

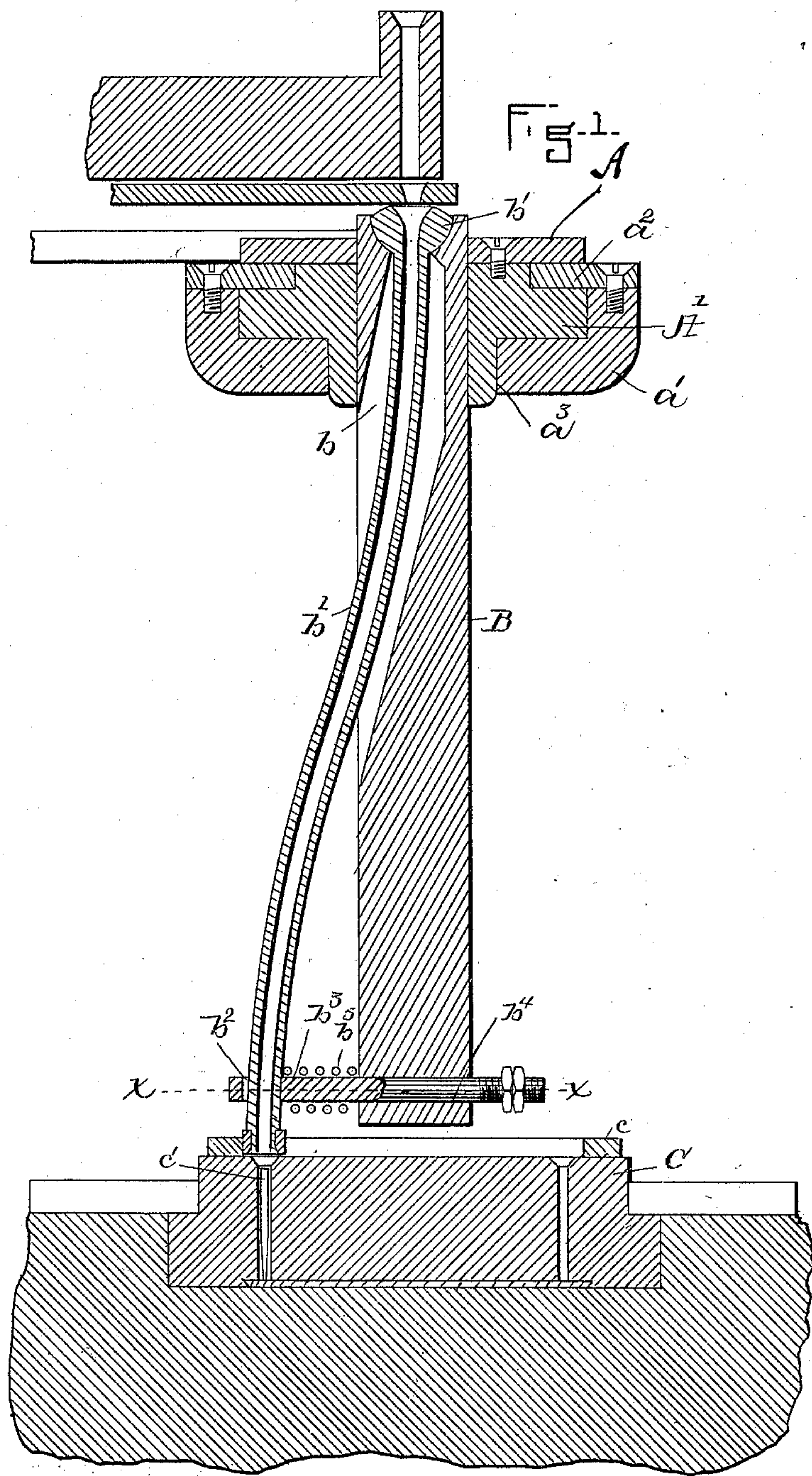
(No Model.)

3 Sheets—Sheet 1.

F. F. RAYMOND, 2d.  
NAIL DISTRIBUTER.

No. 561,610.

Patented June 9, 1896.



WITNESSES.

