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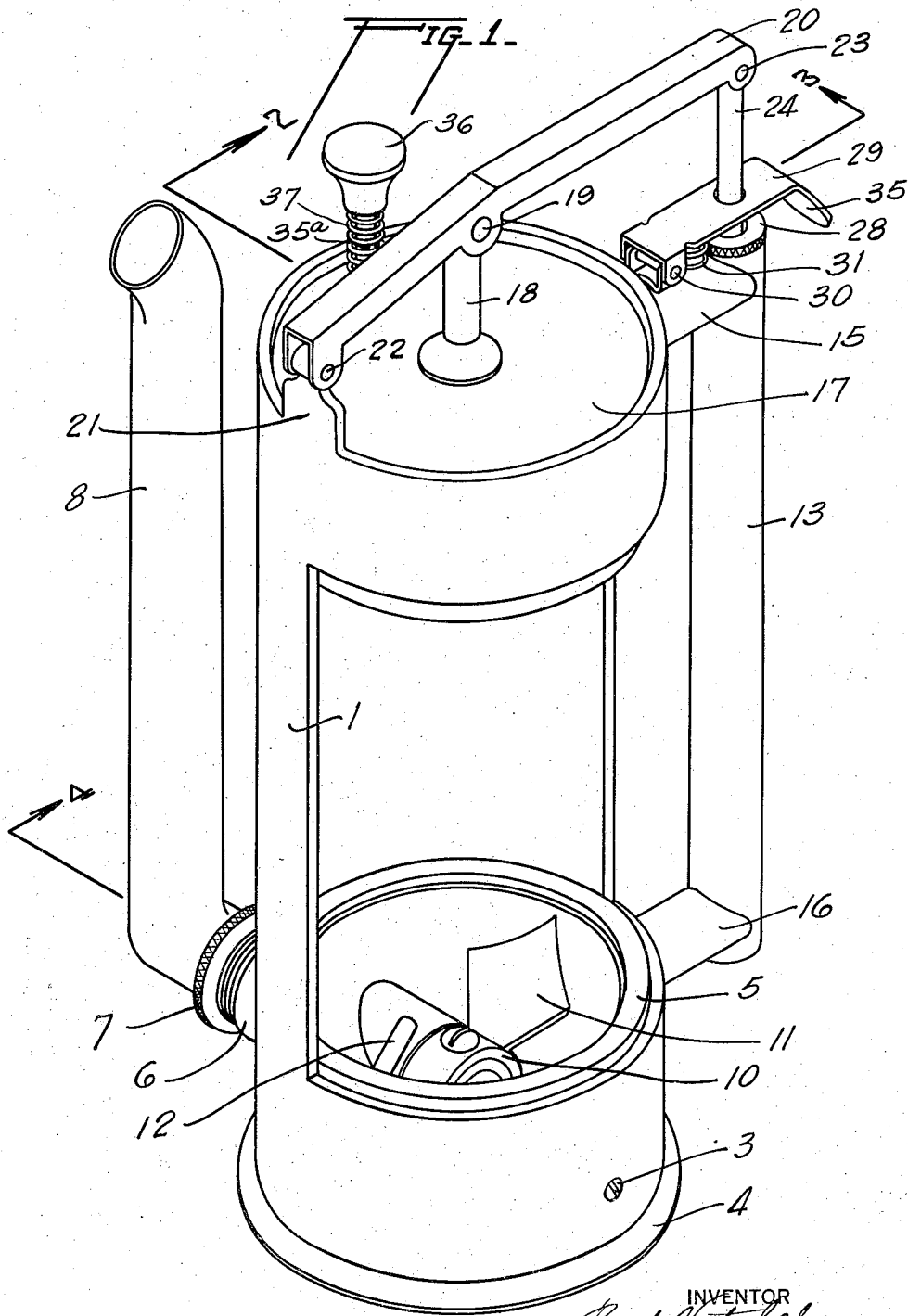
B. HATCHEL

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DISPENSER AND OPENER FOR SEALED CANS

