

No. 608,502.

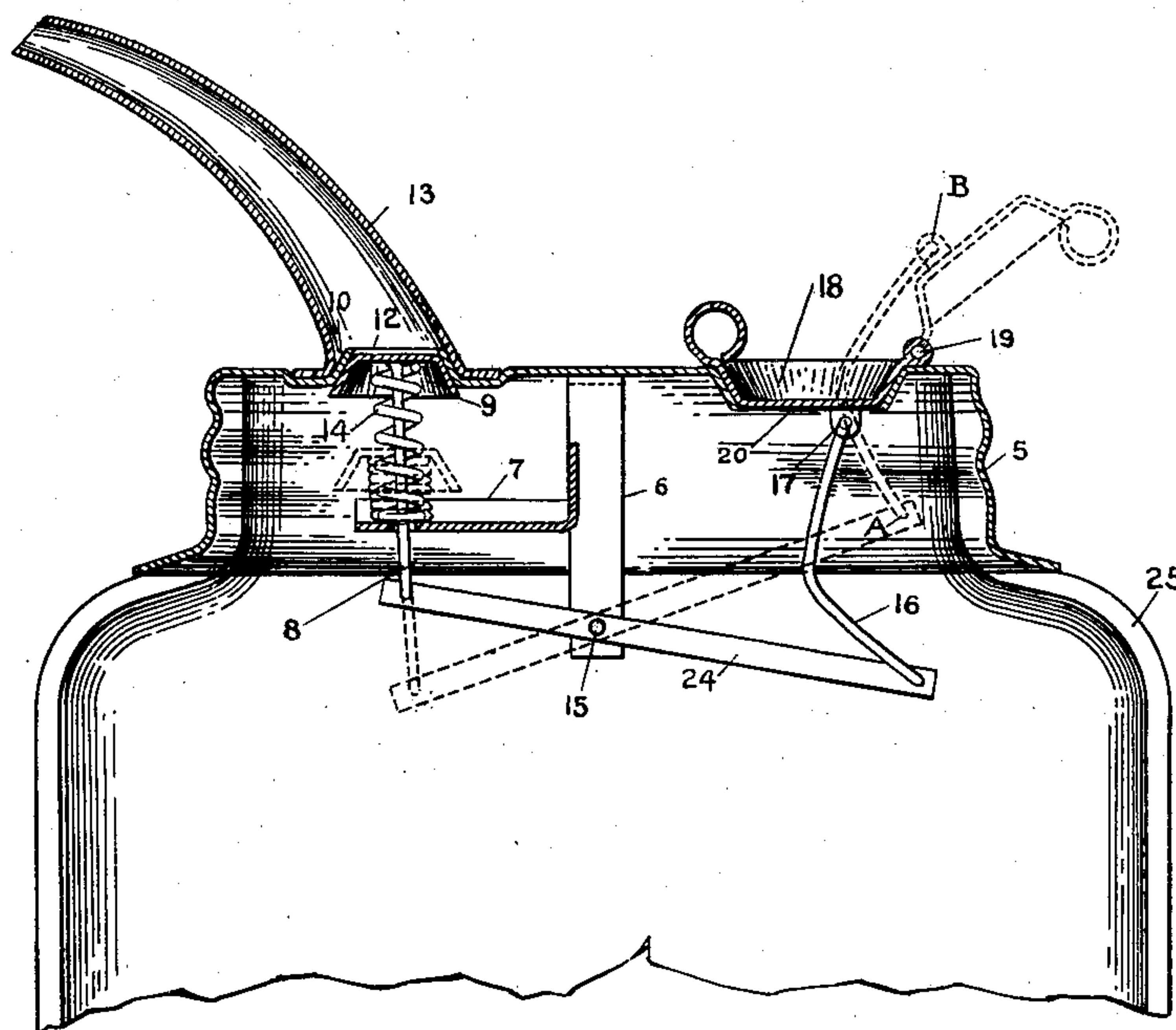
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STOPPER OR CLOSURE.

(Application filed Sept. 15, 1897.)

(No Model.)



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UNITED STATES PATENT OFFICE.

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STOPPER OR CLOSURE.

SPECIFICATION forming part of Letters Patent No. 608,502, dated August 2, 1898.

Application filed September 15, 1897. Serial No. 651,773. (No model.)

To all whom it may concern:

Be it known that we, LESLIE H. ABBEE, STEPHEN A. SEWALL, and AUREL J. BENNWITZ, 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 drawing, and to the letters and figures of reference marked thereon, which forms a part of this specification.

Our invention relates to improvements in stoppers or closures for cans, jars, or other receptacles adapted for holding liquids and more particularly highly-inflammable explosive oils, as coal-oil, and explosive and volatile liquids, as gasoline, naphtha, and ammonia.

