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PAYETTE'S PATENT DOUBLE EDGER.

THE accompanying illustration represents an improved double edger machine, patented by Mr P. Payette, of Penetanguishene, Ont., and manufactured by Messrs. P. Payette & Co., of that place. The machine is made in two styles—one with frictional feed, the other with direct feed—and in four sizes to suit mills of different capacity.

The saws are easily removed from the mandrel by taking out the end bearing from the frame. The feed rollers can be stopped or started instantly on the frictional feed edger, and somewhat less quickly on the direct feed machine by using the tightener pulley from the feed belt. The shifting saw is moved by a long lever fastened about the center to a swing plate, the end of the lever being attached to a link fastened to the cross-head. The shifting saw has a brass yoke attached to the cross-head that moves the saw. All saw collars can be moved on the mandrel and set to any width desired. The binder is raised by an overhead lever. These detail improvements are not shown on the cuts.

This machine has been on the market for upwards of five years, and is said to have given good satisfaction. Any further particulars may be obtained by writing the manufacturers, as above.

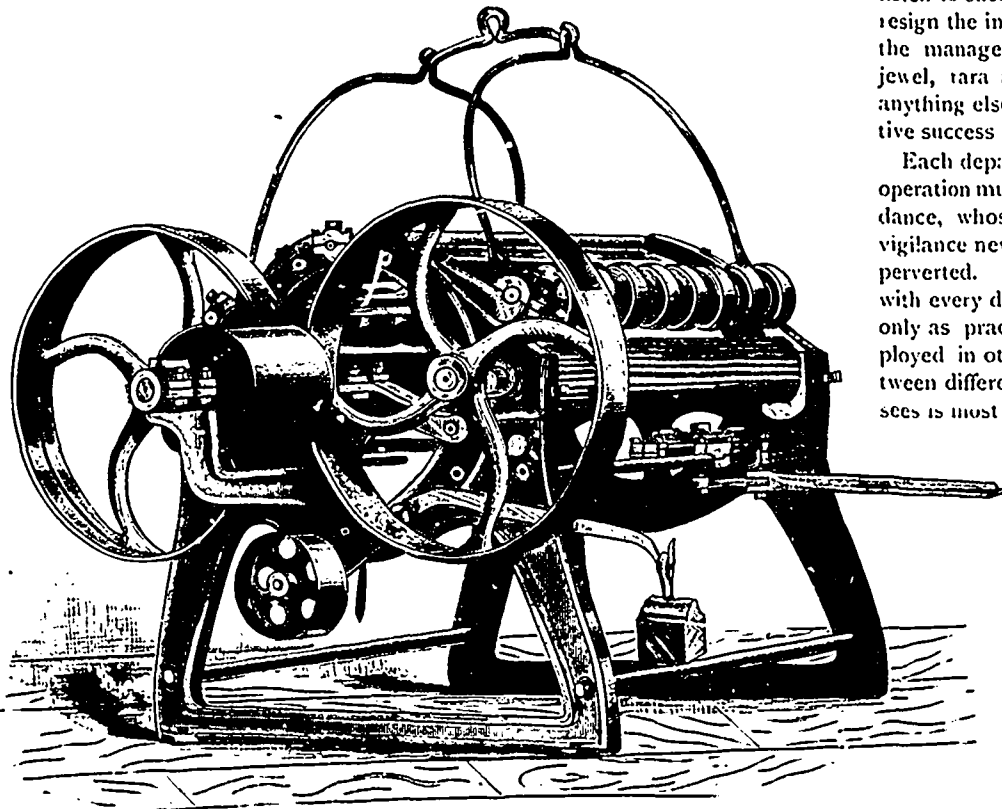
HOW TO CONDUCT A PLANING MILL.

AT a time when the extension of the planing mill business in Canada is a likely development of the near future, the following article by Morris J. Webster, in the Wood Worker is timely: A planing mill is an adjunct of a saw mill. It is for dressing, matching, sizing, re-sawing and otherwise fitting its products for the market and the builders' use. It deals principally or altogether with large quantities and the wholesale trade. It is fitted with the heaviest and improved machinery of its class, according to the peculiarities of the material wrought upon, and the trade wrought for. Its manager must be a thoroughly posted lumber man, its foreman a mechanic, with energy, tact, skill and plenty of sand—otherwise, backbone. Its men must be trained to the work imposed upon them, be paid a fair compensation, and be made to understand the interdependence of the employer and employee. Under these conditions a planing mill is a satisfactory source of revenue to both, and a benefit to the community in which it is located. An ordinary understanding of the term planing mill, and of the class of which we shall treat in this article, is one where lumber is manipulated as above named, only in lesser quantities, and in addition to which there is a carpenter shop. A general jobbing business is carried on, builders' work is gotten out and prepared, and sash, doors and blinds manufactured to a greater or less extent for local or export trade.

