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ROLLER MILL FOR FEED GRINDING.

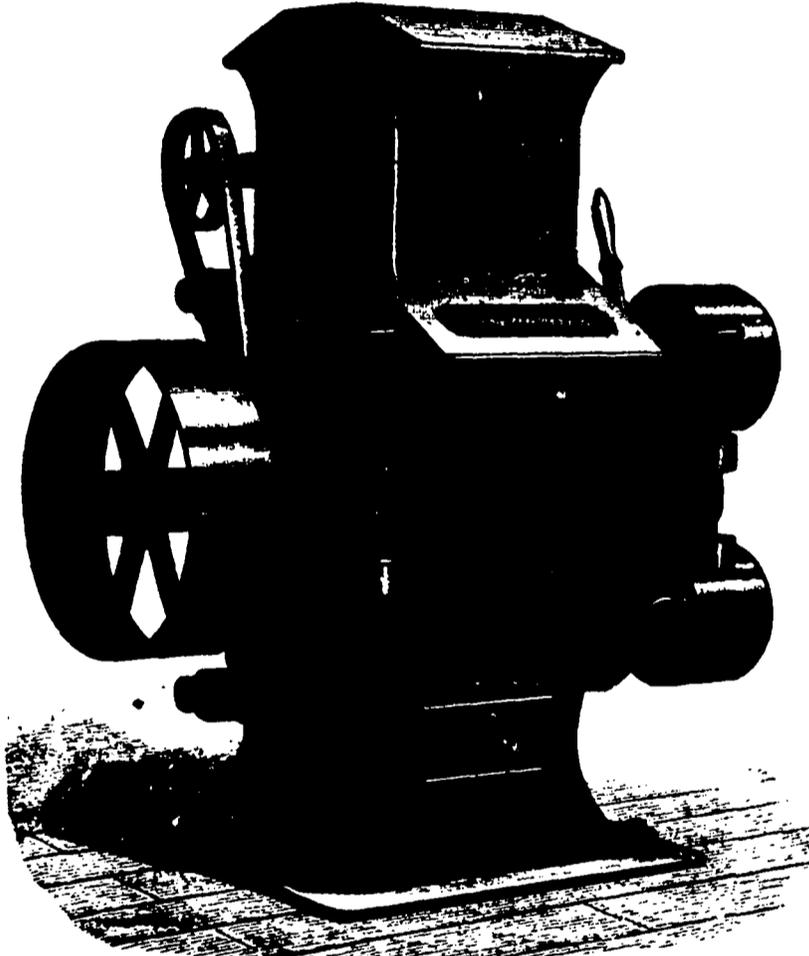
MESSRS. WM. & J. G. GREY, of this city, have recently constructed a new style of Roller Mill intended for use in the grinding of all kinds of coarse grain for provender, or even corn meal for table use. We present herewith a fine cut of the machine, and for the benefit of those interested, a short description of its construction and operation.

The machine is wholly enclosed and supported in a cast iron frame of neat and compact pattern, surmounted by the wooden hopper or feed-box, in which is arranged a feed roller and gate to control the flow of grain to the rollers, of which there are three. These rollers are of the hardest chilled steel, the one on which the driving pulley is placed being 14 inches in diameter. It is located between two of 6 inches diameter each. All these rolls run at the same speed, the difference of diameter of the rolls giving the requisite differential speed. The journals of the large or centre roll are firmly secured to the frame, and those of the smaller ones carried in arms shown on each side of the frame. These arms are adjustable and supplied with springs, which allow the rolls to separate in spreading, or in case of any hard substance passing between the rolls when at work. The lever at the right hand side of the hopper is for spreading the rolls.

This mill, in the opinion of the manufacturers, is destined to supplant the old buhr stone for the following reasons: it is complete when shipped from the shop; it has great capacity for the power required; will do three times the work with the same power used for the stone; requires very little attention; does away with stone dressing; requires no heavy framing to support it.

The machine can be driven from either a horizontal or upright shaft with a single belt, and is regarded as the cheapest and most complete machine for chopping known.

Further particulars may be had of the builders, Messrs. Wm. & J. G. Grey, 2 Church Street, Toronto.



ROLLER MILL FOR FEED GRINDING.

look into a similar furnace of the present day, he would be very much surprised to see a great mass of material that he fired out as worthless, now being made into cement, mineral wool, glassware, pottery, fire bricks, fertilizers etc., etc. So it is in all the important industries, and the manufacturer, whether large or small, who does not pay attention to the by-products in his business in the future, will come out second best in the race with his competitor who does.

