

No. 818,893.

PATENTED APR. 24, 1906.

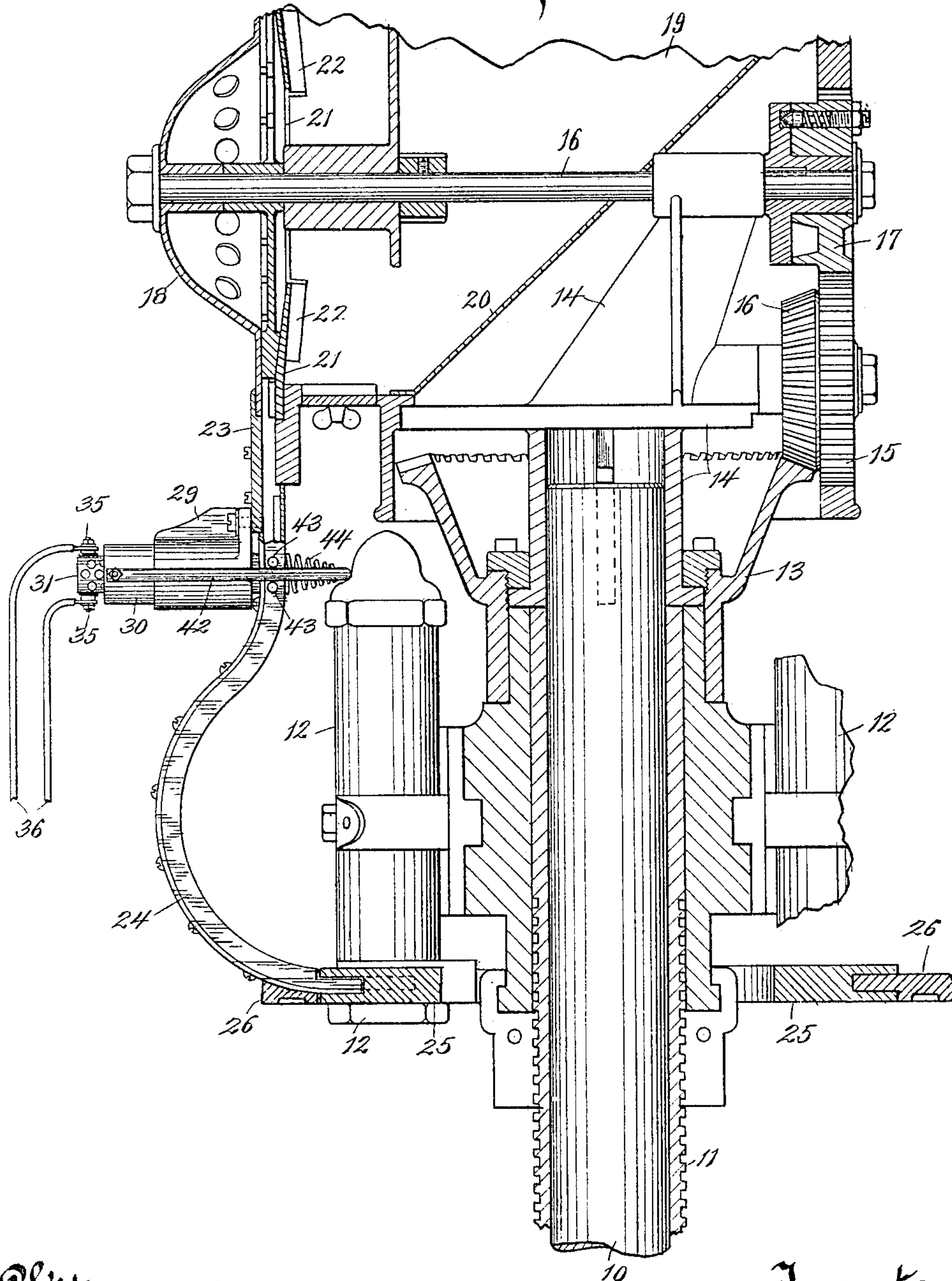
O. H. JUNG.

BRANDING MACHINE FOR BOTTLE CLOSURES.

APPLICATION FILED JAN, 24, 1906.

3 SHEETS—SHEET 1.

Fig. 1.



