

No. 612,327.

Patented Oct. 11, 1898.

S. B. FURNIVAL.
TRAY FOR CLAY PRESSES.

(Application filed Dec. 20, 1897.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 2.



Fig. 1.

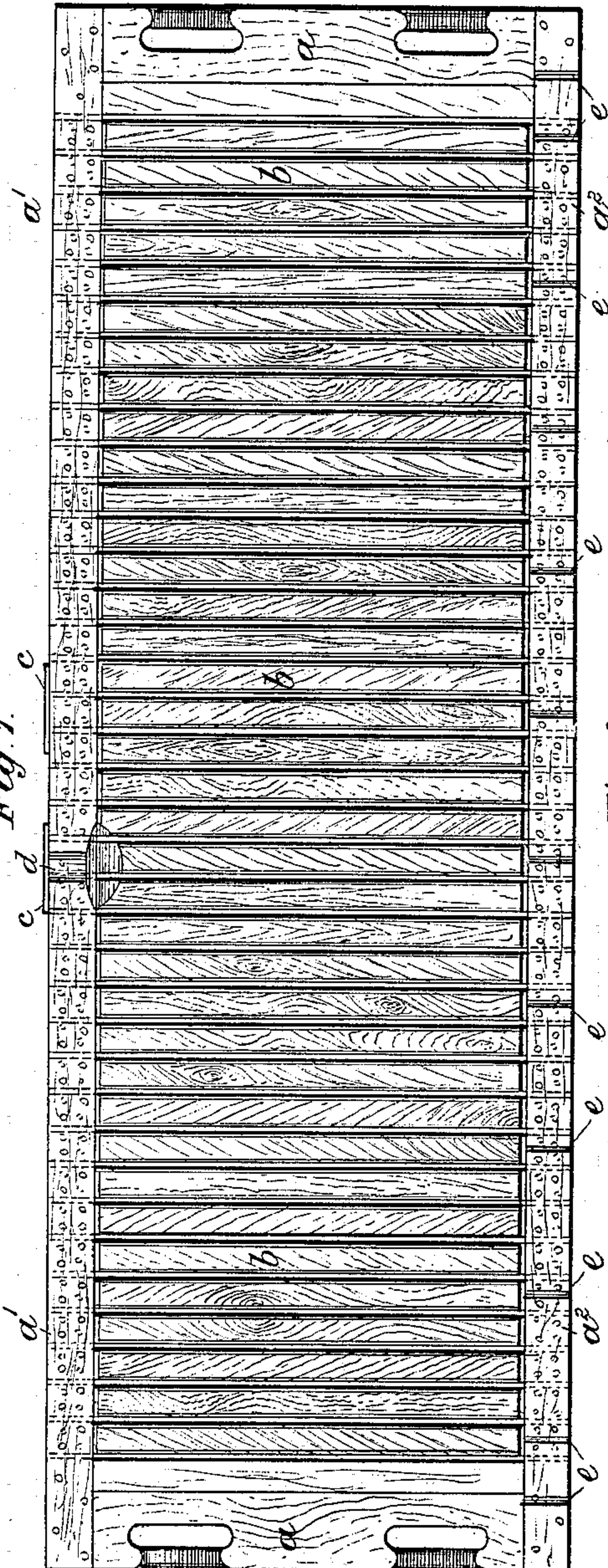


Fig. 3.

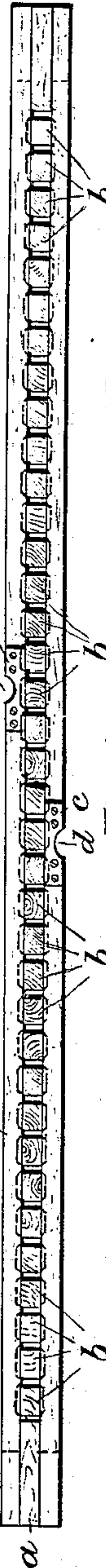


Fig. 5.

