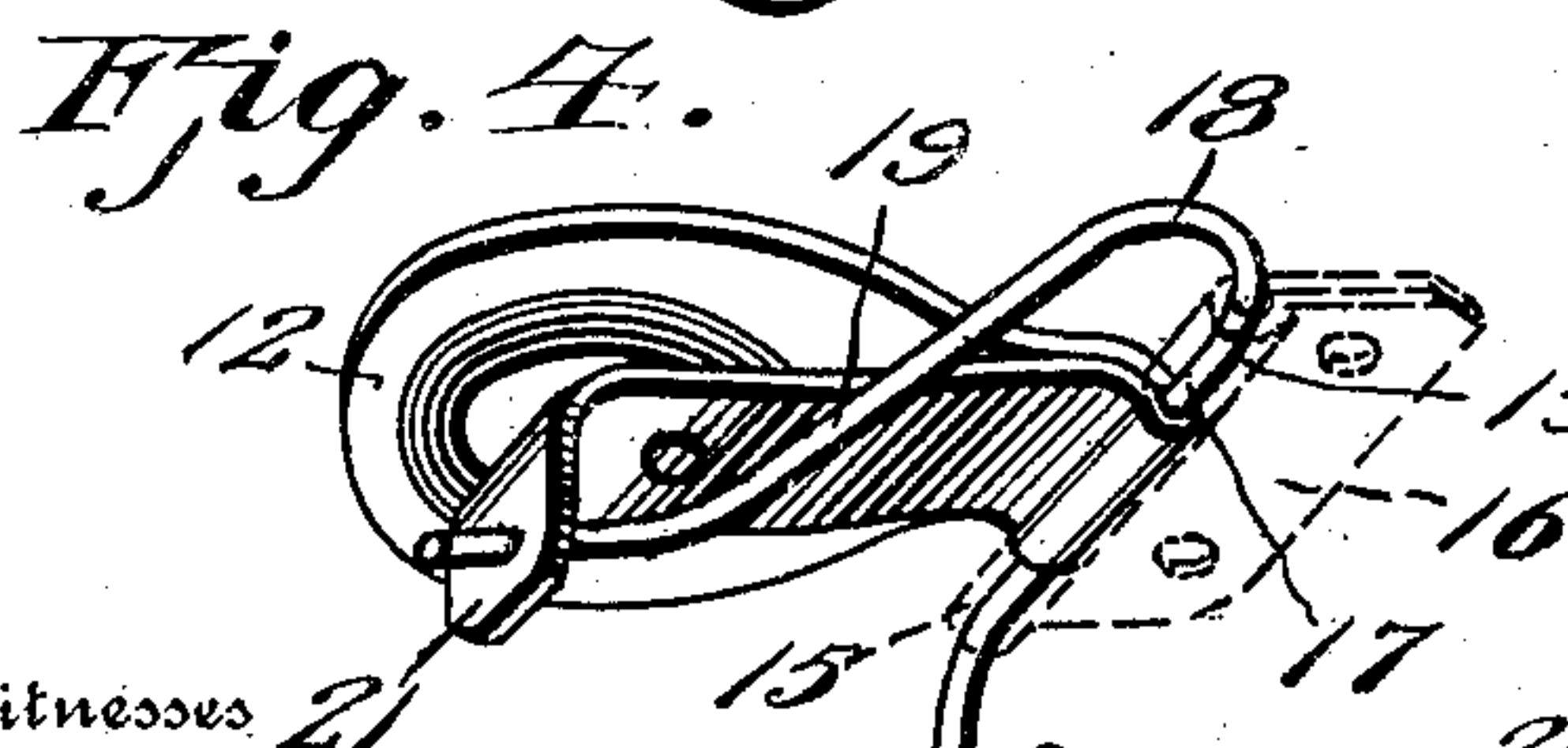
