

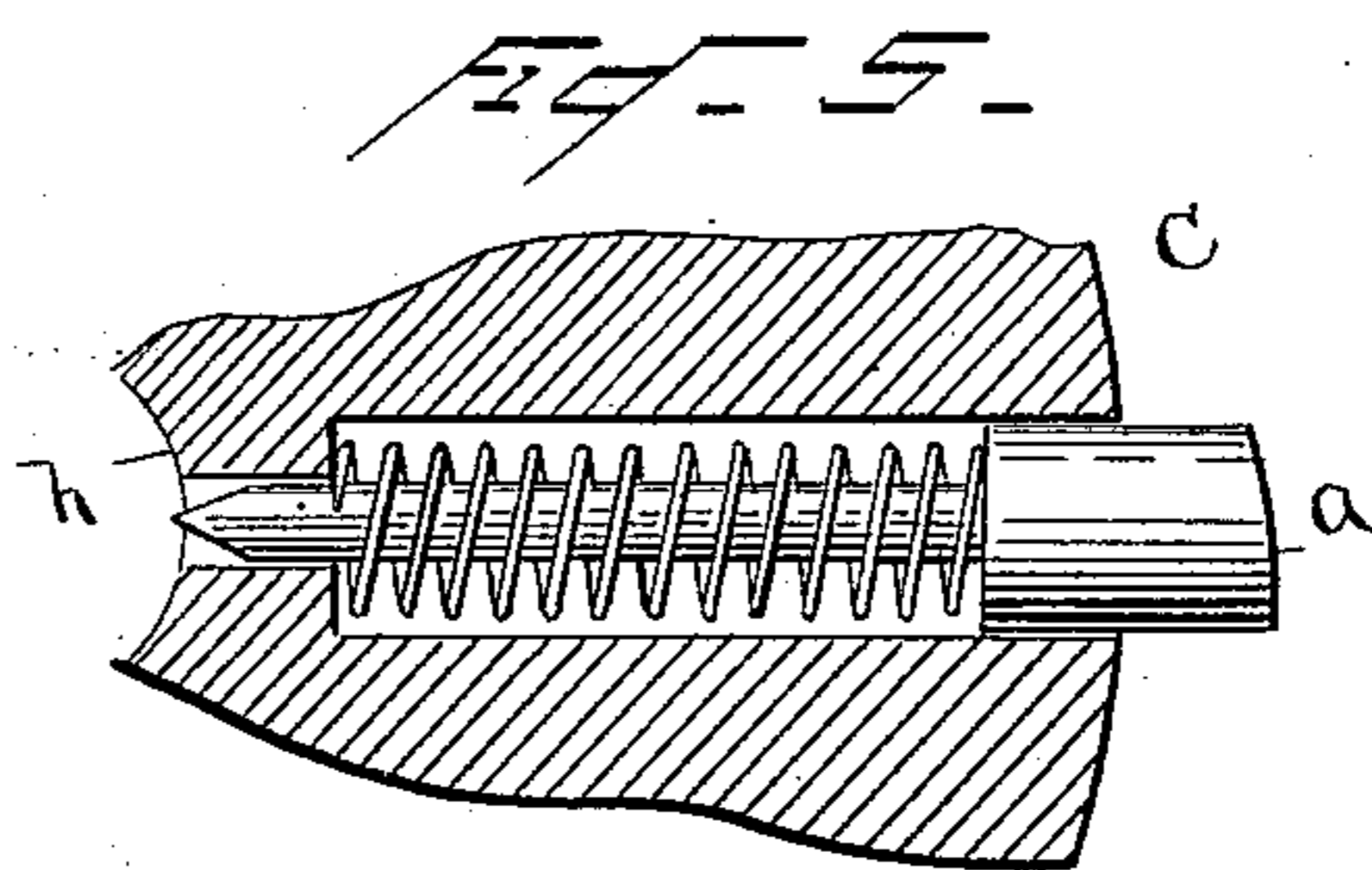
