

(No Model.)

N. S. BOUTON.
LUMBER DRYING PLATEN.

No. 332,991.

Patented Dec. 22, 1885.

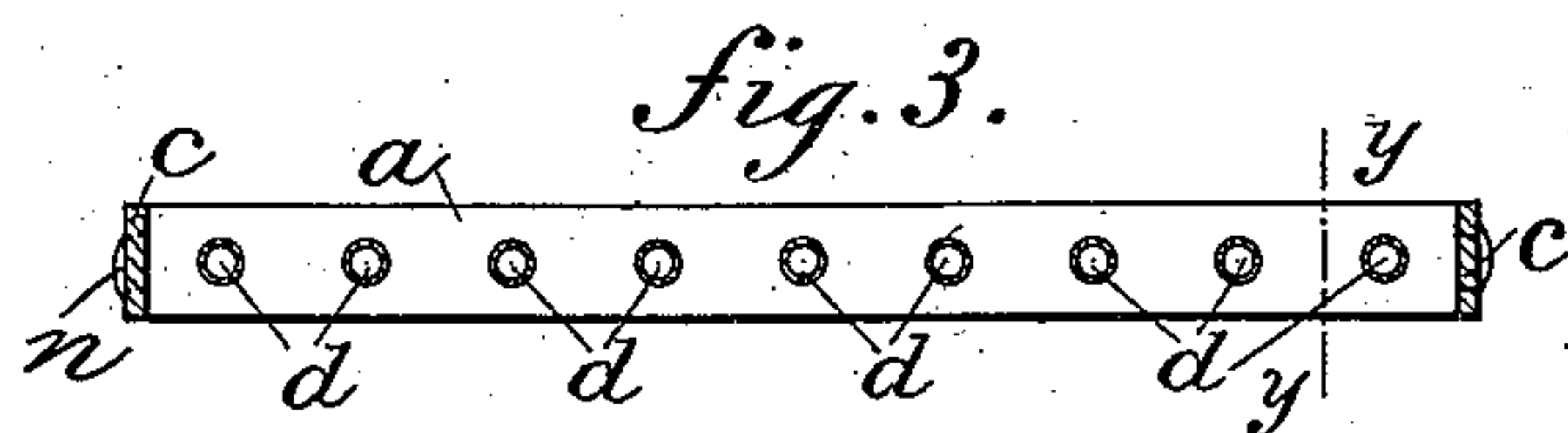
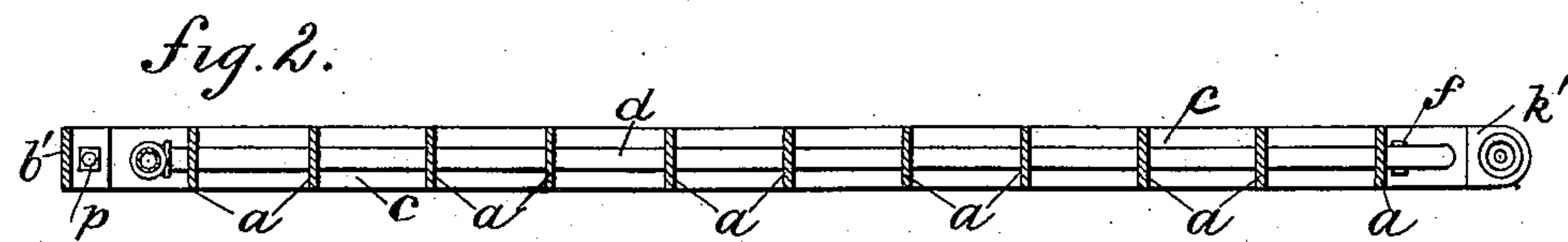
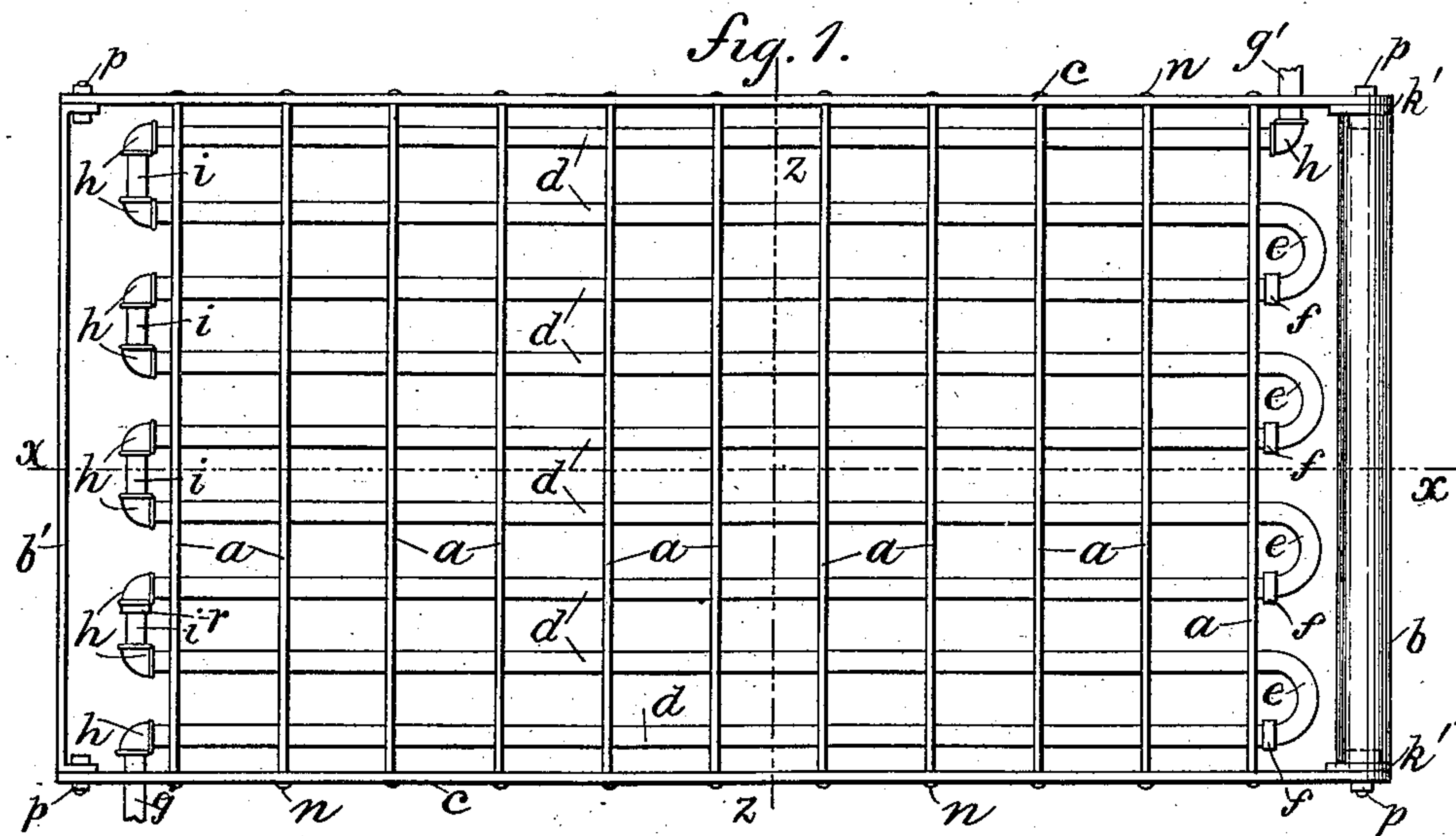


