(No Model.)

A. S. NICHOLS.

PLATEN FOR DRYING APPARATUS.

No. 331,532. Patented Dec. 1, 1885.

Fig. 1

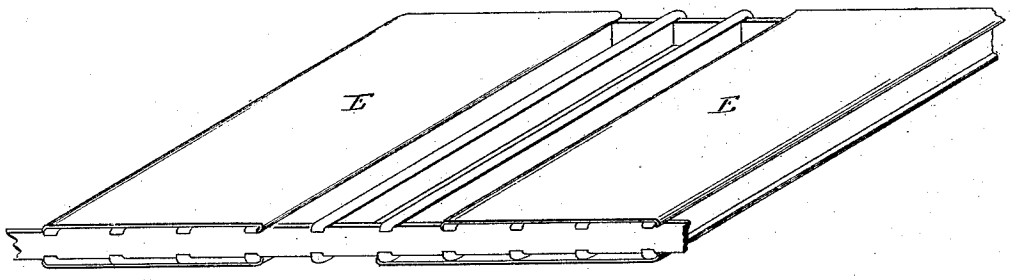


Fig. 2

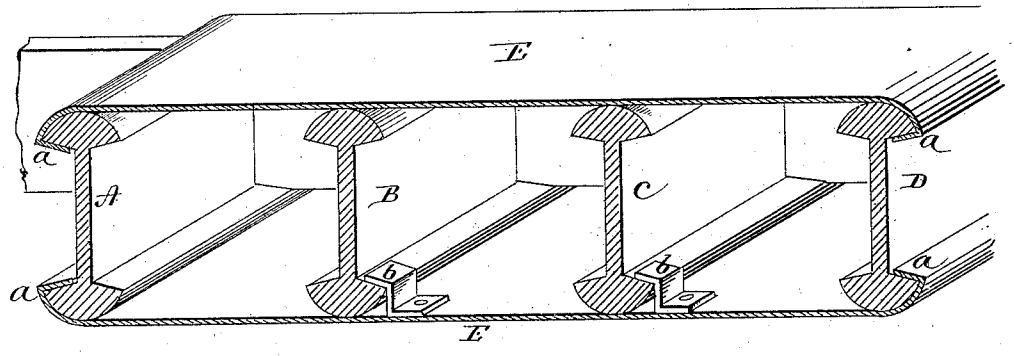
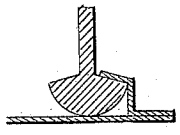


Fig. 3



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UNITED STATES PATENT OFFICE.

AARON S. NICHOLS, OF CHICAGO, ILLINOIS.

PLATEN FOR DRYING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 331,532, dated December 1, 1885.

Application filed March 23, 1885. Serial No. 159,743. (No model.)

To all whom it may concern:

Be it known that I, AARON S. NICHOLS, of Chicago, in the county of Cook and State of Illinois, have invented a new Improvement in Platens for Drying Apparatus; and I do hereby declare the following, when taken in connection with accompanying drawings, and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a perspective view of a single platen; Fig. 2, perspective vertical section across the bars; Fig. 3, modification of the flange on the edge of the plate to engage the flange on the bars.

This invention relates to the construction of platen for drying apparatus, such as used for drying lumber, but applicable for drying various kinds of material.

The platens to which this invention particularly relates consist of a frame-work arranged to lie in a horizontal plane with a coil of tubing extending through it in the same horizontal plane, and so that the surface above and surface below form a bearing for the material to be dried, and so that first the platen is placed, then the material to be dried upon it, then a second platen laid upon that material, more material to be dried laid upon the second platen, and the third platen upon that material, and so on alternating the material with the platens. The platens being free, the material itself and the platens form a weight which presses the material flat between the platens and holds it in that position while being dried.

In a previous patented invention of my own I have constructed the platens with a series of bearing-strips, between or through which the coil of tubing is arranged, and so that said strips form a bearing-surface, leaving free circulation of air through the platen; but in many cases a broader surface is desirable than can be done by the strips or bars.