In the production of light, the electric light has assumed such an important position within the last decade as to waken up the gas engineers to the necessity

use suitable appliances for producing a cheaper (or fuel) gas, not very well suited for illuminating purposes, but with all the necessary elements for producing heat. This branch of the gas business has been brought to such perfection within a few years that, in all the important centres, it now only requires a willingness on the part of the gas corporations to work for ordinary, instead of extraordinary, profits, and it can be speedily arranged that without any additional expense to the user, gas may be used for heating and power-producing purposes.

To show that this thing is entirely possible, and that the exorbitant greed of the gas companies alone is entirely responsible for the small amount of fuel-gas used at the present time. I need only mention that the town of Los Angeles, in California, is now being supplied with fuel-gas for fifty cents per thousand cubic feet. The coal used has to be brought from Pennsylvania, British Columbia, or far-away Australia, and yet the gas companies expect to pay respectable dividends.

PROCTOR.

GOOD ADVICE.

IN the copy of the constitution and by-laws of a mutual benefit association sent us by Bausch & Lomb Optical Co., of Rochester, N.Y., is a loose leaf not belonging to the copy referred to. From this leaf we learn that this firm has established a library consisting of books, newspapers, periodicals, etc., for the use of their employes. On this leaf are printed a few very simple rules to be observed by those making use of the library—rules in which any intention to hedge about the use of the library by annoying conditions is conspicuously absent. Then follows this advice, which is worthy of being given wide publicity. We think nothing better could be got into the same space:

‘Read something useful every day, if only for a few minutes.

Read not too fast, nor too much at a time.

Read attentively, thoughtfully; by inattention you waste your time and injure your memory.

Stop occasionally, after you have read a short time; see whether you remember the substance, the ideas, of what you have read—if not, or if you do not understand it properly, read it over again, think it over, and try to retain the most important part in your memory.

Have a note book at hand, and copy into it some of the choicest and most important passages or expressions you have read, with page and name of book selected from; or write down your thoughts about what you have read. Of papers you may cut out these parts if you have permission to do so.

Separate and arrange occasionally your notes and papers according to the subjects treated.

The company trusts that their employes will assist as much as they can in keeping the library in as good a condition as possible; that they will employ some of their leisure time in making use of the same, and by so doing secure to themselves hours of pleasure, as well as useful knowledge, valuable to them in daily life.”—*American Machinist.*

The next great invention prophesied by Mr. Edison is the turning of coal into motive power without the mediation of steam. Now about three-fourths of the energy in coal is wasted in getting at the other fourth. If the invention of producing electricity directly from coal succeeds, a steamer that now burns one hundred and fifty tons of coal a day will burn twenty-five tons instead.

“PROCTOR'S POINTS.”

THERE are a good many live issues, in connection with the production of light, heat and power agitating the minds of a very large number of the world's leading thinkers at the present moment, and it might not be amiss for me in a few “Points” to discuss one or two of them. And I may remark in parenthesis, to begin with, that in all the discussions and mechanical appliances bearing on any subject which I shall venture to discourse upon, the utilization of all materials is one of the strong points—leading, practically, to the erasure of the word “waste” from the dictionary, in its relation to industrial products.

It is not so long ago since the manufacturers of gas, chemicals, iron, and, for that matter, of nearly all the important and prime necessities of this progressive age, paid but little attention, and in fact almost totally neglected, the utilization of the by-products in their business, and only the keen competition of these latter days has induced them to regard these as so many integral parts or branches of each enterprise. The old maxim: “Take care of the pennies, and the pounds will take care of themselves,” is having a fulfilment in the mechanical arts and appliances of this latter day that the strongest of its advocates never hoped for; and if one of the busy, careful iron smelters of 40 years ago could

of improving the quality of their gas as an illuminant, and of so perfecting the methods of production as to be able to compete with the incandescent form of electric lighting. The immense resources accumulated by the gas companies during the last twenty to fifty years, placed them in a position to do such experimenting as they desired without in the least encroaching on their capital, and as a result of this spirit of investigation, immense progress has been accomplished within the last few years, until now it is “which and t'other” between incandescent gas lighting and incandescent electric lighting, as to which is ahead. Electricity has a little advantage in brilliancy, while gas still keeps ahead in economy of cost. (I do not here refer to any of our Canadian gas, because, as a whole, our Canadian cities, in the matter of gas-light, are very little better off than they were ten years ago.)

A long article might be written, in each instance, on the different methods and constructions employed in the production of gas. It is not my intention to touch upon these. I only desire to call attention to this fact, that the near future has in it as much of promise for industrial production in the line of gas, as in that of any other factor entering so largely into general use in manufacturing. With the improved processes for manufacturing a better class of illuminating gas, there has come into