Our object is to provide a device of this class which shall be simple in construction, economical in cost, reliable, durable, and efficient in use; and to these ends the invention consists of the features, arrangements, and combinations hereinafter described and claimed, all of which will be fully understood by reference to the accompanying drawing, in which is illustrated an embodiment thereof.

The drawing is a vertical section taken through the screw top or cap of a can or receptacle composed of glass, the said cap being provided with our stopper or closure mechanism. In this view the closed position of the mechanism is shown in full lines and the open position in dotted lines.

In the drawing the numeral 5 designates the said top or cap, to the inner surface of which is attached a depending arm 6, to which is secured a small horizontal plate or bracket 7, apertured to receive a stem 8, which passes therethrough. To the top of the stem 8 is secured a conical valve 9, adapted to engage a seat 10, surrounding an opening 12, communicating with a spout or nozzle 13, attached to the upper surface of the top 5. Surrounding the stem 8, above the bracket 7, is a coil-spring 14, one extremity of which engages the valve 9, while the opposite extremity rests on the said bracket. To the lower extremity of

the stem 8, which protrudes below the bracket, is attached one arm of a lever 24, which is fulcrumed at 15 on the depending arm 6. The opposite arm of this lever is connected with the lower extremity of a bent link 16, whose upper extremity is connected with a lug 17, formed on the bottom of a conical cover 18, hinged to the top 5 at 19, and adapted to close an inlet-opening 20 in the top 5.

When the parts are in the position shown in full lines in the drawing, the coil-spring 14 holds the valve 9 and the cover 18 tightly closed, thus preventing the escape of either liquid or gases from the receptacle to which the cap 5 is applied, since the said valve and cover, together with their engaging parts, are so constructed as to form air or gas tight joints.

When it is desired to pour liquid from the vessel or receptacle provided with the cap 5, the cover 18 is opened or raised to the dotted-line position. This movement of the cover throws the elements 16, 24, 8, 14, and 9 to the position shown in dotted lines. Hence the valve 9 is unseated and the liquid allowed to flow freely through the opening 12. The raising of the cover 18 opens the inlet-opening 20, which not only allows the link 16 to pass upward through the cap 5, but also serves as a vent to allow the air to enter as the liquid escapes by way of the opening 12 in the spout 13. The opening 20 also permits the filling of the can or vessel without removing or detaching the cap therefrom.

When the parts are in the dotted-line position, the points A and B where the link extremities are connected with the cover 18 of the lever 24 are located in a straight line passing slightly to the right of the center of the hinge-pin 19. Hence when the parts are in the dotted-line position they will remain so until the cover 18 is moved sufficiently to throw the points A and B into a line passing slightly to the left of said hinge-pin center, when the parts will automatically return to the closed or full-line position.

Having thus described our invention, what we claim is—

1. The combination with a receptacle cap or top provided with inlet and escape openings, of a valve adapted to close the escape-

opening from the inside, a cover adapted to close the inlet-opening from the outside, and suitable mechanism connected with the valve and cover, whereby the opening of the cover
 5 unseats the valve, said mechanism consisting of a stem to which the valve is attached, a coil-spring surrounding the stem and engaging the valve, a stop mounted on the cap and engaged by the opposite extremity of the spring, said
 10 stop having an opening through which the stem passes, a lever fulcrumed on a hanger attached to the cap, one extremity of the lever being connected with the valve-stem, and a link connecting the opposite extremity of
 15 the lever with the inlet-cover.

2. The combination with a receptacle cap or top provided with inlet and escape openings, of a valve adapted to close the escape-opening from the inside, a hinged cover adapted to close the inlet-opening from the outside,
 20 and suitable means for connecting the valve and cover whereby the opening of the cover unseats the valve, said means consisting of a stem to which the valve is attached, a coil-spring surrounding the stem and engaging the valve, a stop mounted on the cap and engaged by the opposite extremity of the spring, said
 25 stop having an opening through which the stem passes, a lever fulcrumed on a hanger attached to the cap, one extremity of the lever being connected with the valve-stem, and a link connecting the opposite extremity of

the lever with the inlet-cover, the arrangement being such that when the cover is open, the points where the link extremities are respectively connected with the lever and cover
 35 are out of line with the center of the cover hinge-pin whereby the parts are automatically held in the open position.

3. The combination with a vessel top or cap
 40 having an opening, of a hinged cover adapted to close said opening, a lever fulcrumed on the cap, a link connecting one arm of the lever with the said cover, a stem connected with the opposite arm of the lever and passing
 45 through a stop mounted on the cap, a coil-spring surrounding the stem and engaging the stop at one extremity, the opposite extremity of the spring bearing against a stop
 50 with which the stem is provided, the arrangement being such that when the cover is open, the points where the link extremities are respectively connected with the lever and cover are out of line with the center of the cover
 55 hinge-pin, whereby the cover is held open automatically.

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

LESLIE H. ABBEE.
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Witnesses:

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