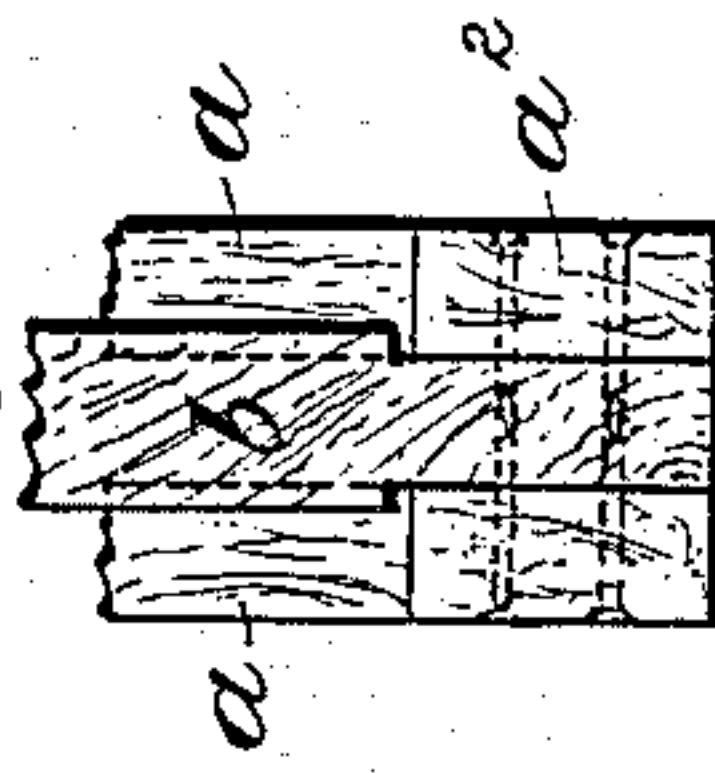


Fig. 4.

