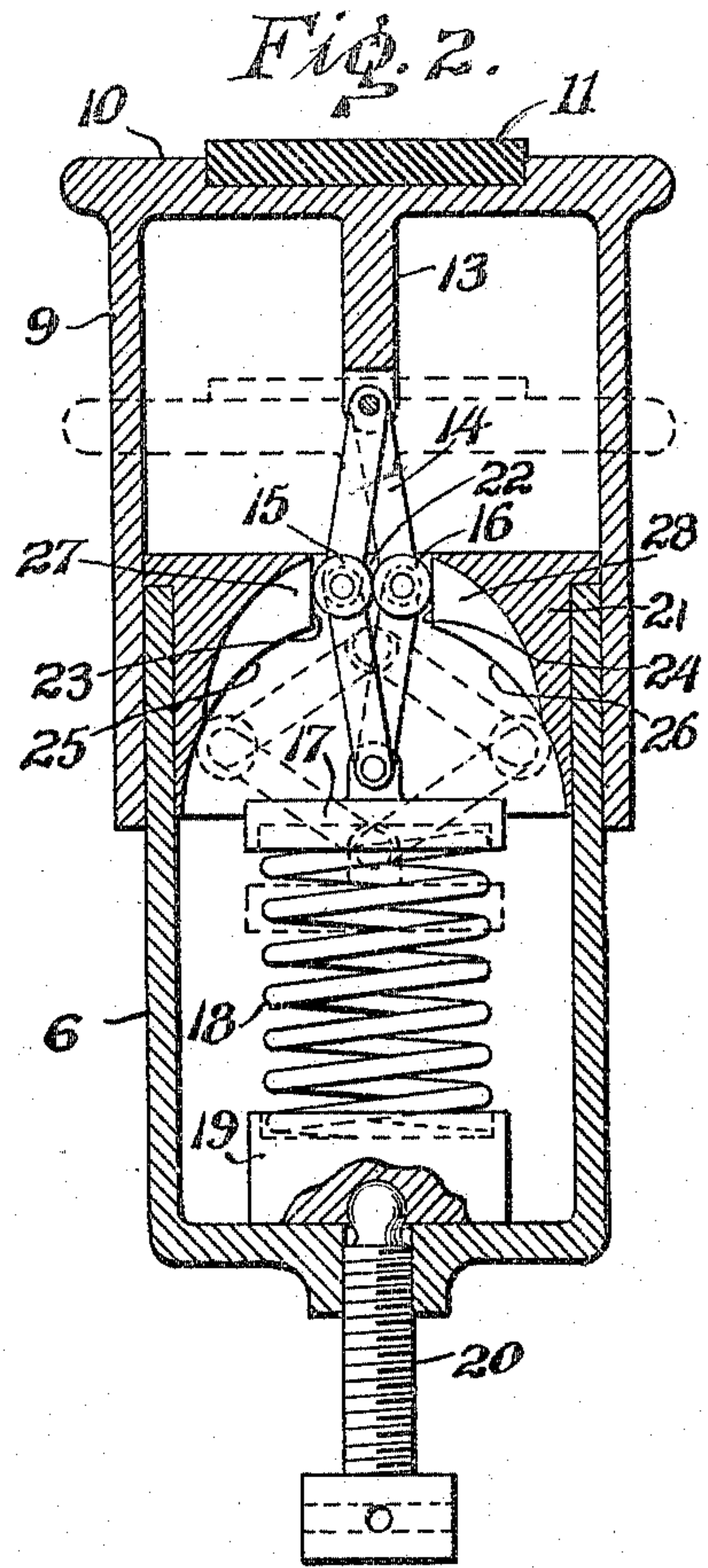
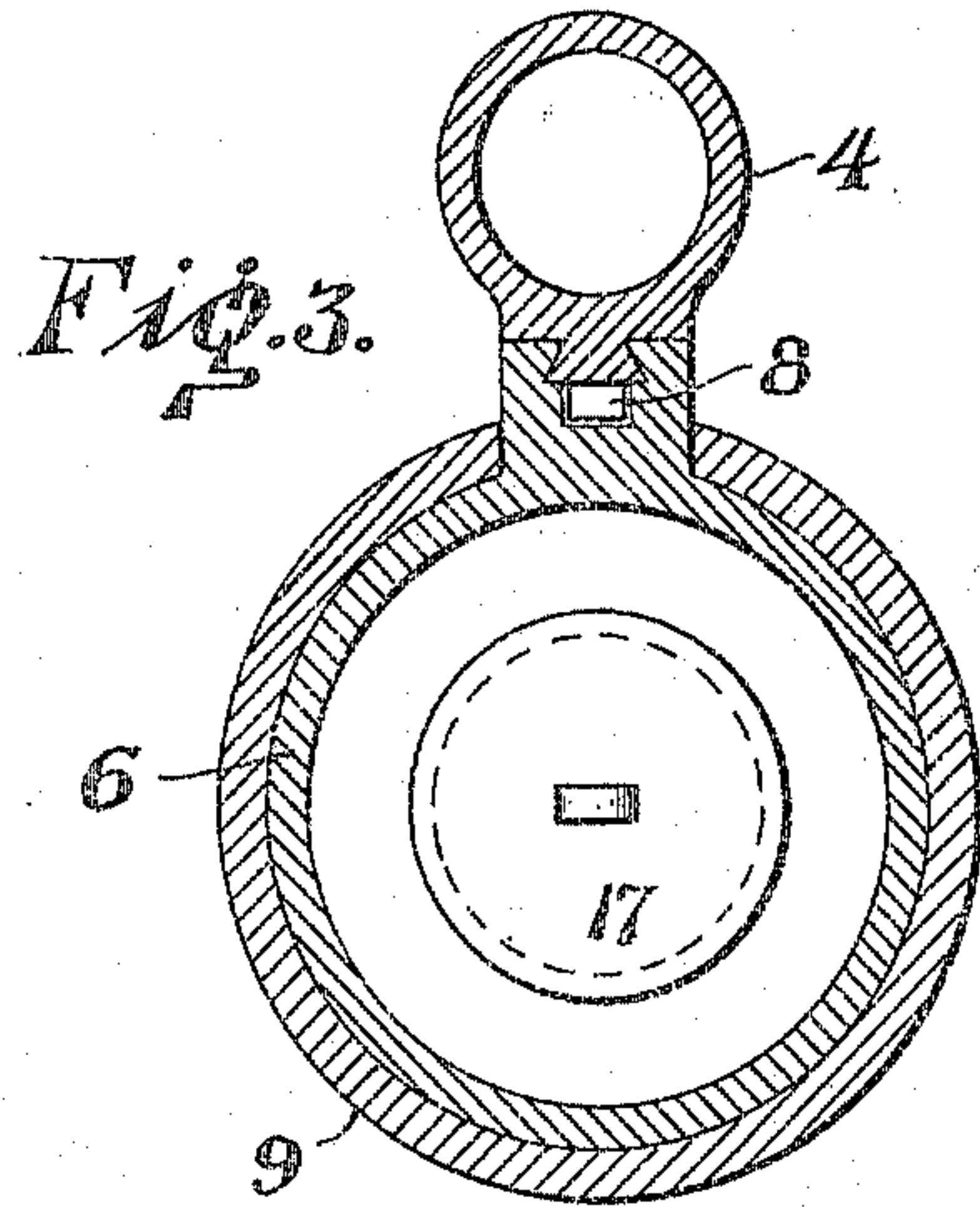
