

(No Model.)

3 Sheets—Sheet 1.

F. F. RAYMOND, 2d.

METHOD OF FORMING AND ATTACHING HEELS.

No. 379,029.

Patented Mar. 6, 1888.

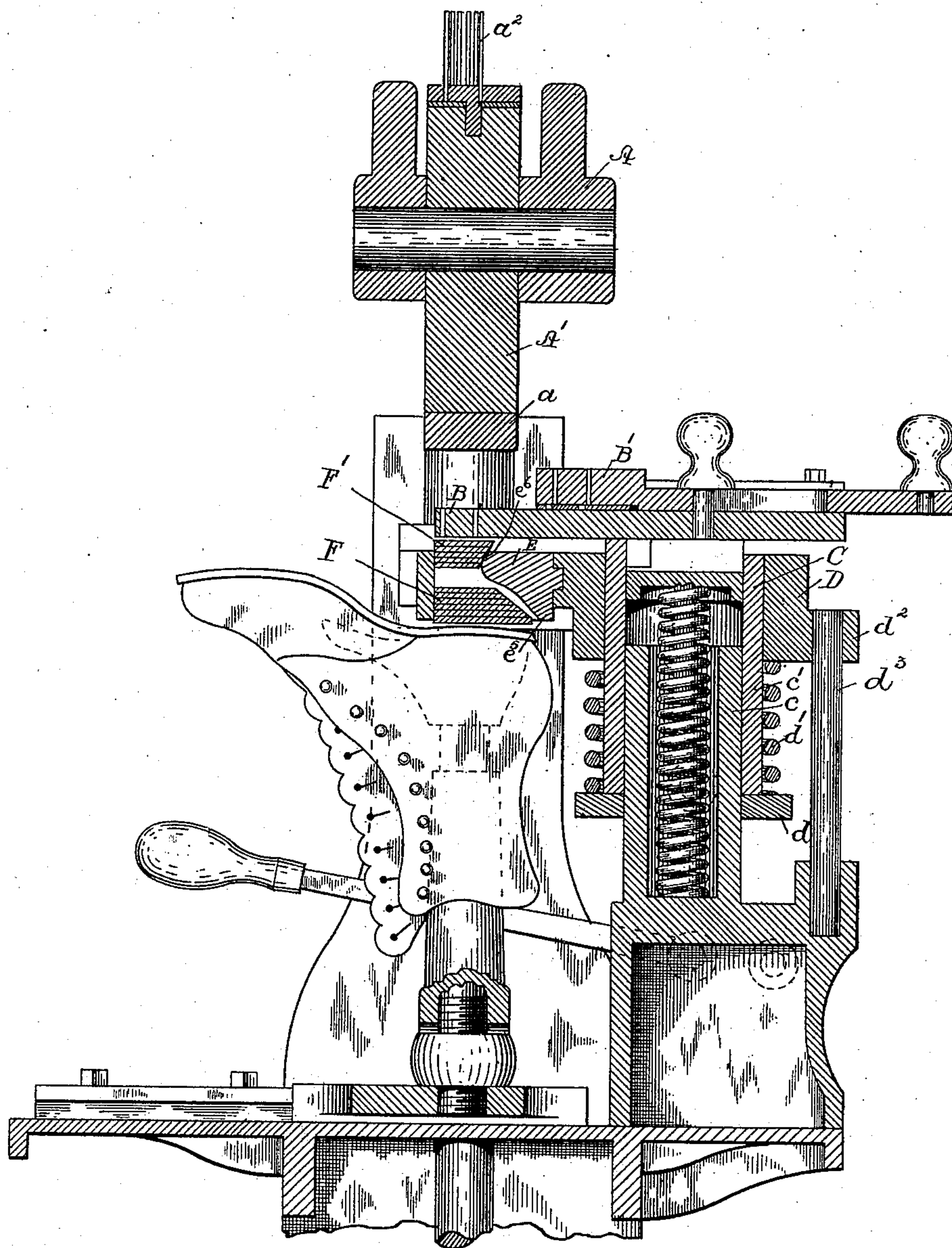


Fig. 1.