J. M. Dolan  
W. W. Fague

INVENTOR  
F. F. Raymond

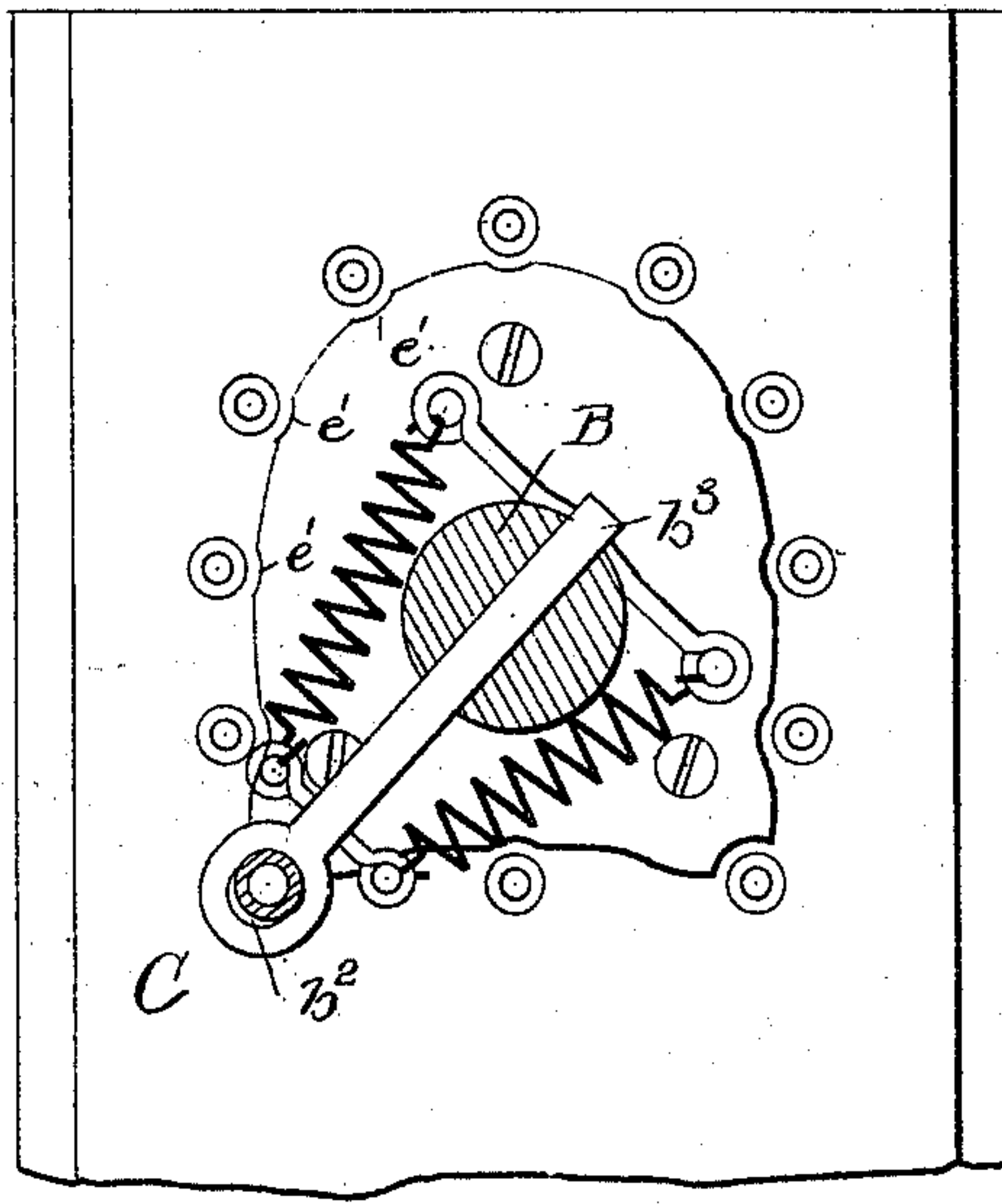