Filed Dec. 12, 1935

2 Sheets-Sheet 1



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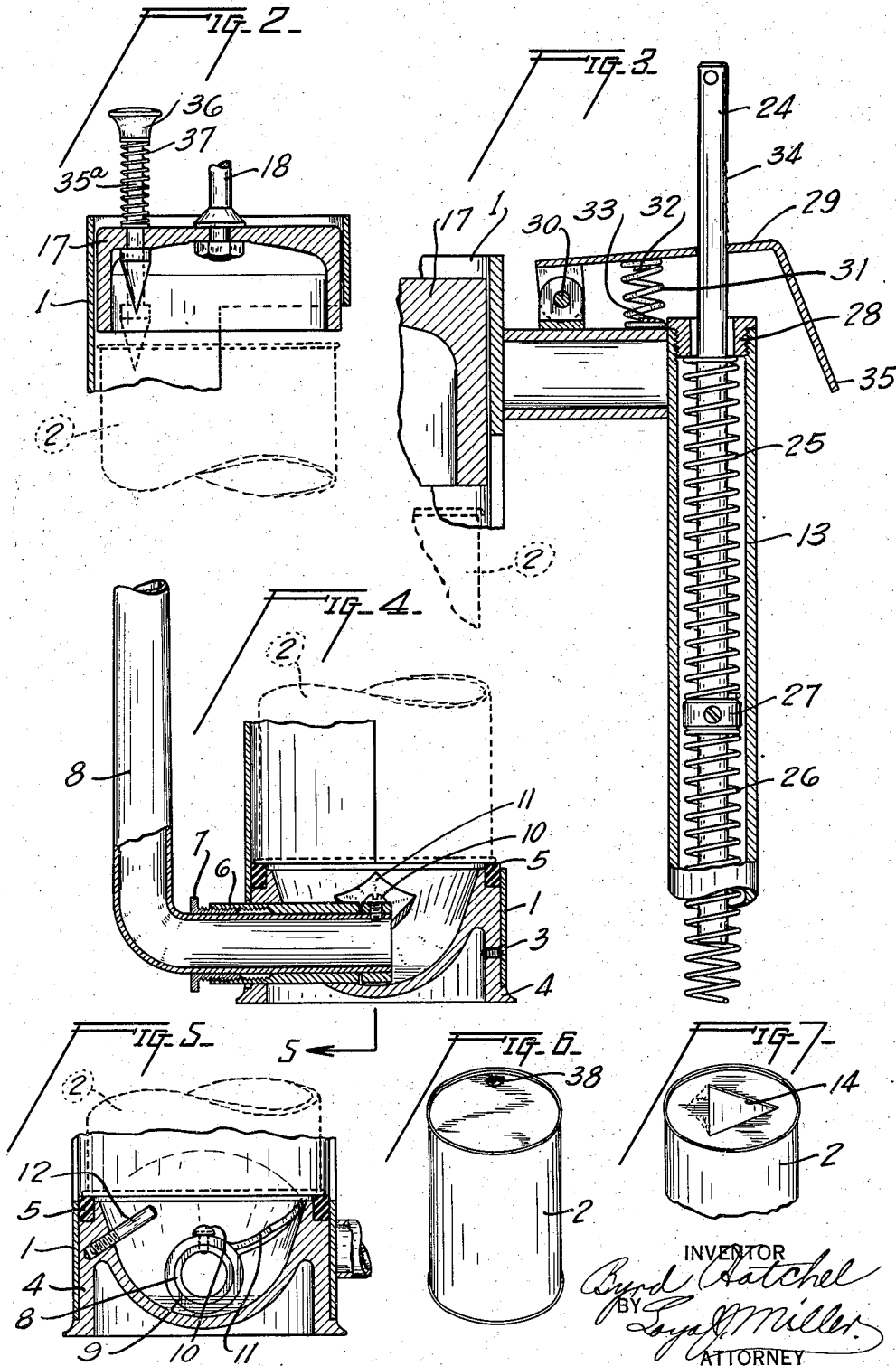
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UNITED STATES PATENT OFFICE

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DISPENSER AND OPENER FOR SEALED CANS

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7 Claims. (Cl. 221—23)

My invention relates to dispensers and is for use in opening and dispensing liquid from sealed cans.

The object of the invention is to provide a device of this class which is new, novel, practical and of utility; which will allow the handling of liquid sold in sealed cans without the usual spillage; which will assure delivery of full measure from the can; which will adequately open the can at one end for drainage and at the opposite end for air, thus assuring fast drainage; which will open the can from the bottom, thus preventing the possibility of mixing dust and dirt, which may have accumulated on the top of the can, with the contents of the can as it drains; and which will be economical in use because of its durability; and, which will be efficient in accomplishing all the purposes for which it is intended.

