

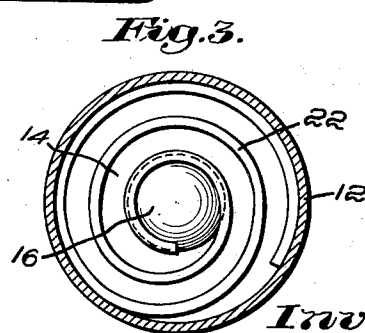
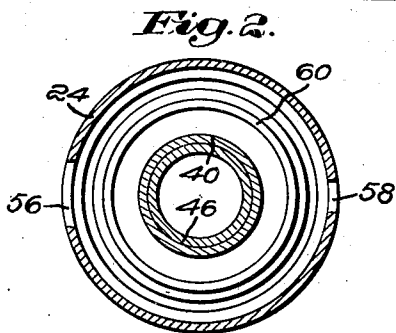
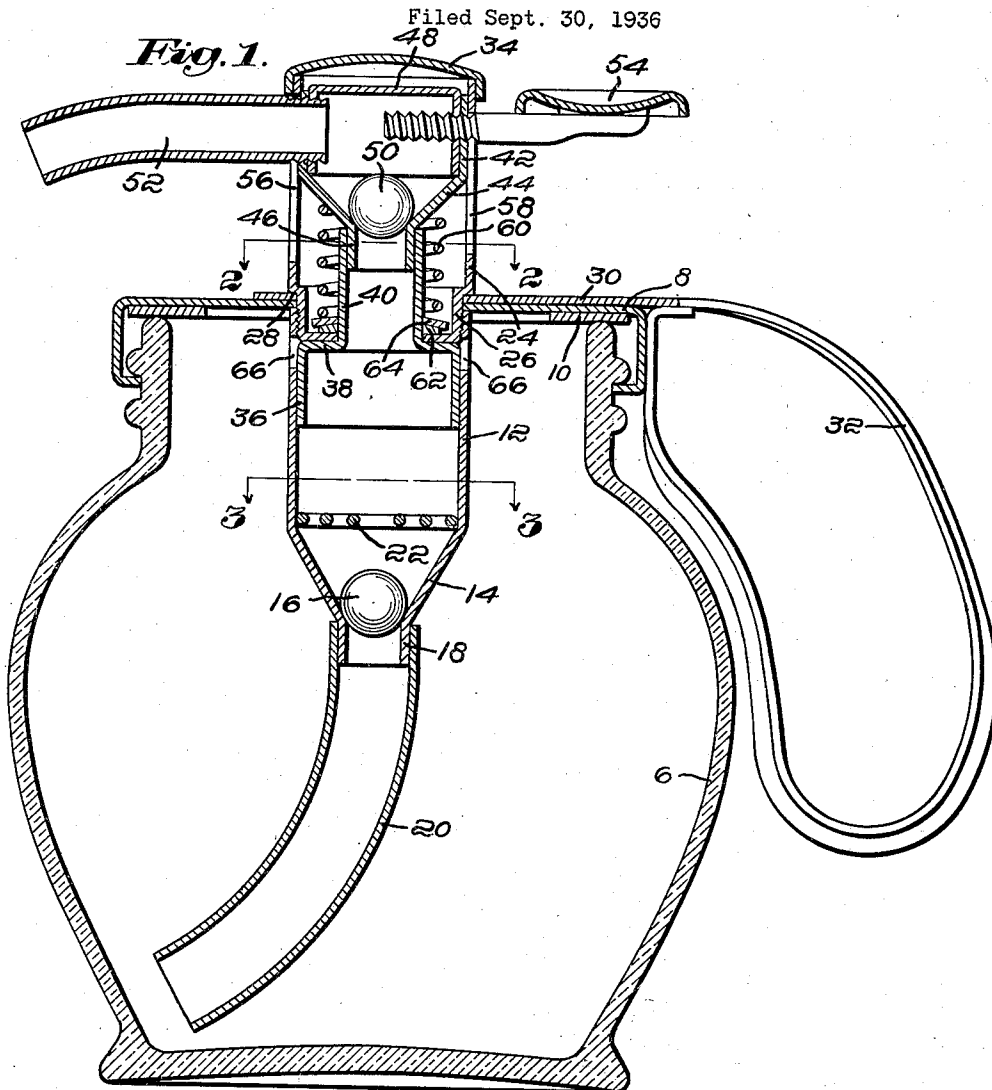
Nov. 8, 1938.