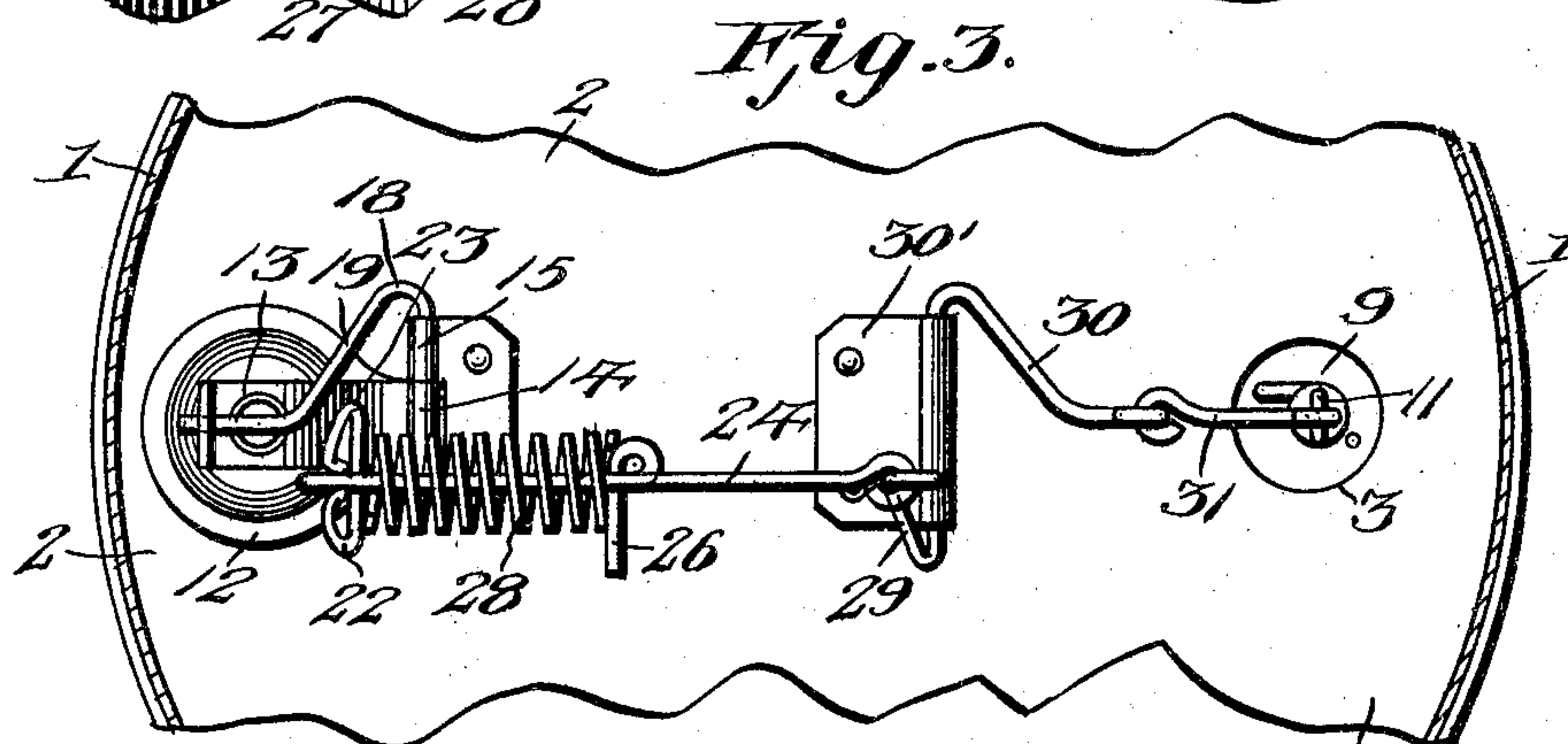
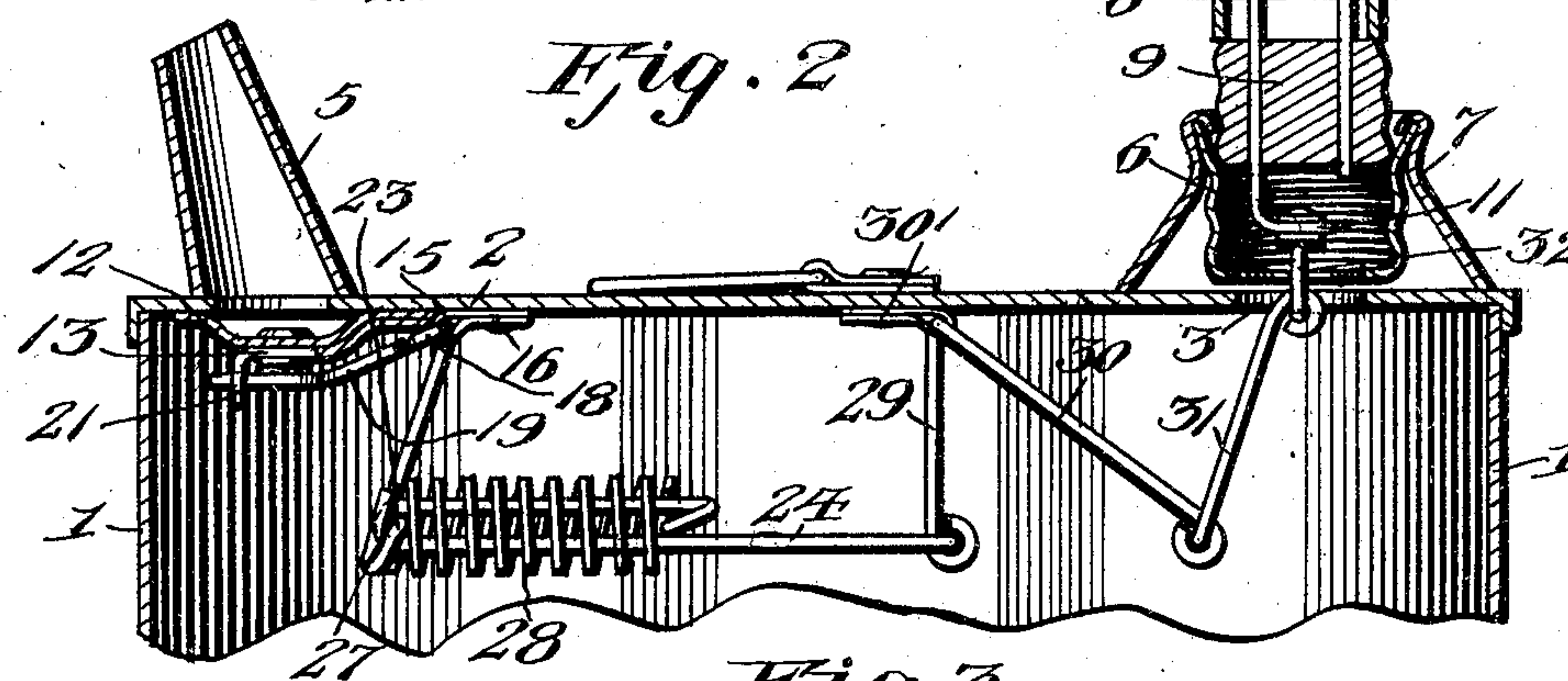