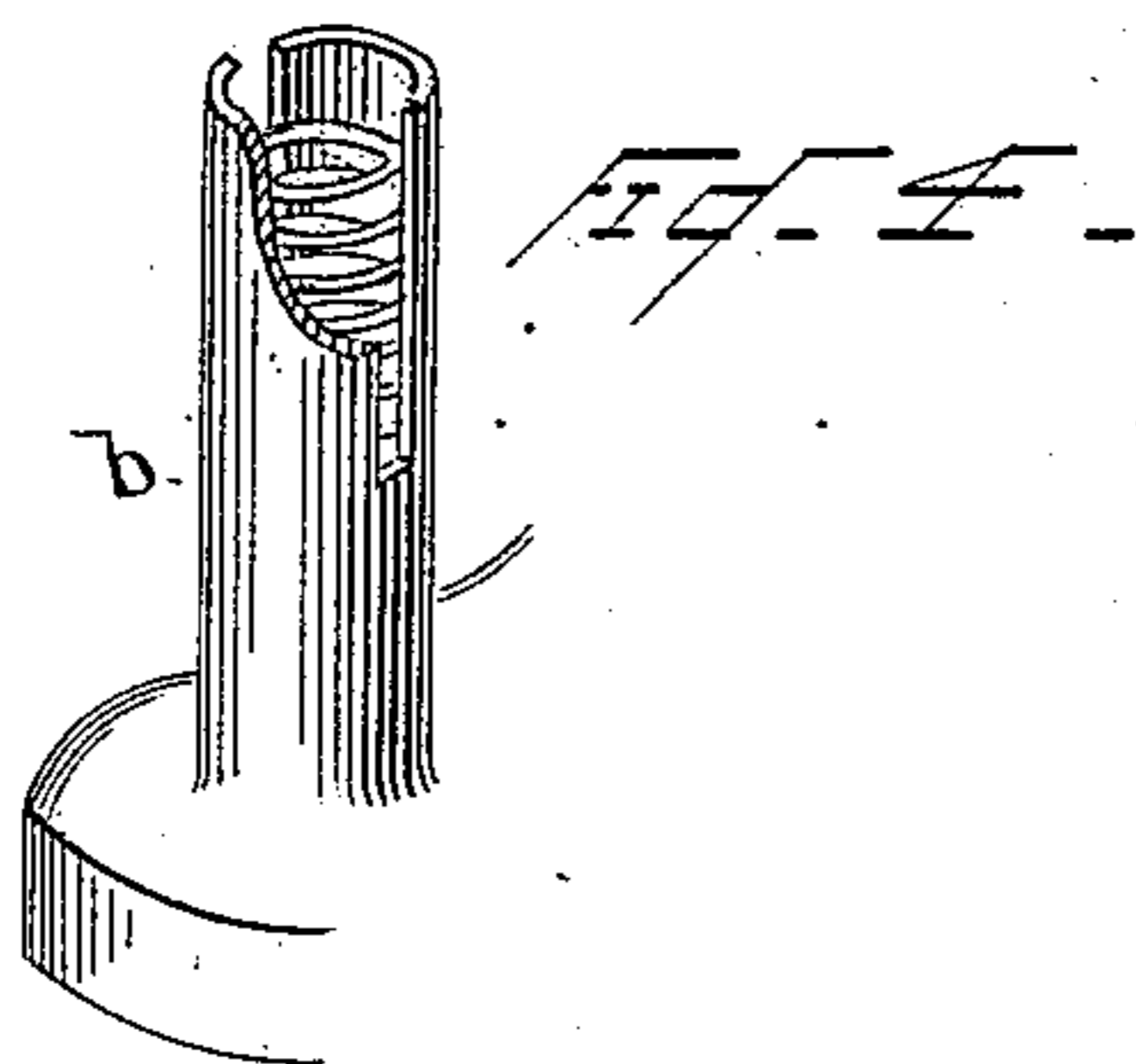
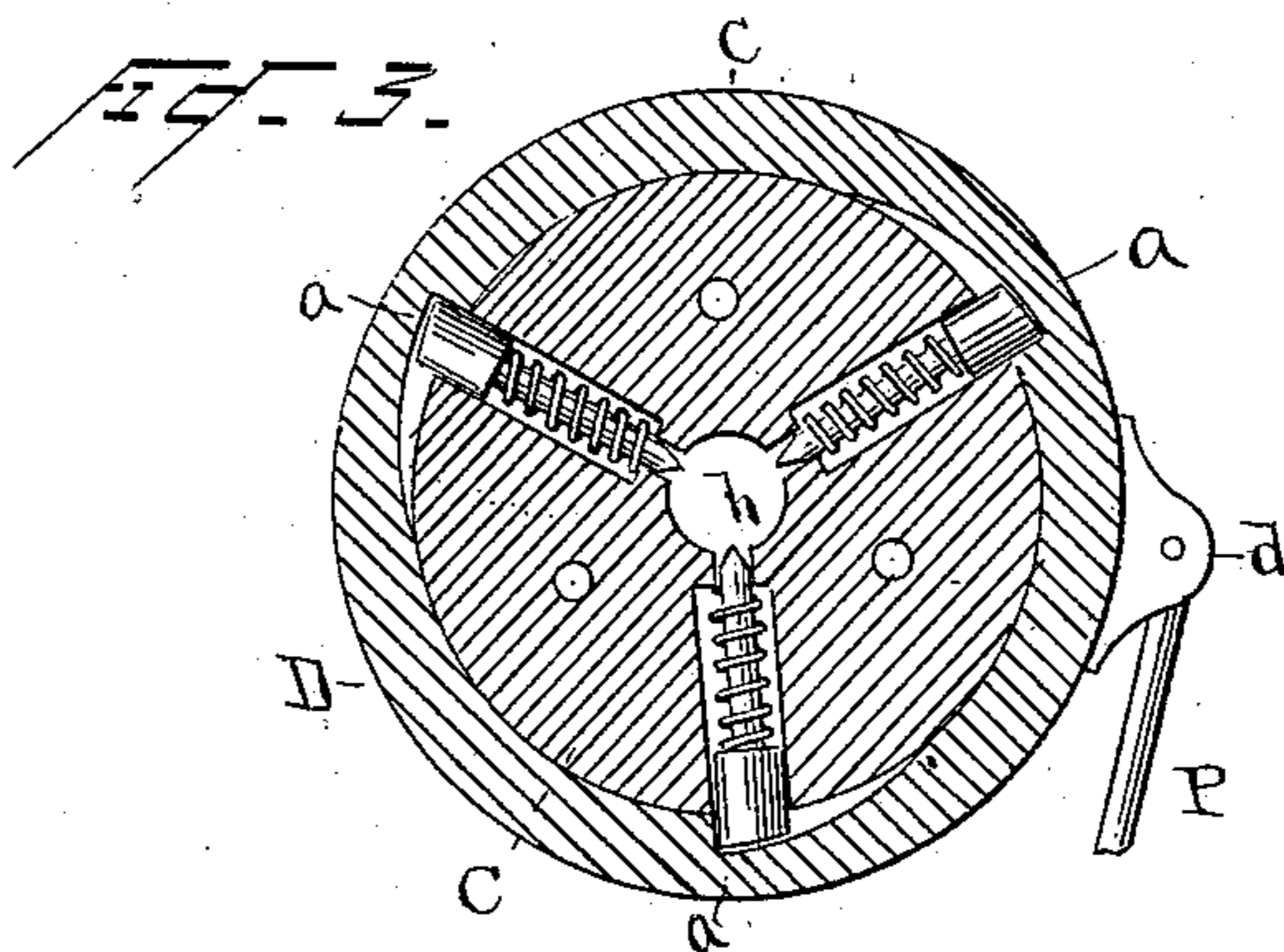