Fig. 8.

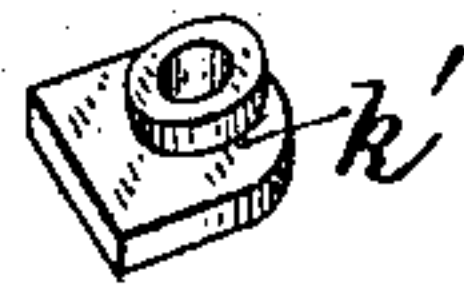


Fig. 4.

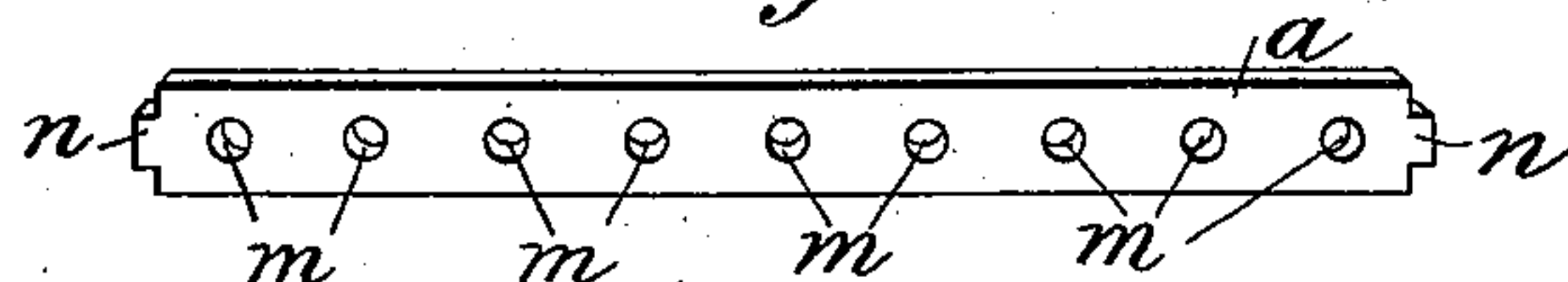


Fig. 5.