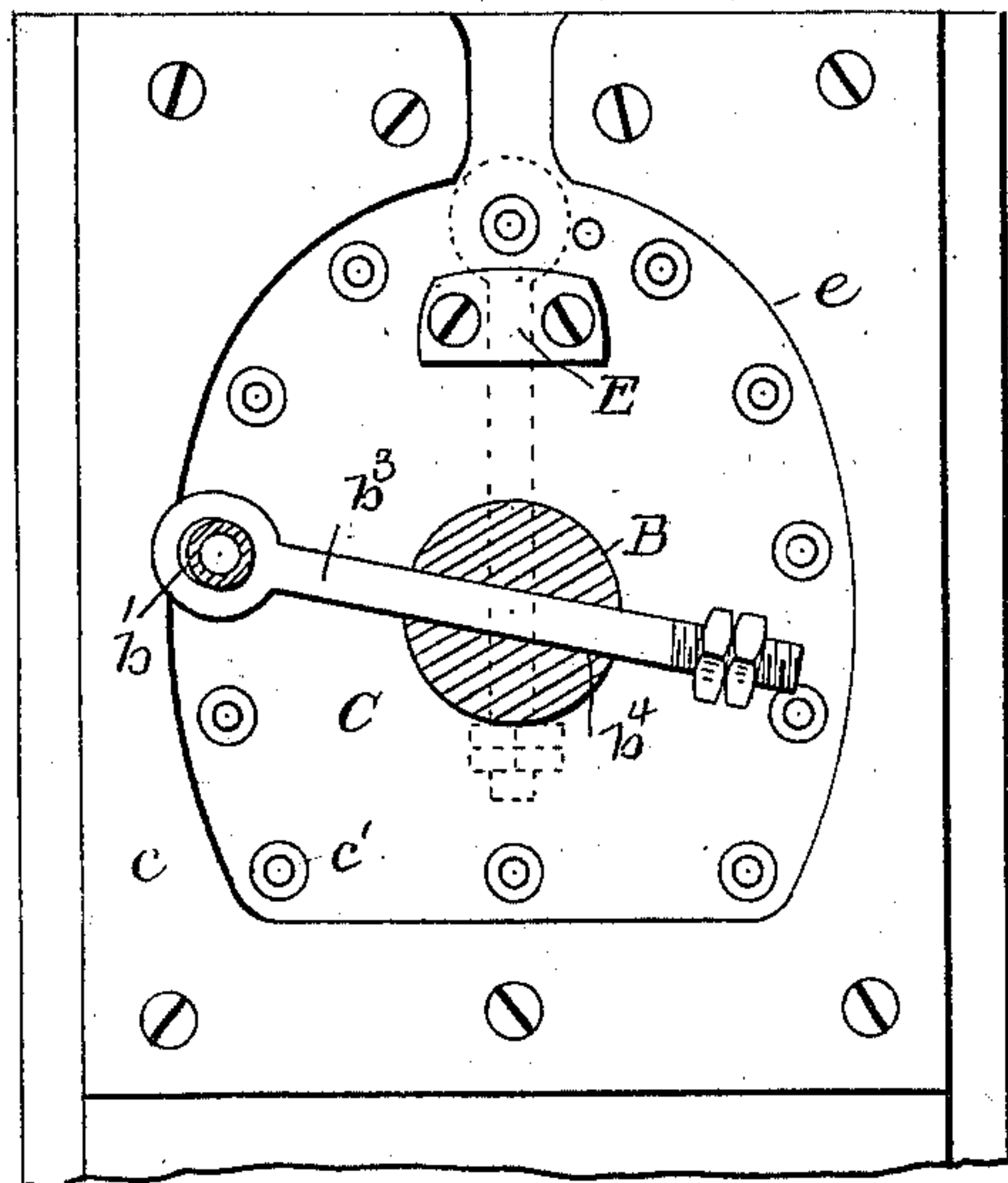
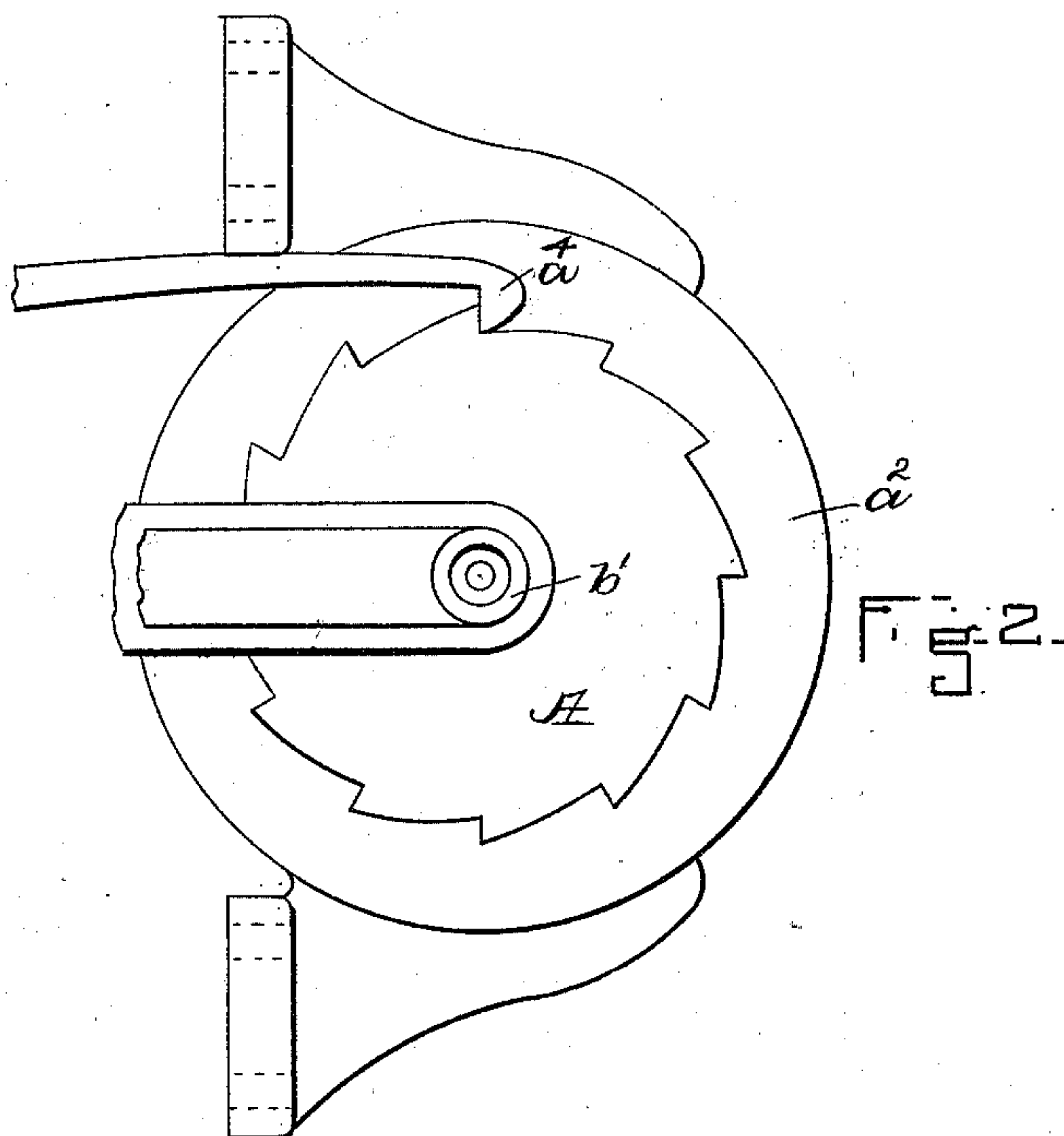
