

(No Model.)

J. E. EMERSON.

SAW TAB.

No. 297,243.

Patented Apr. 22, 1884.

Fig. 1.

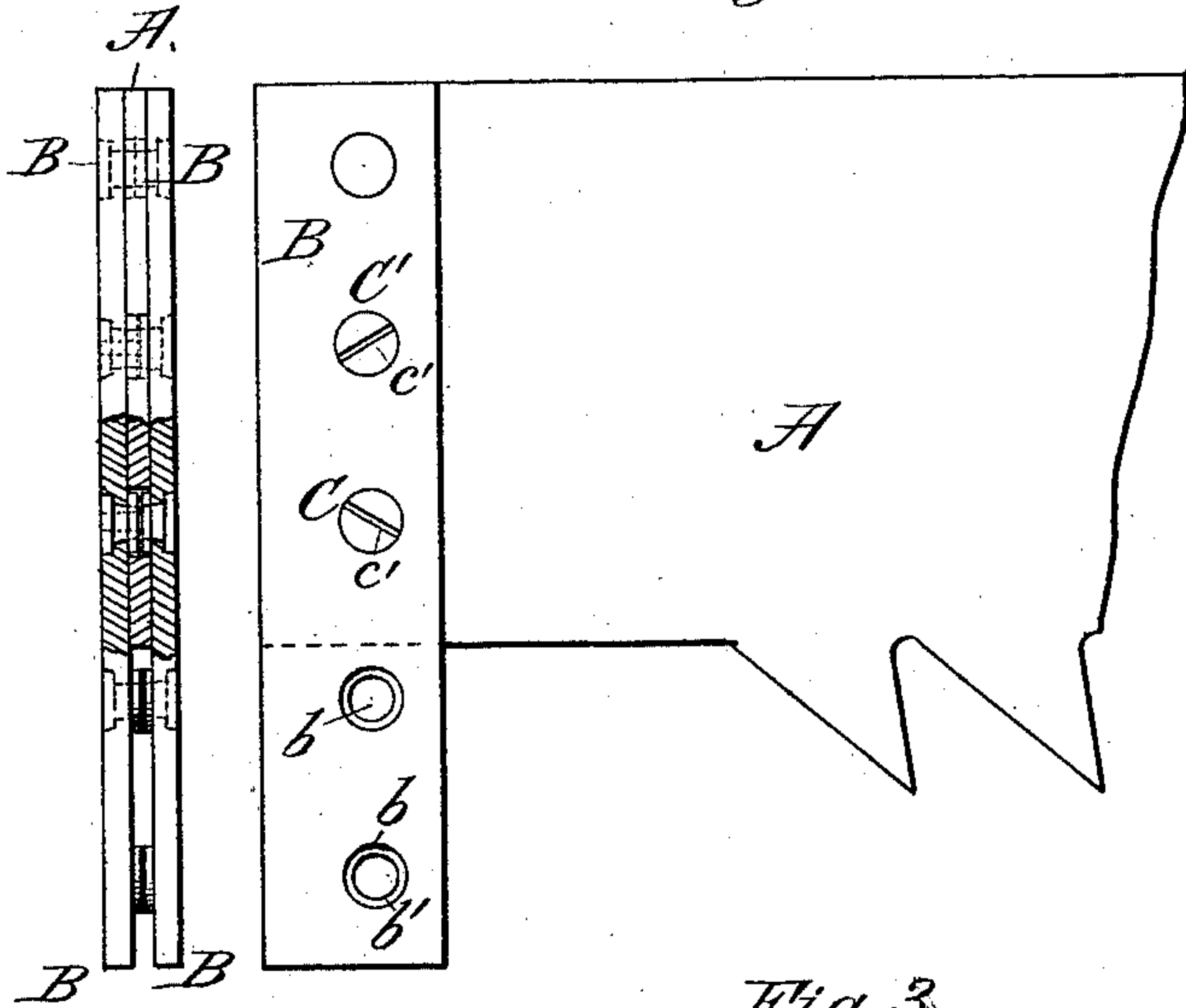


Fig. 2.

