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LARGE TIMBER DESTRUCTION.

A MELANCHOLY sight in British Columbia and Washington is the enormous areas of forests through which fires have swept, leaving only blackened trunks. The forests of the Pacific slope are going a good deal like the bison of the plains. The people of this continent do not realize how many hundreds of thousands of dollars' worth of fine timber in that region is being annually destroyed. Through the Rocky Mountains along the Canadian Pacific Railroad one may travel for many miles and see hardly a bit of live timber, though the blackened trunks standing quite thickly together show that a few years ago the mountain sides were covered with spruces and hemlocks. A good deal of this devastation is wrought by hunters and locomotives, and the fires are accidental. In some parts of British Columbia, however, and in Washington the farmers are destroying a great deal of timber to clear land for agricultural purposes.

In the last days of July the atmosphere was beautifully clear, and for many miles the grand pyramids of Mount Baker and Mount Ranier could be seen, rearing their splendid cones high above all their surroundings, and showing their great sides covered with the snow that never seems to melt. Three days later a gentleman was within ten miles of Mount Baker, and he could not distinguish the grand mountain for the air was oppressively heavy with smoke. It did not take long to find out who started these fires. Here and there in the timber through which the train sped across Washington were little clearings, and farmers and their men could be seen felling trees and setting fire to the branches. It is the only way they have of removing timber, so that they may plough the land. They have no means of getting the wood to market, and the only thing they can do is to reduce the enormous growth to ashes and then pull out the stump, and thus add a little to their tillable area. They are fortunate men if they are able to clear more than an acre or two a year, for the work is enormous; but when an acre is finally freed of its heavy burden of timber it is found to be magnificent farming land.

But it seems a terrible waste to see these mighty forests reduced to nothing but smoke and ashes. Now and then one sees a more cheerful picture in these woods. At a side track he will find a large number of flat cars, loaded with big logs all ready to be taken to a sawmill. This is a lumber camp, and through the timber may be seen the little pine or canvas huts of the lumbermen, who are felling the trees and trimming the logs ready for shipment. Then again the traveller sees a sawmill, where lumber is being turned out in great quantities; but probably fifteen times as much timber is destroyed without profit to a living soul as is now being utilized in the forests of British Columbia and Washington. It is a terrible waste, but there is no present prospect that it will be stopped.

SPONTANEOUS FIRES.

THE number of fires due to what is commonly called spontaneous combustion is probably much greater than is generally supposed. An innumerable number of substances are liable to undergo the process, and as a good deal of ignorance appears to exist in regard to the connections which are necessary for its development, it seems worth while to offer a few hints on the subject. Many organic, and some inorganic, substances, when exposed to the air in a moist state, absorb oxygen and so develop heat. The rusting of iron, the decay of leaves, and the putrefaction of nitrogenous matters are examples of this kind of action. In ordinary cases the mass of oxidizing matter is small, and the heat consequently, being speedily dissipated, has but little intensity, or is even quite insensible to ordinary tests.

Heat is, however, always produced, and when, as in a hot bed the mass is considerable, the tendency becomes notable. When large masses are concerned with sufficient supply of air, but without the possibility of free ventilation, the heat sometimes becomes so intense as to produce actual combustion. In a few well known cases this takes place in contact with water. Thus; cotton closely packed in a moist place, on board ship or in warehouses, has been known to become ignited, and serious fires have arisen from this cause. Hay stacked when moist always becomes greatly heated, and not unfrequently gets thoroughly charred, or even bursts into flames, and the same phenomenon has been observed in barns and granaries. Many fires in country places are, no doubt, due to this cause, and probably some that are ascribed to arson.

Coal, which contains much pyrites, absorbs oxygen and becomes heated rapidly when moist, and although proof is commonly impossible, it is generally believed that fires, particularly at sea, have often originated in this way. But the greatest danger arises when cotton, hemp, jute, flax, or even saw-dust or charcoal, saturated with oil or turpentine, is stored in masses. Under such conditions, the supply of air being limited, spontaneous combustion is sometimes matters of certainty. We do not wish to exaggerate the danger of spontaneous combustion. Most fires are, probably, due to gross carelessness, particularly in the matter of lucifer matches, which are often used with amazing recklessness, or to the too close proximity of wood-work to stoves and open fires. But it seems certain that risk of the kind we have indicated is constantly incurred in ignorance, and we hold it to be a public duty to point out to all, but particularly to warehousemen and ship-owners, the character and causes of the danger which besets them.