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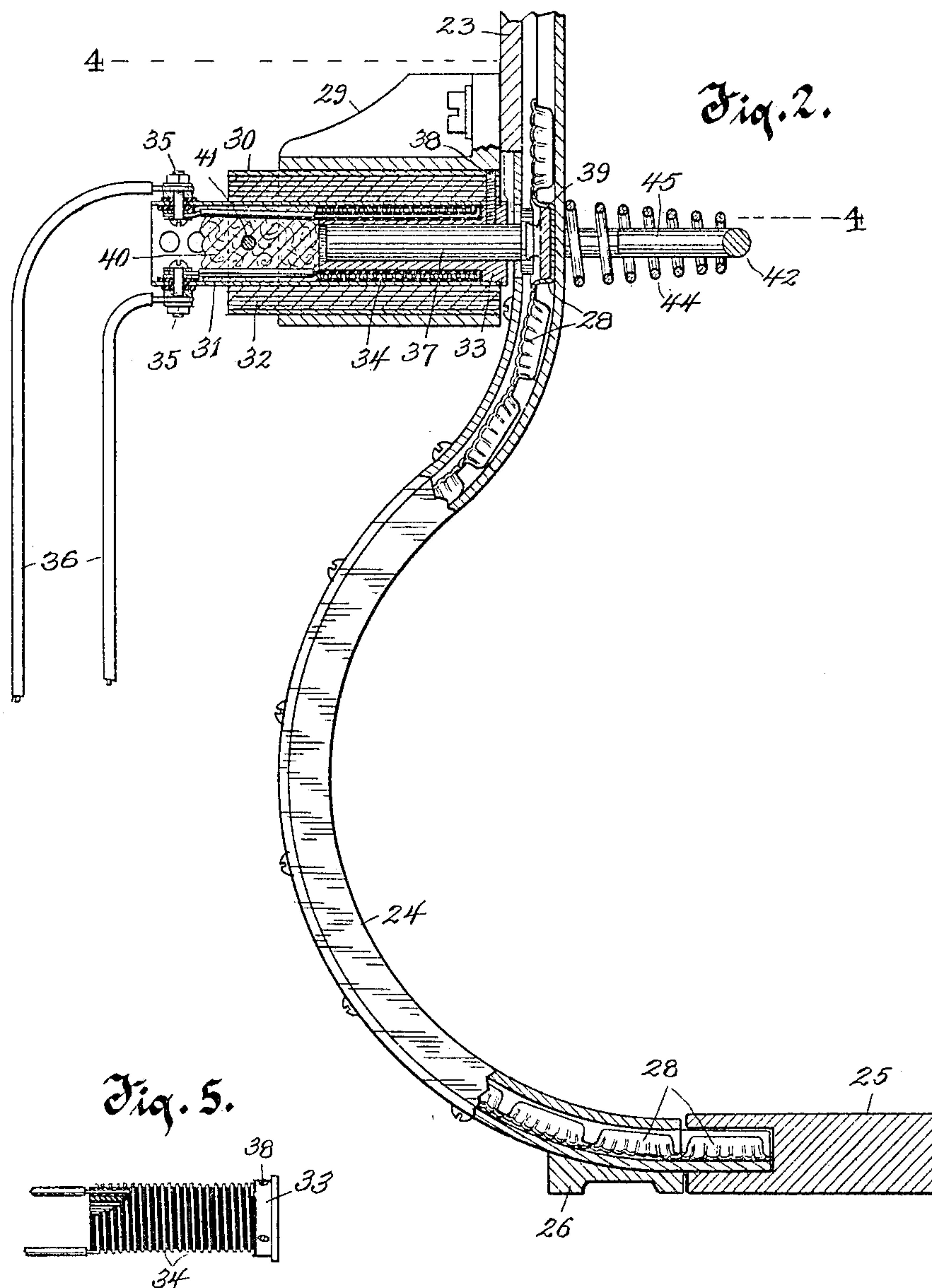