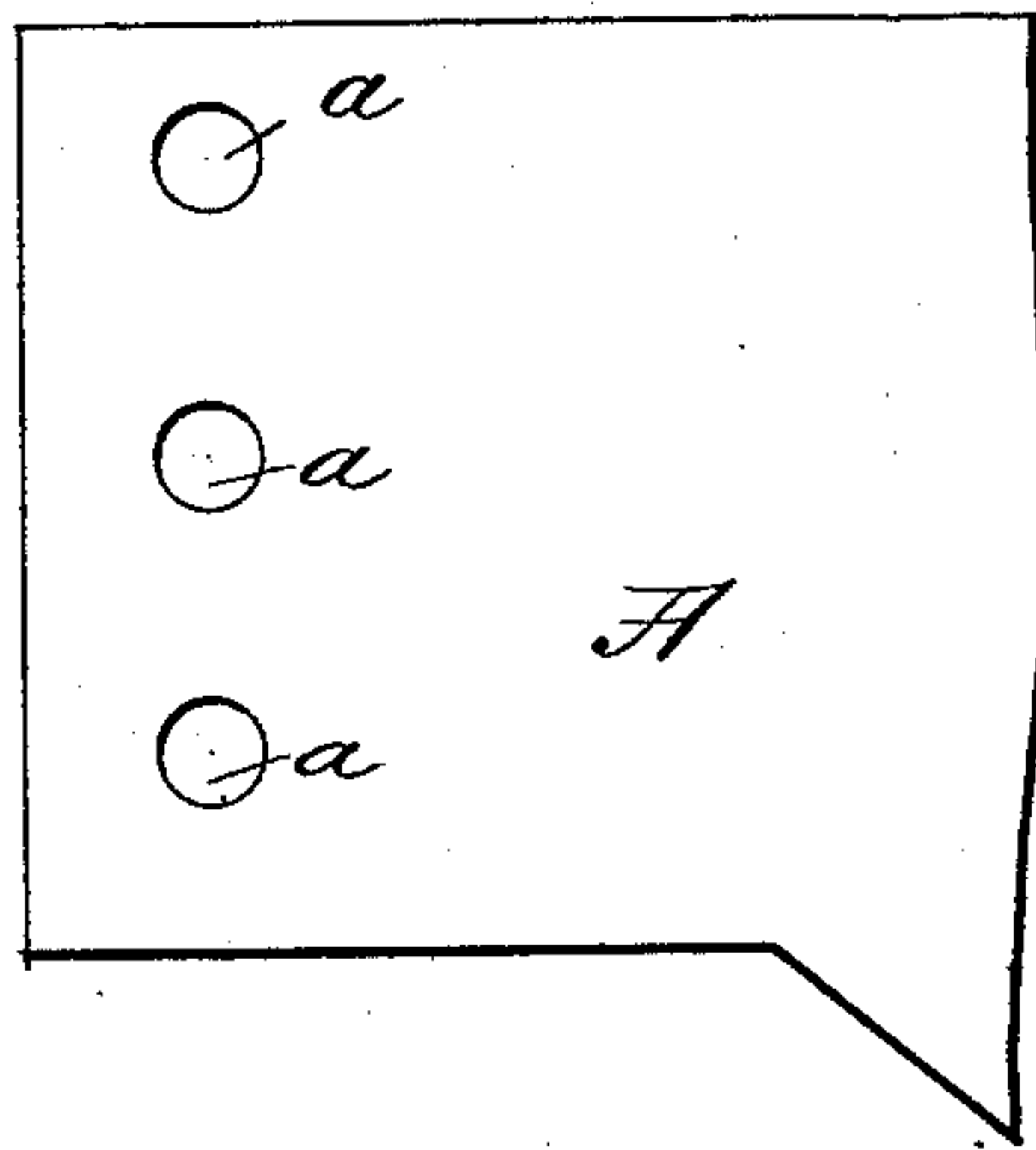


Fig. 3.