ORDER AND SYSTEM.

THE common theory is that if one man who has a mill of a certain capacity and furnished with a set of the latest and most improved machinery, and is able to run it successfully and profitably, there is no good reason why another having equally as good a plant and possessing the same advantages for business, should not be equally successful. Now, theoretically, this may be the case, but practically it is not always so. That there is a cause for this no one will deny, but to arrive at just that cause is not always so easy a matter, as there are so many small matters to be taken into consideration that combine to bring about this effect, but all may be summed up under the head of order and system.

In the successful mill there will always be found a certain system which is strictly carried out in every department from the time the lumber is received in the rough state until the finished product is ready to be delivered. Everything is so arranged that there is no unnecessary handling, each man has a certain part of the work to perform and he is expected to perform that work in a proper and judicious manner. Every part of the outfit is kept in the best working order so that each machine is capable at all times of turning out the greatest possible amount of good work in a given time.

In such mills breakdowns and expensive repairs are seldom met with and the saving in repairs by close attention at the proper time is one important item that goes far to help increase the profits at the end of the year. It is not so much in the actual cost of the repairs as it is in the loss of the work that the machine would perform while those repairs are being made.

Cutting up the lumber preparatory to being worked is another important item in the management. The careful and experienced man at the saw will scan every board and cut it up in such a manner as to get the greatest amount of clear stuff, worth from two to three dollars per thousand more than it would be were it cut up haphazard, as is the case in many mills. A wide board, for instance, may be knotty on one side while the other may be clear and there is no economy in cutting up such stuff into second class flooring when by a little management a strip six inches wide that is perfectly clear may be had and go into a lot of first class stuff. Again, the careful sawyer will so adjust his machine that each strip for matching will be just the proper width and no more. It is no uncommon thing in measuring such strips as they come from the edging saw to find them anywhere from one-eighth to one-fourth of an inch wider than necessary in order to match full, and while one-eighth or even one-quarter of an inch may seem to be a small matter to talk about, yet if only one-eighth is wasted on a strip six inches wide it means one hundred eighths in a hundred strips which amounts to little more than two whole strips six inches wide and when the number of such strips that go to make up a day's matching with a modern fast feed planer is taken into consideration, the loss is no small item. While it may not be practical to rip up stuff so close that there will be no waste, yet much of the waste in cutting up such strips for matching might be avoided by having one experienced and careful man at the saw for this purpose.

The same rule that applies to the saw is equally applicable to every other machine in the mill. It is true that in some of the smaller mills it may not be possible to give each man a machine and keep him constantly employed upon it, but in mills of larger capacity where all the machinery is kept constantly in motion, it is not only practical, but necessary, in order to obtain the best results. The fact is, that when a man is kept constantly upon one machine and doing a certain class of work day after day he soon becomes familiar, not only with that class of work, but also becomes acquainted with all the peculiarities of the machine, and the necessary changes and adjustments will be made in less time than by one who is not, and the result is that he will get more and better work out of it in a given time.

It is a fact that almost every kind of mechanical work is fast running to specialties, and there is no reason why planing mills should not adopt the same system as far as possible. Experience among the different manufacturers has demonstrated the fact that there is less profit in working men upon the all around principle than there is in giving each man a particular machine and a certain part of the work and keeping him constantly employed on the specialty. Planing mills and other wood-working establishments which have adopted this plan and work upon a correct system with each man to his particular machine and class of work, are more successful than those who have no regular system but work their men upon the all around principle, one day upon the saw the next upon the planer, and so on Order and system is one of the laws of God and without it no business can be successfully conducted.

A POPULAR ROUTE.

The Manitoba Pacific route of the Great Northern has opened up a new and picturesque route to Spokane, Washington. The route from St. Paul and Minneapolis runs via Neche, N.D., Winnipeg, Man., to Revelstoke, B.C., thence by steamer on the Columbia River to Little Dalles and then rail to Spokane.