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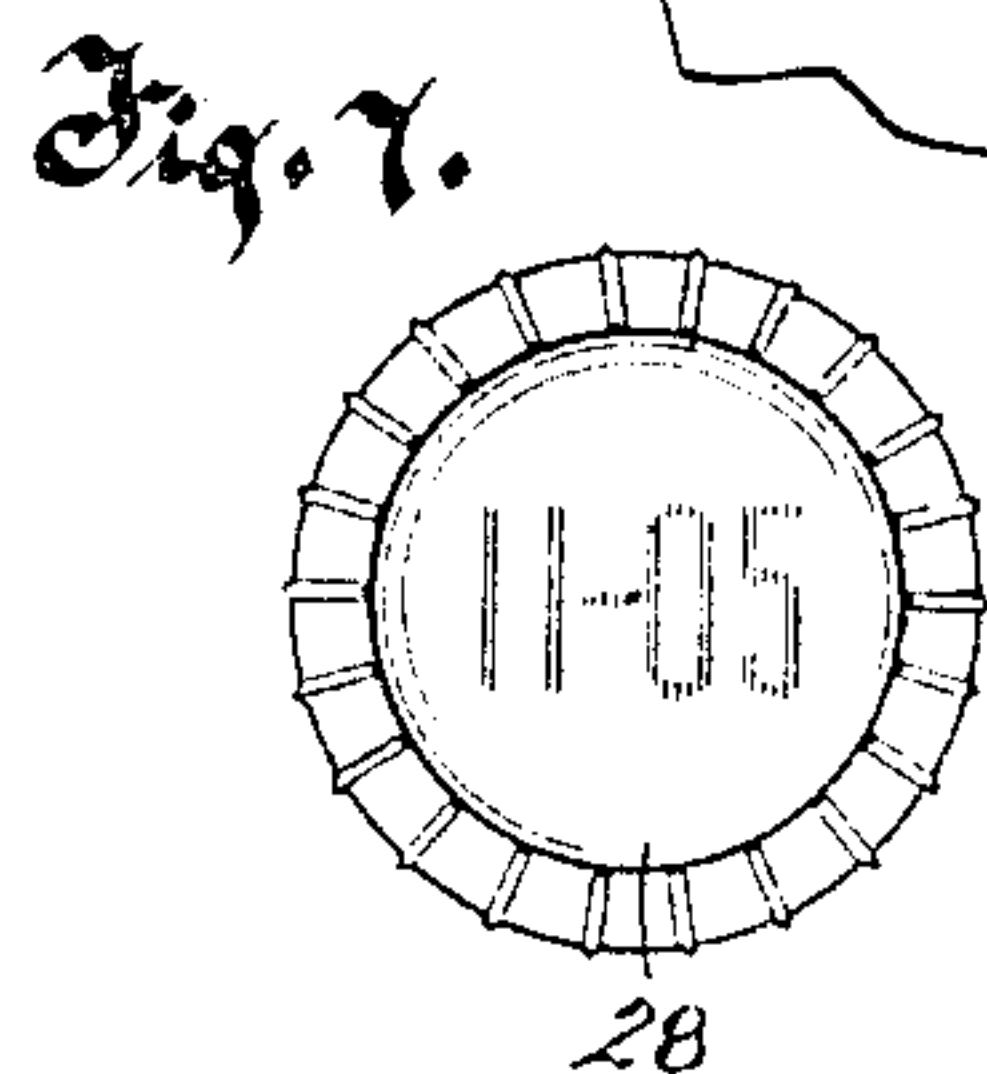
