERIAL. MINIMUM POWER PRODUCES MAXIMUM AMOUNT OF PRODUCT. IT IS ABSOLUTELY GUARANTEED IN EVERY RESPECT, BOTH AS TO CONSTRUCTION AND CAPACITY. FIRST COST, WEAR, AND OPERATING EXPENSE MUCH LESS THAN STAMP MILLS. LARGE NUMBER OF MILLS IN USE ON DIFFERENT MATERIALS WITH POSITIVE SUCCESS IN EVERY INSTANCE.

Correspondence solicited, and illustrated descriptive pamphlet furnished on application to

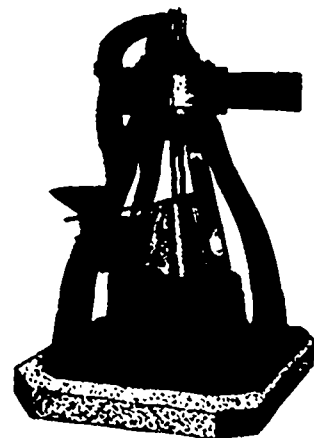
BRADLEY FERTILIZER CO., 92 State St., Boston, Mass.

THE GRIFFIN MILL

IN CANADA

IS MANUFACTURED AND SOLD ONLY BY

PULVERIZES PORTLAND CLINKER, NATIVE CEMENT, GOLD AND SILVER ORES, PLUMBAGO.



PULVERIZES PHOSPHATE ROCK, FOUNDRY FACINGS & REFRACTORY SUBSTANCES OF ALL KINDS.

The Jenckes Machine Co.

SHERBROOKE, QUE.

Branch Office - 18 VICTORIA SQUARE, MONTREAL

CORRESPONDENCE SOLICITED

It was recently announced in these pages that fire had created considerable damage in the works of the Canada Wire Mattress Company's works at Toronto Junction. Since then the works are being put in better order than ever, and extensive improvements made. A new steam engine and boiler will be put in.

The galvanizing works of the McDonald Manufacturing Company, Montreal, were badly damaged by fire Nov. 8, the loss amounting, it is said, to about \$50,000.

Messrs. Shurley & Dietrich, Galt, Ont., are equipping their saw works with an efficient system for protection against fire.

Messrs. Wright & Collins, Brantford, Ont., have just received a car load of machinery for their factory from the Goldie & McCulloch Co., Galt, Ont.

Messrs. Cowan & Co., Galt, Ont., have recently shipped a hand resaw machine to Hagersville, Ont., and engine and boiler to Port Arthur and sash and door machinery to Burlington, Ont.

Messrs. John Taylor & Company, manufacturer of fine toilet soaps and perfumery, Toronto, have sent us the following circular which explains itself: "We are informed that certain representatives of foreign perfume manufacturers have been trying to prejudice the trade against Canadian perfumes—that they are only trash, etc. We take this opportunity to inform you that it has been our aim to offer only fine goods. We use only the best of raw materials, and have the latest machinery for washing and distilling pomades, which are imported from the best and most reliable manufacturers in the south of France. The standard of our perfumes is regulated by excise supervision, which is a guarantee of the quality and materials used in their manufacture. You will always find our perfumes uniform and true to flower. Assuring our patrons that we are in a most favorable position to compete against European and American perfumers, all we ask is one comparative test against any imported handkerchief extracts."

At a special meeting of the shareholders of the Canada Paint Company, held in Toronto last week, it was determined to increase the capital stock of the company from \$450,000 to \$750,000. Mr. Munro, managing director, reported that he had received notice from Chicago that the company had taken the highest place in all departments in which they had competed with exhibitors of United States, England and all for-

eign countries, the award entitling them to medals and diplomas in fine colors and varnishes and wood stains. He also stated that the company's mines were producing oxide of iron paint of higher grade than has ever been produced from American deposits, and that the demand from Canada, England and United States was steadily increasing."

The St. John, N.B., Bolt Works, of which Mr. Alexander Rankine is now proprietor, are undergoing extensive repairs and improvements, and are being put in first-class condition.

BABCOCK & WILCOX BOILERS.

In explanation of the reasons why the Babcock & Wilcox boilers received no award at the World's Fair, we give below a copy of the special notice placed on the front of these boilers during the last few weeks of the Fair. The notice seems to cover the ground, and the non-award of a premium to the Babcock & Wilcox boilers is simply due to the fact that the company preferred, under the circumstances, to remain out of the contest:

"We were informed that it was the purpose of the jury to make awards on boilers based entirely upon the written statements of the exhibitors of boilers, without tests or any personal knowledge in the possession of said jury concerning the comparative construction, operation, economy or durability of said boilers. We were asked to make such a statement, and were informed that all other exhibitors of boilers had been requested to make a like statement of their claims for the consideration of the Jury of Awards.