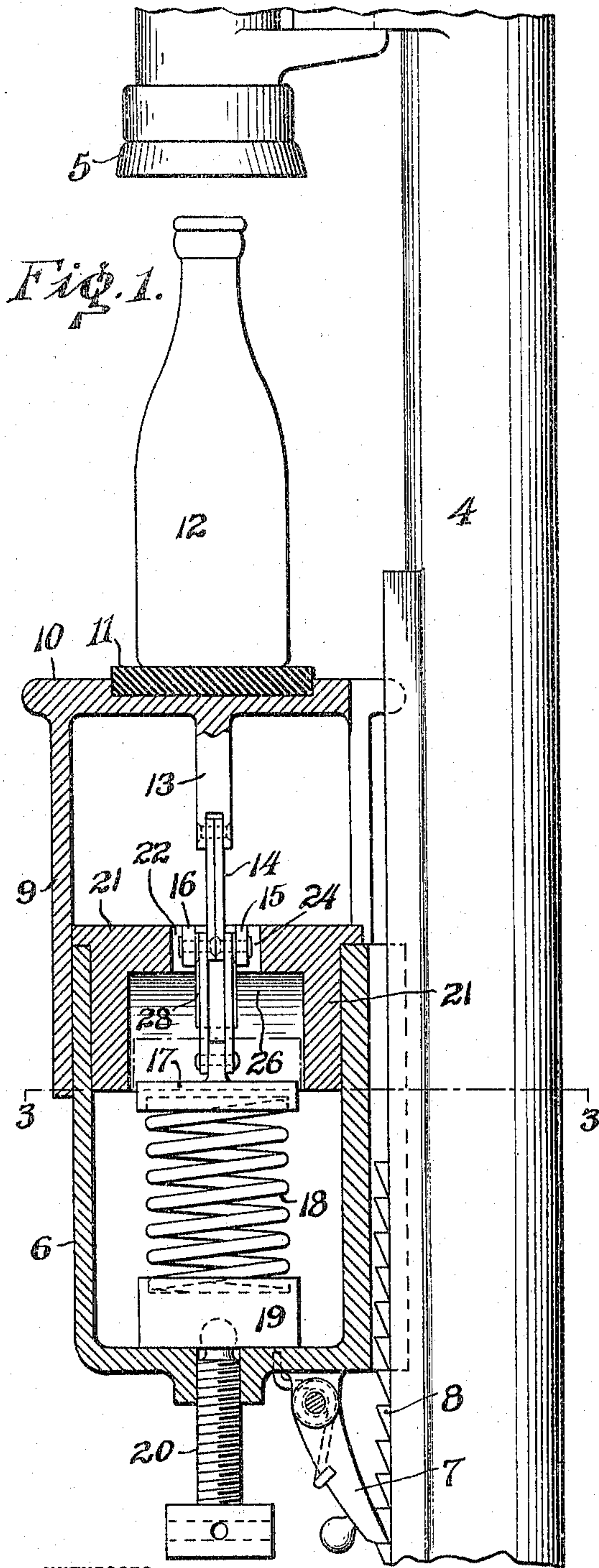


