(No Model.)

J. L. GASKINS.

LUMBER DRIER.

No. 360,958. Patented Apr. 12, 1887.

Fig. 1.

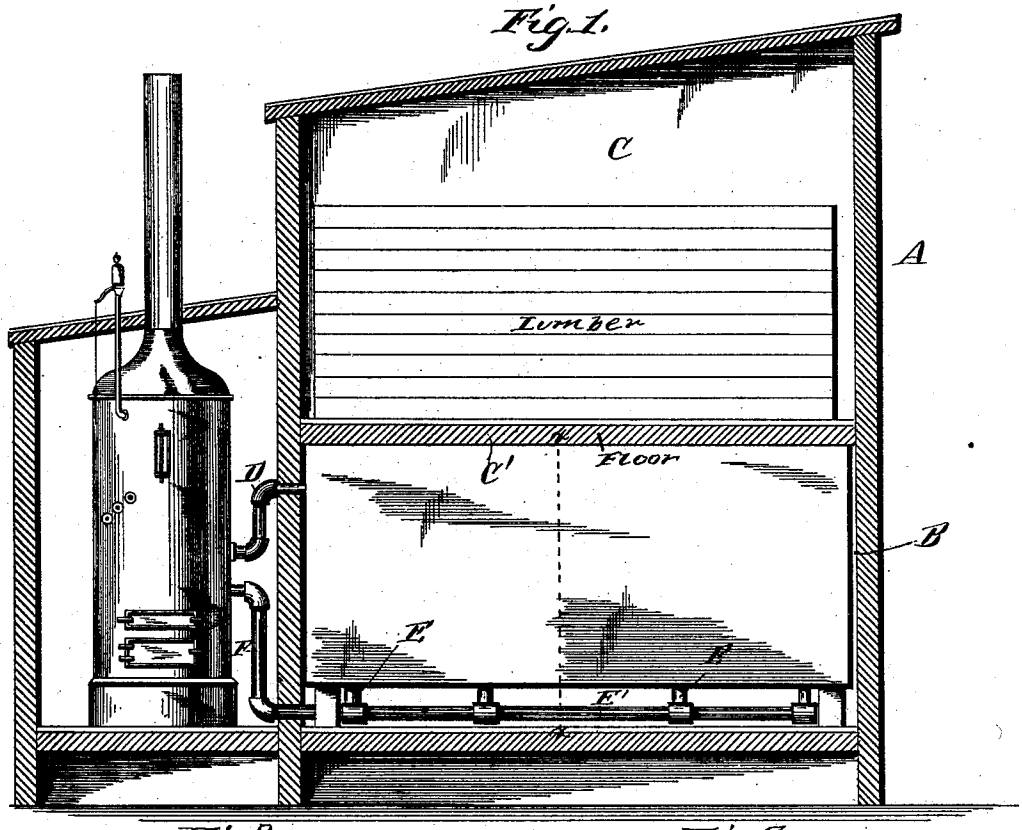


Fig. 2.

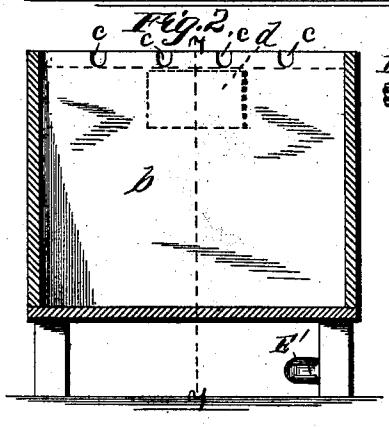
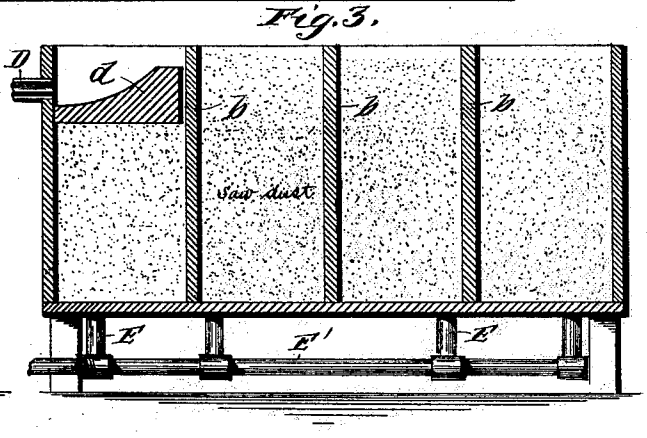


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN L. GASKINS, OF STARKE, FLORIDA.

LUMBER-DRIER.

SPECIFICATION forming part of Letters Patent No. 360,958, dated April 12, 1887.

Application filed December 28, 1886. Serial No. 222,783. (No model.)

To all whom it may concern:

Be it known that I, JOHN L. GASKINS, a citizen of the United States, residing at Starke, in the county of Bradford and State of Florida, have invented a new and useful Improvement in Steam-Drying Apparatus, of which the following is a specification.