"Believing that an award, based on such insufficient knowledge on the part of said jury, could be of no practical value, and notwithstanding the expense incurred by this company in making an exhibit, we respectfully declined to make any such written statement for the purpose of receiving an award upon our boilers.

"While we do not in the least envy those who have, upon such knowledge by the jury, been awarded premiums, we are equally content to stand upon the record without an award based on such a knowledge of our goods."

Messrs. A. Holden & Co., 30 St. John street, Montreal, are Canadian agents for these Babcock & Wilcox water tube steam boilers.

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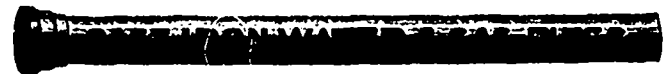
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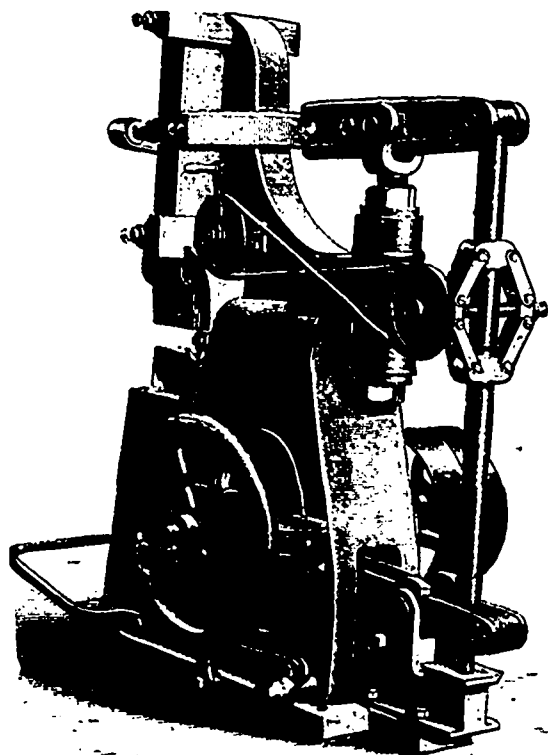
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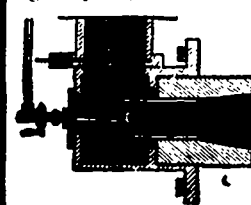
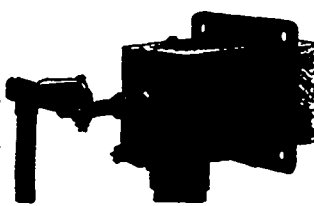
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	3 mths	519.12	519.20	330.84	551.84	443.20	349.56	257.88	211.00	131.24
	6 "	634.52	629.20	391.76	589.72	530.20	308.24	326.40	311.80	178.68
