

THE CANADA LUMBERMAN

VOLUME XIV.
NUMBER 10.

TORONTO, ONT., OCTOBER, 1893

TERMS, \$1.00 PER YEAR
(SINGLE COPIES, 10 CENTS)

BY THE WAY.

PULP wood operators are proving more conservative in their methods of dealing with the forest product than has been the custom with holders of pine. Realizing that the annual consumption of pulpwood is growing enormously we are told that operators in pulpwood in northern New York have posted notices at places where the product is delivered for sale or shipment, to the effect that no wood will be received that is less than four inches in diameter at the smaller end. This, it is thought, will prevent the cutting of small-sized poplar and spruce, and thus save waste of growths that are not much larger than saddles. The practice is in striking contrast to the slaughter of the innocents in the pine forests of both the United States and Canada. The capacity of pulp mills in the States has increased from 72,000 tons twelve years ago to 700,000 tons a year, calling for 3,500 cords daily to feed them. Relatively the growth has been nearly as marked in this country. E. B. Eddy, of Hull, has developed this branch of his business to large proportions during the past few years. And word reaches us of the erection of a large pulp mill at Milton, N.S., at a cost of \$50,000, and of another at New Germany at a cost nearly as large. Canada is rich in spruce, yet the suggestion here to wise economy is worthy careful heeding.

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Where brick and stone buildings are on the increase in most parts of our own land, for various obvious reasons, not the least, in the large cities, because of danger of fire, it is interesting to observe that in different parts of Europe, wooden buildings are becoming increasingly the vogue. Wooden buildings for Ireland is a recent suggestion which has been received with favor in many parts of the Emerald Isle; the latest development comes from the Riviera, where it is thought they would afford far less danger than stone buildings in case of danger. A company has been formed at Pegli, some little distance from Genoa, to lay out a small town, the villas being imported from Sweden. Beams, flooring and roofs are exempt from duty, but doors, window frames and carved woodwork pay a duty of 13 lire per 100 kilos. Another custom that is favorable to lumbermen in European cities, and in contrast with a growing custom in Canadian and American cities, is the construction of wooden pavements, where here we are using more and more asphalt and other forms of concrete.

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Men will make mistakes. There are few who don't. The foolishness is in not profiting by the mistakes made. Experience ought to be made valuable and yet it is the case that one may place too great importance on the experience of the past. The lumber trade has suffered before to-day from over-production, and for the past few years dealers have carefully avoided a repetition of the blunder. Now there has come an unexpected depression in the trade. Greater quantities of lumber than had been anticipated will be carried over the winter, and the policy would appear to be to level up these conditions by curtailing the cut the coming winter. This would appear a wise decision. But is it? It would be a serious blunder to find the stock of logs cut come largely short of the demand that would exist in the spring. This may not, on the surface, seem probable, and yet it is a view that is taking a strong hold of some lumbermen. It is a case where a careful weighing of many probabilities is needed on the part of lumbermen. And now is the time to do the weighing.

USE AND ABUSE OF BELTING IN SAWMILLS.

THE use of belting is one of those subjects that can be discussed to almost no end in a journal devoted to a consideration of mechanical affairs. To the sawmill owner it is a subject of very practical importance for, as the Southern Lumberman remarks, no institution pays out more for belting than the sawmill. Such belts, our Nashville cotemporary goes on to say, are naturally subjected to severe use from exposure, dust and grease. The nature of the work is very severe and belts should run as slack as possible to do their work. Only belts of ample width over larger pulleys can be run slack without slipping. The unequal work and severe strain put on belts running saws, etc., necessitates that the belt be protected from dust. This can generally be done by the use of hoods or other means. Oils and dust are the belts' worst enemies. There is no institution that uses or wastes the oil as a sawmill does. By centrifugal force and other mechanical influences, oil is transmitted to belts and soon ruins them. On rubber belts the gum peels off with lumps accumulated on the pulley and in spots on the belting. The rubber surface was put there for adhesion and strength and when destroyed the belt is damaged.