My invention relates to improvements in lumber-drying apparatus, and aims to overcome serious objections to the apparatus of various kinds which have preceded it. This object I attain by the use of the apparatus shown in the accompanying drawings; and the novelty consists in certain features thereof, which will be hereinafter fully described, and pointed out in the claims.

In the drawings referred to, Figure 1 is a side elevation of a dry-house constructed in accordance with my invention. Fig. 2 is a vertical cross-section on the line *x x* of Fig. 1, and Fig. 3 is a vertical longitudinal section on the line *y y* of Fig. 2.

Referring to the drawings by letter, A designates the dry-house, having the heating-chamber B and the dry-room C separated by the floor C′ of the dry-room. The heating-chamber B has a series of transverse partitions, *b*, running across it and extending up to the floor of the dry-room. These partitions are secured in the walls of the building, and their upper edges are provided with a series of cross-notches, *c*, the function of which will presently appear. The spaces between these partitions are filled up to the level of the notches *c* with fine sawdust or any other material which will absorb the moisture from steam-heated air.

A dry-house to accommodate a large quantity of lumber, brick, and other substances to be dried must contain certain drying and heating chambers of large size and capacity, and it is necessary to brace and strengthen the floor dividing these chambers, otherwise the heavy weight imposed thereon will cause it to sag and destroy its firmness. To provide a proper support to strengthen and brace the floor of the drying-chamber at all points, and which will not take up space or room in the heating-chamber, I provide the vertical partitions *b*, hereinbefore referred to, which extend to the plane of the floor, as clearly shown.

D is a steam-supply pipe communicating with a boiler or other source, which enters the heating-chamber near its top, and which connects with a steam-boiler, as shown. This pipe D enters the heating-chamber through one of its walls, and between any two of the partitions *b*. It is obvious that the steam will escape from the end of the supply-pipe with considerable force, and were it allowed to impinge directly upon the sawdust in the said heating-chamber would scatter it, and thereby defeat the object of my invention, as will presently appear. To prevent this, therefore, I place a deflecting-block, *d*, upon the sawdust just beneath the end of the supply-pipe, so that the steam, instead of striking and scattering the sawdust, will strike upon the deflecting-block, and by it will be deflected toward the floor of the dry-room and diffused beneath the same, passing into the several compartments of the heating-chamber through the notches *c* in the upper edges of the partitions *b*.

Each of the compartments of the heating-chamber has an outlet-pipe, E, secured in one end and extending through and beneath the floor or bottom of the said chamber. These outlet-pipes E are arranged in a line along or near one side of the building, as will be seen upon reference to Figs. 1 and 2, and a trough, E′, is arranged beneath these outlet-pipes, to catch the water escaping therefrom and convey it to the discharge-pipe F, at one end of the building, as is obvious; or the condensed water can be carried back or returned to the boiler by means of suitable pipes, as indicated in Fig. 1 of the drawings.

The operation of my apparatus will be readily comprehended. The lumber is arranged in the dry-room in the usual manner, and the said room effectually and tightly closed. Steam is then admitted through the supply-pipe into the heating-chamber, and is diffused beneath the floor of the dry-room, as before stated. As the steam circulates, the moisture contained therein will be condensed, and will fall to and upon the sawdust. The sawdust will at once absorb the moisture, which will thereupon be conveyed to the escape-pipes E, from which it will be discharged and carried, as will be understood.

By my apparatus the moisture in the steam is absorbed, and the lumber or other substances in the drying-chamber is acted on by the heat in the steam, which dries the contents more quickly and thoroughly.

By providing a series of separate compartments, and an escape-pipe entering the bottom of each compartment, the escape of the water of condensation from the compartments is facilitated, which would not be the case were a single chamber employed in which the water would be liable to settle at the middle.

I am aware that it is not new, broadly, to use sawdust in a drying apparatus to absorb the moisture in live steam, nor to place a deflector in front of the discharge end of a steam-supply pipe; and hence I confine myself to the peculiar construction and arrangement of parts pointed out in the claims.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a drier, the combination of the heating and drying chambers separated by an intermediate floor and arranged one beneath the other, the vertical notched partitions located in the heating-chamber and extending from bottom to top thereof to support the floor at different points and form a series of compartments in the heating-chamber, each having a filling of absorbent material, a steam-supply pipe entering one of the compartments through one of the partitions, a series of independent escape-pipes opening through the floor of the heating-chamber into the compartments therein, and an escape trough or pipe common to all the escape-pipes of the series, as and for the purpose set forth.

2. In a drier, the heating-chamber under the drying-chamber, and divided into a series of independent compartments which communicate with one another, said compartments being filled with sawdust, and steam-supplying means for the heating-chamber, as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JOHN L. GASKINS.

Witnesses:

H. J. ENNIS,

WM. N. MOORE.