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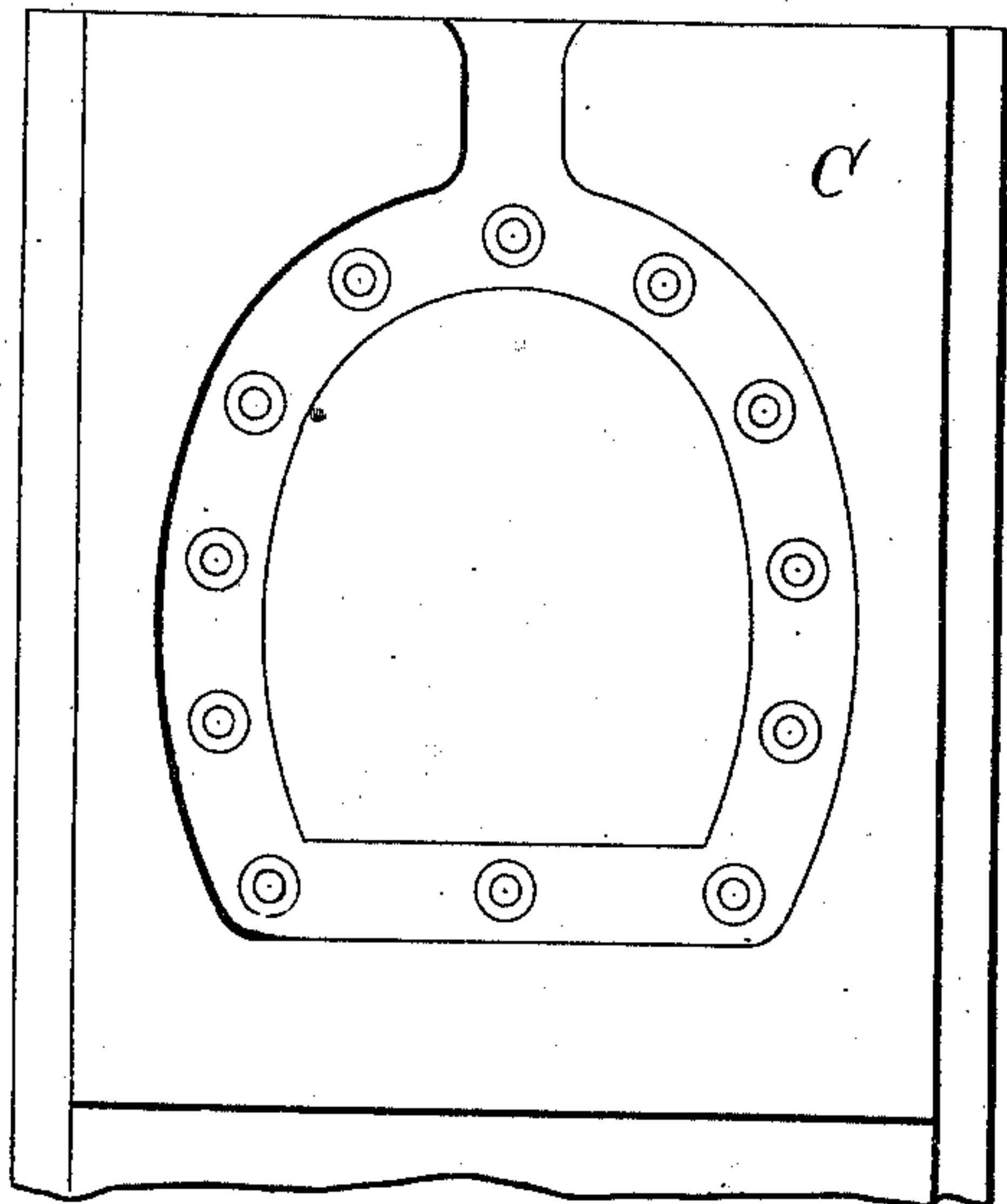