Present devices of this class do not allow easy dispensing of the oil to all types of cars; some do not provide air holes in the can for fast drainage of the oil, others provide air holes and drainage holes in the same end of the cans; nor do they dispense the oil without dripping it on parts of the car. My invention eliminates these disadvantages of present dispensers.

With these and other objects in view as will more fully appear hereinbelow, my invention consists in the construction, novel features, and combination of parts hereinafter more fully described, pointed out in the claims hereto appended, and illustrated in the accompanying two-sheet drawing, of which,

Figure 1 is a perspective view of the device as a whole;

Figure 2 is a fragmentary sectional view taken along line 2 of Fig. 1, showing a means for puncturing the top of a can held in the device;

Figure 3 is a fragmentary sectional view taken along the line 3 of Fig. 1, showing a means for holding a can in position in the device;

Figure 4 is a fragmentary sectional view taken along the line 4 of Fig. 1, showing a means for puncturing and draining a can held in the device;

Figure 5 is a fragmentary sectional view of the lower portion of the device taken along the line 5 of Fig. 4, showing further details of a means for puncturing and draining a sealed can;

Figure 6 is a perspective view of an oil can after its top has been punctured by the device; and,

Figure 7 is a fragmentary perspective view of an oil can after its lower end has been punctured by the device.

Like characters of reference designate like parts in all the figures.

It is understood that various changes in the form, proportion, size, shape, weight, material and other details of construction, within the scope of my invention may be resorted to without departing from the spirit or broad principle of my invention and without sacrificing any of the advantages thereof; and it is also understood that the drawings are to be interpreted as being illustrative and not restrictive.

The inventive idea involved is capable of receiving a variety of mechanical expressions one of which, for the purpose of illustrating the invention, is shown in the accompanying drawings wherein:—

Numeral 1 designates a hollow body, its opposite ends cylindrical, and its central portion semi-cylindrical, leaving one-half of its central portion open to receive a can 2. The inside diameter of this body 1 is just slightly larger than an ordinary one quart oil can, and the opening is of a height to easily admit an ordinary one quart oil can.

Inside the lower end of the body 1 is attached by screws 3, a base reservoir 4, its upper end grooved to receive an annular resilient seat 5, of a size to accommodate the end of an ordinary quart can 2, which seals tightly between the lower wall of the body 1 and the wall of the base reservoir 4, preventing the liquid from seeping between the two.

The interior of the base reservoir 4 is cup-like in shape and completely closes the lower cylindrical end of the body 1. Extending through the wall of the base reservoir 4, and the body 1, is a hollow cylindrical housing 6, the interior bore of which is larger near its outer end. The interior bore of the housing 6 is threaded at its outer end to receive a packing nut 7. The packing nut 7 and the housing 6 are axially aligned and act as a journal for a hollow cylindrical oil spout 8, the upper portion of which is at right angles to its lower portion, and in normal position extends vertically along the side of the body 1. The extreme lower end of the spout 8 extends beyond the inner end of the housing 6 and communicates with the base reservoir 4 and the body 1, allowing oil to pass freely from the base reservoir 4 through the spout 8 when the outer end of the spout is rotated to a position lower than its inner end. To prevent end play in the journal the inner end of the spout 8 is fitted tightly with a cylindrical collar 9, which is held rigidly in place on the spout by a set screw 10

through its wall. Made integral with the collar 10 is a sharp cutting blade 11, the position of which can be adjusted on the spout by loosening the screw 10. The end of the blade 11 moves 5 in an arc when the upper end of the spout is moved, and is adapted to cut a large hole 14 in the bottom of a can 2, as shown in Fig. 7, when the lower end of the can is held in position on the seat 5, by means which will be later described. A stud 12 screwed into the interior wall 10 of the base reservoir 4 limits the movement and prevents dulling of the blade 11.

Outside of the body 1 is a vertical hollow handle 13, extending from the upper cylindrical portion 15 of the body 1 to its lower cylindrical portion, affixed to the body by short cylindrical extensions 15 and 16.