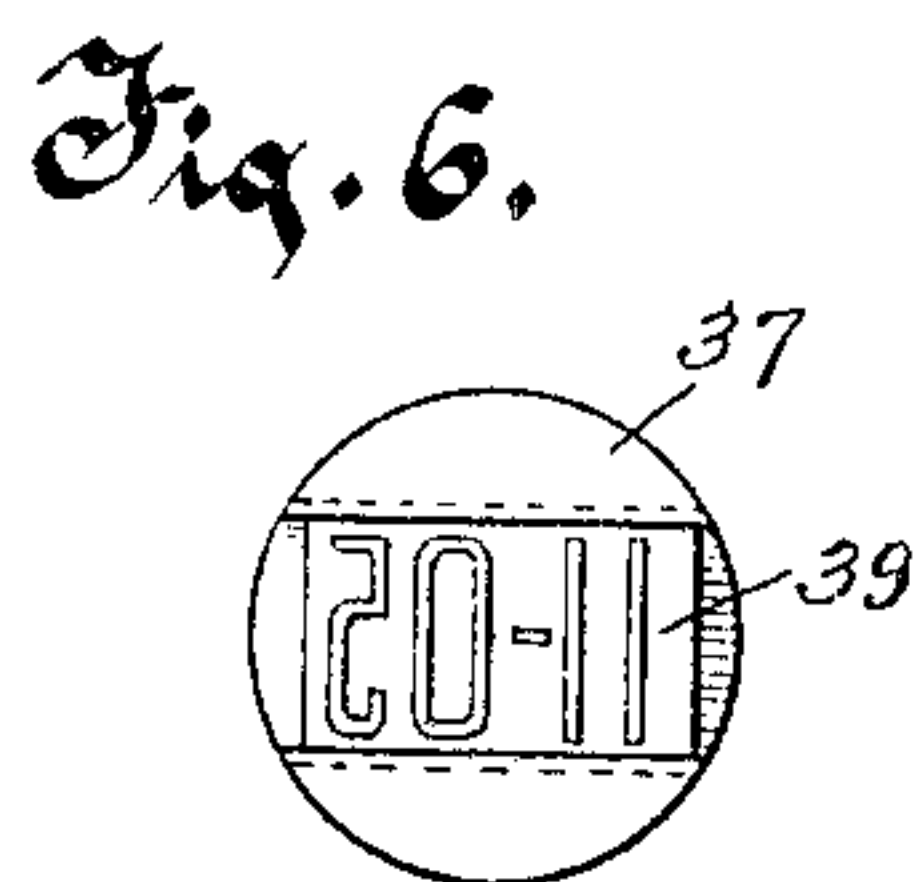
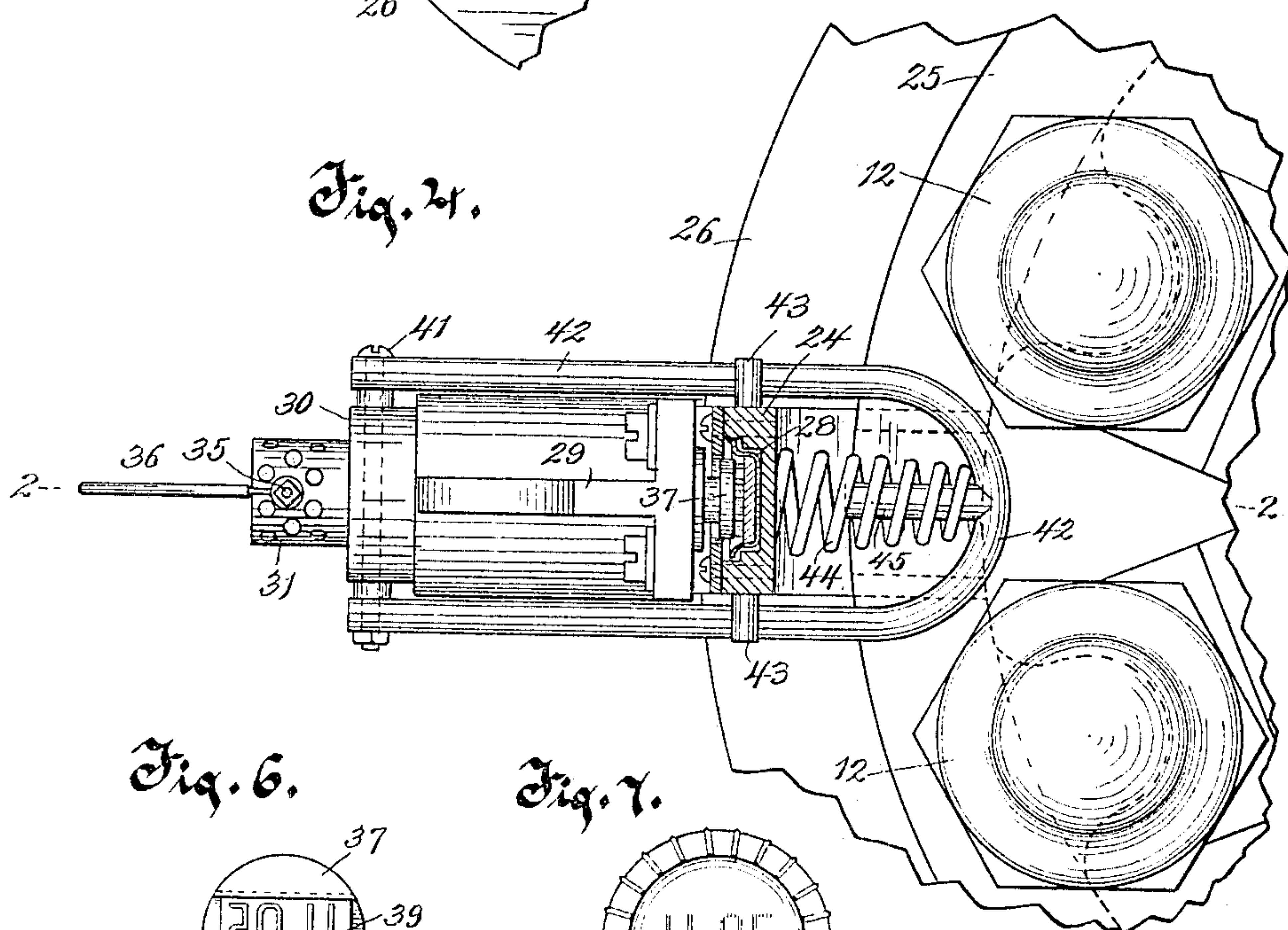