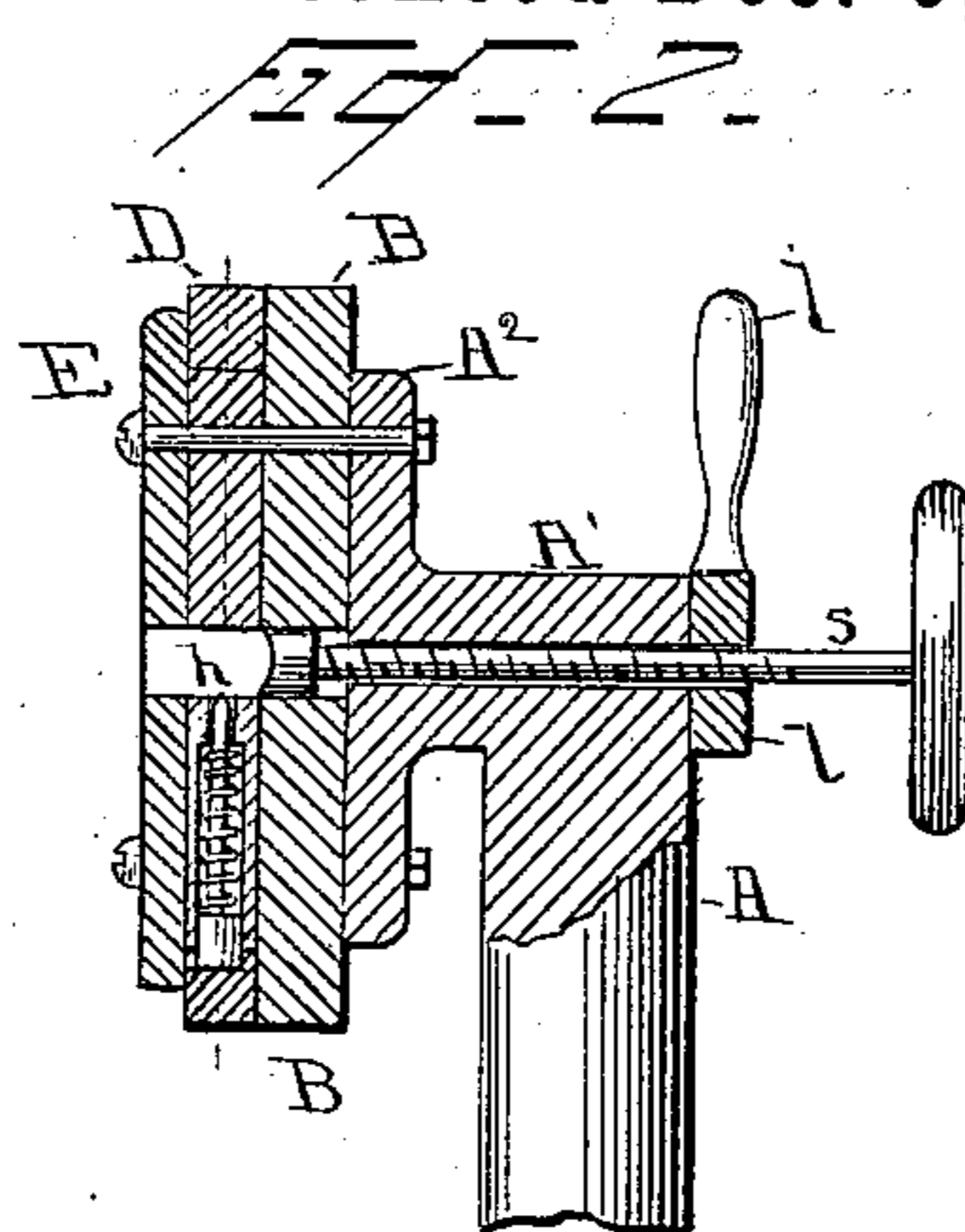