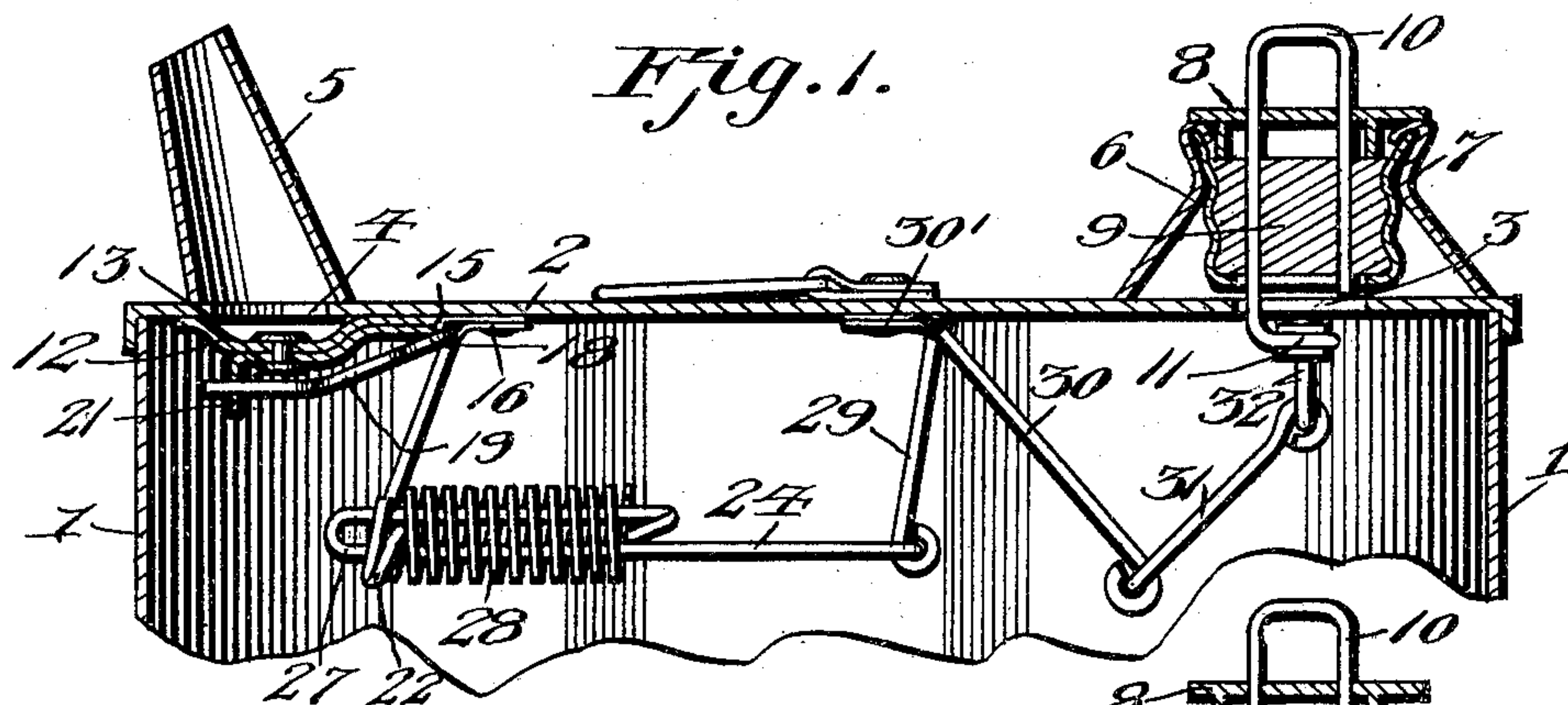