Fig. 5-

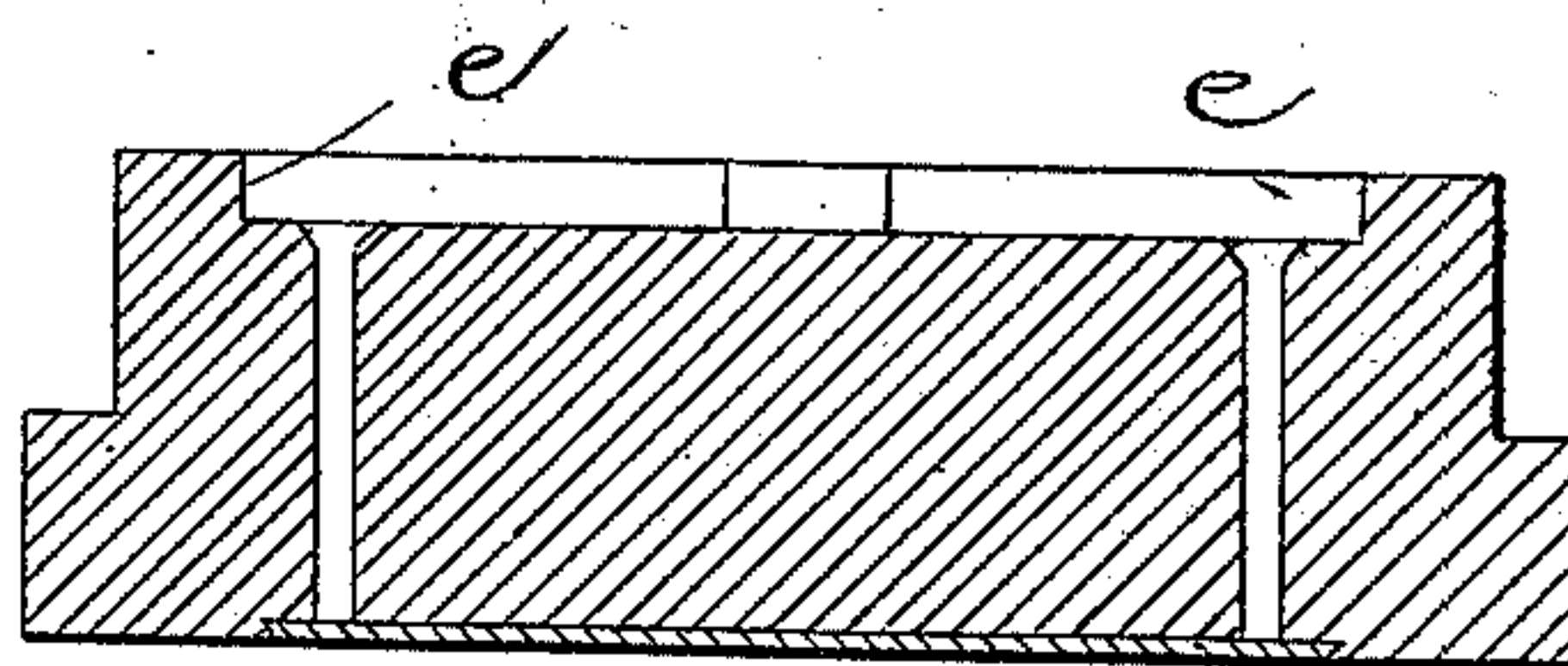
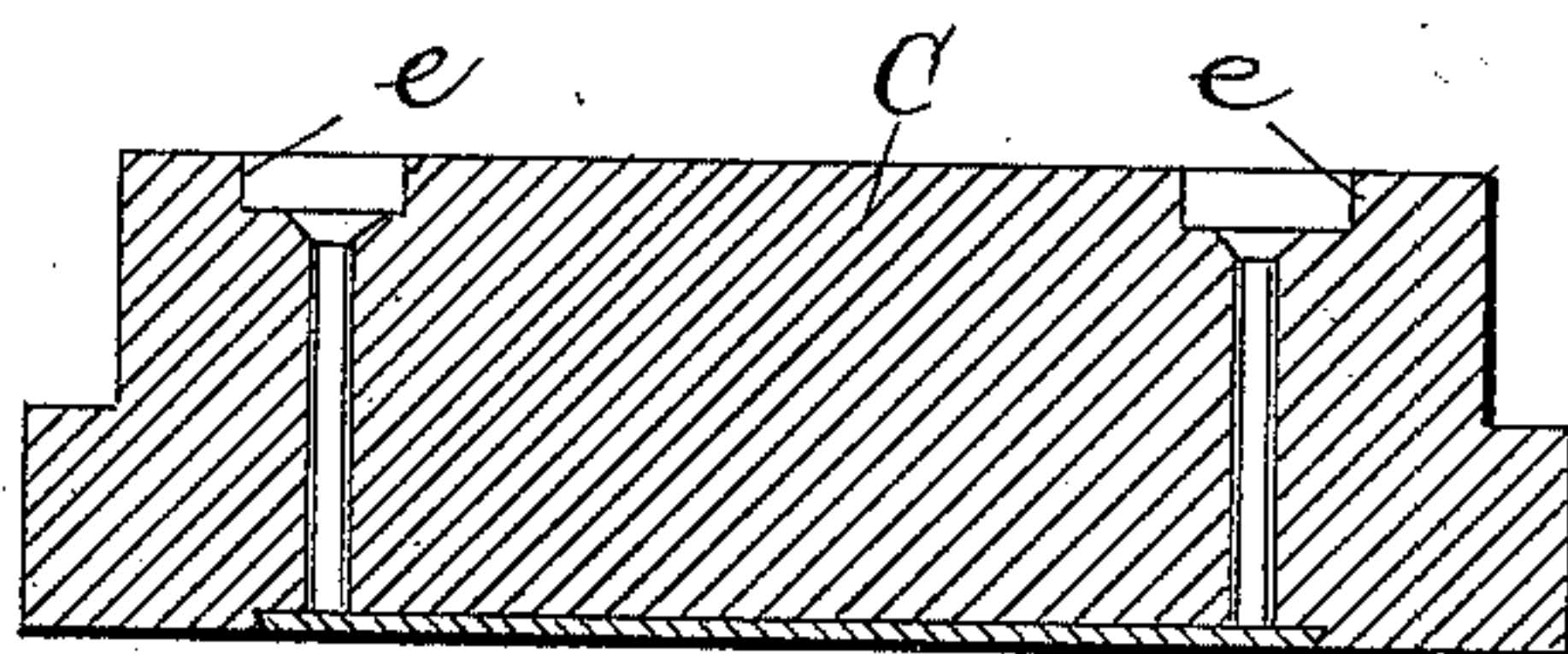