	9 "	666.16	646.56	not given	629.36	601.20	406.88	333.96	370.20	199.76
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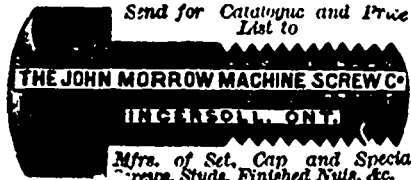
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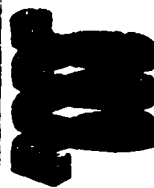
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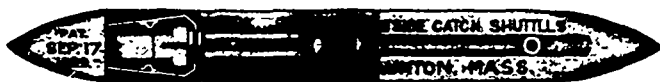
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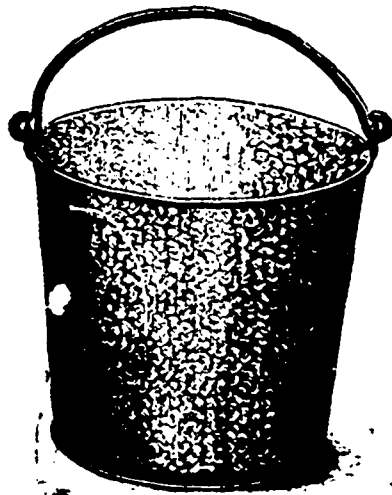
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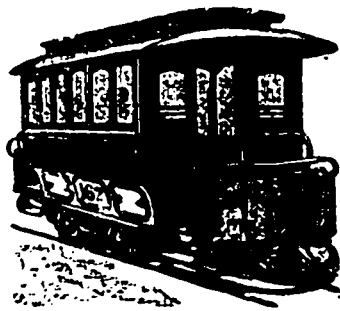
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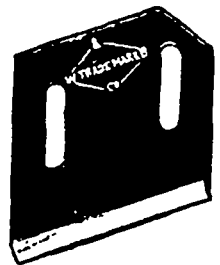
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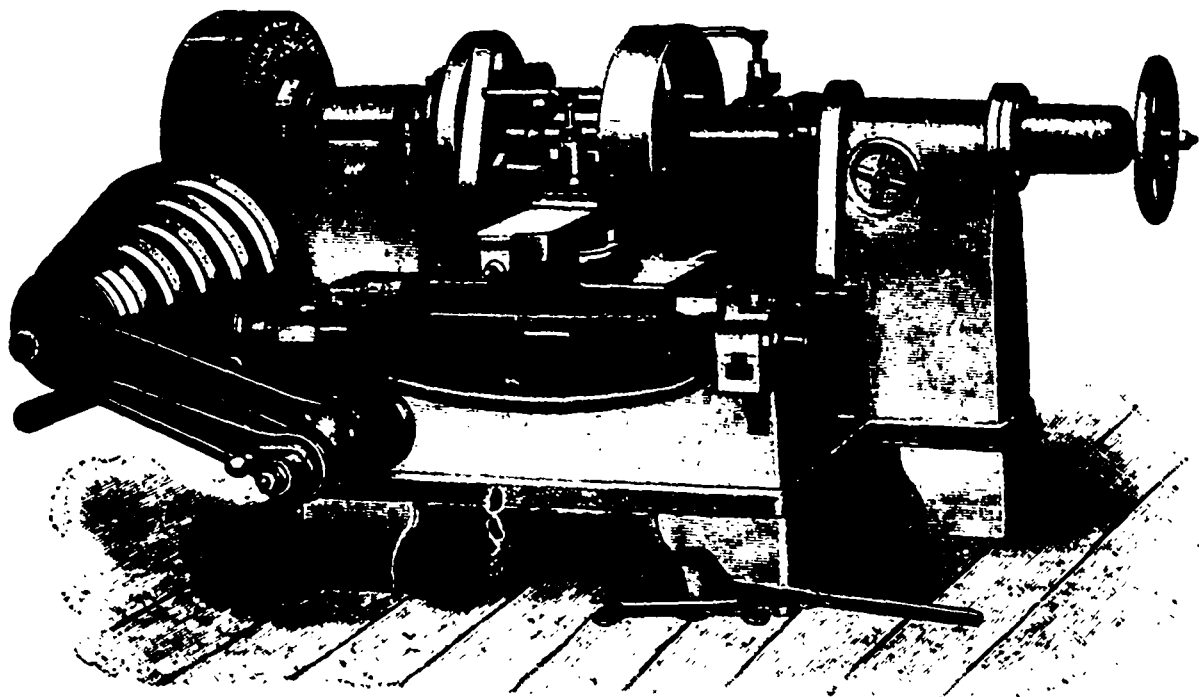
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The report was adopted and the retiring Directors, unanimously re-elected. The Board of Directors are now constituted as follows: James Goldie, Guelph, pres.; W. H. Howland, Toronto, vice-pres.; H. N. Baird, Toronto; Wm. Bell, Guelph; Hugh McCulloch, Galt; S. Neelon, St. Catharines; George Pattinson, Preston; W. H. Story, Acton; J. L. Spink, Toronto; A. Watts, Brantford; W. Wilson, Toronto.