The object of my present invention is the construction of a platen which shall present a series of broad surfaces with narrow spaces between them for the circulation of air, and also so that the broad surfaces may be applied or removed, thereby converting the platen from a series of plates to a series of bars, or vice versa, according to the nature of the work to be performed; and the invention consists in a series of parallel I-shaped bars arranged so that the flange of the I at the top and bottom form a bearing-surface for material when desired, combined with plates of thin metal, adapted to be placed upon two or more of the said bars, the said plates having a flange turned upon their edge, so as to engage and interlock with the flange of the I, and so that the plates may be placed over their respective bars or removed therefrom, as occasion may require, and as more fully hereininafter described.

A, B, C, and D represent four of the bars, arranged transversely across the platen, they being connected at their ends by side bars, as seen in Fig. 1; but so as to leave the flange of the I at the top and bottom, respectively, exposed above and below the side bars. The outer surface of the flange of the I is best made oval shape, as shown.

E represents thin metal plates, say of sheet-iron, zinc, copper, or any suitable material, adapted to the purpose for which the drier is intended. These plates in width correspond to two or more of the bars, (here represented as covering four bars.) They should be in length equal to the length of the bars, and so as to extend across the platen. At their edges they are turned under, as at *a*, and so that the flange may pass beneath the corresponding flange of the respective bars, and so that they may be placed upon any four of the bars by setting one end of the plate over the ends of the bars, then sliding the plate onto the bars until they are covered, as seen in Fig. 1. The underturned flange on the edges of the plates holds them in their proper relation to the bars and yet permits of their removal from or application to the bars at pleasure. A like plate is applied to the under side as well as to the upper side, so that both surfaces may be flat.

The plates may be applied to alternate series of bars, as seen in Fig. 1, so as to leave a space between the flat plates. This width may be the space between two bars or more, as occasion may require. The bars being arranged equidistant, the plates are adapted to be set upon any four of the series of bars, or upon any number for which they may be constructed.

The upper plates rest directly upon the bars and need no other connection than simply to be held in place by the underturned edges; but if the plates be of considerable extent, and this they may sometimes be, the under plates will require to be supported between their edges. To do this I apply clips *b*, more or less in number, which are riveted to the plates upon the inside, and so as to engage with the lower flange of the bars, as seen in Fig. 2; or, instead of clips, they may be flanges riveted to the plates to slide on over the flange of the bars. The outer surface of the flange of the bars, being rounded, presents a small bearing-surface, so that when the plates are removed, and the bars are used directly to support the material to be dried, the bearing-surface is of very small extent, and so as not to interfere with the circulation of air upon the other exposed surface of the material to be dried.

The plates may be of sufficient size to cover the whole platen, so that no openings will be formed therein, and in some classes of drying this may be desirable. The construction of the platen, however, remains the same, and the advantages of its conversion from a barred to to a flat surface still exist.

The arrangement of the coil of piping through the platen is immaterial to this invention, as that may be made in any of the known methods, either by connected pipes running between bars, or through the bars, or heat may be otherwise applied, my present invention relating specially to the construction of the platen, irrespective of the method of its heating. While I prefer to turn the two edges of the plates to form a flange to engage the flange of the bars, the plates may be flat, and provided with flanges attached to the plate at the edges, as seen in Fig. 3.

I claim—

1. The herein-described platen for drying purposes, consisting of a series of parallel I-shaped bars connected at their ends, combined with flat plates adapted to be arranged upon and secured to the surface of the said bars, or removed therefrom, substantially as described.

2. A platen for drying purposes, consisting of a series of parallel I-shaped bars connected at their ends, combined with flat plates adapted to cover two or more of the said bars, the edges of the said plates turned under to form a flange upon each edge to pass beneath the corresponding flange of the bars to which they are to be applied, and so as to be removably attached to said bars, substantially as described.

3. A platen for drying purposes, consisting of a series of parallel I-shaped bars connected at their ends, combined with flat plates adapted to cover two or more of the said bars, the edges of the said plates turned under to form a flange upon each edge to pass beneath the corresponding flange of the bars to which they are to be applied, and so as to be removably attached to said bars, said plates also provided with connections *b* to engage the flange of intermediate bars, substantially as described.

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