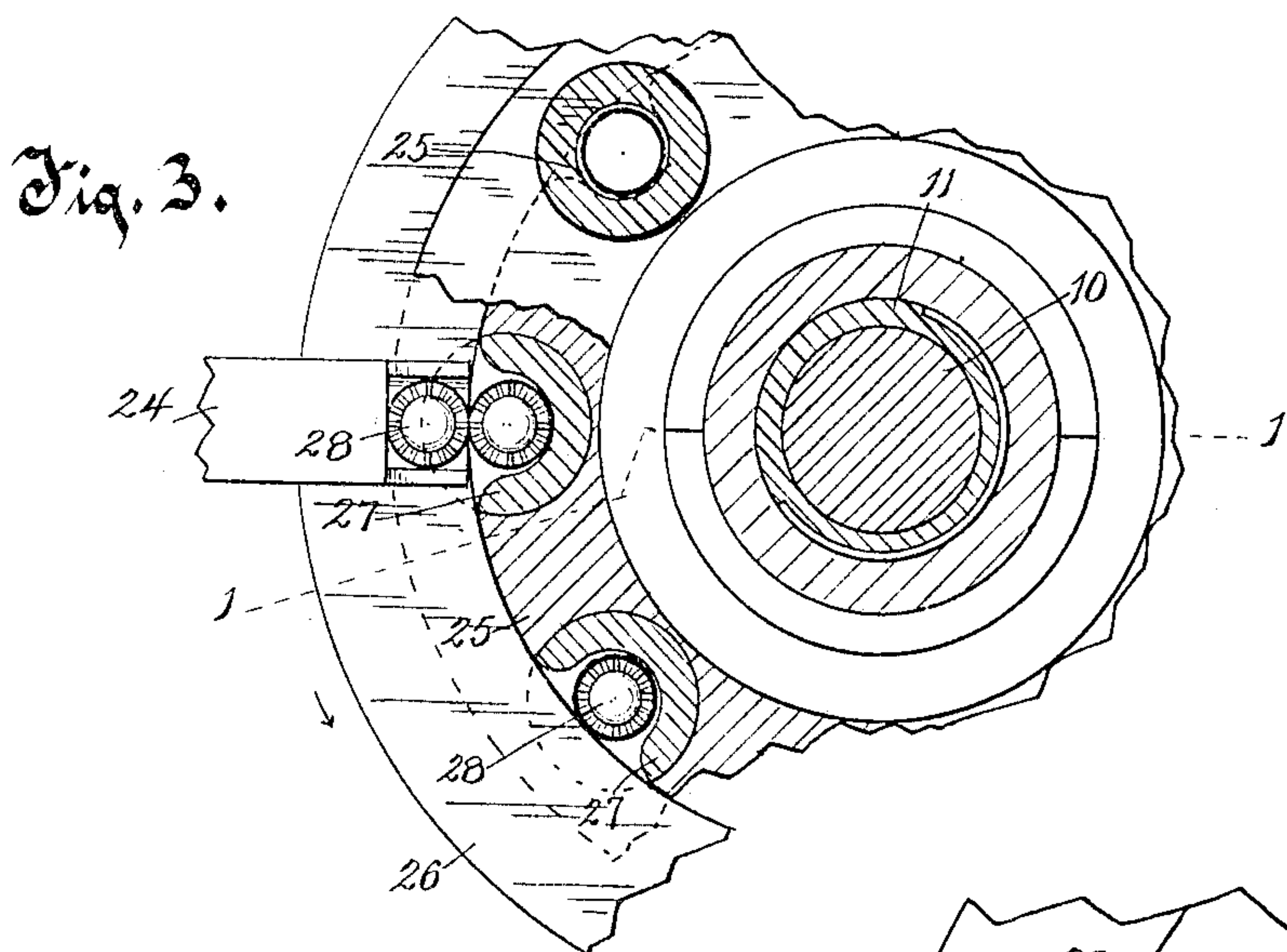
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