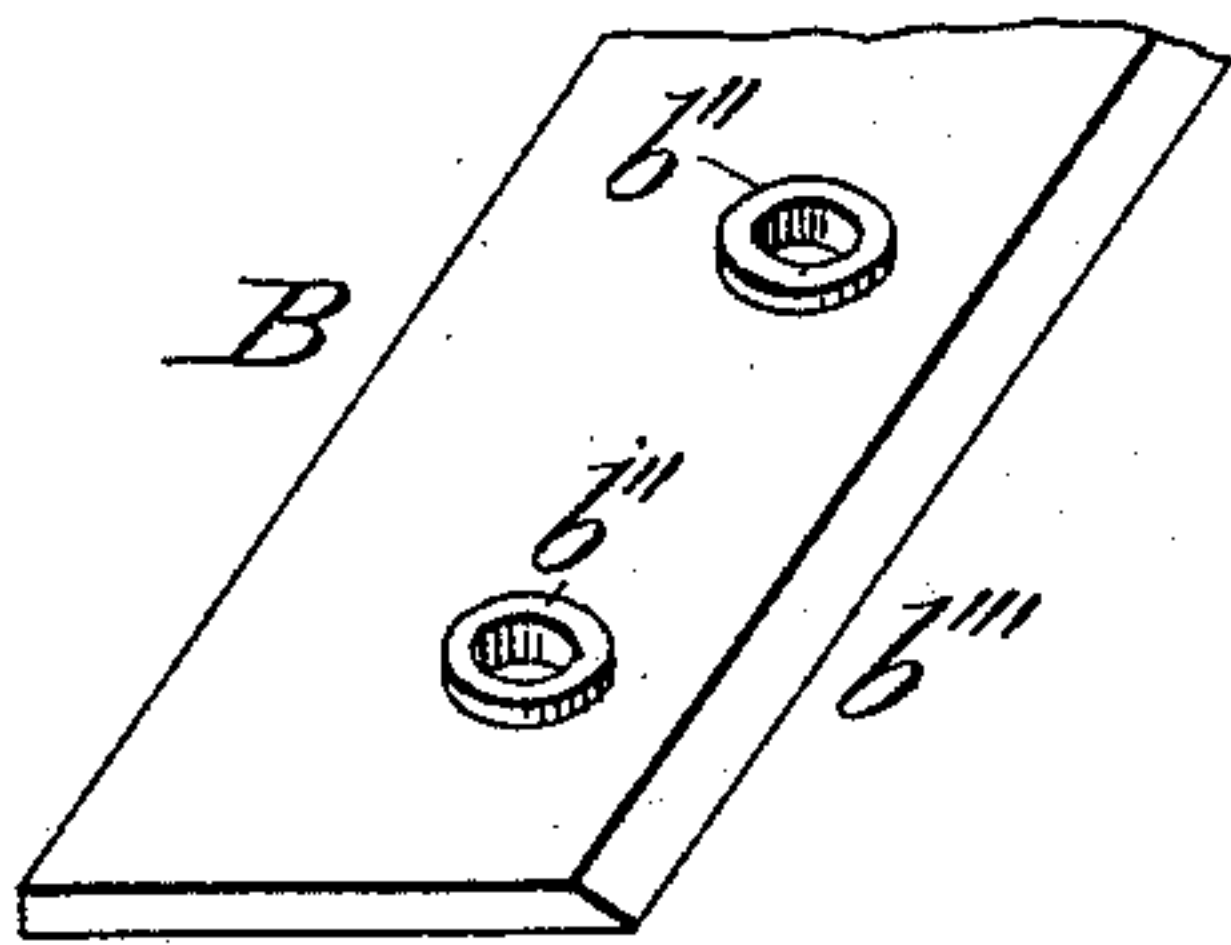


Fig. 4.