Inside the upper cylindrical end of the body 1 is a hollow cylindrical plunger 17, having only 20 its upper end closed. An upstanding stud 18 is rigidly attached to the closed end of the plunger near its center. The upper end of the stud is outside the body 1 and is horizontally bored to act as a bearing for an axle 19 the outer ends 25 of which are journaled in perforations intermediate its ends in two opposed flanges of a rocker arm 20. One end of the rocker arm 20 is pivotally mounted on a flange 21, which is integral with the upper end of the body 1, and which is 30 located at a point opposite the handle 13. The upper end of the flange 21 forms a horizontal bearing for an axle 22, the outer ends of which are journaled in two centrally perforated flanges located at one end of the arm 20. The opposite 35 end of the rocker arm is similarly pivotally mounted as shown at 23, on the upper end of a rod 24, at a point in alignment with the extended axis of the handle 13. This explains the mounting of the plunger 17 on the inside of the upper 40 end of the body 1. It will be evident that the plunger is free to move upward or downward inside the body, such movement being controlled by movement of the end of the rocker arm which is attached to the rod 24.

45 The rod 24 is housed by the handle 13. Two coiled springs 25 and 26 are also housed by the handle 13 and surround the rod 24 inside the handle. With the plunger 17 in a raised position and the rod 24 in a corresponding raised 50 position, the rod is of a length to permit approximately two inches downward movement before its lower end contacts the closed bottom of the handle 13. Midway between the ends of the handle 13 a collar 27 is carried by the rod 24. 55 The position of this collar on the rod is vertically adjustable by means of a set screw carried by the collar 27. The collar 27 acts as a seat for the upper end of spring 26 and for the lower end of spring 25. Movement of the rod downward is 60 partially retarded by the force of spring 26 whose lower end is seated on the bottom of the handle 13. Movement of the rod upward is likewise retarded by the spring 25, the upper end of which is seated against the end of a centrally bored plug 65 28 which screws into the upper end of the handle 13 and acts as a guide for the vertical movement of the rod 24.

The rod 24 is adapted to be locked in stationary position at any point in its vertical travel 70 by means of a lock plate 29, the inner end of which is pivotally mounted on the extension 15 as shown at 30, in a manner similar to the pivotal mounting of the rocker arm 20, as shown at 23. The plate 29 has a perforation near its center 75 large enough to barely allow the rod 24 to

slide therethrough when the plate is at right angles to the axis of the rod. A coiled spring 31 is located intermediate the rod 24 and the pivotal mounting 30, its upper end seated on the plate 29 around a stud 32, made integral with 5 the plate. The lower end of the spring seats around a stud 33, made integral with the extension 15. The spring 31 is normally compressed and tends to push the outer end of the plate 29 upward, and to keep the plate from a position 10 at right angle to the axis of the rod 24. When the plate is in a position other than at right angles to the axis of the rod, the edge of the perforation in the plate frictionally grips the upper 15 portion of the rod 24, and prevents its vertical movement. A series of notches 34 are provided in the upper end of the rod 24 to increase this grip of the plate on the rod. The plate 29 at its outer end is enlarged and bent downward to form a thumb trigger 35, adjacent the upper end 20 of the handle. Pressure on the trigger brings the plate into a position at right angles to the rod 24 and allows vertical movement of the rod through the perforation in the plate.

A pin 35a is slidably mounted through a per- 25 foration in the top of the plunger 17 near its outer wall. The lower end of the pin 35a is conical in shape and is larger in circumference than the central portion of the pin. In normal position the conical end is inside the plunger, in 30 proximity to the top of a can 2 in position on the seat 5. At its upper end the pin is threaded to accommodate a correspondingly threaded top 36, which seats the upper end of a coiled spring 37 holding it in place around the pin 35a. The 35 lower end of the spring seats on the top of the plunger 17, and the spring holds the lower conical end of the pin against the top of the plunger.

In operation the thumb trigger 35 is manually 40 depressed, thus releasing the grip of the plate 29 on the rod 24, whereupon the spring 26 pushing on the collar 27, raises the rod 24. The rod 24 raises the outer end of the rocker arm 20, which in turn raises the plunger 17 and leaves the central opening of the body 1 unobstructed. A 45 can, from which it is desired to dispense liquid, is placed inside the body 1 with its lower end resting on the resilient seat 5. The trigger 35 is depressed and the rocker arm 20 is manually pushed downward lowering the plunger onto the 50 top of the can and tightly seating the bottom of the can on the resilient seat 5. By release of thumb pressure the plate 29 is then allowed to assume its normal position and holds the rod 24 from vertical movement, thus holding the lower 55 annular end of the plunger tight against the can top, and the lower end of the can tightly seated on the seat 5.