OSCAR H. JUNG, OF MILWAUKEE, WISCONSIN.

BRANDING-MACHINE FOR BOTTLE-CLOSURES.

No. 812,893.

Specification of Letters Patent.

Patented April 24, 1906.

Application filed January 24, 1906. Serial No. 297,684.

To all whom it may concern:

Be it known that I, OSCAR H. JUNG, residing in Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Branding-Machines for Bottle-Closures, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

10 This invention relates to branding-machines for bottle-closures, and has for its object to provide a branding mechanism which will automatically operate in conjunction with a bottle-sealing machine to brand the bottle-closures as they pass from the hopper to the sealing-head.

20 The invention comprises an electrically-heated branding-tool which is operated by the movements of the bottle-sealing machine to intermittently pass through an opening of the chute for the bottle-closures and come into contact with the cork layer of the successive bottle-closures to burn thereon any suitable designation, such as the month and year in which the bottling is done.

25 With the above and other objects in view the invention further consists in the device herein described, its parts and combinations of parts, the associated mechanism, and all equivalents.

30 Referring to the accompanying drawings, in which like characters of reference indicate the same parts in the several views, Figure 1 is a side elevation of a branding mechanism constructed in accordance with this invention and applied to a bottle-sealing machine whose associated parts are shown in section. Fig. 2 is a vertical sectional view thereof, on an enlarged scale, also showing the chute of the bottle-sealing machine and its contained bottle-closures or crowns and illustrating the manner in which the column of bottle-closures is held back by the throat-ring during the movements of the latter to determine the position of one of the bottle-closures at the time it receives the branding-tool. Fig. 3 is a sectional plan view of the throat-ring with the lower end of the chute feeding bottle-closures to the throats thereof. Fig. 4 is a plan view of the branding mechanism and its associated parts in the act of branding one of the bottle-closures, the chute and the said bottle-closure being sectioned. Fig. 5 is a detail view of the heating-coil for the branding-tool. Fig. 6 is

a face view of the branding-tool; and Fig. 7 is a face view of a bottle-closure, showing the brand thereon.

In the drawings the branding device is illustrated as connected with and forming a part of a bottle-sealing machine of an ordinary construction, such as is shown and described in Letters Patent to William Painter, Nos. 638,354 and 643,973. So much of the construction of the bottle-sealing machine as affects or relates to the branding mechanism is here shown and described briefly, relying upon the specifications of said Letters Patent for a more detailed explanation.

The bottle-sealing machine here shown is adapted to receive a quantity of bottle closures or crowns and by means of a suitable selecting mechanism feed them one by one and with their cavities in the same direction to a chute, through which they pass into throats of sealing-heads upon a ring which is rotatable with intermittent motions. The filled bottles are adapted to be placed upon movable parts of the machine beneath the sealing-heads and at the proper time are moved upwardly thereby into the sealing-heads to have the closures or crowns fastened thereto.

The parts of the machine here illustrated comprise the stationary upright column 10, with a rotated column or sleeve 11 mounted thereon and carrying the sealing-heads 12, as well as a beveled gear 13. A bracket-frame 14 is keyed to the upper end of column 10, so as to remain stationary, and forms a support for a pinion 15, carrying a beveled pinion 16, which meshes with the beveled gear 13 before mentioned. This bracket-frame also forms a bearing for a horizontal shaft 16, which carries a yieldingly-connected pinion 17 on one end, meshing with the pinion 15, and a bowl-shaped front plate 18 on its other end. A hopper 19 for containing bottle-closures known as "crowns" is supported by the bracket-frame 15 and has an inclined bottom 20 to lead the contents to a cage formed by the front plate 18 and a selecting-ring 21, carried thereby. The selecting-ring has radial agitating-ribs 22 for lifting the crowns out of the bottom of the hopper, so that they may pass through suitable openings provided therefor between the selecting-ring and the front plate, and these openings are so arranged as to prevent the crowns passing therethrough except when arranged with their cavities outwardly.