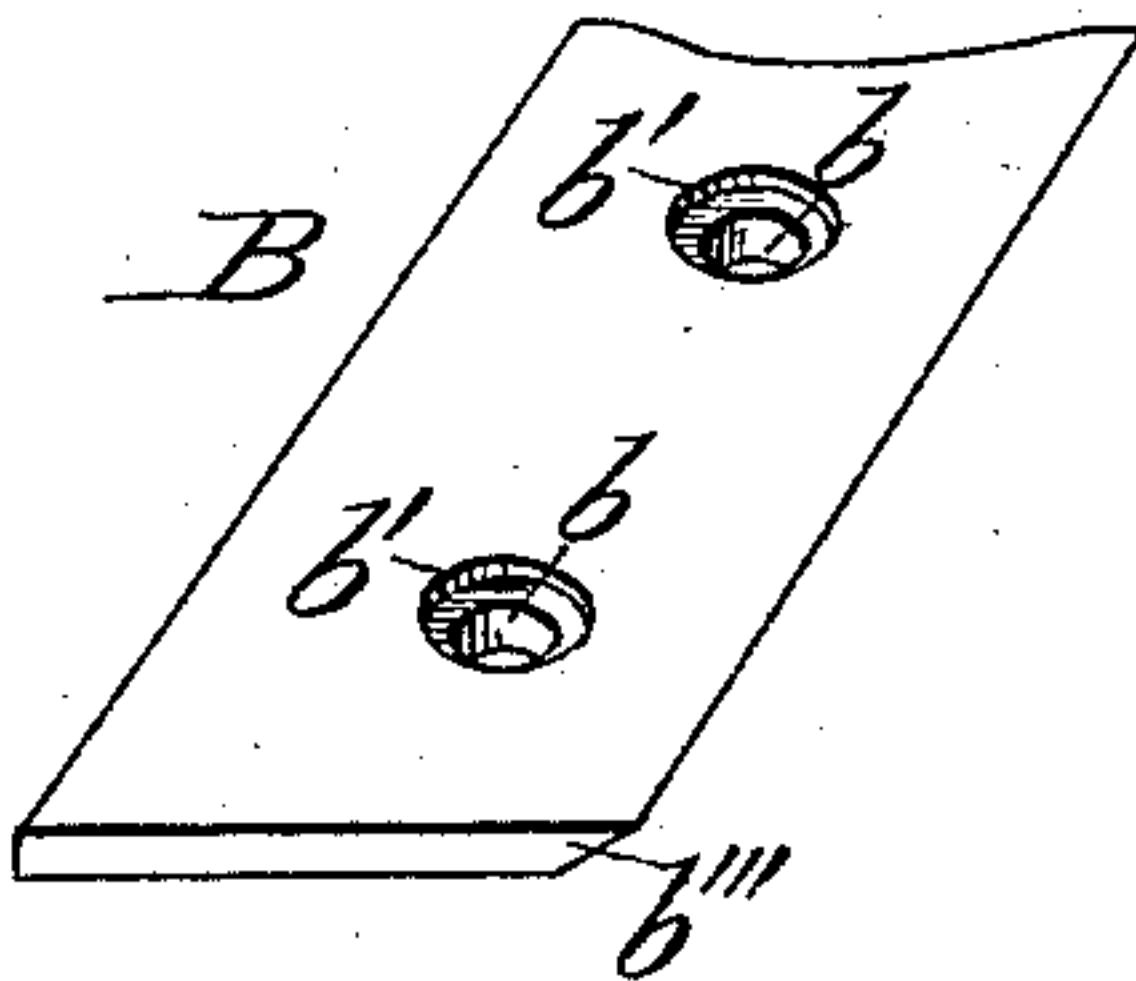


Fig. 5. Fig. 6.