WITNESSES.

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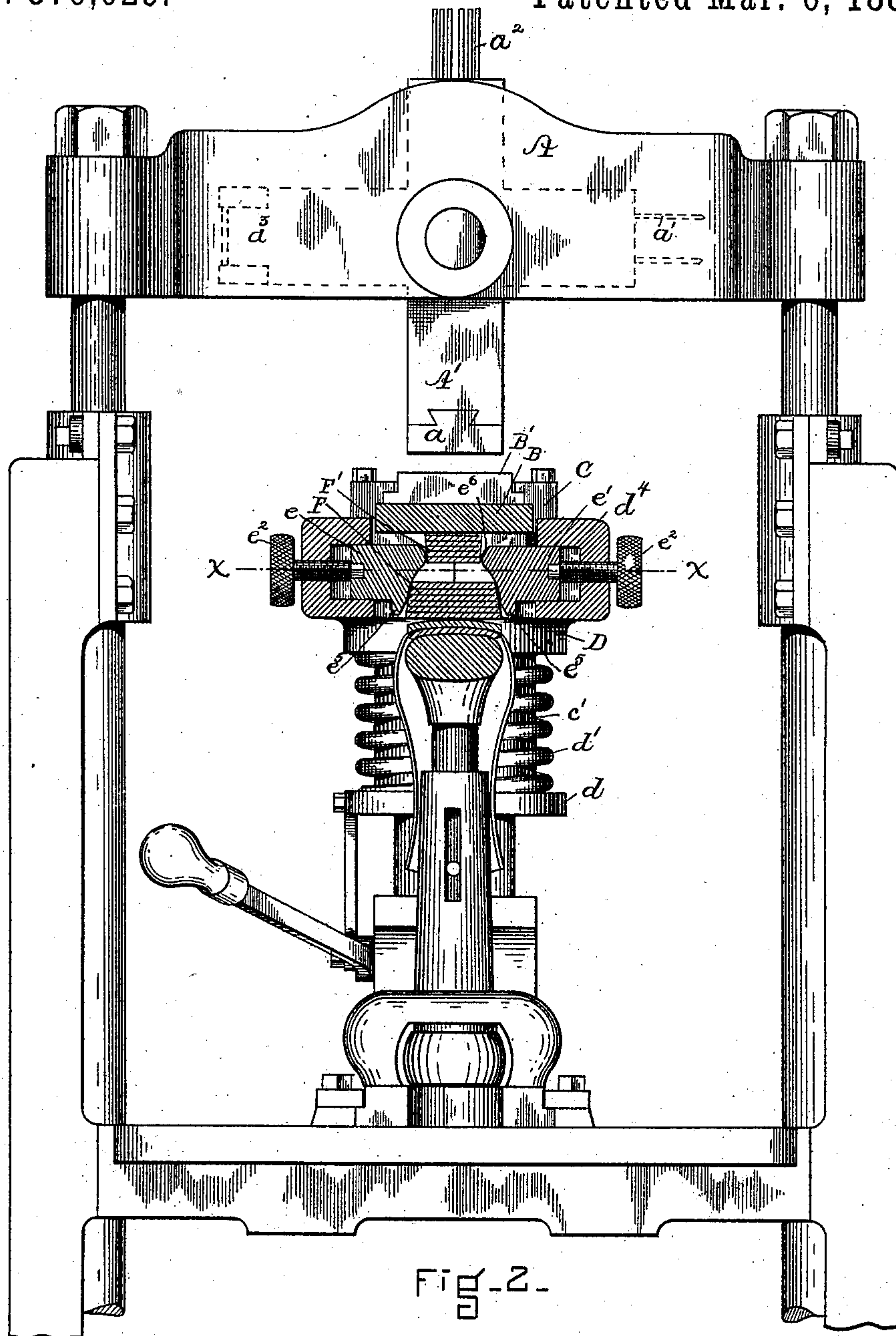


FIG. 2.