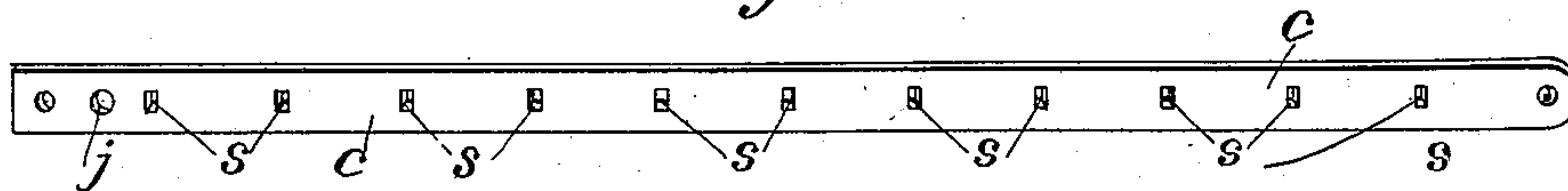


Fig. 6.

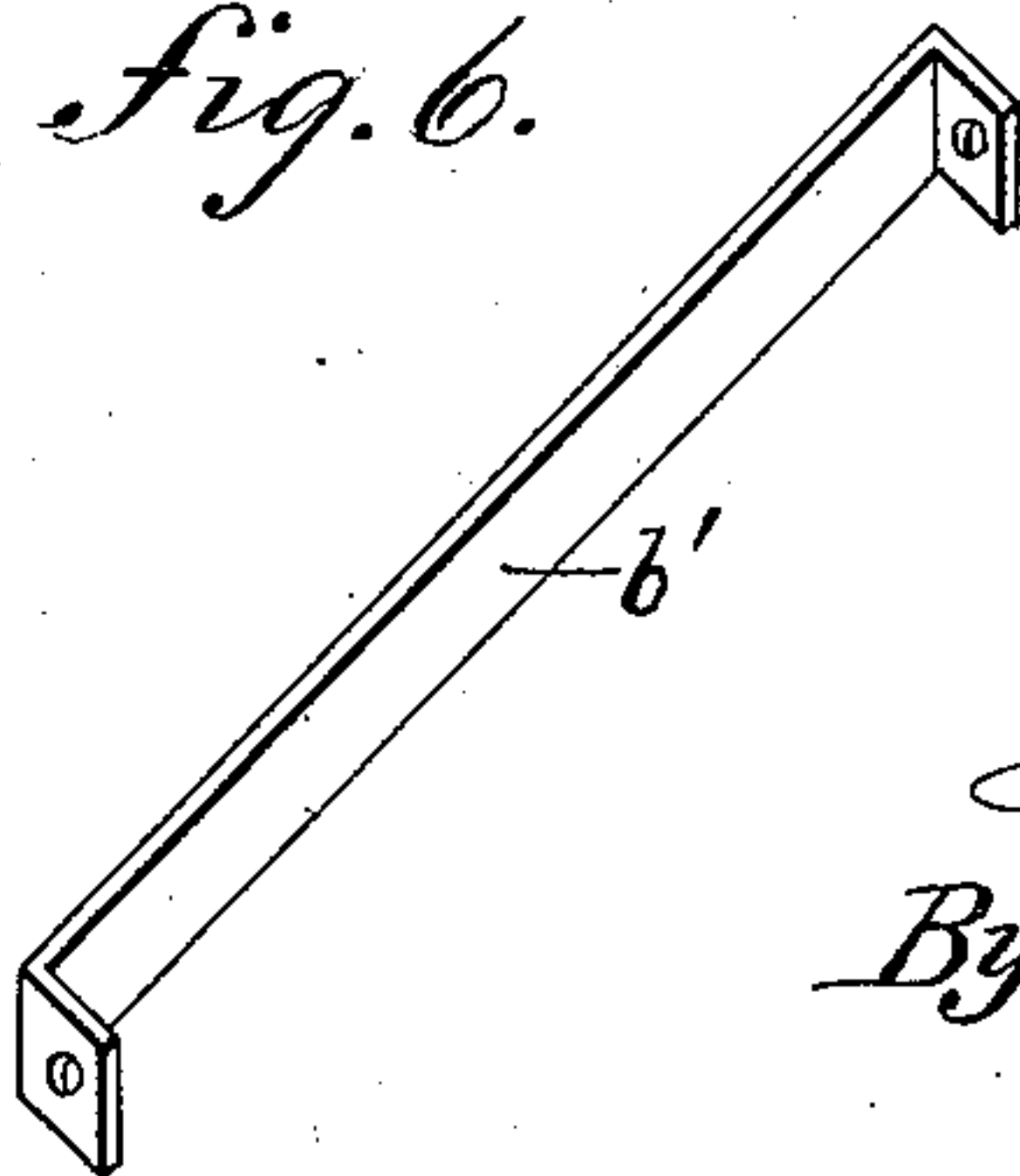
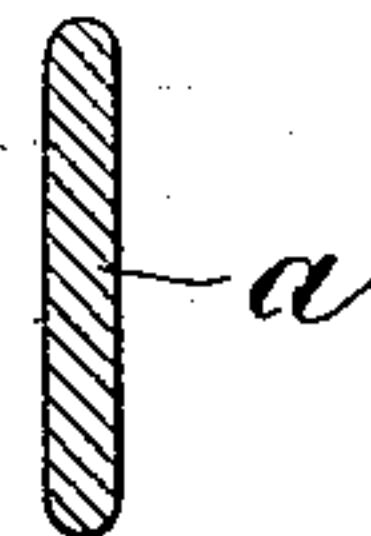