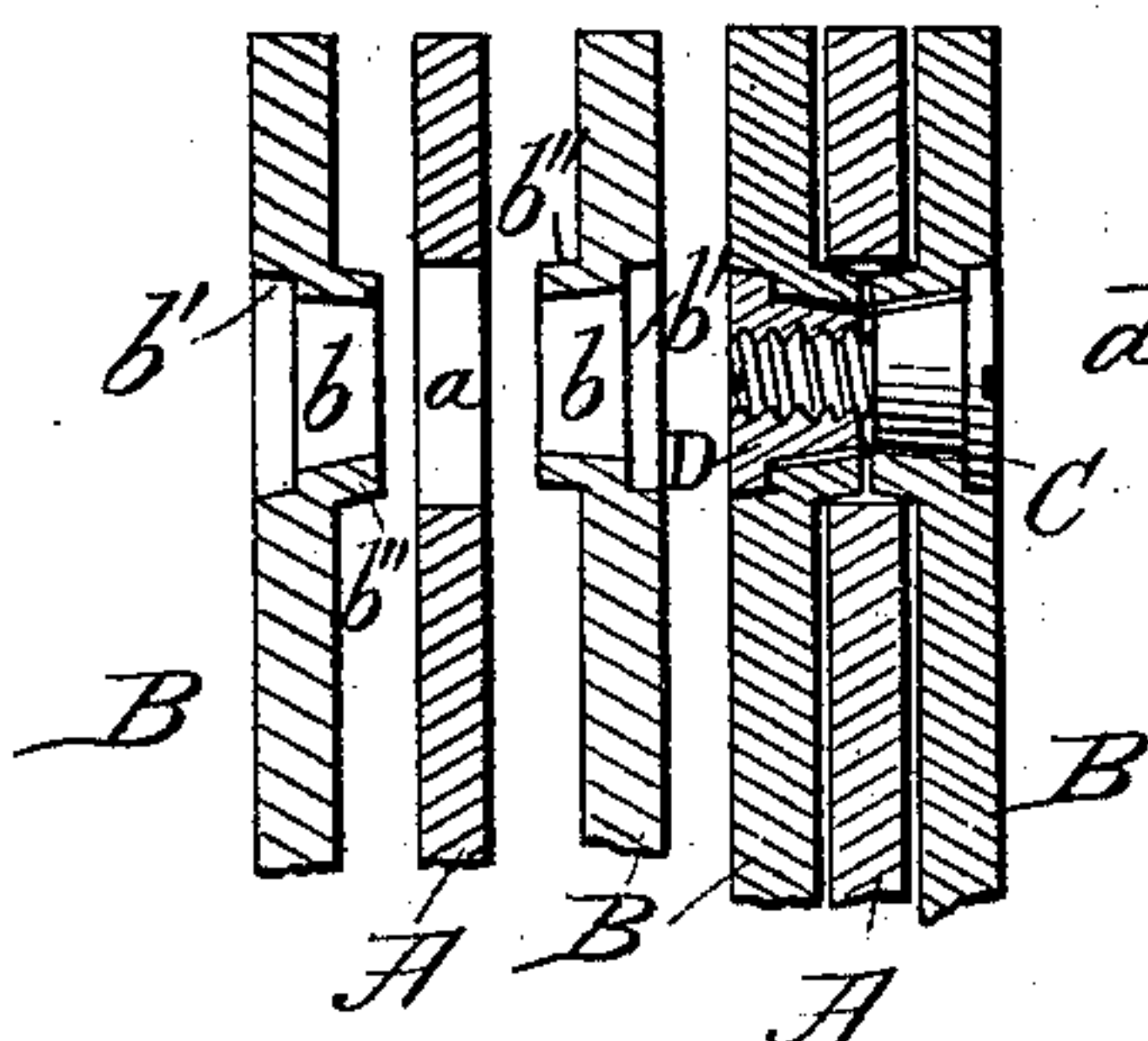


Fig. 7.