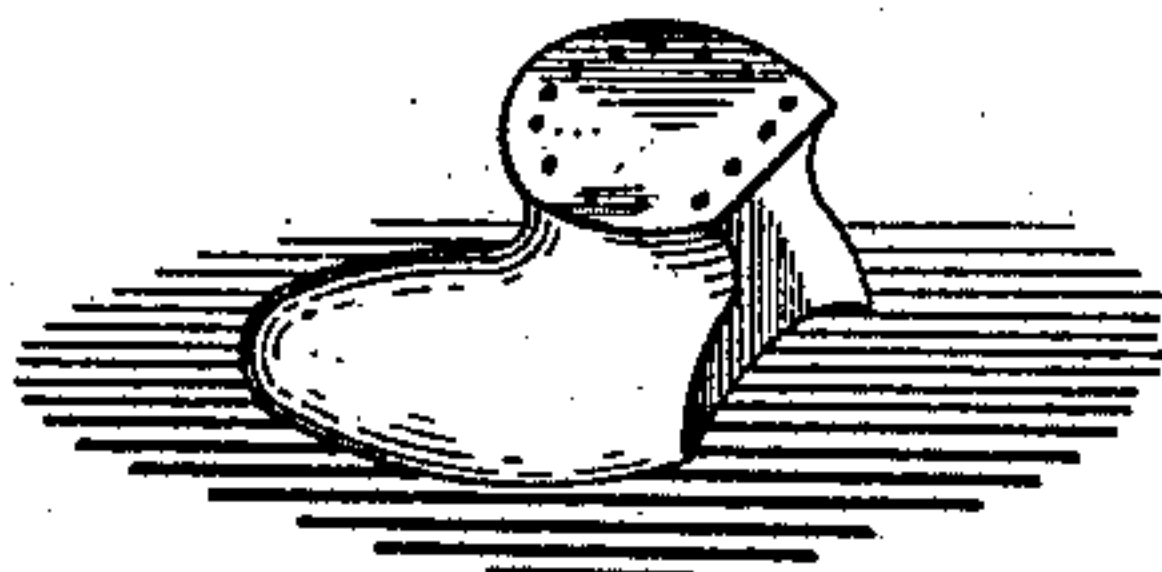


FIG. 5.