It is astonishing the amount of waste in belting about a mill from carelessness in the fastenings. In many cases the life of a new belt is partly gone before it has become adjusted. It is put on either too tight or too loose—the latter most frequently, and with its powdered surface, it has but little adhesion. The belt is expected to perform its function and is allowed to slip: the edge is badly worn, damaged and stretched, and often the belt is run off the pulley and great damage done. Care should be exercised to get a belt right; if the right tension is not had, no chances should be taken. The practice of punching large holes and pulling the lace through two or three times for "strength," is really weakness, and the belt will not run as long as it would if small and closer holes were punched and the hinge lace used. A belt will run for years with this lace on line s. afts, without replacing. It is astonishing how men will be contented with replacing lacing every few months, wearing out and wasting belting, when it can be made to last nearly twice as long. Good belting should be used by men who take some care of belting.

Small pulleys are hard on belts, and, where steel rim pulleys can be had, it will be found more economical to increase the size of the pulley over cast iron, thus reducing the demand on the belt through increasing the velocity. We often see good gang edgers with too small a pulley. The result is never satisfactory. It is simply a tight belt and hot bearing, with 50 per cent. more outlay for belts than would be required with a larger pulley. Fast belts require neat fastenings, and where the skill at hand can not make a belt practically endless at the joint greater speed can not be successfully used. Good rubber belting is superior to leather, but, as the qualities differ much more than that of leather, mill men are often put off with a second grade as a substitute for an extra quality. If there is any objection to good rubber belting I have not found it. It is better balanced and will run truer on the pulleys, which always adds to the life and adhesion of the belt.

Belts should be kept as free from dust as possible. It will pay mill men to protect their belting. A belt should not require any oil if protected and is not over-taxed. The rubber surface is damaged by any kind of foreign substance. On saw mandrels the pulley should be half the diameter of the saw. On fast mills nothing less than a 36-inch pulley should be used. The trouble in heating is often caused by excessive tension. No belt should be allowed to slip, as it will run to one side

and injure the edge as well as the surface in rubber.

Many mills throw away hundreds of dollars annually in belting, and are contented, as is the fashion. A practical mill man, some time back, remarked that he added two inches in width when he could in replacing belts, and found his belt bill fast decreasing. A few dollars more outlay, and a little care and protection to belting will save many dollars yearly in the belting bill and as much or more from delays. Such expenses as these and a multitude of others, are what prevent many in the saw milling business from "working to figures."

SAW-GRINDING WHEELS.

AN English authority says: "The peripheral velocity of discs for saw sharpening is from 4,000 to 6,000 feet per minute. The disc, before being put on its mandrel, should be examined to see that it is perfectly flat. Care must be taken that it does not fit too tightly on the mandrel. Wooden collars or India rubber should be inserted between the disc and the flanges or washers should retain it in place, and these must not be too tightly screwed up. Neglect of these precautions is oftener a source of fracture than any inherent defect in the disc itself. A well-made and mounted disc, properly worked, and running from six to nine hours a day, will last some three months, and will gullet, sharpen and top on the average 200 deal-frame saws each day of nine hours. It is found in practice that the action of the disc on the teeth hardens the cutting points, with the result that the saws last longer when machine than when hand-sharpened. No sawmill can be fully equipped which is without a saw-sharpening-machine; it pays when there is only one frame or saw-bench. A great economy is effected in labor and files—a man with the machine will do as much work as six sharpening by hand simply. In respect of the cost of files it may be said that this is almost entirely saved, each disc costing only a few shillings, and lasting in constant work for two or three months. Some workmen are so skilled in the use of the machine as to be able to turn out the saws topped ready for working. Another great merit of the machine is that the tooth spaces or throats can easily be maintained at a uniform depth, so that not only does the saw work better and quicker, but less power is required to drive it, and the risk of buckling in regulletting or toothing it, which is necessary when the teeth are permitted to become stunted or stumpy, is absent.

ALWAYS A GOOD REASON.

IT is indisputable that the number of boiler explosions in this country is alarmingly great, and it is equally true that a boiler does not explode without there being a very good reason for it—a very good reason and a very simple one. There was a time when it was believed by many that there were hidden causes for boiler explosions, and a rather flourishing, if not remunerative, business was done in the theoretical manufacture of some mysterious gas that could never be made to materialize except just at the time when no one had time to detect its presence, and the boiler went to pieces. There are, perhaps, still a few left who believe in the gas theory of boiler explosions, but their number is very small indeed, so small as to make no impression on current opinion. An overwhelming majority of engineers at the present day believe that if the cause of a boiler explosion is looked after in the right way, it will be found without the necessity of making some old gas theory do service, or inventing a new one; without bringing into the argument any unaccountable or unheard-of action of the water, or in any way going outside of what plain people can understand.