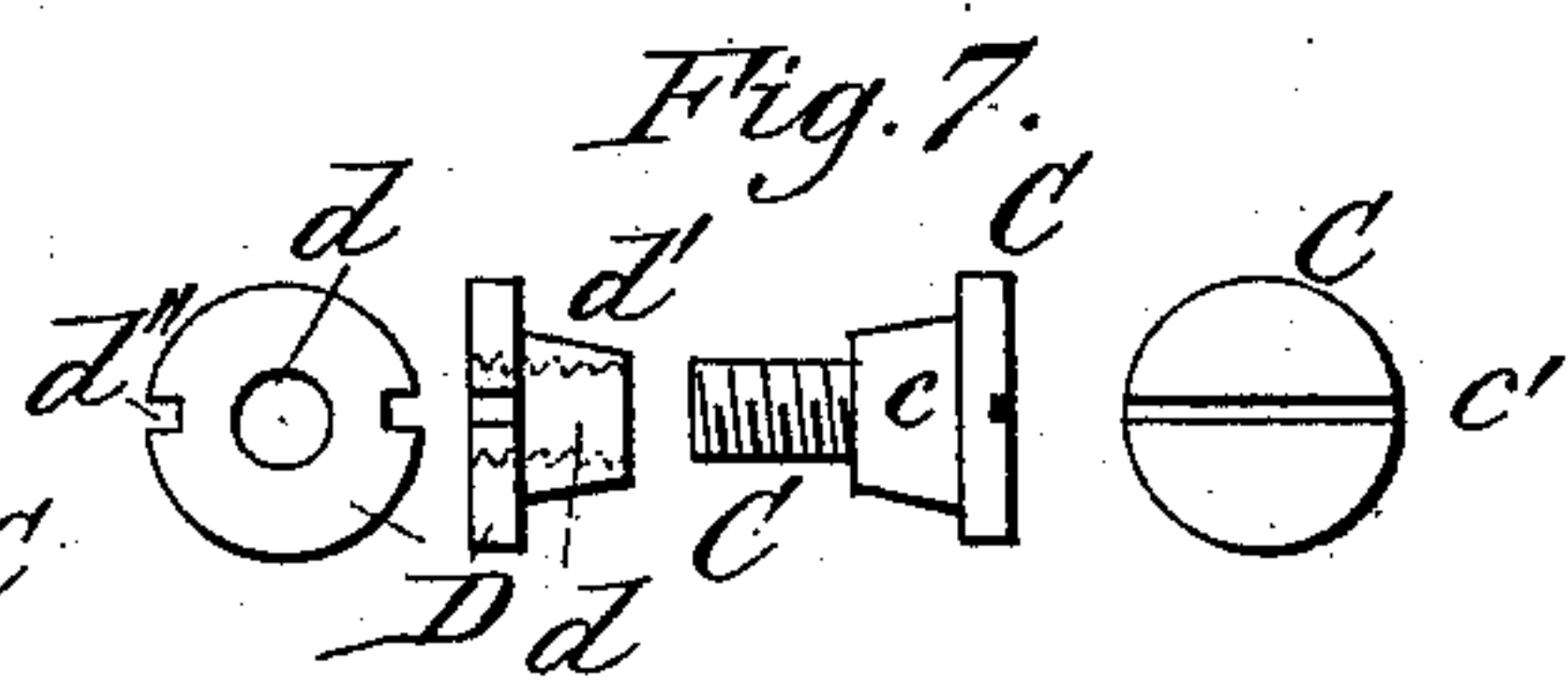
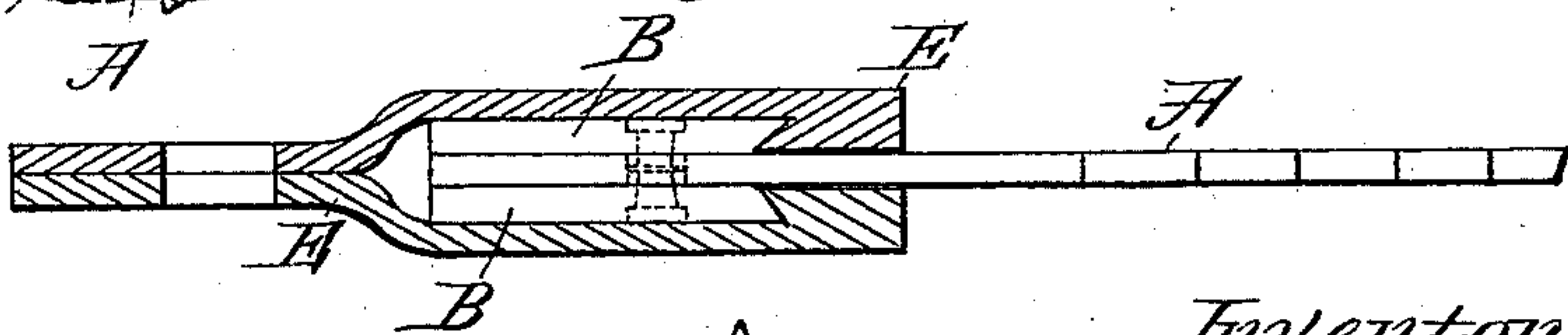