The hopper has a spout or projection 23 leading from the cage at its lowermost portion, and a curved chute 24 carries the arranged crowns therefrom to the sealing-heads 12 below. The sealing-heads 12 are connected by a throat-ring 25, which rotates therewith and is recessed or grooved at its outer edge to fit a complementary part of a surrounding stationary retaining-ring 26. The retaining-ring is rigidly supported in any suitable manner and has secured to it the lower end of the chute 24. The throat-ring 25 has walled recesses or throats 27 arranged therein at intervals, one for each sealing-head 12, to be successively brought into communication with the lower end of the chute and receive the crowns 28 therefrom. The sealing-heads carry the crowns to the opposite side of the machine, where the bottles are forced upwardly by suitable means to have the crowns clamped thereon by said sealing-heads, and the column of crowns in the chute is held in check during the movements of the throat-ring by means of the stop formed by the bottom of the groove of said throat-ring, as clearly shown in Fig. 2. Thus the column of crowns is held still during the intermittent movements of the throat-ring and affords the opportunity for branding them during their periods of rest.

The branding mechanism is applied to the chute 24, with its branding-tool adapted to pass into the interior thereof and into engagement with the cork lining of one of the crowns during the movement of the throat-ring. This is accomplished by means of a spring-pressed projection connected with said branding-tool and standing in the path of movement of the sealing-heads, so as to be engaged thereby, but which when released by the passing of the sealing-heads is forced forwardly by its spring to carry the branding-tool into operation.

A bracket 29, having a cylindrical bearing portion, is secured to the downwardly-extending spout or outlet 23 of the hopper 19, and in the cylindrical bearing portion is slidably mounted a plunger carrying a branding-tool and comprising a cylindrical outer shell 30, with a longer cylindrical inner shell 31 of considerably smaller diameter, having a packing 32, of heat-insulating material, such as sheet-asbestos, wrapped around the inner shell. A metal sleeve 33 has an enlarged head or flange fitting in one end of the inner shell 31, and its reduced portion is surrounded by a heating-coil 34, of resistance-wire, which is properly insulated from said sleeve and the inner shell 31. The terminals of coil 34 are connected to binding-posts 35, mounted on but insulated from the other end of said inner shell 31. To these binding-posts are connected the conducting-wires 36 of an electrical supply system, preferably an incandescent-

light circuit, to pass a current through the heating-coil and heat the sleeve 33 and a branding-tool 37, whose stem is adjustably slidable within said sleeve. The stem of the branding-tool is held in its adjustments by means of one or more set-screws 38 passing through the shells 30 and 31 and the head or flange of the sleeve and engaging said stem. The projecting end of the branding-tool 37 is enlarged to form a disk-shaped head, which is slotted to receive with a dovetail fit a branding-die 39, containing the raised figures or other characters desired to be branded upon the crowns, the headed end of the branding-tool being capable of traveling through an opening in the wall of the chute 24 to accomplish this purpose. The other end of the inner shell 31 is packed with a filling 40, of fibrous heat-insulating material.

A pin 41 passes entirely through the plunger member of the branding mechanism and projects on either side of the outer shell 32 to connect with the ends of a U-shaped projection 42, which embraces the chute 24 and is guided therefrom by passing between pairs of lugs 43 on opposite sides of the chute. The rounded end of the projection 42 stands in the path of movement of the sealing-heads 12, so as to be moved rearwardly thereby when the sealing-heads are brought into register with the lower end of the chute to receive a crown therefrom, and a coil-spring 44 bears upon the chute and surrounds a short stem 45 of the projection 42 to force said projection forwardly again as soon as the sealing-head has passed out of engagement with it. As the plunger portion of the branding device carrying the heated branding-tool is connected with said projection by means of the pin 41 it is moved therewith, sliding in the cylindrical bearing of the bracket 29 to move the branding-tool out of engagement with the crown and out of the path thereof when the sealing-head has forced the projection rearwardly and returning into the next crown and engaging it with the pressure of spring 35 when the sealing-head has passed out of engagement with the projection.

From the foregoing it will be understood that the intermittent turning movement of the sealing-heads to receive the crowns from the chute automatically causes the checking of the movement of the column of crowns during said movements, so that the branding device, which is caused to be moved forwardly at this time by the movement of the sealing-head away from the projection, may properly enter one of the crowns thus held in check, the location of the branding device on the chute being such that the branding-tool is directly in line with one of the crowns in the chute when the column of crowns is held in check by means of the throat-ring.

Preferably the die-strip 39 of the branding-

tool is provided with the figures representing the date of the bottling operation, and this part is therefore made removable, so that it may be replaced by others from time to time.

5 As the branding-tool is brought to a great heat by means of the electric heating-coil it will sear or burn the surface of the cork lining of the crown or closure with the figures of the die-strip, as shown in Fig. 7.