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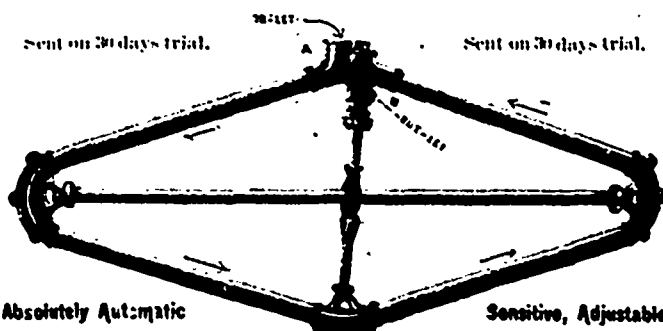
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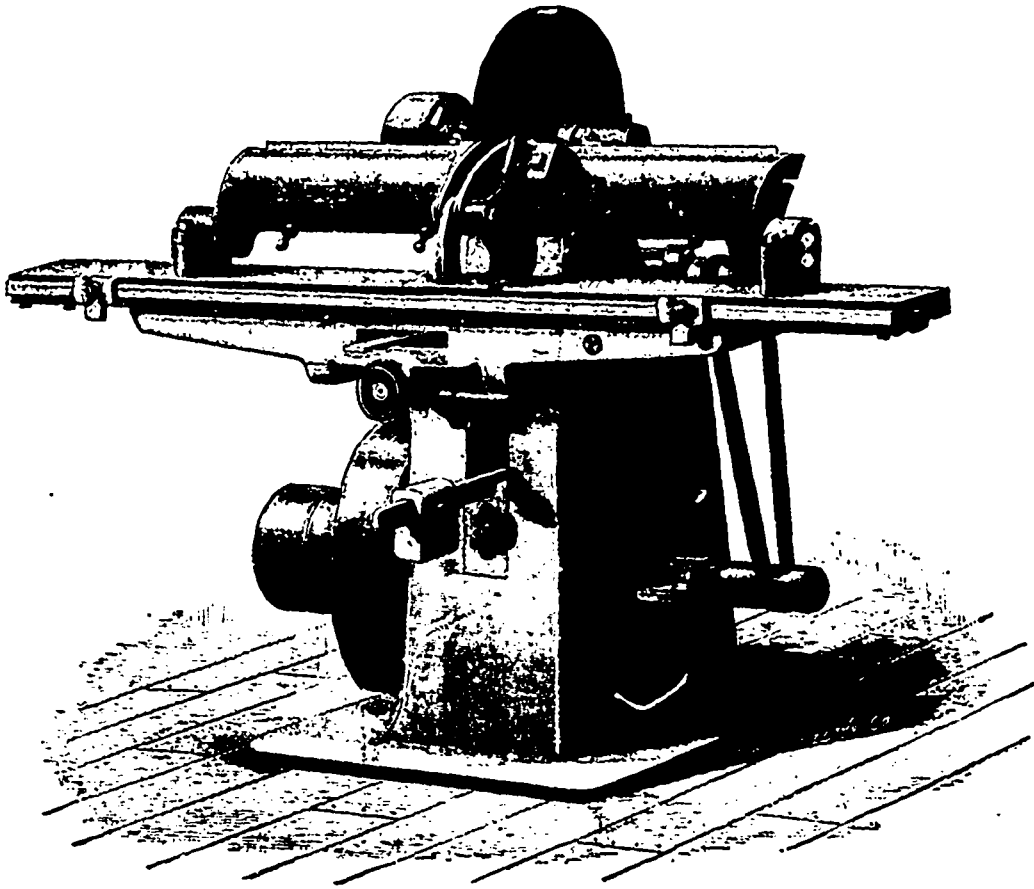
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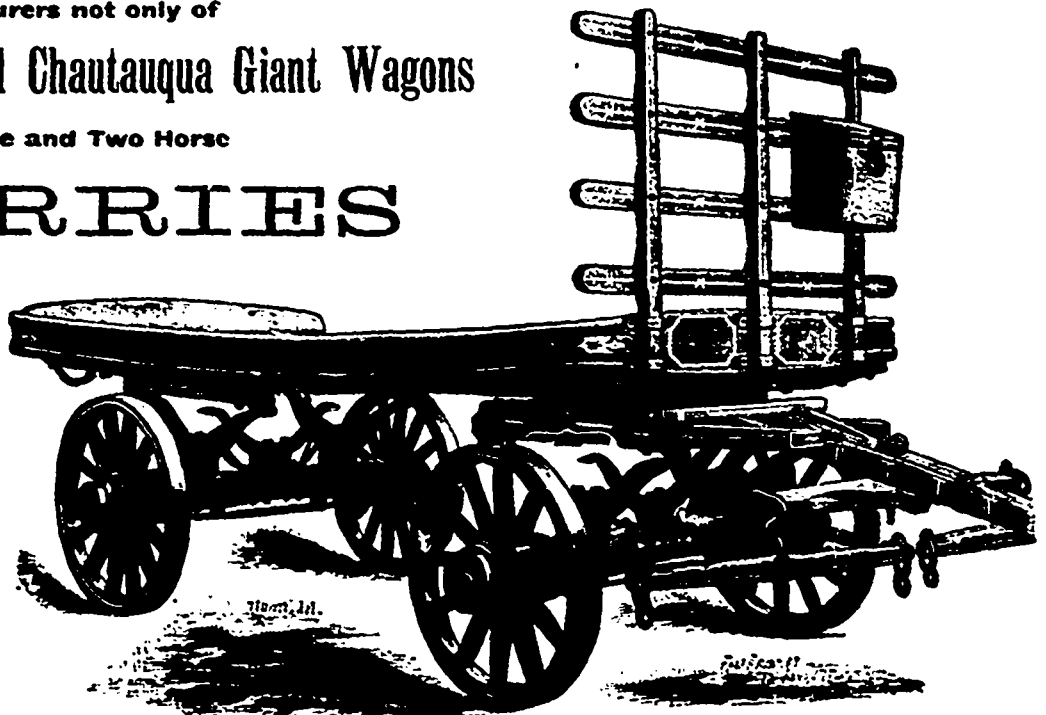
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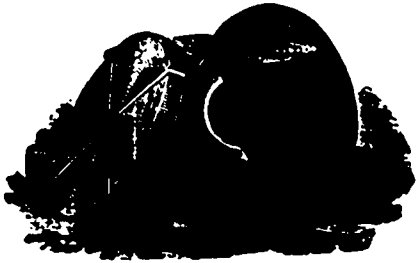
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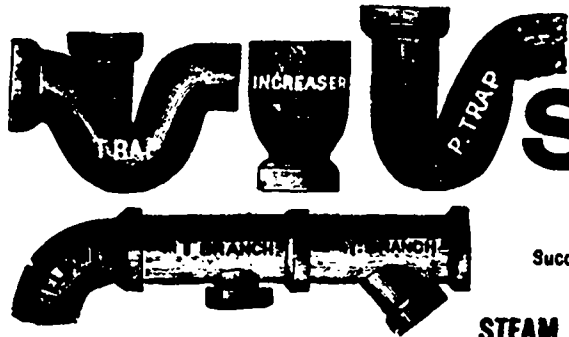