Fig. 6-

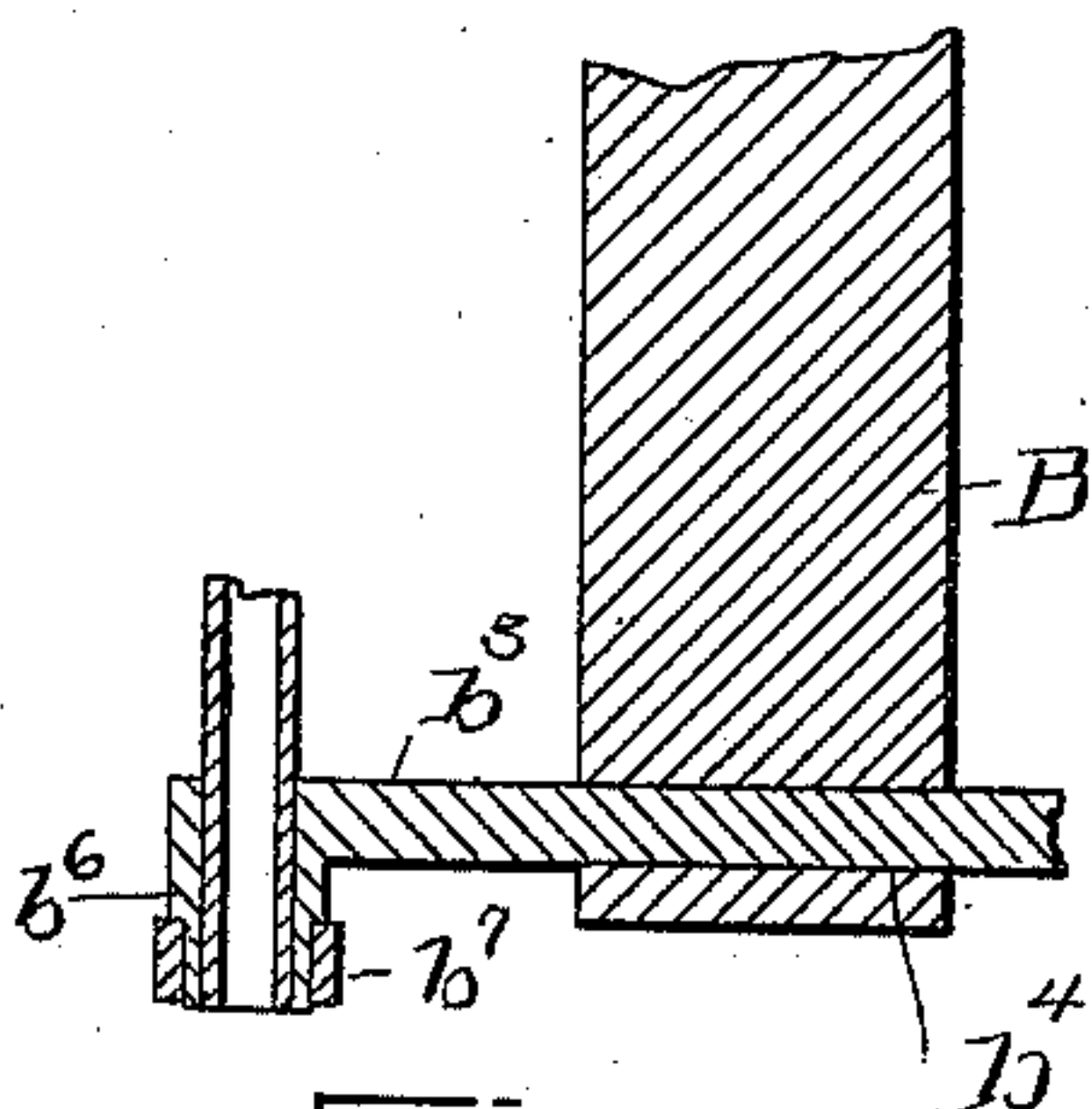


Fig. 7-

WITNESSES  
J. M. Dolan  
W. W. Hague

INVENTOR  
F. F. Raymond



# UNITED STATES PATENT OFFICE.

FREEBORN F. RAYMOND, 2D, OF NEWTON, MASSACHUSETTS, ASSIGNOR TO  
JAMES W. BROOKS, OF PETERSHAM, AND JOHN BROOKS, OF CAMBRIDGE,  
MASSACHUSETTS, TRUSTEES.

## NAIL-DISTRIBUTER.

SPECIFICATION forming part of Letters Patent No. 561,610, dated June 9, 1896.

Application filed February 20, 1892. Serial No. 422,316. (No model.)

*To all whom it may concern:*

Be it known that I, FREEBORN F. RAYMOND, 2d, a citizen of the United States, residing at Newton, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Nail-Distributers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature.

The invention is an improvement upon that described in Patent No. 375,209, dated December 20, 1887; and it relates to various features of construction and organization whereby a distributor simpler in form and cheap to construct and having greater wearing properties is obtained. This result is arrived at by locating the ratchet feed-wheel of the distributor at the upper end of the distributor instead of at the base, as in the distributor of the patent referred to, and by dropping or extending downward from this plate a single post or support, in the lower end of which is arranged a simple slide bar or rod adapted to receive and hold the lower end of the distributing-tube and having a cam-roll for governing the position of the end of the tube. The cam or pattern for so governing the end of the distributing-tube instead of being made a part of the distributor is formed upon or attached to the nail-carrier.