No. 793,656.

PATENTED JULY 4, 1905.

R. HANNA.
CAN.

APPLICATION FILED FEB. 4, 1905.



Witnesses

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RICHARD HANNA, OF SHERMAN, TEXAS.

CAN.

SPECIFICATION forming part of Letters Patent No. 793,656, dated July 4, 1905.

Application filed February 4, 1905. Serial No. 244,219.

To all whom it may concern:

Be it known that I, RICHARD HANNA, a citizen of the United States, residing at 710 East Brocket street, Sherman, in the county of Grayson and State of Texas, have invented new and useful Improvements in Cans, of which the following is a specification.

This invention relates to improvements in cans for storing, transporting, and vending liquids, one object of the invention being to provide simple and efficient closures for the filling-opening and discharge-outlet of the can, so as to prevent spilling or leaking of the liquid from the can, which closures may be easily and conveniently operated to simultaneously open the outlet and vent when it is desired to discharge the liquid.

Another object is to provide closures and operating means therefor carried solely by the cover of the can, so that the devices constituting the invention are readily made applicable to any can.

With this and other objects in view the invention consists of the features of construction, combination, and arrangements of parts hereinafter fully described, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical section through the top portion of a can, showing the application of my invention thereto, the closures of the filling-opening and spout being illustrated in closed position. Fig. 2 is a view similar to Fig. 1, showing the closure of the filling-opening disengaged from the neck and the connecting-rod in position to open the valve. Fig. 3 is a horizontal section through the can looking toward the bottom of the cover, showing the parts arranged as in Fig. 1. Fig. 4 is a detail view of the valve and associated parts, and Fig. 5 is a detail view of the connecting-rod.

Referring now more particularly to the drawings, the numeral 1 designates the body of the can, and 2 the can-cover, which latter is provided with a filling-opening and vent 3 and an outlet 4, with which communicates a discharge nozzle or spout 5. The filling-opening or vent and discharge-outlet are both formed in the cover, and the closures controlling the same are also carried by the cover, so

that any can may be equipped with the invention by simply applying the cover thereto.