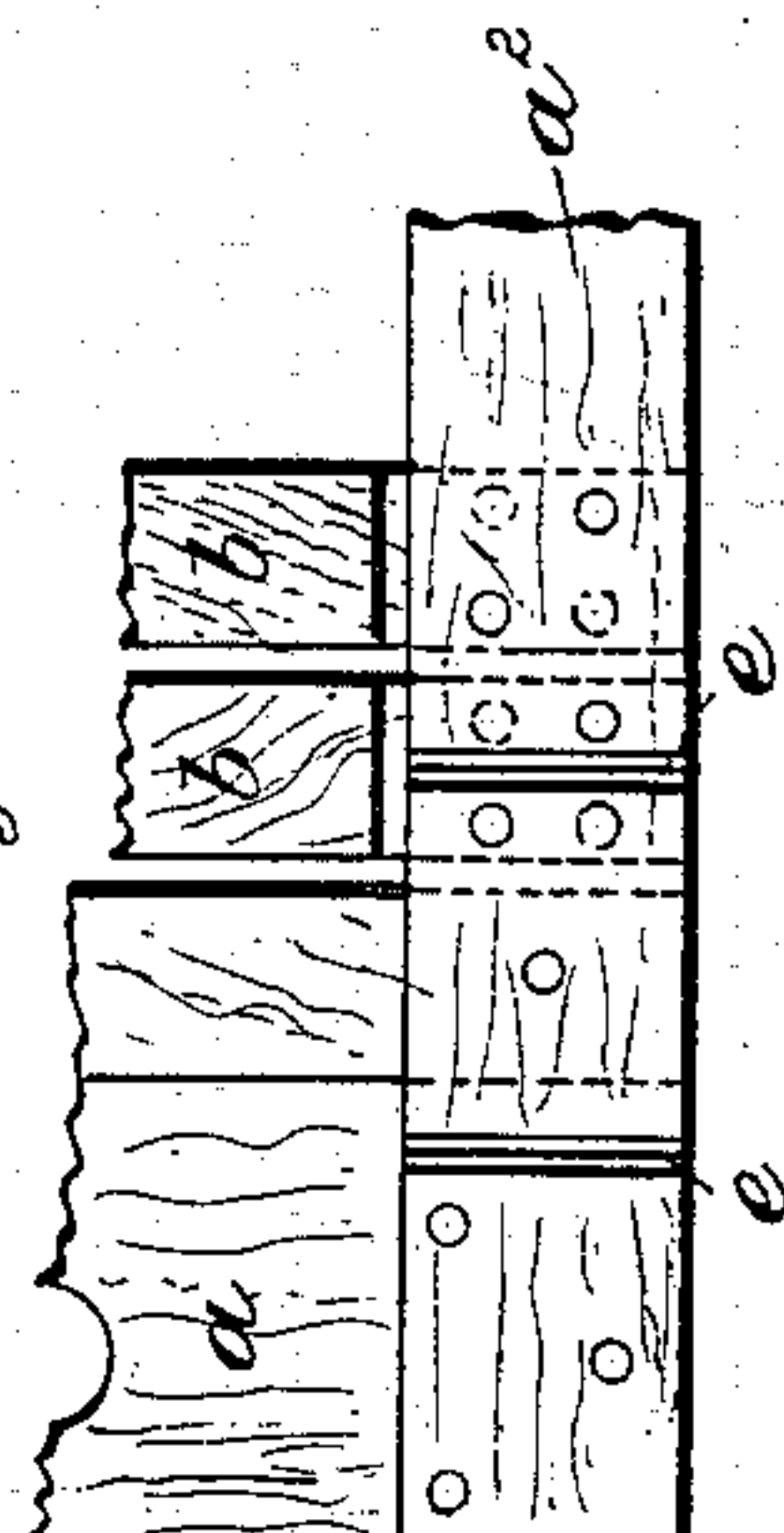
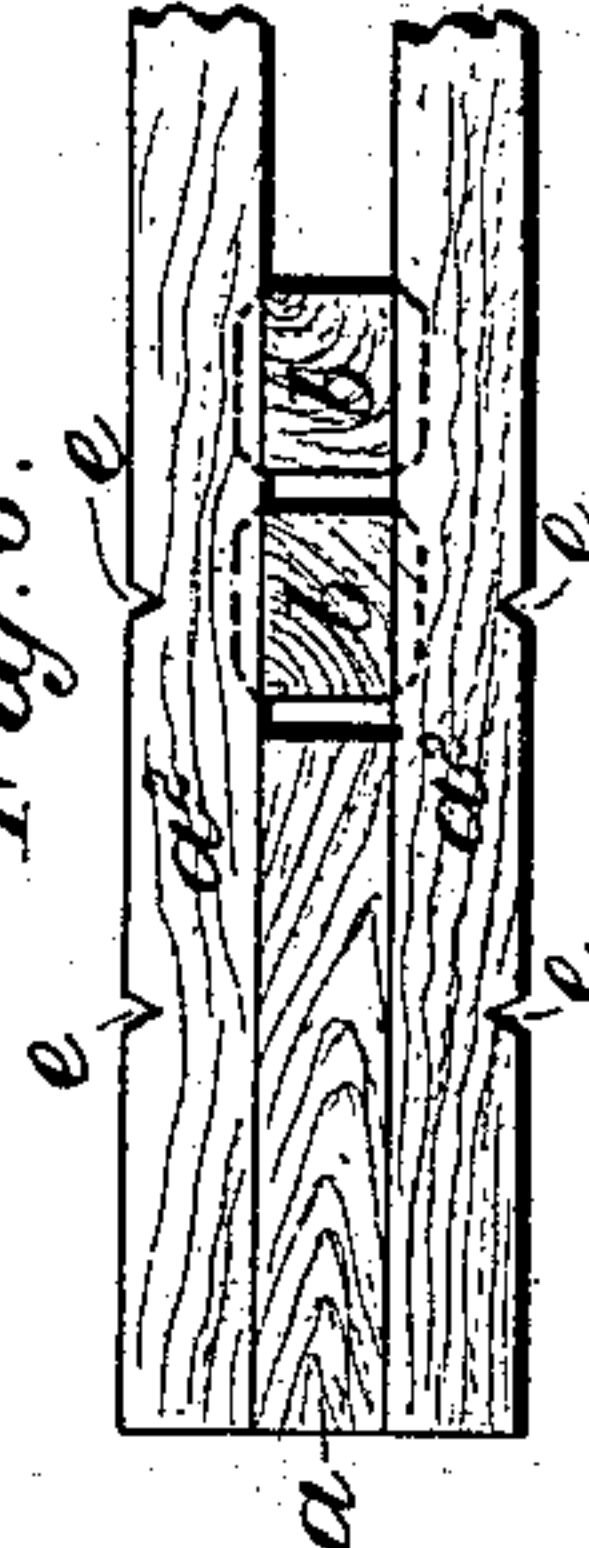


Fig. 6.