Fig. 7.



Witnesses
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LUMBER-DRYING PLATEN.

SPECIFICATION forming part of Letters Patent No. 332,991, dated December 22, 1885.

Application filed September 14, 1885. Serial No. 177,016. (No model.)

To all whom it may concern:

Be it known that I, NATHANIEL S. BOUTON, a citizen of the United States, residing at Hyde Park, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Lumber-Drying Platens, of which the following is a specification.

My improvement relates to that class of lumber-drying devices in which is a series of horizontal platens one above another in a pile, adapted to have lumber placed between them, and each platen provided with a pipe tortuously arranged therein, to be supplied with heat by steam. The platens in this class of apparatus usually consist of a horizontal frame consisting of parts united together by bolts or pins, and tubing arranged within the frame in several runs connected by bends at the ends, so as to make a continuous coil through the platen.

Serious trouble and objection have existed in such devices as heretofore constructed, in that the frame has been of heavy weight, expensive in great cost of construction and repair, the joints of the pipe within the frame, and the parts of the frame united with bolts or pins, the expansion and contraction by heat and cold were liable to loosen said pins, bolts, and joining of parts of the frame, causing the frame to become loose-jointed and rickety and liable to bend, loosen, and break the pipe, causing leaks, which, to repair, necessitated removing the platen from the pile and taking it apart to get at the break. My invention seeks to obviate and overcome all these difficulties.

The invention consists, first, in a new and improved construction of the platen, consisting of a series of perforated thin flat bars set edgewise at a distance apart, having tenons upon their ends inserted in mortises in side bars and riveted thereto, forming a gridiron-frame; and, second, in certain other improved construction, arrangement, and adaptation of parts, as will be more fully hereinafter set forth, and specially pointed out in the claims.

I will designate each section as a "platen," and will illustrate but one such complete platen, it being understood that the construction of each is similar, and that they are supported in vertical series.

Referring to the drawings, like letters refer to like parts in all the figures, in which Figure 1 is a top or plan view of my improved platen, showing the thin flat perforated bars *a* set at a distance apart and rigidly riveted to the side bars, *c*; also showing the pipe *d* supported in the said perforations in the bars *a*. Fig. 2 is a cross-section view, of side elevation, taken on the dotted lines *xx* in Fig. 1. Fig. 3 is a cross-section view, of end elevation, taken on the dotted lines *zz* in Fig. 1. Fig. 4 is a perspective view of one of the supporting-bars *a*, showing how it is constructed with the tenons *n* and the series of perforations *m*. Fig. 5 is a perspective view of the side bar, *c*, showing how it is constructed with a series of perforations or mortises, *s*. Fig. 6 is a perspective view of the end bar, *b'*, showing how it is provided with turn-down ends or lugs perforated for attachment to the side bars. Fig. 7 is a cross-section view, enlarged, of one of the bars *a*, taken on the dotted lines *yy* in Fig. 3, showing how the edges of the bar may be rounded when desired. Fig. 8 is a perspective view, enlarged, of the washer *k'*, for use with the roller-bar *b*, when such is desired.

a represents the supporting-bar, consisting of a thin flat bar of iron provided with the series of perforations *m*, for the admission and support of the pipe *d*, and having both ends provided with the tenons *n*, for connecting to the side bars, *c*. The said perforations *m* are preferably round and adapted to admit the said pipe, loosely fitting, whereby the pipe may be readily and easily removed, and the said tenons *n* are preferably square-cornered, for holding the said bars *a* rigidly upright.

c represents the side bars, consisting of like thin flat bars of iron provided with the series of perforations *s*, for connecting the supporting-bars *a*; also with perforation *j*, for admitting the pipe to connect outside the platen, and with other perforations for connecting the end bars, as shown in the drawings.