Fig. 8.



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# UNITED STATES PATENT OFFICE.

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## SAW-TAB.

SPECIFICATION forming part of Letters Patent No. 297,243, dated April 22, 1884.

Application filed March 10, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES E. EMERSON, a citizen of the United States, residing at Beaver Falls, in the county of Beaver and State of Pennsylvania, have invented certain new and useful Improvements in Saw-Tabs for Reciprocating Saws, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to improvements in saw-tabs and their relation to the saw to which they are to be attached and the saw-buckle that connects the saw, whether single or in gangs, to the reciprocating frame, within which the saw or saws are strained; and it consists in the mode of attaching the tab-plates to the saw and their relation to the saw-plate, as will be fully hereinafter described.

20 In the drawings, Figure 1 represents a side view and edge view of a saw-plate and the tab-plates attached thereto. Fig. 2 represents the end of a saw-plate, with holes to receive the clamping screw-bolts or rivets in side view. Fig. 3 represents the inside or that side of a tab-plate that comes next to the saw-plate. Fig. 4 represents the outside of a tab-plate. Fig. 5 represents a top view of tab-plates and saw-plate between them, but separated to show the construction. Fig. 6 represents a top view of Fig. 5 when the tab-plates and saw-plate are brought together by screw-bolts. Fig. 7 shows the construction of a screw-bolt; and Fig. 8 shows an edge view of a saw-plate with the tab-plates attached thereto and inserted into the straining saw-buckle.

35 A represents the saw-plate, and  $a$  the screw-bolt or rivet-holes which the screw-bolts or rivets pass that attach the tab-plates to the saw.

40 B B are the tab-plates to be attached to the sides of a saw-plate, as seen in Fig. 1, having holes  $b$  through them, and countersinks  $b'$  in their outsides, and inwardly-projecting flanges or rings  $b''$  around holes  $b$  on their inside faces that are next the saw-plate. The countersinks  $b'$  to holes  $b$  in the tab-plates receive the heads of screw-bolts, the headed nuts to the screw-bolts, or, if rivets are used, to receive the heads of the rivets and the upset of the rivets when riveted, and which are not to project beyond the outside face of the tab-plates when

finished. The inwardly-projecting flanges or rings  $b''$ , that surround holes  $b$ , project from the inner face of the tab-plates a little less than half the thickness of the saw-plate, or so that when the saw-plate is between the tab-plates the inside of the plates will bear against the sides of the saw-plate, as seen in top view, Fig. 1. The holes  $a$  in the saw-plate A are large enough to go over the flanges  $b''$  and rest thereon, instead of having the saw bear upon the body of the bolts or rivets used in attaching tab-plates to saws, as is usually the case. Metal used for rivets or bolts must be soft, in order to rivet or upset in the one case or to cut a screw-thread in the other, and the strain of a saw, together with the continual concussion of the saw upon such rivets or bolts in sawing, will soon cut a rivet or bolt off, and damage may be done by reason of the giving away of the rivets or bolts; but with the tab-plates made of steel, and the inwardly-projecting flanges or rings being in the same metal and piece with the plate, they can be tempered to that degree of hardness that the saw-plate will not cut into or fracture the flanges upon which it bears; hence there would be greater amount of service obtained from this construction than by the usual way of simply riveting through the plates and saw, with the saw-plate bearing directly upon the body of the rivets or screw-bolts, for in many instances where such a construction is used the rivets, being soft in order to upset, are completely worn or cut off, when the saw becomes loose and damage must necessarily follow; and, furthermore, the tab-plates, when made by my method of punching the holes through them, countersinking for the heads of the rivets or bolts, and raising the flange to receive the saw by a gang of punches and dies through the action of a press or drop, as described in another application filed simultaneously herewith, the tab-plates being in pairs or opposites in all their parts, the holes in one will correspond with the holes in the other, and also with the holes in the saw; hence when attached to the saw-plate one will be truly opposite the other in height and position, and the flanges or rings  $b''$  will enter the holes in the saw-plate exactly opposite each other, af-



