LUMBER DRYING BY THE "MOIST AIR" PROCESS.

MARCH, 1898

The artificial drying of lumber is a subject which is attracting more attention now than ever from the woodworker. It is well, too, that it should, for it is the foundation really of successful work in cabinet making, house furnishing,

Until within a comparatively short period it was considered necessary to allow all forest products to become seasoned by exposure to the atmosphere. This is an age, however, in which the workings of nature are altogether too slow for progressive manufacturers, and the woodworker has been forced to resort to artificial means to get his material in working condition within a reasonable time.

The art of drying lumber, shingles, staves and other forest products artificially has also undergone many changes in the past few years, as the result of experience gained by the dry-kiln manufacturer and the user as well, and, in consequence, lots of beautifully constructed theories have been ruthlessly demolished, as improvements in one system were superseded by greater ones in another. The direct heat, the hot blast, the dry air, the cold air process, and others, have all had their advocates and upholders.

The system of drying in a moist heat, as now perfected and employed only in the Standard kiln, is claimed by the manufacturers to have been found by practice under all possible conditions to meet every requirement in the broad field of drying.

This principle of drying is a progressive one; the first stage being preparatory, which consists of subjecting the material to the action of a body of evenly heated damp air, the exact temperature and degree of humidity being dependent upon the kind of material to be dried. The purpose of this treatment is to soften the surface and prevent case-hardening; to open the pores and start the drying from the center, outward. As the material is moved through the kiln the



temperature and comparative dryness of the air increases, and the drying is completed in the highest temperature, which is found at the discharging end of kiln.

While it is now claimed to be an established fact that all kinds of forest products are most

successfully seasoned in a moist heat, it is equally true that the degree of heat and percentage of humidity must be varied to suit the particular kind to be dried, hence the importance of a system that is susceptible of perfect regulation.

The construction of the Standard kiln is such that the heated air may be charged to any degree of humidity desired before it

is discharged from the kiln; in fact, it is within the province of the operator by simply manipulating the steam valve, cold air and moisture dampers, to get any combination of drying influences necessary to suit the product to be dried, and after once adjusted no further attention is required than to properly load kiln and keep up the steam supply.

The elements of drying are under perfect control.

This makes it possible to get just the combination of drying influences best suited to dry the particular kind of stock to be dried, in the least time possible, consistent with thorough, uniform and perfect drying. This kiln is used with the



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best of success in drying all varieties of hard and soft wood lumber, including cypress and oak; also shingles and tight and slack barrel cooperage stock—in fact, everything that comes under the category of forest products.

Another advantage claimed for the Standard kiln is, that it is not subjected in any way to fire from its own heat. The bottom of the kiln below the heating surface is always cool, and the kiln proper, as well as the material, being dried, is constantly kept damp by the automatic regulation and detention of the moisture, so it can be truthfuly said that the kiln is of itself absolutely fireproof.

The equipment furnished for this kiln is, too, of the highest possible grade. A special grade of pipe is used conclusively in the construction of the heating apparatus, and an indestructible, easy moving channel steel roller bearing car is furnished in place of the old-fashioned wood frame affairs. The kiln is built in all sizes, to suit requirements, either progressive or apartment types, and for endwise, crosswise or edge piling. Attention is called to the engravings shown herewith. Fig. 1 shows an interior view of a four track endwise piling kiln from the discharging end, and gives a good idea of the arrangement of the heating apparatus.

Fig. 2 shows view of same kiln from receiving end, and illustrates the novel arrangement and



construction of the moist air flues, through which the moisture ladened air is carried off.

Fig. 3 illustrates a channel steel roller bearing car loaded with lumber, endwise.

In conclusion it might be stated that the Standard kiln has been before the public for eleven years; it is used in the United States, Dominion of Canada, and other countries, by many of the largest and most representative concerns.

A 125 page catalogue, which illustrates and describes very fully the Standard kiln, equipment and moist air system of drying, and which also contains many photographic views of plants erected and testimonial letters from users, will be sent to anyone interested on application to the Standard Dry Kiln Co., Indianapolis, Ind.

NOVEL LOGGING RAILWAY.

MESSRS. R. Richardson & Son, of Bedford, Nova Scotia, have recently constructed a somewhat novel railway for hauling logs to their mill, which they describe as follows :

The railroad is constructed of hardwood and spruce poles, about 6 inches diameter on an average and 20 to 25 feet long, and a few cross ties about 5 feet apart. The ends of the poles lap on a level, the butt end of pole lapping on top and towards the terminus. As the trolley is loaded when coming to the landing, the poles must be made to suit the way the load goes. The trolley is made of two pairs of wheels, cast hollow, or with a double flange; they are about 24 inches diameter and 9 inches face. There is a heavy bunk made on each axle, and these are connected by a tongue made in two pieces and lapped in the centre with a bolt through, and a piece of rope tied loosely around to prevent the tongue having too much play. There is also a swinging bunk on top of the heavy bunks on the axles, so as to allow the trolley to play easily on the curves under the load. We can bring, with two horses, over a rough piece of land on this track, about 11/2 cords of hardwood, which means a good double team load on a good road. The track can be made on rough land. While to make a waggon road it would cost several hundred dollars per mile, we can build this road for less than one hundred dollars a mile.