Witnesses;—

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No. 612,327.

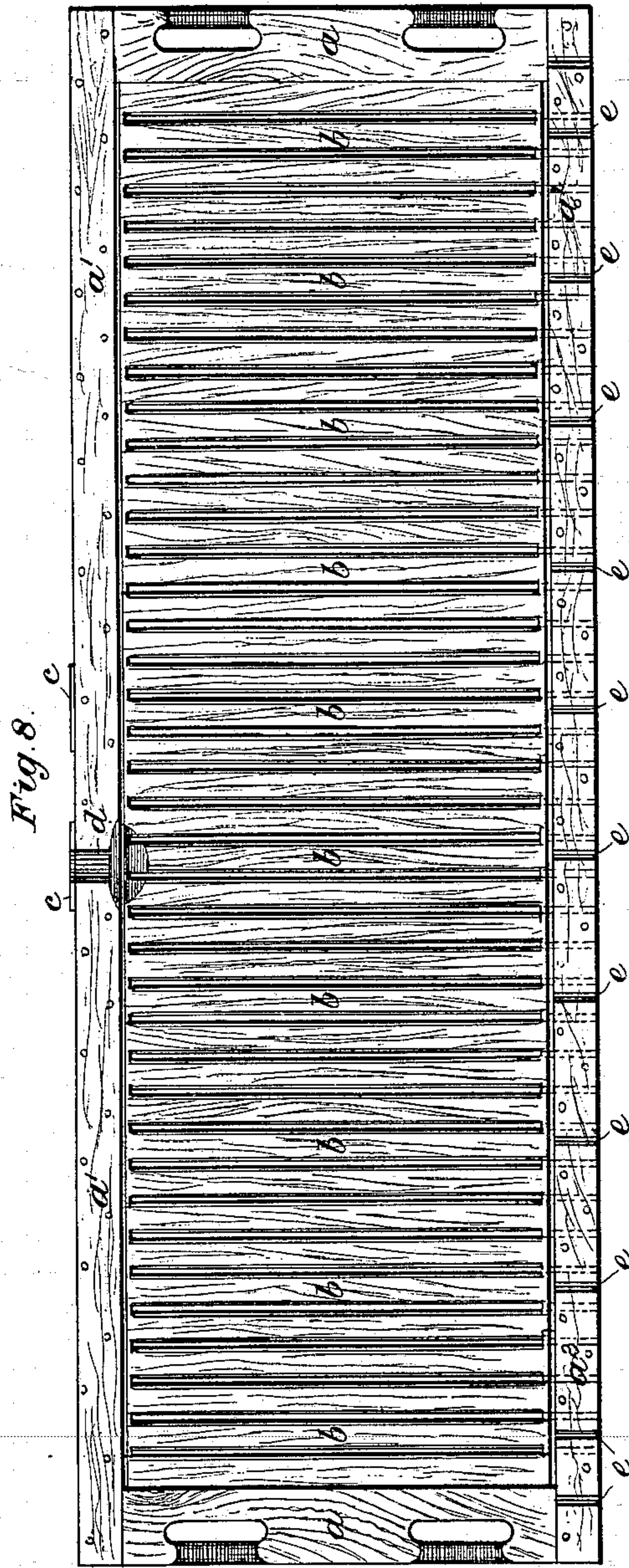
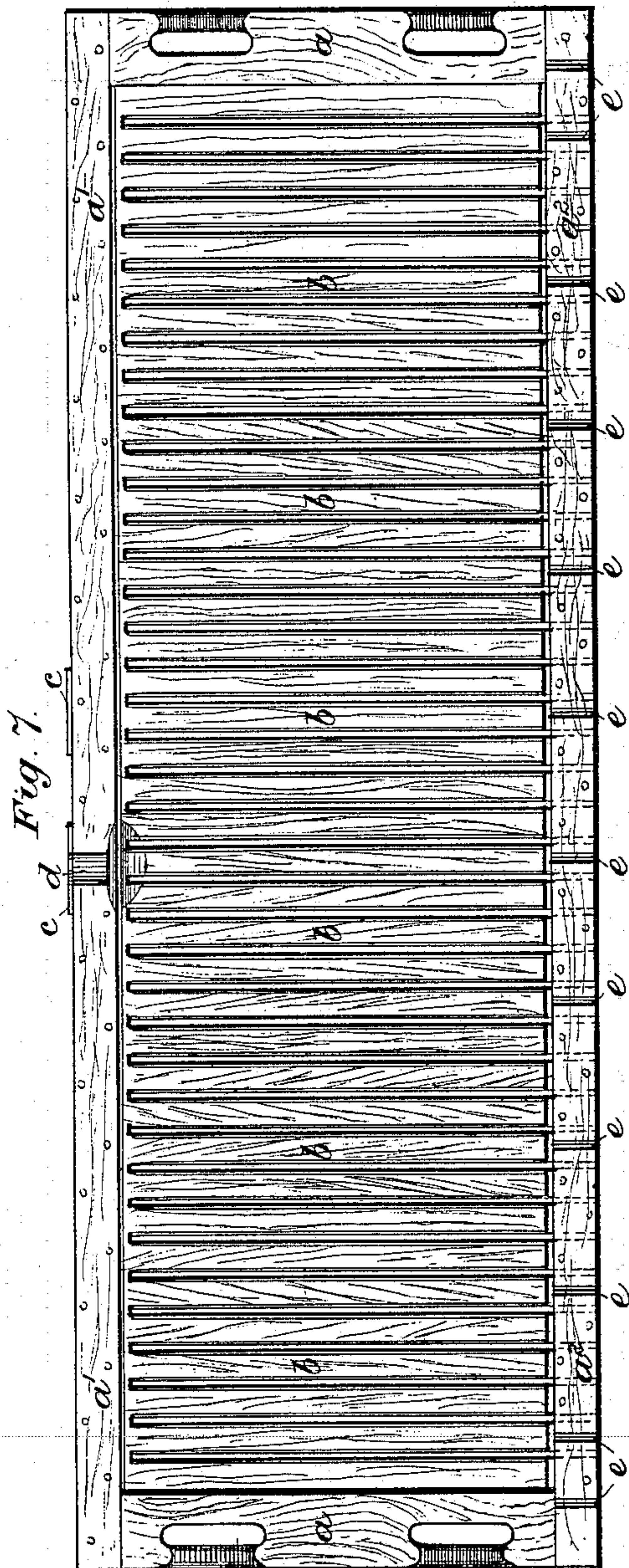
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Witnesses:—