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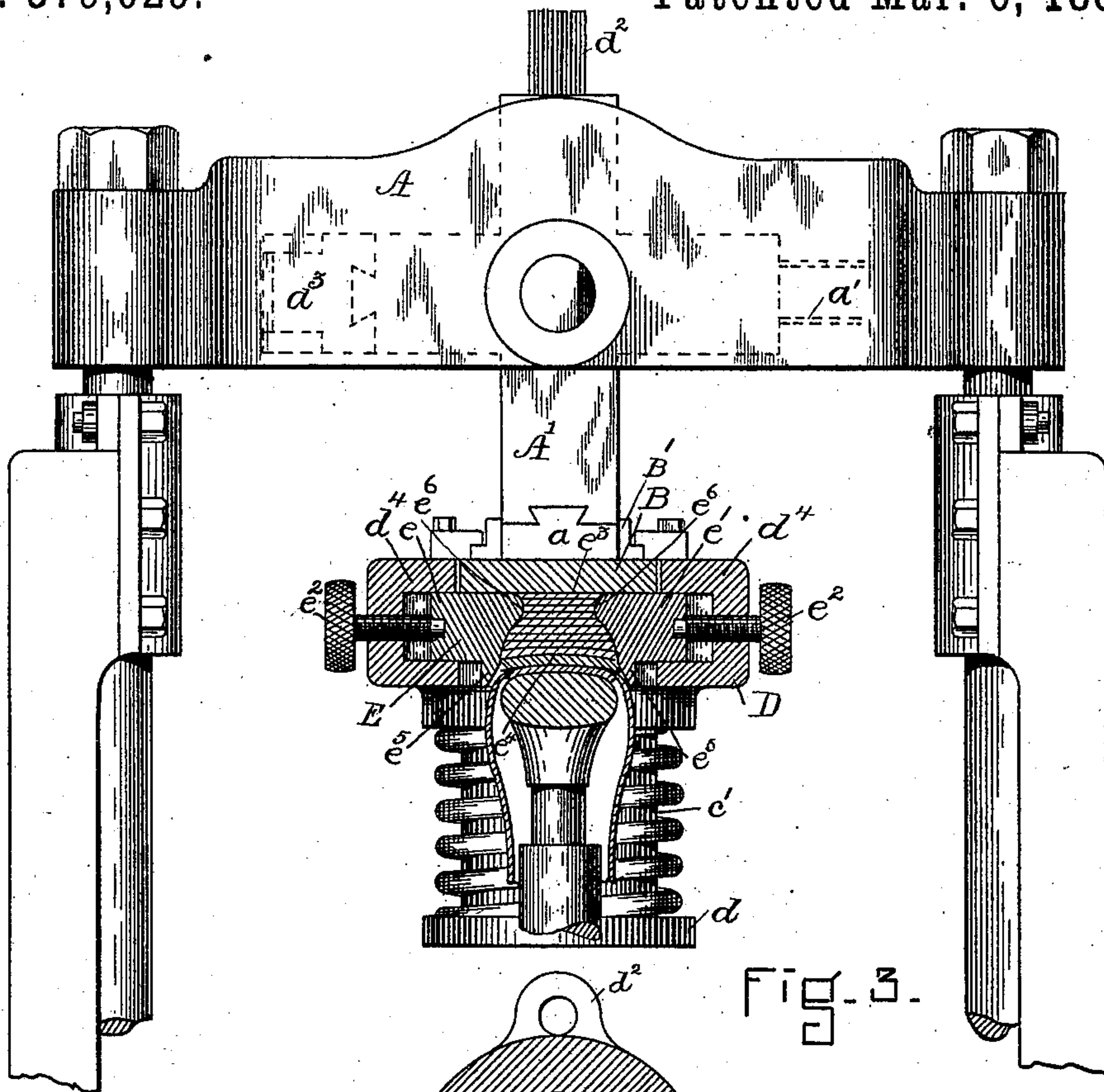


Fig. 3.