L. BARTLETT.
COMPENSATING DEVICE FOR BOTTLE CAPPING MACHINES.
APPLICATION FILED MAR. 1, 1909.

957,926.

Patented May 17, 1910.



WITNESSES

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BY

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UNITED STATES PATENT OFFICE.

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COMPENSATING DEVICE FOR BOTTLE-CAPPING MACHINES.

957,926.

Specification of Letters Patent.

Patented May 17, 1910.

Application filed March 1, 1909. Serial No. 480,625.

To all whom it may concern:

Be it known that I, LEONARD BARTLETT, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Compensating Device for Bottle-Capping Machines, of which the following is a specification.

This invention relates to machines for applying bottle seals, and especially to that class where a capping head is brought down upon a bottle to force the seal into locking contact therewith; and the object thereof is to provide means to prevent the breakage of bottles of more than normal length.

In machines used in applying caps having crimped skirts to bottles it is usual to have a capping head comprising a contact block to apply pressure to the seal and hold the same in place while the tapered throat of the head forces the crimped skirt into locking contact with the grooved head. To prevent breakage of the bottles the contact blocks usually have some shock absorbing device, generally springs, so that the block will yield slightly when coming in contact with the bottle and seal; but as considerable pressure must be applied to the seal in order to hold it in place, the springs back of the blocks must have considerable rigidity, and will yield only in a slight degree, and where bottles to be capped are of more than normal length, as frequently happens, the springs back of the contact block will not yield sufficiently to prevent an undue amount of pressure being applied to the bottle, causing breakage.

It is the object of this invention to provide means to apply the requisite amount of pressure to the seal to hold the same securely in place, but to prevent the pressure exceeding a certain fixed limit.

The invention is illustrated in the accompanying drawing, in which—

Figure 1, is a view of a part of a bottle capping machine, and a sectional view of my invention applied thereto; Fig. 2, is a view of the compensating device, in section, taken at right angles to the view in Fig. 1; and, Fig. 3, is a sectional view, on the line 3—3 of Fig. 1.

In the drawing, like numerals of reference refer to the same part in each of the views; and in practice I provide a com-

pensating device in combination with a bottle capping machine, a part of which is shown, the standard, or post being indicated by 4, and the capping head by 5.