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UNITED STATES PATENT OFFICE.

SAMUEL BOURNE FURNIVAL, OF STOKE-UPON-TRENT, ENGLAND.

TRAY FOR CLAY-PRESSES.

SPECIFICATION forming part of Letters Patent No. 612,327, dated October 11, 1898.

Application filed December 20, 1897. Serial No. 662,671. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL BOURNE FURNIVAL, a subject of the Queen of Great Britain, and a resident of Stoke-upon-Trent, England, have invented certain new and useful Improvements in Trays for Clay-Presses Used in the Manufacture of China and Earthenware, of which the following is a specification.

In the manufacture of china and earthenware the prepared slip or clay and ground flint mixed with water to the consistence of cream is introduced into and treated by pressure in a clay-press, by which it is deprived of the greater part of its water and made ready for treatment in the pugging-mill. The said clay-press is composed of a series of trays or blocks of wood having ribs or flutes on each side. The slip is inclosed in folded cloth or fabric in portions, and several of these portions—say twenty-four—are alternated with the said trays and the whole bound tightly together by screws and screw-nuts or otherwise. The slip is pumped into the folded fabric by a hydraulic-pressure pump, and the superfluous water squeezed out of the slip by the pressure of the pump runs from the clay-press.

My invention consists of the improvements hereinafter described in the construction of the trays of clay-presses whereby the manufacture of the trays and working of the press are facilitated and the slip operated upon more rapidly prepared for the pugging-mill than by clay-presses of the ordinary kind. Instead of making the press-trays of blocks or slabs of wood having ribs or flutes on each side I make each tray of a series of parallel bars of wood. The said barred tray may be made by taking a series of strips of wood connected together by their ends being fixed to a frame. The said strips are fixed at a short distance apart—say one-quarter of an inch—so as to leave spaces between them and permit of the ready escape of the water pressed from the slip. The frames in which the strips of wood are fixed are also provided with holes or passages for permitting of the ready escape of the expressed water. The cloths in which the slip is folded and the appliances connecting the folded cloths with the hydraulic or pressure pump for supplying the

slip under pressure to the clay-press are of the ordinary kind.