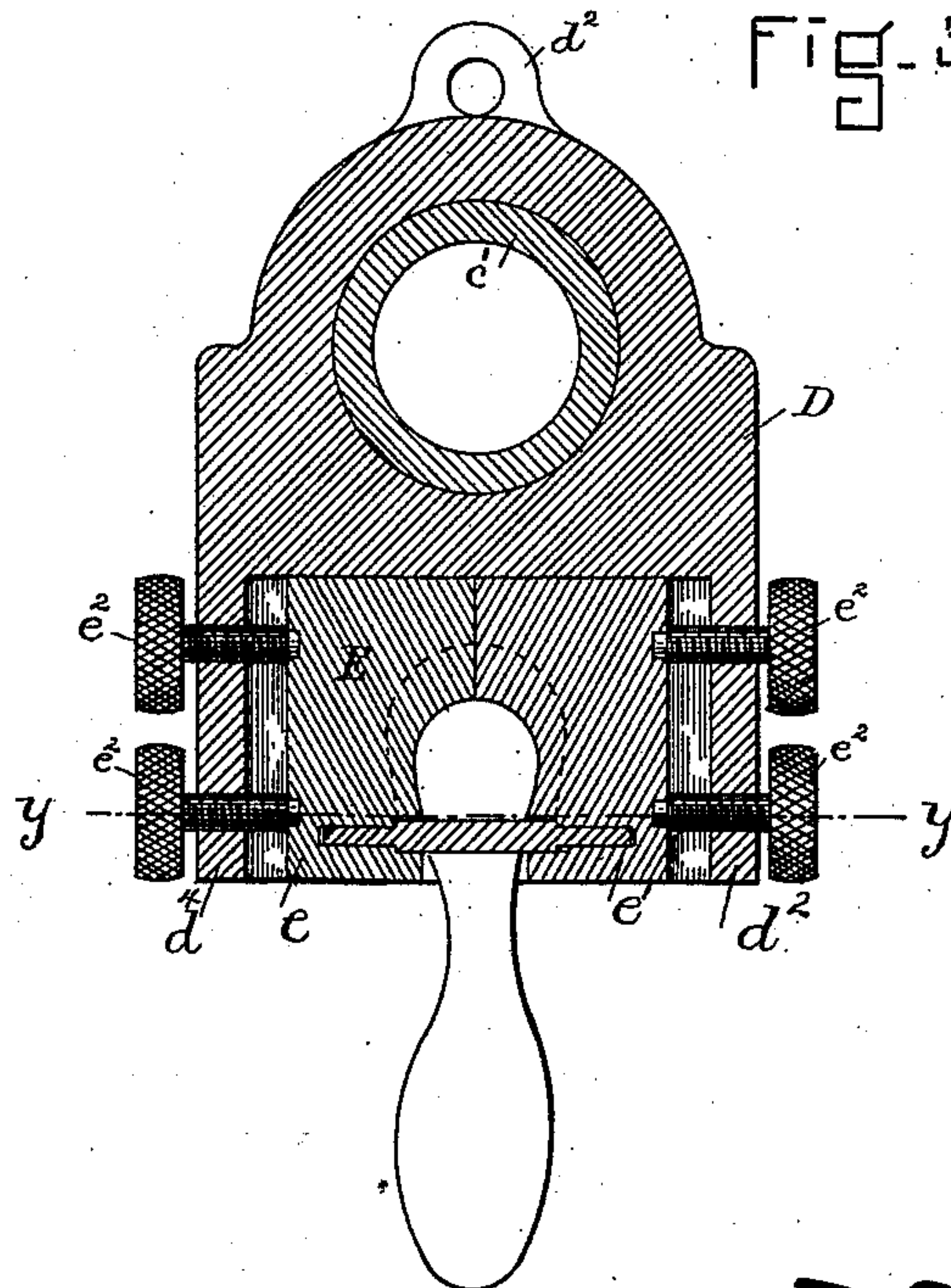


Fig. 4.

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UNITED STATES PATENT OFFICE.

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METHOD OF FORMING AND ATTACHING HEELS.

SPECIFICATION forming part of Letters Patent No. 379,029, dated March 6, 1888.

Application filed November 28, 1887. Serial No. 256,296. (No model.)

To all whom it may concern:

Be it known that I, FREEBORN F. RAYMOND, 2d, of Newton, in the county of Middlesex and State of Massachusetts, a citizen of the United States, have invented a new and useful Improvement in Methods of Forming, Presenting, and Attaching Heels, 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 object of the invention is to form or shape, by vertical pressure only in solid dies, a French, ogee, or under-molded heel-blank or heel, and to attach a heel-blank molded in this way to the soles of a boot or shoe.

In the drawings I have illustrated one way of carrying this method into effect.

Figure 1 is a view, principally in vertical central section, of the central and upper parts of the mechanism for carrying the method into effect and illustrating the position of the two parts of the heel-blank before they are brought together in the forming-die. Fig. 2 is a view, part in front elevation and part in vertical section, upon the line yy of Fig. 4, representing the mechanism shown in Fig. 1. Fig. 3 is a view, part in front elevation and part in vertical section, representing the two parts of the heel-blank as compressed to form a French or ogee heel. Fig. 4 is a horizontal central section of the dies and of the table or support for the same on the same line. Fig. 5 is a perspective view of a complete ogee or French heel.

Referring to the drawings, A represents a cross-head adapted to have a reciprocating movement imparted to it in any desired way, but preferably by mechanism shown and described in Patent No. 316,894. It supports, preferably, a rotary head, A' , which has an arm supporting a pressure-block, a ; an arm supporting a gang or group of awls, a' ; an arm supporting a gang or group of drivers, a'' , and an arm supporting a heel-spanker, a''' , which may have top-lift-holding devices attached to it.

B is a templet adapted to have a horizontal movement imparted to it in the table C.