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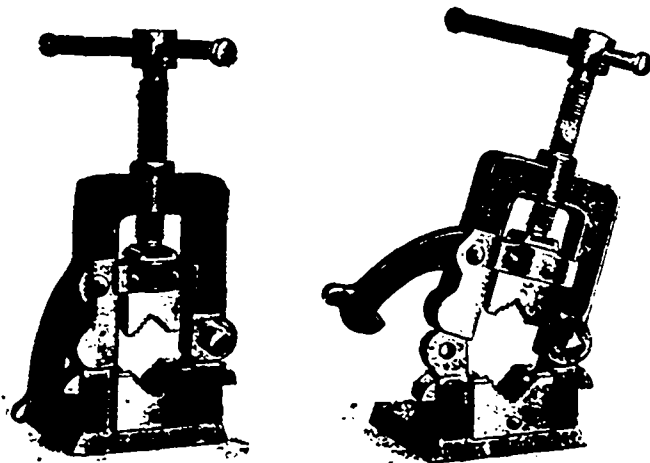
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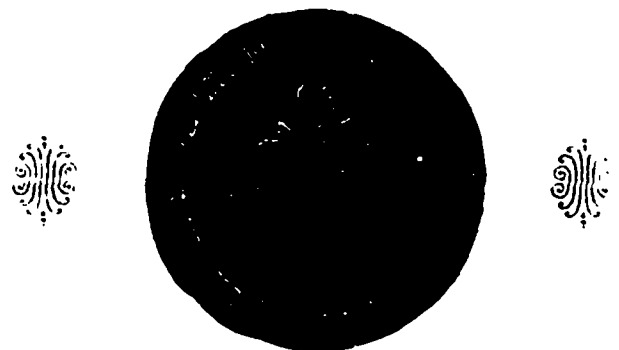
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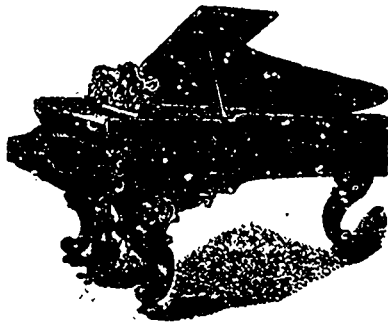
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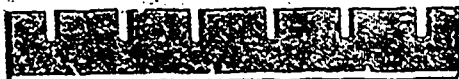
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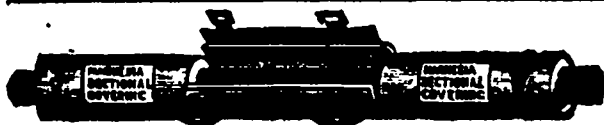
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