The frame consists of the two side bars, *c c*, provided with the series of perforations *s*, as shown, and a series of three or more perforated supporting-bars, *a*, provided with the tenons *n*, as shown, with the latter rigidly riveted to the said side bars, forming a frame of great strength and stiffness, and which I designate

and call "gridiron-frame," and by this construction I am enabled to make the frame of light material, and thereby greatly reduce the weight and cost of the platen to that heretofore used; and it will be observed that the supporting-bars *a* are held rigidly upright by the square-cornered tenons *n*, rigidly riveted to the side bars, thereby said bars are not liable to become loose and rickety, or tip over, strain, or break the pipe.

b' represents an end bar having its ends bent over and perforated, as shown, for attachment to the ends of the said side bars, *c*, with bolts removable at pleasure.

I sometimes use a pipe or roller, *b*, which may be of gas-pipe with end washers, *k'*, and loosely connected to the ends of the side bars, *c*, by the bolt *p*, extending throughout from one side bar to the other side bar, which said roller may be used in place of the end bar, *b'*, and may facilitate the putting in and removing of the lumber, as will be understood by the drawings.

d represents the heating-pipe, consisting of a series of pipes, *d*, inserted in the said perforations *m* in the supporting-bars *a*, and the ends of the said pipes joined, the first to the second at one end, the second to the third at the opposite end, and so on, forming a continuous pipe throughout the platen, with both ends of said pipe projecting outward through perforations in the said side bars.

In constructing my improved platen the side bars and the supporting-bars are first formed and united together, forming the gridiron-frame. Then the pipes *d* are inserted in the perforations *m* and connected together, after which the said end bars may be attached and secured in place, as shown in the drawings; and then, whenever it is desired to get at the pipe, for repair or otherwise, the said end bars may be removed and the pipe repaired or removed without removing the platen from the pile.

It will be observed that the supporting-bars may have rounded edges, as shown in Fig. 7, to which I make no claim, as the supporting-bars I use are and have such thin flat bar-edges as to have a small bearing, and not interfering with the drying of the lumber resting thereupon, and whereby the lumber will dry evenly and without stain.

The platen, bars, and pipe may be of any size desired. I prefer to use for the side bars two

by three-eighths iron, for the supporting-bars two by five-sixteenths iron, and for the pipe three-eighths gas-pipe, and make the platen four and one-half feet wide by sixteen feet long, for drying ordinary lumber.

In the use of or operating my improved platen a series of such platens are placed horizontal in a pile one above another, and connected in any usual manner. The lumber is then placed between the platens, resting upon the thin edges of the supporting-bars, when hot live steam is admitted into the pipe, heating and drying the lumber as ordinary with other constructed devices.

I do not herein broadly claim a pipe interwoven in bars having a series of perforations for the admission of such pipe, and I will not herein broadly claim a series of perforated supporting-bars having their ends connected to side bars.

Having thus set forth my invention, I claim -

1. In a lumber-drier, the gridiron-frame, consisting of the two side bars, *c*, provided with the series of mortises *s*, and the series of three or more perforated supporting-bars, *a*, provided with the tenons *n*, with the latter rigidly riveted to the said side bars, in combination with the pipe *d*, tortuously arranged through the said perforations in the said supporting-bars, all substantially as and for the purpose set forth.

2. The combination of the gridiron-frame, consisting of the two side bars, *c*, provided with perforations *s*, the series of three or more supporting-bars, *a*, provided with perforations *m* and tenons *n*, the latter rigidly riveted to the said side bars, with the end bar attached to the ends of the said side bars with bolts, and removable therefrom, and with the pipe *d*, all substantially as and for the purpose set forth.

3. In a platen for lumber-driers, the supporting-bars *a*, consisting of thin flat bars of iron having a series of perforations for the admission and support of the pipe, and provided with square-cornered tenons *n*, in combination with the side bars of the frame, and with the pipe *d*, substantially as and for the purpose set forth.

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Witnesses:

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