B' is a nail-carrier, also adapted to have horizontal movements imparted to it upon the

templet B. The table C is mounted upon a post, c , and has a sleeve, c' , surrounding this post. It has a vertical movement upon this post in opposition to spring-pressure. There is upon the sleeve c' a plate, D, which is adapted to be moved vertically thereon in relation to the templet, and is supported in its lowest position by a shoulder or collar, d , and spring d' . This plate has a rear projection, d'' , which receives a stay-pin, d''' , and a front projection having a recess, d^t , which supports the die E. The die is made, preferably, in two parts, e e' , which are horizontally movable in relation to each other, but when in use they are held stationary by their locking-screws e'' , which pass through side walls of the plate D and screw thereon. Upon unscrewing these screws e'' the dies of course may be moved apart or separated from each other, and the screws likewise act to set them together. The die is open at its top e^3 and at its bottom e^4 , and it has the flaring mouth or entrance e^5 to the bottom of the opening. The dies likewise each have the inward-extending central, or substantially central, section, e^6 , so that when they are together they are smaller, and generally considerably smaller, in area at or near the center of the length than at or near their top or bottom. This is for the purpose of shaping the ogee or French heel. To accomplish this, the heel-blank is made in two parts, F F'. The part F is adapted to form the lower portion of the complete heel, and the part F' the upper portion of the heel-seat, and is consequently smaller than the part F.

In operation the part F is placed upon the sole of the boot or shoe, or upon a heel-seat former, and beneath the lower opening to the die, and the part F' is placed in the die through the upper opening thereto, and the two parts of the heel are then brought together in the die—one part from below and the other part from above—by the application of pressure to one or both surfaces. This I have represented as obtained by the downward movement of the cross-head A, which brings the pressure-block a to bear either directly upon the templet or upon the section F of the heel-blank—preferably upon the templet. This moves the templet down, and also the die-plate D, until the lower section, F', of the heel-blank rests

upon the sole of the boot or shoe or upon the heel-seat former, when the plate D remains substantially stationary until the templet-plate comes into contact with the upper section, F, of the heel, when that section is forced into the upper part of the die and the other section, F', into the lower part of the die, and the die-plate and die are moved downward with the templet B until the under surface of the templet comes into contact with the upper surface of the die block and die-plate, and the heel is solidly compressed between the under surface of the templet and the upper surface of the heel-seat former or support for the boot or shoe. If the heel-blank is to be then pricked and loaded or attached, the templet is locked down in that position while the pressure-block is lifted and the awls brought into position, and the awls are then reciprocated to prick the blank. The awls are then moved out of position, the drivers into position, and nails fed by the nail-carrier to the templet. The drivers are then reciprocated, driving the nails into the heel-blank, and, if it is to be attached to the soles of a boot or shoe, into them. The templet C is then released and the top lift spanked onto the exposed ends of the nails, if desired. The two parts or sections of the die are then released by releasing the screws and allowed to separate horizontally sufficiently to permit the formed or formed and attached heel-blank to be removed therefrom through the bottom opening thereof.

I reserve the right to embody the mechanism herein shown and described in a separate application. I would say, however, that I do not confine myself to the especial devices

herein described for practicing the invention, but represent that as only one means for carrying the method into effect.

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

1. The method of forming and compressing French, ogee, or other under-molded heels or heel-blanks, consisting in forming a heel-blank in two sections, inserting one section into the under opening of a suitably-shaped die and the other section into the opposite opening of said die, and bringing said sections together in the die by pressure exerted against the outer surfaces of both sections, as and for the purposes specified.

2. The method of compressing, forming, and attaching French, ogee, or other under-molded heels or heel-blanks in two sections, inserting one section into one opening of a suitably-shaped die and the other section into the opposite opening of said die, placing a boot or shoe upon a last or work-support, and locating it in line with the larger of the two heel-sections, and bringing said sections of the heel-blank together in the die and upon the heel end of the outsole upon the last or work-support by pressure exerted against the outer surface of one or both sections of the heel-blank, and attaching said heel-blank to the soles of the said boot or shoe while the two parts or sections are held compressed, substantially as described.

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Witnesses:

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