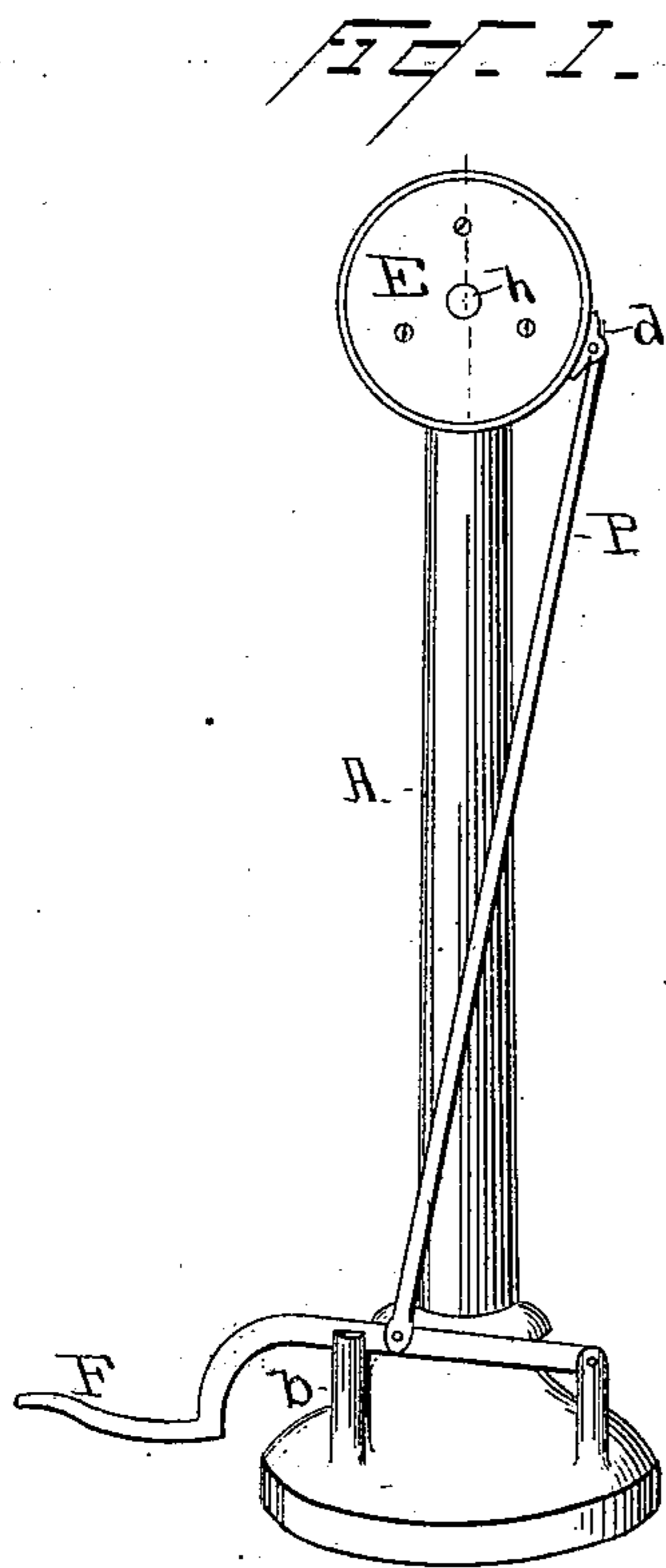
(No Model.)