We will assume that a mill of this class is to be established with a capital of, say \$20,000 exclusive of ground. Expenditures would assume about these proportions:

Building, sheds and office.....	\$ 4,000
Motive power	2,000
Machinery.....	5,000
Shafting, belting, etc.....	1,000
Tools and fixtures.....	500
	\$12,500
Leaving for working capital	7,500
	\$20,000

The motive power must be of the best type. Nothing is too good, but must have been proved equal to the work. Stoppages during work hours eat into the best bank accounts; so of machinery, the best in the market is the cheapest in the end. No fancy nickel-plated affairs, but heavy, rigid cast frames and best steel for wearing and working parts. Let the building be strong. No machinery will do its duty, or last half its proper time, in a building of springing beams, settling foundation or shaky floors. Make it tight and warm and yet capable of plenty of ventilation. Arrange machinery with wise reference to class of stuff to be worked up; that is, so that in handling stock, men are not tumbling over each other's material. Provide ample supply of water and gas or other light, and fire-proof fuel room adjacent to fire room, into which lead pipes from a



PAYETTE'S PATENT FRICTIONAL FEED DOUBLE EDGER.

blower of sufficient size and located to take away shavings from machines.

Now, we have a mill that, with proper management, will be a success, the elements of which are so numerous as to require enumeration, and to be especially considered. 1st. The management, by which is understood the owner or party who decides the policy, approves of the expenditures and pays the bills. The most successful manager is he who has come up from lumber lugger or tailing a machine, to helper, hand, foreman, superintendent, then to the office and management. Such a man knows the needs of each man and machine and can promptly check an extravagance, or stop a leak. The management must be liberal, yet guided by a perfect knowledge of the best, quickest and cheapest way to accomplish an object.

The superintendent must be an intelligent and able mechanic, able to build, set up and run any engine, or take the place of any man in or about the premises. Not only must every man's duties be familiar, but be under constant supervision. The state of progress of each order, the material needed for same, the requisite when finished, must be kept constantly in view. The ability of each workman must be understood and applied where it can be best utilized. The capacity of each foreman and workman being understood, they must

be kept up to it by such tact, suasion or discipline as the successful superintendent knows how to exercise. Not only must the routine of a mill be thoroughly laid out and adhered to, but contingencies must be apprehended and provided for. The probable failure of lumber supply, the giving away of foundation, "shore" or support, the breaking of belt, rod or machine under usual or unusual conditions, scale or corroding, choking or blowing out of steam boiler, pipe, joint-valve or connection, overflow of pipes, fixtures or drains, the security of stack guys, tramways, gangways and lumber piles, must one and all be under especial care. His authority must be absolute, his word law and his decision final, he must be thoroughly and intensely loyal to the interests of the company, must never utter a word that can be construed as a reflection on the management, nor

listen to such. To be consistent then he must resign the instant he fails to approve and justify the manager. A perfect superintendent is a jewel, rara avis, one upon whom more than anything else depends the present and prospective success of a factory.

Each department, room, process and special operation must have a foreman in constant attendance, whose eye is ever on the work, whose vigilance never lags, whose diligence can not be perverted. He should be thoroughly familiar with every deal and process of manufacture, not only as practiced by his concern, but as employed in other shops, that he may choose between different methods or combine them as he sees is most practical or expeditious. He must

know all grades and qualities of stock, their peculiarities and adaptabilities, their defects and action under given circumstances. He must be a leader of men, a driver of his work, have the patience of a saint, and yet be ready to wreak instant and summary vengeance on any infringement of law or discipline. He shall be loyal to the superintendent, carrying out his orders and instructions in spirit and letter. A backbiter is a sneak—a sneak is a thief—and steals the time and money

of his employer. A manager or superintendent can not guard too carefully against this worst of all evils. A discontented, fault finding, tale bearing foreman will work more loss in a factory than any other adverse circumstances, unless it be a fire or an assignment.

While a foreman need not be a man of as broad knowledge or extensive mechanical experience as the superintendent, yet he should be a man of more physical energy and endurance, cast in a more rugged mould, as it were, and have thorough and hearty support of those in authority over him. His control of his men should be absolute, and his management subject only to the approval of the superintendent. I am satisfied that here is the weak point in nine tenths of the firms of this class in the country. The manager tampers with the duties and responsibilities of the superintendent and foreman because he has the "authority," the superintendent says to a workman: "Here, take this to the finishing room and have it shellaced," or, "You go and help such a man do so and so," when, four times out of five, this particular workman has work in hand needed for the completion of a certain piece of work upon which three or four other workmen are engaged. His absence not only upsets the foreman's arrangements and hinders the other workmen, but disgusts them all, creates distrust that ends in dissatisfaction generally. I have known