Rising from the wall of the opening 3 is a screw-threaded neck 6, which is surrounded by a shield 7, the shield and cap being adapted to be closed by a cap 8. The neck is designed to receive a screw-threaded closure or stopper 9, to which is fixed a bail-shaped handle 10, whose arms pass loosely downward through openings in the cap 8 and also pass through and are suitably fixed to the stopper 9, so that by turning said handle 10 the stopper may be screwed in and out of the neck 6. One of the arms of the handle projects below the stopper and is terminally formed with an eye 11, for a purpose hereinafter described.

The discharge-outlet 4 is normally closed by a disk-shaped tilting valve 12, which is fastened to a metallic strip 13, projecting at one end beyond the valve and formed with a loop or knuckle 14, fitting between a pair of knuckles 15, formed on a hinge-plate 16, fastened to the cover 2. Passing through the loop 14 and the knuckles 15 of the hinge-plate is a pintle 17, formed by the body portion of a bell-crank lever 18, said lever having its ends terminating in arms 19 and 20, one of which is connected to a bent extremity 21 on that end of the strip 13 connected with the valve, while the other arm thereof is bent substantially at right angles to the plane thereof at its free end to form stop-loops 22 and an intermediate wrist portion 23. The arm 20 lies at right angles to the pintle 17 and projects downwardly at a slight angle to the vertical when the valve is closed, while the arm 19 projects laterally at an oblique angle to said pintle and lies at a slight downward angle to the horizontal when the valve is closed. By so mounting the valve and lever the valve is connected with the lever, so as to be opened and closed thereby and yet through its connection with the pintle of the lever and extremity of the arm 19 is free to have slight independent play to accommodate itself to any slight irregularities of surface, so that it will close securely about the outlet 4.

The bell-crank lever is adapted to be operated by a connecting-rod 24, one end of which is turned backwardly in a plane parallel there-

with to form a loop 25, the free end of the arm of the loop being extended at right angles to the rod to further provide a stop 26. The closed or return-bent portion 27 of the loop provides a connection to engage the wrist portion 23 of the bell-crank lever 17 and lie between the loops 22, which act there stops to hold it from lateral movement. Surrounding the loop is a coil-spring 28, which bears at one end against the stop-arm 26 and at the other end against the loops or eyes 22 of the arm 20 of the lever 17, said loop and spring forming a loose or "lost-motion" connection between the rod and lever to compensate for the movements of the parts when the stopper 9 is applied and removed, as will more fully hereinafter appear. At its end opposite the connection 27 the rod 24 is jointed to an arm 29 of a bell-crank lever 30, the main or body portion of which is hinged or pivoted to a bracket-plate 30', secured to the cover 2, and the opposite arm of which is attached to one end of a link 31, which link is jointed to an eye or loose connection 32, swiveled to the portion 11 of the bell-shaped handle 10. This connection 32 is adapted to transmit motion to the link 31 to operate the lever 30 when the stopper or closure 9 is inserted and removed and to adapt said stopper to be screwed in and out of the neck without disarranging the link and coacting valve-operating parts.

Fig. 1 of the drawings shows the filling-opening and vent and the discharge-outlet closed by the stopper 9 and valve 12, from which it will be seen that waste of the contained liquid cannot occur through leakage or spilling through said opening or outlet. When it is desired to discharge the contents of the can, the handle 10 is turned to the left to unscrew the stopper 9, which operation is permitted by the swiveled connection 32, the outward movement of the stopper 9 causing the link 31 to be drawn upon to tilt or swing the bell-crank lever 30, which will correspondingly draw upon and move the connecting-rod 24. This movement of the connecting-rod is a preliminary movement and does not effect the bell-crank lever 17, controlling the valve 12, as the lost-motion connection previously referred to permits the link to have movement in a direction away from the lever 17 until the connection 27, which normally extends beyond the wrist portion 23 of said lever, comes into contact with said lever, as shown in Fig. 2, thus allowing the stopper 9 to be entirely disengaged from the neck 6 before the lever 17 is drawn upon to open the valve 12. When the stopper 9 is fully disengaged from the neck 6, a further movement in an outward direction of the handle 10 will withdraw said stopper from the neck, allowing it to be hung outward over the rim edge of the neck by means of the swiveled end of the bail-handle or the swiveled connection 32, which will permit the stopper to drop down