F. L. GOODENOUGH.

MACHINE FOR SETTING CAPS ON WHIPS, &c.

No. 374,532.

Patented Dec. 6, 1887.



WITNESSES

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MACHINE FOR SETTING CAPS ON WHIPS, &c.

SPECIFICATION forming part of Letters Patent No. 374,532, dated December 6, 1887.

Application filed April 13, 1887. Serial No. 234,716. (No model.)

To all whom it may concern:

Be it known that I, FRANKLIN L. GOODENOUGH, a citizen of the United States, residing at Windsor, in the county of Broome and State of New York, have invented certain new and useful Improvements in Cap-Setters; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Similar letters refer to similar parts throughout the several views.

My invention is that of a machine for setting caps or ferrules on the ends of whips, canes, and similar articles, and has for its object to furnish a certain, simple, and expeditious means for fastening them without liability of crushing or injuring either the cap or the article within it to which it is to be fastened. These caps are made of thin metal spun up to the desired shape, and are fastened on by sinking a pointed punch, in the form of a countersink, in the metal, by which a spur of the metal is forced down in the stock, thus preventing the cap from turning or being taken off. Heretofore these caps have been set either by means of a punch and hammer, or a small point set in a concave bed, upon which the cap was struck. Either method has required at least three blows to fasten the cap, and it was often crushed out of shape or misplaced in the operation. To overcome these difficulties I have constructed this machine, which is armed with more or less points, which are all forced in the cap simultaneously from different sides, fastening the cap at a single stroke, without any liability to crush or throw it out of place.

In the accompanying drawings, Figure 1 is a front elevation of the complete machine. Fig. 2 is a vertical section of the head and top of the standard on the dotted line in Fig. 1. Fig. 3 is a section on the dotted line in Fig. 2. Fig. 4 is an enlarged view of the cup *b* of Fig. 1, in which the foot-lever *F* works, a small portion of the top being broken away;

and Fig. 5 is an enlarged detail of one of the punches *a*, Fig. 3, and the spring accompanying it.