The pin 35a is pushed downward by manual 60 pressure on its top 36, and its lower conical end punctures the top of the can 2 as shown at 38. The upper end of the spout is partially rotated from its normal vertical position about the axis of its lower end, which movement causes the 65 cutting blade 11 to cut a hole 14 in the bottom of the can, thus allowing the liquid to pass from the can into the base reservoir 4, and thence into the spout. The end of the spout is then rotated until its lower end is below the base 70 reservoir 4 and the liquid pours out through the spout. A slight amount of liquid remains in the reservoir 4. Each time the contents of a can are dispensed the same amount of liquid remains in the reservoir, thus assuring delivery of the full 75 contents of each can through the spout.

Obviously, the invention is susceptible of embodiment in forms other than that which is illustrated in the accompanying drawings and described herein, and applicable for uses and purposes other than as detailed, and I therefore consider as my own all such modifications and adaptations and other uses of the form of the device herein described as fairly fall within the scope of my invention.

Having thus described my invention, what is claimed and desired to be secured by Letters Patent, is:

1. In a dispenser, a cylindrical hollow body having both its ends closed and a front opening intermediate its ends adapted to receive a can, a discharge opening in the lower end of said body, a movable spout on the body communicating with said discharge opening, a cutter in the lower end of said body being relatively movable with said spout and adapted to cut an opening in the can upon movement of said spout.

2. In a dispenser, a container having a cup-like reservoir disposed in its lower end; an annular resilient seat adjacent the top of said reservoir adapted to hermetically seat the end of said can; mechanical means in the upper end of said container for locking the can in a seated position over said reservoir; means for releasing the can from such position; a hollow spout having one end journaled in the wall of and communicating with said reservoir, its other end adapted to act as a crank to rotate said journaled end, the spout as a whole adapted to control and direct the flow of a liquid from said reservoir; a cutting blade rigidly positioned on the journaled end of said spout adapted to rotate relatively with said spout and to puncture the bottom of said can and cause communication between the interior of said can and said reservoir; a pin slidably mounted in the top of said container adapted to puncture the top of said can when manually depressed.

3. A dispenser for liquids from cans comprising: a cylindrical can; a cup-like reservoir in one end thereof having an annular groove in its upstanding edge for holding therewithin a portion of an annular resilient seat the upper surface of said seat extending above the upper edge of said reservoir for seating said can; mechanical means in the upper end of said container for holding one end of said can in sealed contact with said seat in communication with said reservoir; retrieving means adapted to puncture the top of said can for introducing air thereinto; a horizontally disposed bearing through the wall of said reservoir; an L-shaped spout having its lower end journaled

in said bearing and communicating with said reservoir, said spout having a collar at its lower end adjacent the interior end of said bearing integral with a cutting-blade; a set-screw for holding said collar and cutting-blade rigidly on said spout to cause relative rotation therewith and to open the bottom end of said can and cause communication between said can and said reservoir, and limiting means for controlling the throw of said cutting-blade.

4. A dispenser comprising: a cylindrical hollow body having a reservoir in its lower end, an opening intermediate its ends for receiving a can, and a plunger closing its upper end adapted to securely hold a can in contact with said reservoir and within said body; a rotatable spout journaled in the wall of and in communication with said reservoir; and a cutter blade carried by the inner end of said spout and adapted to puncture the end of a can when said spout is rotated.

5. A dispenser comprising: a hollow cylindrical can holder having an opening in its side to receive a can; a cup like reservoir housed in the lower end of said holder; a plunger mounted in the upper end of said can holder for cooperating with the upper edge of said reservoir to hold a can firmly therebetween; a movable spout journaled through the wall of said body and said reservoir; and means carried by the inner end of said spout for opening a can when the spout is rotated.

6. In a dispenser, a reservoir carried in the bottom of a cylindrical can holder; a resilient gasket carried on the upper edge of said reservoir for tightly sealing one end of a can thereon; means mounted within the upper end of said can holder for holding one end of a can in sealed engagement with said gasket and reservoir; a movable spout for controlling the discharge of a liquid from said reservoir; and means movable with said spout for opening a can held in position in said can holder.

7. A dispenser comprising: a can container having a reservoir therein, a resilient seat carried by the open end of said reservoir for seating one end of a can; a plunger slidable in the upper end of the container for holding one end of the can hermetically on said resilient seat and in communication with said reservoir only; a movable spout for controlling the drainage of a liquid from said reservoir; means carried by the inner end of said spout for opening the seated end of the can; and means carried by the plunger for puncturing the opposite end of said can.

BYRD HATCHEL. 55