fording a bearing to the saw, and when the tab-plates are riveted or attached by screw-bolts and headed screw-nuts the plates cannot be changed from their true position and relation to each other. One edge of each plate is beveled, as is usually done, to receive a straining-buckle.

C is a screw-bolt of such length, including its head, as will be a trifle less than the thickness of the tab-plates and the saw-plate when together, as seen in Fig. 6, having a head to fit the countersink  $b'$  in the tab-plates, a neck part,  $c$ , of the diameter to fill the hole  $b$  in the tab-plate and the flange  $b'$ , and to extend to or nearly to the center of the thickness of the saw-plate, and a slot in the head to turn the screw home into the headed nut on the opposite side of the saw-plate.

D is a screw-nut, with its head fitting in countersink  $b'$ , the same as the head of a bolt, with a screw-thread-tapped hole,  $d$ , through it, as seen in Fig. 7, an inwardly-projecting neck part,  $d'$ , the same as on the bolt C, and with the same diameter and projection from its head that  $c$  has, and has slots or holes  $d''$  on opposite sides of its head, to receive a crotch-holder to hold it while the screw-bolt is screwed into the screw-tapped hole  $d$ . It will be observed that the neck  $c$  on the bolt C and neck  $d'$  on the nut are slightly tapering, as are also the inwardly-projecting flanges  $b''$  of the tab-plates, and these parts, when so made, will have a more perfect fit when the screw-bolts are turned home tightly to firmly secure the tab-plates to the saw, and especially to fit close within the flanges  $b''$ , which receive the strain of the saw, and thereby strengthen the flanges and prevent them from breaking.

Rivets may be successfully used in the place of the screw-bolts; but I prefer the screw-bolts to the rivets, because they will resist a greater strain and outlast the rivet, are easier attached, and no such liability of the displacing

the tab-plates as there is in upsetting a rivet to hold the plates, and they can be removed from the plates without trouble, as there is in cutting the upset or head of a rivet to remove the plates.

E represents the ordinary buckle, and Fig. 8 shows how it is connected with the tab-plates in order to strain the saw in the frame, and it is attached in the usual way to the cross-girts of a reciprocating sash-frame, whether it be for a single saw or for a gang of saws in such frame.

The same principle of construction can be as successfully used in handsaws and crosscut-saws, in order to avoid the very common occurrence of cutting off a rivet or screw-bolt that attaches the handles to a thin saw-blade by having a flange for the edge of the saw-blade to bear upon.

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

1. The tab-plates B B, having bolt-holes  $b$ , countersinks  $b'$ , inwardly-projecting flanges or rings  $b''$ , and beveled edges  $b'''$ , in combination with a saw-plate, A, substantially as and for the purposes described.

2. The combination of tab-plates B, having inwardly-projecting flanges  $b''$ , with a saw-plate, A, having holes  $a$  of such size that they fit over and around the flanges  $b''$ , which flanges alone receive and support the strain of the saw, substantially as described.

3. The combination of the screw-bolt C, having the neck  $c$ , and headed screw-nut D, having neck  $d'$ , with the tab-plates B, having holes  $b$  and the inwardly-projecting flanges  $b''$ , substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES E. EMERSON.

Witnesses:

NEWTON CRAWFORD,  
M. P. CALLAN.