The standard *A* is made preferably of iron, with a broad base, so that it may stand firmly on the floor, with the top turned at right angles to the standard, forming the neck *A'* and having a face-plate, *A''*. The neck and face-plate are drilled and threaded horizontally through the center to receive the threaded rod *S*. Next the face-plate *A''* is another flat plate, *B*, Fig. 2, which is bolted on the plate *A* and drilled through the center, forming the orifice *h* to receive the head of the rod *S*, which head has at its front end a cup to receive the cap, and the rod is turned out or in to regulate the distance from the end of the cap at which the punches strike. On the rod is the locking-nut *l* to turn up against the standard and hold the rod in the position to which it is adjusted.

Next the plate *B* there is a plate of less diameter, *C*, of which a flat section is shown in Fig. 3 cut through on the dotted line in Fig. 2, and a cross-section is shown in Fig. 2 inside the rim *D*. This plate has the central orifice, *h*, and is pierced from its outer face to this orifice by centrally-converging holes to receive the punches *a a a*, and may have three, as shown, or any other number, so that they all converge to a common center at the center of the plate *C*. The punches are made with a head to fit so that it will work easily in the perforations in the plate, and the perforations are carried down nearly to the central orifice at the same size as the head, but near the orifice are made smaller to fit the smaller part of the punch. In this chamber, under the head of the punch, is a coiled spring resting upon the shoulder of the recess and pressing against the head of the punch to throw the punch back so soon as the pressure on the head is relieved. The heads of the punches extend beyond the rim of the plate when the points are back to the walls of the central orifice, *h*.

Outside and entirely surrounding the plate *C* is the rim *D*, made to work easily on the periphery of the plate and just enough thinner than *C* to turn between the plates *B* and *E*. On its outer side it has a lug, *d*, for the

purpose of attaching a pitman, P, as shown in Figs. 1 and 3. On the inner side it is cut away at each of the pins *a* on a line converging outward from a true circle, forming eccentric chambers, which allow the pins to recede from the center until the points are flush with the walls of the center orifice, *h*. The heads of the pins are shaped to conform to the surface of these eccentrics.

10 The pitman P, attached to the lug *d*, has at its lower end a treadle, F, which works in the slot of the cup *b*, and under the treadle is a coiled spring to throw the treadle back.

15 Outside the plate C and rim D, and covering both, is a plain plate, E, bolted through with all the others to the top of the standard A, the bolts passing through the inner plate, C, and not interfering with the rim D. This outer plate has also the central orifice, *h*, for the whip to enter.

If desired, a forked rest on which to place the whip may be put on the standard, or the machine may be set up near a bench, so that the body of the whip lies across the bench.

25 The operation of the machine is as follows: The whip-butt having the cap on is inserted in the central orifice, with its end against the cap at the end of the screw S. The operator presses the treadle F down with his foot, bringing the rim D forward, when the pressure of the advancing eccentrics forces the points of the pins *a a a* forward into the cap, forcing cones or projections from the metal into the stock. So soon as the pressure of the foot is

35 withdrawn, the spring in the cup *b* forces up the treadle, and thus turns the rim D back, and thus frees the pins from the cap. If desired, power may be applied to drive it; but I have found a foot-pressure most desirable.

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

1. In a cap setting machine, the combination of standard A, having neck A' and face-plate A², of a head containing an interior plate, C, having perforations for pointed punches *a*, which converge to a common center, and which are driven by eccentrics in a surrounding rim, D, all constructed and operating substantially as shown and described. 50

2. In a cap-setting machine, a head having a central orifice, *h*, to receive the stock and cap, in combination with screw S, with lock-nut *l*, to regulate the distance from the end at which the cap is struck, substantially as shown and described. 55

3. In a cap-setting machine, the driving-rim C, provided with a punch or punches, in combination with pitman P, treadle F, and guide and spring *b*, all substantially as shown and described. 60

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

FRANKLIN L. GOODENOUGH.

Witnesses:

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WM. DENNISON.