

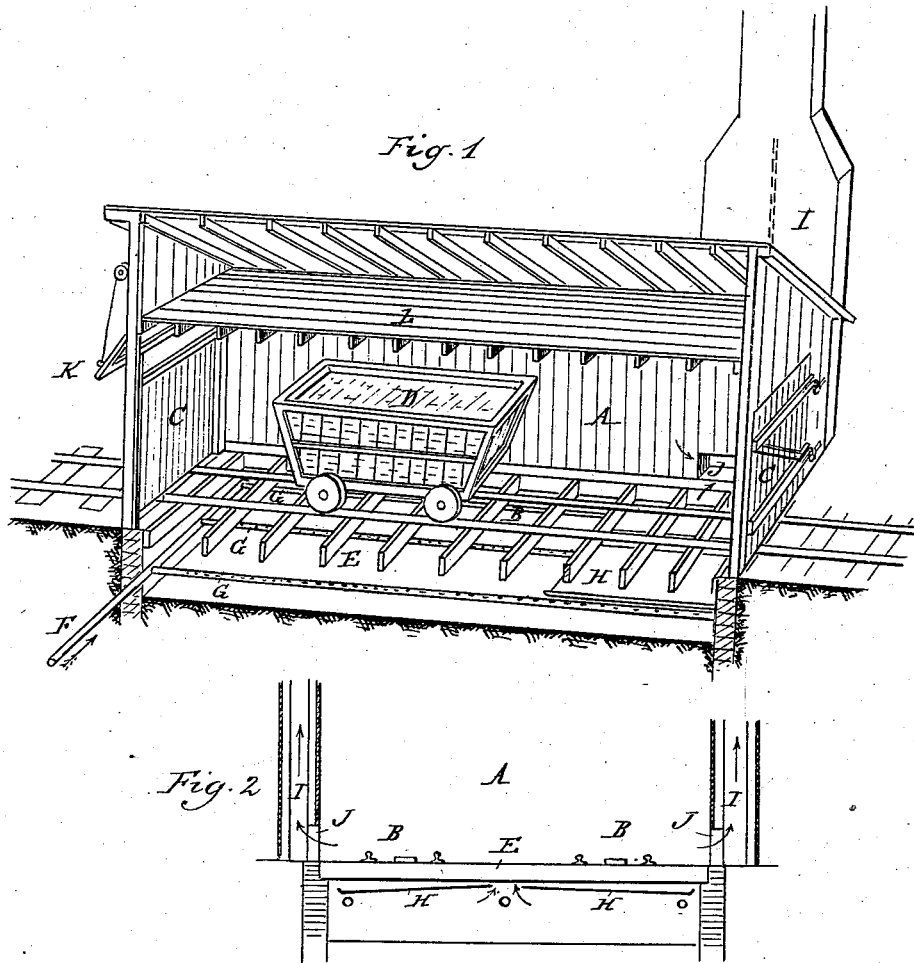
(No Model.)

E. M. FLAHERTY.

DRY KILN.

No. 260,184.

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UNITED STATES PATENT OFFICE.

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DRY-KILN.

SPECIFICATION forming part of Letters Patent No. 260,184, dated June 27, 1882.

Application filed February 20, 1882. (No model.)

To all whom it may concern:

Be it known that I, EDWARD M. FLAHERTY, of New Baltimore, in the county of Macomb and State of Michigan, have invented new and useful Improvements in Dry-Kilns; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to certain new and useful improvements in the construction of what are ordinarily denominated "dry-kilns;" and the invention consists in the construction and operation of the various parts, as more fully hereinafter described.

Figure 1 is a sectional perspective, showing one-half of my kiln, the other half being precisely like the one shown. Fig. 2 is a vertical cross-section through that end of the kiln where the exit-flues are situated.

In the accompanying drawings, A represents a room or building provided with two tramway-tracks, B, running through it, with doors C at each end of the room, through which the cars D, loaded with material to be dried, find an inlet and exit. The tracks B are laid upon sleepers or stringers or sills E, laid upon the ground or upon a floor underneath them.

F is a steam-pipe leading from any suitable source of supply, running through the side wall of the building and across one end of the same, as shown, and connecting with this pipe are the longitudinal branches G, which extend above the floor to the opposite end of the building, and these branch pipes are perforated upward or on their upper sides to allow a free ingress of steam into the room from them.

At the end of the room, and immediately above the free ends of the branch pipes, are secured sheet-metal sections of a floor, H, upon an incline from the center outwardly, as shown in Fig. 2. On each side of this building are escape-flues I, into which inlet-ports J open.

In the opposite end of the room there are provided hinged doors K, which may be opened or closed at will by means of cords running over pulleys, said doors opening through the wall above the doors C. The room is provided with a tight ceiling, L.

The steam used in this kiln should be superheated after it is taken from the boiler by

carrying a coil of the steam-pipe through a furnace of the generator or through an intermediate furnace between the generator and a kiln, wherein a fire is kept sufficient to dry the steam and send it into the room in the superheated condition required.

In practice, the car D, one or more, as the room is provided with two tracks in order to accommodate a number of cars, is run into the room and the steam let on. This steam rapidly raises the temperature of the room and the hot air rises to the top of the room; and this being the point where it is of the least use, I open the doors K, which are situated just below the ceiling of the room, and admit thereby a current of cooler air, which, mingling with the hot air in the top of the room, changes its specific gravity, so that it falls, passing around the lumber or other material in the car, carrying with it moisture. The outlet for the cooler and dampened air is at the bottom of the flues I and just above the level of the tracks. At this end of the building or room condensation is apt to take place. Such condensation will fall upon the sheet-metal floors H, and these, being in close proximity to the steam passing under them, will be heated by such steam passing, and all, or nearly all, the product of evaporation upon these sheet-metal floors will be re-evaporated, and thus easily carried off through the flues.

Suitable valves may be placed in the steam-pipe F, by means of which, when the steam is not required in the room it may be cut off, and, if desired, a pipe (not shown) may be connected with such steam-pipe outside the boiler-furnace and with the boiler, by means of which, when steam is not required in the dry-kiln, a circulation will be had which will prevent the coil in the furnace from being burned.

It will be noticed that by my construction I provide a circulation through the chamber or dry-kiln by means of the doors K and the outlets J, arranged as described. The flues I are divided by a central flue-strip and contracted, as shown in the usual way, for the purpose of increasing the draft—a necessity when the outlet from the dry-kiln is placed at the bottom of those flues.

What I claim as my invention is—

1. The combination, with a dry-kiln, of the perforated pipes G, the metal sections H, ar-

5 ranged above the pipes and in close proximity thereto, and the outlet J, the pipes and metal sections being located below the beams E of the kiln and the outlet above the same, all substantially as described, and for the purpose specified.

10 2. A drying-kiln provided with one or more tracks adapted to allow cars containing material to be dried to run into and out of said kiln, in combination with the door C, the hinged doors K at the top of the kiln, the outlets J at the

bottom of the kiln, the perforated steam-pipes G under the track or tracks, the metal sections H, arranged in close proximity to the pipes G and also under the track or tracks, and means 15 for opening and closing the hinged doors K, substantially as and for the purpose specified.

EDWARD M. FLAHERTY.

Witnesses:

CHARLES J. HUNT,

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