No. 694,932. Patented Mar. 4, 1902.

L. H. ABBEE & S. A. SEWALL.

STOPPER OR CLOSURE.

(Application filed July 6, 1901.)

(No Model.)

FIG. 1

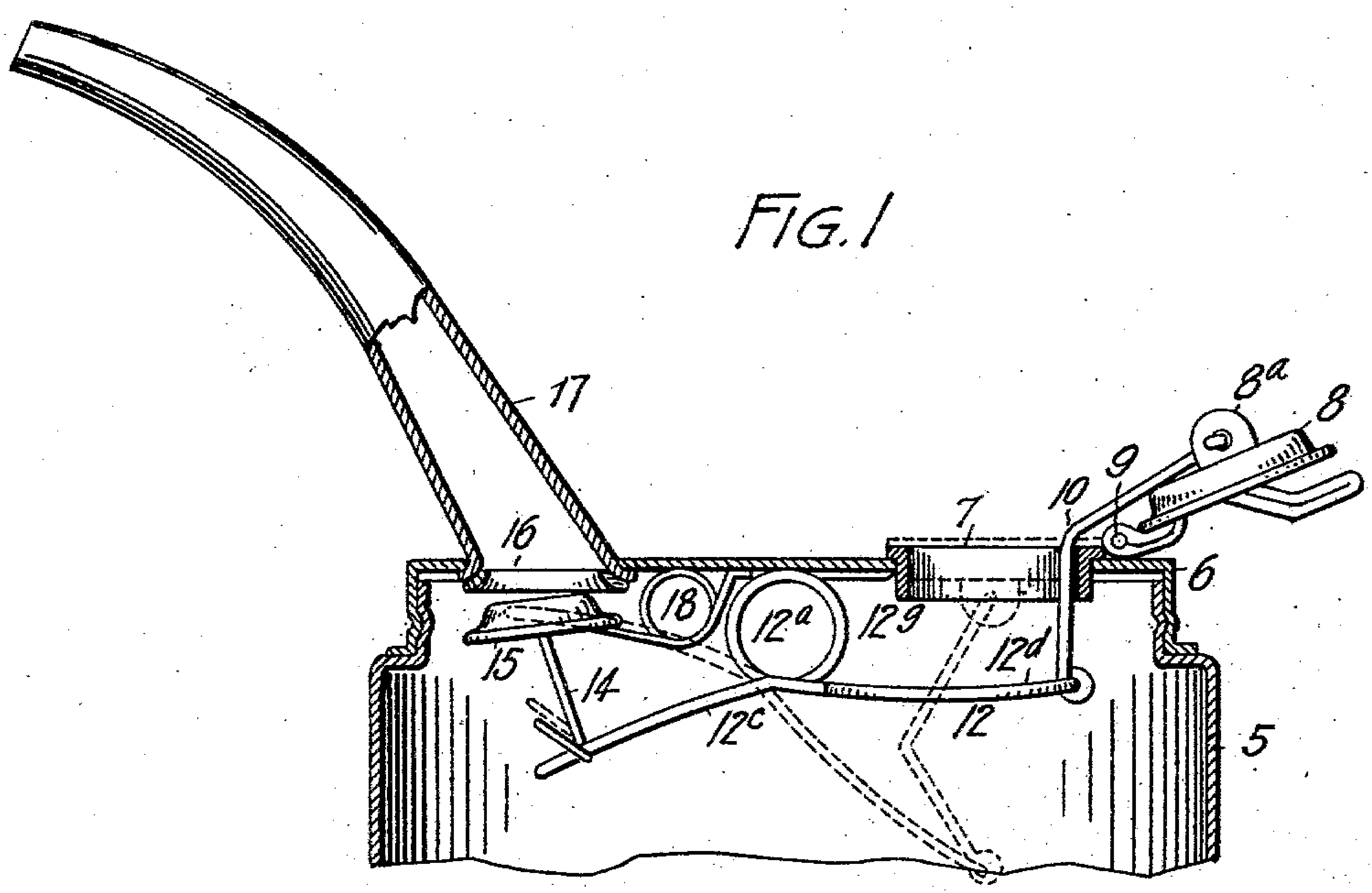
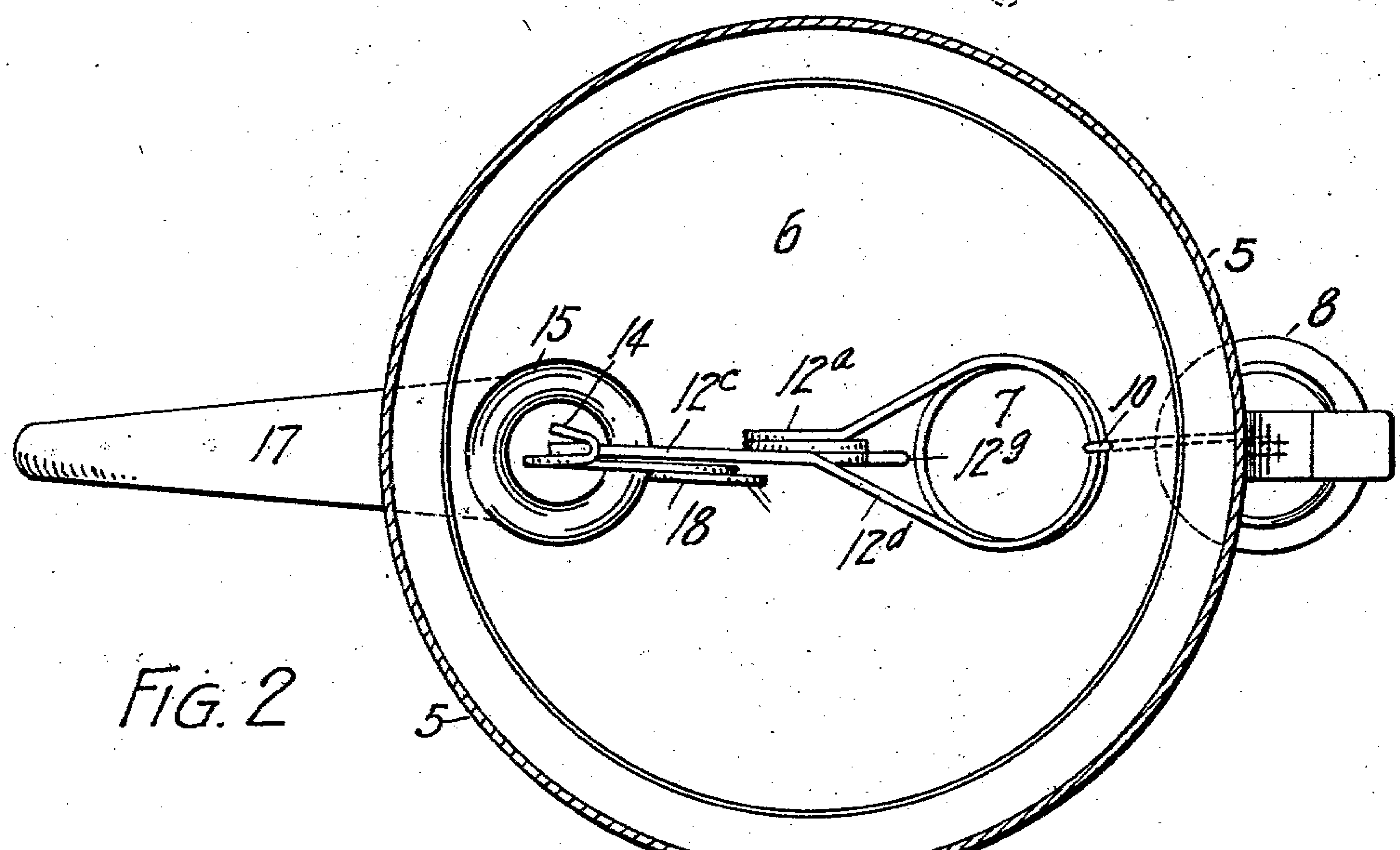