Figures 1 and 2 of the accompanying drawings represent in side and end elevation, respectively, and Fig. 3 in plan, a clay-press tray made according to my invention. Figs. 4, 5, and 6 represent, respectively, in elevation, section, and plan of under side, a portion of the said tray drawn to a larger scale than Figs. 1, 2, and 3. Figs. 7 and 8 represent elevations of modified trays made according to my invention.

The same letters of reference indicate the same parts in the several figures of the drawings.

I will first describe the tray, Figs. 1, 2, 3, 4, 5, and 6. The said tray consists of a rectangular frame $a a a' a' a^2 a^2$, to the upper and lower bars $a' a'$ and $a^2 a^2$ of which a series of vertical bars or strips $b b b b$ are secured by nails, screws, or the like, parallel to the end bars $a a$ of the rectangular frame, the said vertical bars b being so arranged as to leave between them spaces for the expressed water to escape from the press. (See the enlarged views, Figs. 4 and 6.) The upper bars $a' a'$ of the frame are provided with metal plates $c c$ above the semicircular recesses $d d$ in the said upper bars, which recesses, when two trays are put together side by side, constitute the leading or pipe holes of the cloth bags or folded fabric confined between the pair of trays. The lower bars $a^2 a^2$ of the said frame have grooves or notches $e e$ made in the sides or faces, which constitute, when two or more trays are put together, the meeting faces of the trays, which coincident grooves in adjacent trays constitute holes in the bottom of the trays for the escape of water expressed from the slip under treatment.

Clay-press trays made according to my invention are alternated with folded fabric or cloth bags, into which the clay to be treated is pumped through the holes $d d$ in the upper bars of the frame, and the said trays are used in essentially the same way as ordinary clay-press trays. The said parallel barred trays may be made by taking boards or strips of wood in which are made vertical parallel slits by sawing. Each of the saw-cut or slitted boards is secured in a rectangular frame $a a$

$a' a' a^2 a^2$. In the tray represented in Fig. 7 the saw cuts or slits in the board or strip of wood employed extend from the bottom longitudinal edge to near the top longitudinal edge, the saw cut or slit board before being secured in its frame having a comb-like figure. In the tray represented in Fig. 8 the slits or saw-cuts extend from near the bottom to near the top—that is to say, the sawing is not carried through either longitudinal edge. The vertical channels in the saw-cut strip are, however, continued to the bottom edge of the strip by boring holes in the said bottom edge in line with the saw cuts or slits, as is indicated in dotted lines in Fig. 8. In other respects the trays, Figs. 7 and 8, differ in no essential respect from the tray, Figs. 1 to 6, both inclusive, and corresponding parts in the three trays are marked with the same letters of reference.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A clay-press tray to be used in the manufacture of china and earthenware consisting of a rectangular frame composed of two upper parallel longitudinal bars a' , a' , two lower parallel longitudinal bars a^2 , a^2 with vertical or crossing grooves e , e , on their outer faces and a side bar a at each end of the frame, in combination with a series of vertical parallel bars b , b , b , the ends of which are secured be-

tween the upper and lower pairs of bars a' , a' , a^2 a^2 of the frame at short distances apart so as to have vertical spaces or channels to permit of the ready escape of the water pressed from the slip, substantially as set forth and shown. 35

2. A clay-press tray to be used in the manufacture of china and earthenware consisting of a rectangular frame composed of two upper parallel longitudinal bars a' , a' two lower parallel longitudinal bars a^2 , a^2 with vertical or crossing grooves e , e on their outer faces and a side bar a at each end of the frame, in combination with boards or strips constructed and arranged to provide vertical spaces or channels for the ready escape of the water pressed from the slip, substantially as set forth and shown. 40 45 50

3. The combination with a parallel barred clay-press tray of metallic plates c , c situated above the said parallel bars and provided with grooves d , d which grooves constitute with the grooves of an adjacent tray the holes by which the slip is pumped into the cloth bag or folded fabric situated between the trays substantially as herein set forth and shown. 55

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Witnesses:

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