Referring to the drawings, Figure 1 is a view in vertical section of the distributor. Fig. 2 is a view in plan thereof. Fig. 3 is a view in section and plan below the dotted line  $xx$  of Fig. 1 to represent one form of cam upon the nail-carrier. Fig. 4 is a view in section upon the same line and plan below it to illustrate another form of cam upon the nail-carrier. Fig. 5 is a view of the nail-carrier, showing it as having a cam-groove instead of a pattern-cam. Fig. 6 is a view in section showing the pattern-cam as made integral with the nail-carrier instead of separate, as in Figs. 3 and 4. Fig. 7 is a view representing the cam-roll as upon the slide-bar instead of upon the end of the distributing-tube, as in Fig. 1.

A is a ratchet-wheel formed upon or attached to the block or disk  $A'$ . It is sup-

ported by a plate or bed  $a'$ , being held in a recess therein by the cap-plate  $a^2$ . The plate or bed has the large hole  $a^3$ . The ratchet-wheel is rotated by a reciprocating hook-pawl  $a^4$ . This ratchet-wheel A and the disk  $A'$  have a central hole, into which is tightly driven or secured a post or support B to extend downward from its under surface. This post has the recess or hole  $b$ , extending from its upper end downwardly diagonally and of a size to receive the upper end of a distributing-tube  $b'$ . This tube is rather loosely fitted in the hole  $b$  and extends downwardly at any desired inclination to the post B to the hole  $b^2$  in the yielding bar  $b^3$ . The connection between the lower end of the tube and the bar is a loose one. The bar extends through a hole  $b^4$  in the lower end of the post or support B and is movable in said hole in opposition to a spring  $b^5$ . The movable bar  $b^3$  has a downward extension  $b^6$ , which carries a cam-roll  $b^7$ , and has a hole  $b^8$  to receive the lower end of the tube  $b'$ . The cam-roll may, however, be on the lower end of the tube, as shown in Fig. 1. This comprises the fixed portions of the distributor.