10 The construction of the plunger member of the branding device is such that the heat is conserved and concentrated in the branding-tool, while said plunger is freely slidable in its bearing to move into and out of its operative position at the proper time.

15 What I claim as my invention is—

1. In a bottle-sealing machine, a chute for conducting crowns or closures, a movable sealing device fed with the crowns or closures by the chute at intervals, and a branding device in connection with the chute and moved by the movements of the sealing device for branding the crowns or closures between the intervals of their feed.

25 2. In a bottle-sealing machine, a chute for conducting crowns or closures, a movable sealing device receiving the crowns or closures from the chute at intervals, and an electrical branding device in connection with the chute and moved by the movements of the sealing device for branding the crowns or closures between the said intervals.

30 3. In a bottle-sealing machine, a chute for conducting crowns or closures, a movable sealing device for receiving the crowns or closures from the chute at intervals, a suitably-mounted plunger comprising an electrical heating-coil and a branding-tool heated thereby adapted to enter the chute and engage the crowns or closures therein, a projection carried by the plunger and standing in the path of movement of the sealing device to be moved thereby for moving the plunger in one direction, and means for moving the plunger in the other direction, said movements of the plunger serving to bring the branding-tool into and out of contact with the crowns or closures in the chute.

40 4. In a bottle-sealing machine, a chute for conducting crowns or closures, a movable sealing device for receiving the crowns or closures from the chute at intervals, a suitably-mounted plunger comprising an electrical heating-coil and a branding-tool heated thereby adapted to enter the chute and engage the crowns or closures therein, a projection carried by the plunger and standing in the path of movement of the sealing device to be moved thereby for forcing the plunger to move and withdraw the branding-tool, and means for returning the plunger when the sealing device has passed out of engagement with the projection.

5. In a bottle-sealing machine, a chute for

feeding crowns or closures, a movable sealing device for receiving the crowns or closures from the chute at intervals, a suitably-mounted plunger comprising an electrical heating-coil and a branding-tool heated thereby adapted to enter the chute and engage the crowns or closures, a projection carried by the plunger and standing in the path of movement of the sealing device to be moved thereby for forcing the plunger to move and withdraw the branding-tool, and a spring between the chute and the projection for returning the plunger when the sealing device has passed out of engagement with the projection.

6. In a bottle-sealing machine, a chute for feeding crowns or closures, a movable sealing device for receiving the crowns or closures from the chute at intervals, a suitably-mounted plunger comprising an electrical heating-coil and a branding-tool heated thereby adapted to enter the chute and engage the crowns or closures, a U-shaped projection on the plunger embracing the chute and standing in the path of the sealing device to be engaged thereby for moving the plunger to withdraw the branding-tool, a stem on the projection, and a coil-spring surrounding the stem and bearing on the chute for returning the plunger when the sealing device has passed out of engagement with the projection.

7. In a bottle-sealing machine, a hopper for feeding crowns or closures, a chute for conveying the crowns or closures therefrom, a movable sealing device to which the crowns or closures are intermittently fed by the chute, a bracket secured to the hopper and having a cylindrical bearing, a shell slidably mounted in the bearing, an inner shell surrounded by heat-insulating material located within the first-named shell, a sleeve within the inner shell and surrounded by an electrical heating-coil, a branding-tool adjustably slidable within the sleeve and adapted to enter the chute and engage the caps or closures, a pin passing through the plunger, a U-shaped projection on the pin and embracing the chute, said projection standing in the path of the sealing device to be engaged thereby for moving the plunger rearwardly, and a coil-spring bearing on the chute and on the projection for returning said plunger when the sealing device has moved out of engagement with the projection.

8. In a bottle-sealing machine, a chute for feeding crowns or closures, a movable sealing device for receiving the crowns or closures from the chute at intervals, a suitably-mounted cylindrical bearing, a plunger operating therein and comprising an electrical heating-coil and a branding-tool heated thereby and adapted to pass through an opening in the chute to engage the crowns or

5 closures, a pin passing through the plunger, a U-shaped projection on the pin and embracing the chute, guide-lugs on the chute between which the projection passes, said projection standing in the path of movement of the sealing device to be engaged thereby for moving the plunger, and a spring for returning the plunger when the sealing device has

moved out of engagement with the projection. 10

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

OSCAR H. JUNG.

Witnesses:

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ANNA F. SCHMIDTBAUER.