and act as a stop to hold the valve from closing. The outward movement of the stopper, above described, causes a further pull on the connecting-rod 24 through the link 31 and bell-crank lever 30, and as connection 27 is in engagement at this time with the wrist 23 the lever 17 will be swung under such pull to swing the valve 12 open, thus allowing the contents of the can to be discharged. When the stopper 9 is brought into position to close the opening 3 again, the operating parts will be oppositely moved and will restore the valve to closed position, and the swiveled connection between the stopper and link will permit the stopper to be screwed fully into the neck 6. In closing the stopper 9 the preliminary movement of bringing it into position to be screwed into the neck permits the parts to be retracted sufficiently to close the valve, and then when the stopper is screwed down into the neck the bell-crank lever 30 will be moved to a greater extent, thus forcing the link 24 forward against the pressure of the spring 25 until its engaging portion 27 moves out of engagement with the wrist 23, thereby resetting the parts for further operation. The lost-motion connection described will, it is obvious, permit the stopper 9 to be fully unscrewed without opening the valve 12, so that the contents of the can cannot be spilled through the discharge-opening while the operator is engaged in opening the stopper.

From the foregoing description, taken in connection with the accompanying drawings, the construction and mode of operation of the invention will be understood without a further extended description.

Changes in the form, proportions, and minor details of construction may be made within the scope of the invention without departing from the spirit or sacrificing any of the advantages thereof.

Having thus described the invention, what is claimed as new is—

1. A can having a filling and vent opening and an outlet, a closure for the vent-opening, a valve for closing the outlet, a device for operating said valve, a motion-imparting device operated by the closure of the opening, and a spring-controlled "lost-motion" connection between said devices, said connection having a sliding engagement with the valve-operating device, whereby one may be operated upon the movement of the other, said connection permitting a free initial movement of the motion-imparting device to allow the closure of the filling-opening to be disconnected before the valve is opened.

2. A can having a filling-opening and outlet, closures for said opening and outlet, a lever for operating the closure of the outlet, a lever connected to and movable with the closure of the opening, and a connection between said lever, said connection having a sliding engagement with the first-named lever to per-

mit an independent movement of the other lever during the primary operation of disconnecting the closure of the opening.

5 3. A can having a filling-opening and an outlet, a stopper for closing the filling-opening, a valve for closing the outlet, a bell-crank lever operated by the stopper, a swiveled connection between said lever and stopper, a lever for operating the valve, and a
10 "lost-motion" connection between said levers.

4. A can having a filling-opening and an outlet, a closure for the filling-opening, a valve for closing the outlet, a motion-imparting device operated by the closure of the opening,
15 an operating device for the valve, a "lost-motion" connection between said motion-imparting device and valve-operating device, said connection having a sliding engagement with the latter-named device, and a spring associated with said "lost-motion" connection
20 and valve-operating device for restoring said parts to their normal position and closing the valve.

5. A can having a filling-opening and an
25 outlet, closures for said opening and outlet, a lever for operating the closure of the outlet, a lever connected to and movable with the closure of the opening, a connection between said levers, said connection having a sliding
30 engagement with the first-named lever to permit an independent movement of the other

lever during the primary operation of disconnecting the closure of the opening, and a spring associated with the first-named lever and connection for restoring the parts to their
35 normal position.

6. A can having a filling-opening and an outlet, a closure for said opening, a hinged valve controlling the outlet, and a bell-crank lever connected with the valve and having an
40 arm provided with stop portions, an intermediate rest portion, a second bell-crank lever connected with the closure for the opening, a "lost-motion" connection between the two
45 bell-crank levers, said connection comprising a rod connected at one end with the latter-named bell-crank lever and looped at its opposite end to slidably engage the rest portion of the valve-operating lever, said loop having
50 an engaging member at one end normally lying out of connection with said rest portion and a stop member at its opposite end, and a spring surrounding said loop and bearing at one end against said stop and at its other end
55 against the stop portions of the valve-operating lever, substantially as described.

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

RICHARD HANNA.

Witnesses:

J. Q. ADAMSON,
J. P. RICHARDS.