To govern or control the position of the delivery end of the feed-tube  $b'$  as the distributor is rotated, I have arranged in or upon the upper surface of the nail-carrier C a pattern or cam  $c$ . This pattern or cam may be of the shape represented in Figs. 1 and 3—that is, it may be upon the outside of the nail-receiving holes  $c'$  of the nail-carrier, or it may be arranged as represented in Fig. 4 or upon the inside of said holes. If it is upon the outside of said holes, then the spring for operating the slide-bar  $b^3$  of the distributor must act to force it outward from the post B. If it is upon the inside of the holes of the nail-carrier, then the spring must act to draw the slide-bar and its cam-roll toward the post B. The cam or pattern may be arranged in the surface of the nail-carrier by cutting a cam-groove therein, or it may be formed on the surface by attaching to the surface by screws or otherwise the pattern or cam. The first form of construction is represented in Fig. 6 and the last form in Figs. 3 and 4.

The nail-carrier C is movable with its pat-



tern or cam by means of an operating-cam from a position in operative relation to the distributor to a position to deliver its nails to the nail-driving devices. Of course, however, the pattern or cam for governing the location of the lower end of the distributing-tube may be affixed to a skimmer or to any other thing into which it is desired that the nails be delivered.

10 In Fig. 3 I have shown as a means of locating the cam-roll, as the nail-carrier and cam are moved backward or into operative position with the distributor, a stop E, fastened to the nail-carrier, which is moved into contact with the cam-roll as the nail-carrier is moved backward, and thus holds it into position to follow the edge *e* of the cam.

In Fig. 4 I have represented the edge of the pattern or cam as having recesses *e'* opposite the holes of the carrier, which recesses preferably are curved and serve to receive and hold the cam-roll upon *b'* of the distributor. In Fig. 4 there are two springs shown for drawing the cam-roll and its holding-bar toward the central post B. I prefer that the distributing-tube have at its upper end a hemispherical block or form to fit the cup-shaped cavity in the upper end of the post B, and that the lower end of the tube extend substantially over the cam-roll or the block which supports it.

To vary the number of holes with which the distributing-tube is brought into register during a complete rotation of its holder B A', it is simply necessary to change the ratchet-wheel A.

It will be seen from this description that the distributor is very simple in construction and very cheap and has no parts which are not sufficiently durable to work well.

40 In operation the nails are delivered by any suitable nail-making or nail-feeding devices into the tube *b'* and through it to the holes of the nail-carrier, the nail-carrier of course having been moved from its position in relation to the drivers to a position under the distributor which brings the cam-roll at the lower end of the distributing-tube into operative relation with its controlling-pattern. A plunger may be used for driving or following the nail through the tube into the hole of the nail-carrier.

In some instances the nail-carrier or other thing into the holes of which the nails from the distributing-tube are to be fed may have a cam formed in it, as represented in Fig. 5,

in the nature of a cam-groove, in which case the movable block *b*<sup>3</sup> will not require a spring to hold the cam-roll in operative relation to either surface of the cam.

By placing the cam or pattern governing the lower end of the distributing-tube upon the nail-carrier or other thing in which nails are delivered instead of making it a portion of the distributor, as specified in the application above named, an important advantage is obtained in the registration of the passage of the distributor with the holes of the carrier, for where the cam is a part of the distributor the nail-carrier must bear accurate relation to it in order that perfect registration of the distributing-tube with its holes may occur, whereas where the cam is attached to the nail-carrier this accuracy of position of the nail-carrier in relation to the distributor is not so essential, there always being a fixed relation between the cam and the holes of the carrier.

Where the cam is a part of the distributor—that is, not attached to the carrier—this fixed relation between it and the holes of the carrier does not exist. There is sufficient flexibility in the distributing-tube to permit it to follow a cam fixed to the carrier even if the carrier is not always brought or placed in the same receiving position in relation to the distributor.

Having thus fully described my invention, I claim and desire to secure by Letters Patent of the United States—

1. A distributor comprising the plate A having intermittent periods of rotation and rest and supported by a plate or bed, a post depending from its center, a distributing-tube extending from the center of said plate A to the movable block *b*<sup>3</sup> carried by said post B, as and for the purposes described.

2. The combination of the distributor comprising the plate or wall A having intermittent periods of rotation and rest, the depending post B, the distributing-tube *b'* having its upper end centrally located and its lower end supported by a movable block *b*<sup>3</sup> carried by the post B, with a cam or pattern in or upon a movable nail-carrier or other thing having holes into which the nails are fed through said distributing-tube, as and for the purposes described.

FREEBORN F. RAYMOND, 2D.

In presence of—

J. M. DOLAN,  
M. McFAGUE.