The device itself comprises an adjustable bottle rest constructed as follows: A cylinder 6, is mounted on the standard 4, in any well known adjustable manner so that it may be slid up and down the same for bottles of different height. As shown, a pawl 7, and rack 8, serve to make the vertical adjustment of this cylinder very easy, as will be understood. Mounted on the cylinder 6, is a sliding cylinder 9, carrying a bottle platform 10, in which is preferably mounted a rubber cushion 11, on which the bottle 12, may rest. On the underside of the platform 10, and central thereof, is a stem 13, in which is pivotally mounted the upper end of a double toggle lever 14, carrying wheels 15, and 16; and the lower end of this double lever is pivotally connected with a movable head 17, which rests on a coil spring 18, the tension of which may be regulated by the block 19, and screw 20. Fixed in the upper end of the cylinder 6, is a head 21, having a central opening 22, therein through which the double lever 14, passes, and the sides of this opening form two walls 23, and 24, against which the wheels 15, and 16, respectively bear when in a normal position. This head is also provided with two curved walls 25, and 26, against which the wheels 15, and 16, respectively bear when carried below the walls 23, and 24; and the head is provided with recesses 27, and 28, to provide for the movement of the lever arms when the wheels 15, and 16, are carried below the walls 23, and 24.

The operation is as follows: When the bottle platform has been adjusted for bottles of normal height, and the proper tension has been placed on the spring 18, to insure the firm seating of the seal on the bottle, the capping head is brought down to apply the seal on the bottle when placed in the position shown, during which operation the bottle and cylinder 9, will be forced downward against the action of the spring 18, as the double lever 14, cannot spread owing to the wheels 15, and 16, engaging the substantially vertical walls 23, and 24. Should, however, the bottle be of more than normal length, the wheels 15, and 16, will be forced

below the walls 23, and 24, and will travel outwardly in contact with the curved walls 25, and 26, which are on a radius equal to the length of the lower arms of the lever 14, or proportioned thereto, so that even if carried outwardly as far as shown in dotted lines in Fig. 2, the block 17, will not be carried below the point it occupied when the wheels 15, and 16, left the walls 23, and 24, which is the normal capping tension of the spring 18; and the lever, block, and wheels thus form an automatic tension limiting device, which is simple in construction, and which will effectually prevent the breakage of bottles of more than normal length. At the same time, it will insure the firm seating of the seal on every bottle as the seals will be applied with equal pressure no difference what the variation of the bottle may be.

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

1. A compensating device for a bottle capping machine comprising a bottle platform vertically movable, a spring, toggle levers connecting said platform and spring, means to limit the spread of said levers until said spring has been compressed to a predetermined degree, and means to permit said levers to spread while holding the said spring compressed at the said predetermined degree.

2. A compensating device for a bottle capping machine comprising a vertically adjustable cylinder, a bottle platform slidably mounted thereon, a spring mounted in said cylinder, toggle levers connecting said platform and said spring, and means in said cylinder to automatically regulate the spread of said levers, for the purpose set forth.

3. A compensating device for bottle capping machines comprising a vertically adjustable cylinder, a bottle platform slidably mounted thereon, a spring mounted within said cylinder, toggle levers connecting said platform with said spring, and a fixed head in said cylinder having vertical walls adapted to prevent the spread of said levers, and having inclined walls adapted to permit said

levers to spread while holding the spring at a fixed degree of compression.

4. A compensating device for a bottle capping machine comprising a vertically adjustable cylinder, a bottle platform slidably mounted thereon, a spring in said cylinder, and means to adjust the tension of the same, toggle levers connecting said platform and said spring, a head fixed in said cylinder and having a slot therein with vertical walls of fixed height and outwardly curved walls adjacent thereto, and wheels on said levers adapted to engage said walls, as and for the purpose set forth.

5. A compensating device for a bottle capping machine comprising a cylinder, having a head fixed therein, a bottle platform slidably mounted on said cylinder, a spring mounted in said cylinder, and means to adjust the tension of the same, a pair of toggle levers connecting said platform and said spring, said head having a slotted center with substantially vertical side walls of a predetermined length, and outwardly and downwardly curved walls adjacent thereto, and wheels on said levers adapted to engage said walls, as and for the purpose set forth.

6. The combination with a bottle capping machine of a compensating device comprising a cylinder, a pawl and rack for adjusting the same vertically on the machine standard, a spring mounted within said cylinder, a head fixed in the top thereof and having a slotted center with vertical walls, and outwardly and downwardly curved walls beneath the vertical walls, a bottle platform slidably mounted on said cylinder, a pair of toggle levers connecting said platform and said spring through said slotted head, and wheels on said levers adapted to engage said walls, as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LEONARD BARTLETT.

Witnesses:

FRANK WRIGHT,
G. P. VAN WYE.