FIG. 2



WITNESSES:

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LESLIE H. ABBEE AND STEPHEN A. SEWALL, OF DENVER, COLORADO.

STOPPER OR CLOSURE.

SPECIFICATION forming part of Letters Patent No. 694,932, dated March 4, 1902.

Application filed July 6, 1901. Serial No. 67,352. (No model.)

To all whom it may concern:

Be it known that we, LESLIE H. ABBEE and STEPHEN A. SEWALL, citizens of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Stoppers or Closures; and we do 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 the figures of reference marked thereon, which form a part of this specification.

Our invention relates to improvements in stoppers or closures for cans or other liquid-receptacles of the class set forth in Letters Patent No. 608,502, issued August 2, 1898.

Our present invention will now be described in detail, reference being made to the accompanying drawings, in which is illustrated an embodiment thereof.

In the drawings, Figure 1 is a fragmentary vertical section taken through a can equipped with our improvement. Fig. 2 is a horizontal section taken on the line *x x*, Fig. 1, viewed in the direction of the arrow.

Similar reference characters indicate corresponding parts in the views.

Let the numeral 5 designate the body of the can or receptacle, to which is applied a screw-cap 6, provided with an opening 7, adapted to be closed by a cover 8, hinged to the cap, as shown at 9. The inner surface of the cover is provided with an apertured lug 8^a, to which is attached one extremity of a bent link 10, whose opposite extremity is connected with a lever 12, having a spring-fulcrum 12^a. The extremity 12^c of the lever remote from the link 10 is adapted to engage a hooked stem 14, connected with a valve 15, adapted to close an opening 16, communicating with the nozzle 17. The valve 15 is normally held closed by a spring 18, having a central coil, one of its extremities being attached to the valve and the other extremity to the top of the cap 6. The lever 12 is formed from a single piece of wire, comprising the part 12^c, which extends from the hook of the valve-stem rearwardly to the coil 12^a, from which point it forms a loop 12^d, returns, and is formed into the coil 12^a, its opposite extremity 12^g being secured to the cap 6 on the inside. The loop 12^d forms an opening below the opening 7 to permit the insertion of a funnel while filling the can. If it were not for this loop, the rear arm of the lever would be located directly below the inlet-opening of the can and would thus offer an obstruction to the introduction of the funnel-nozzle for filling purposes.

When the cover 8 is closed, the parts are in the position shown by dotted lines in Fig. 1, the valve 15 being held in the closed position by the spring 18. During the operation of opening the cover 8 to the position shown in full lines in the drawings the arm 12^c of the lever engages the hook of the valve-stem and opens the valve 15. The bend of the link 10 is such that when the cover 8 is opened (see Fig. 1) a straight line passed through the extremities of the link or the points where it is respectively connected with the cover and the lever will pass to the rear of the hinge-pin 9 of the cover. Hence the cap will be held open automatically or by virtue of its connection with the spring-actuated lever until the cover is moved to a position bringing the line passing through the link extremities forward of the hinge-pin 9, after which the cover will be closed automatically by the action of the spring 12^a.

It will be observed that when the parts are in the closed position, as indicated by dotted lines in Fig. 1, the arm 12^c of the lever is not in engagement with the hook end of the valve-stem, but considerably above the same. Hence it results that the opening movement of the valve is less in degree than that of the lever-arm 12^c when the cover 8 is opened, the arrangement being such that the arm 12^c only engages the valve just before the arm ceases to move. Hence the valve is only moved sufficiently away from its seat around the discharge-opening to allow the free escape of the liquid. This is a feature of considerable importance, since it lessens the wear of the parts and requires less strength in opening the cover than would be necessary if the movement of the valve were equal in degree to that

of the lever-arm, since the valve would in the last-named case resist the movement of the lever-arm during its entire stroke or travel.

Having thus described our invention, what we claim is—

1. The combination with a liquid-receptacle whose top is provided with inlet and escape openings, of a spring-held valve normally closing the escape-opening and provided with a stem having a hook at its free extremity, a cover adapted to close the inlet-opening, a lever having one arm occupying a position above the hook extremity of the valve-stem and disengaged therefrom when the parts are in the closed position, and a suitable connection between the opposite arm of the lever and the hinged cover whereby as the cover is opened one lever-arm opens the valve by engaging the hook of its stem.

2. The combination with a liquid-receptacle and a cap therefor provided with inlet and escape openings, of a spring-held valve normally closing the escape-opening, and provided with a stem having a hook at its free extremity, a cover adapted to close the inlet-opening, and a lever formed from a single piece of wire and comprising a forward part 12^c, a rearwardly-located loop 12^d into which the part 12^c merges, a spring 12^a formed by a central coil intermediate the loop and the arm 12^c, the rear extremity of the wire being secured to the cap, the forward arm 12^c of the lever being arranged to engage the hook of the valve-stem for opening purposes; and a link connecting the rear extremity of the loop with the cover whereby the opening of the cover unseats the valve, the loop-opening being located directly beneath the inlet-opening of the cap.

3. The combination with a liquid-receptacle and a cap therefor provided with inlet and escape openings, of a spring-held valve normally closing the escape-opening, a cover adapted to close the inlet-opening, a lever formed from a single piece of wire and comprising a forward part 12^c, a rearwardly-located loop 12^d into which the part 12^c merges, a spring 12^a formed by a central coil intermediate the loop and the arm 12^c, the rear extremity of the wire being secured to the cap, and a suitable connection between the valve and the arm 12^c of the lever, and between the cover and the loop of the lever, whereby the opening of the cover opens the valve through the instrumentality of the lever.

In testimony whereof we affix our signatures in presence of two witnesses.

LESLIE H. ABBEE.
STEPHEN A. SEWALL.

Witnesses:
A. J. O'BRIEN,
DORA SHICK.