



HOLMES' DRYING KILN.

**IMPROVED DRYING KILN.**

A cheap and economical apparatus for drying lumber, staves, and other material, has been long needed, and a great deal of time and money has been expended in experiments in this direction without corresponding results. Messrs. E. & B. Holmes have perfected a dry kiln which seems to combine all the necessary requisites for a successful drying apparatus.

This dry kiln, which is represented in the accompanying engraving, is composed of several sections more or less as desired. In the bottom of each of these sections are placed two sets of steam coils of novel construction, one above the other, for radiating the heat, and on the side of each section is a thin apartment containing condensing pipes filled with cold water, supplied by a pump or otherwise.

The air in the bottom of the kiln, being heated by the steam coils, passes up through the material to be dried, to the top of the kiln, carrying the moisture with it. Here it enters the thin condensing apartment and passes down, leaving the moisture upon the condensing pipes, and, being cooled again passes downward under and through the steam coils, where it is reheated, when it again rises up through the material, and so on. In this manner a very rapid circulation is secured, which carries the moisture from the material to be dried and deposits it upon the

condensing pipes, from which it runs into a conductor and passes out of the kiln, the same air being used over and over.

Car tracks pass through the kiln, and extend far enough in each direction outside of the kiln to allow of loading, drying, and unloading at the same time. In this way the kiln is kept open only long enough to pass one car out and another in, and as only one section is opened, the others are not affected or cooled by it.

The doors of the kiln are made double thickness with an air space between, and are swung on cranes, so that one person can handle them with ease.

Messrs. E. & B. Holmes who are the inventors and patentees of this kiln, claim for it better results than can be obtained by anything else in use, having tried others and abandoned them, and they have now kilns of this kind that hold about 200 000 staves which they are using in connection with their barrel factory, the latter being filled with the Holmes barrel and stave machinery. This firm has an auxiliary apparatus invented by them for taking the condensed water from the dry kilns and returning it to the boiler without the aid of pumps.

Any further information respecting either dry kilns or stave and barrel machinery may be obtained by addressing Messrs. E. & B. Holmes, Buffalo, N. Y.