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2,136,263

DISPENSER FOR FOODS AND THE LIKE

Filed Sept. 30, 1936



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UNITED STATES PATENT OFFICE

2,136,263

DISPENSER FOR FOODS AND THE LIKE

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Application September 30, 1936, Serial No. 103,309

10 Claims. (Cl. 221—83)

This invention relates to dispensing devices for liquids and semi-liquids, especially adapted for table use for the service of syrups, catsups or the like. I provide a simple and effective device for this purpose, inexpensive to construct and

My invention will be well understood by reference to the following description of the illustrative embodiment thereof shown by way of example in the accompanying drawing, wherein:—

Fig. 1 is a central vertical section; and

Figs. 2 and 3 are enlarged sections on the lines 2—2 and 3—3 of Fig. 1, respectively.

Referring to the drawing, I have there shown a portable container 6, conveniently of glass, to which is removably secured in any suitable manner a cover 8 with an intervening packing washer 10. The dispensing mechanism proper for dispensing the contents of the container is a pumping arrangement desirably completely carried by the cover. It will be observed as the description of the preferred embodiment shown in the drawing proceeds that I have there provided an arrangement wherein the parts are formed of sheet material of substantially uniform thickness and which thus may be most economically manufactured, for example, as sheet metal stampings.

The pumping mechanism comprises a cylinder 12 suspended from the lower side of the cover and is here provided with a conical bottom 14 providing a seat for a gravity-actuated ball valve 16, which bottom merges into a tubular extension 18 on which may telescope an inlet pipe 20 which is curved to extend to the periphery of the bottom of the container to provide for substantially complete discharge of the contents thereof when the assembly is tilted toward the left in Fig. 1. At the base of the cone I show a coil spring 22 held in position by its expansion against the cylinder wall, which spring serves as a keeper to prevent undue displacement upwardly of the ball valve 16.

Above the cover is provided a housing 24 of cup-like form having at its lower end a reduced extension 26 providing the shoulder 28 seating on the cover, which extension extends through a suitable opening in the cover and screws into the open top of the cylinder 12, thus maintaining the cylinder and housing in position. I have here also shown this extension as passing through an opening in a strip 30 overlying the cover, which strip is thus clamped in position, the strip extending radially and being bent to form a loop-

like handle 32 disposed at one side of the container 6. The housing may be closed at its upper end by a cap 34 fitted thereto.

Within the cylinder 12 works a piston having a cylindrical skirt 36 and an annular wall 38 at its upper edge which merges into a hollow piston rod 40 extending upwardly through an opening in the bottom wall of the reduced extension 26 of the housing and into the latter. Slidably guided within the housing 24 is a cup-like member 42 having a conical bottom 44 merging into a depending tubular extension 46 which fits into the hollow piston rod. A cap 48 provided with a depending flange fitting within the wall 42 of the cup-like member defines therewith a chamber into which the pump discharges past a gravity-actuated ball valve 50 seated on the conical wall 44. This chamber is rigidly connected with the piston and the two reciprocate as one, being guided by spaced bearings respectively on the housing 24 and the cylinder 12.

The flange of the cap 48 and the wall 42 of the cup provides for the chamber a peripheral wall of double thickness. This wall may therefore be tapped to receive the threaded inner end of a laterally projecting dispensing spout 52 and herein also the stem of a handle or thumb-piece 54 which projects laterally away from the spout and in opposition to the handle 32 so that it may be engaged by the thumb to depress the piston when the handle 32 is grasped by the fingers. The spout and handle work respectively in slots 56 and 58 in the wall of the housing 24.

In the embodiment of the invention shown the piston is manually depressed for the discharge stroke and returned by means of a spring for the suction stroke. Herein a helical spring 60 is interposed between the bottom of the conical wall 44 and the upper surface of the bottom of the housing encircling exteriorly the waist-like portion connecting the piston proper and the chamber into which the pump discharges. The spring is thus disposed out of contact with the material dispensed with obvious advantages from the point of view of cleanliness and sanitation, yet it is inconspicuously received within and protected by the housing at the upper part of the mechanism.

The joint between the upwardly extending piston rod 40 and the opening in the lower part of the reduced extension 26 of the upper housing through which it passes may be a comparatively loose one and is closed by a packing washer 62 on which rests a dished metal washer 64 on which the spring 60 directly bears. As the con-

15 tents of the container are pumped out, air may enter through the slots 56 and 58 and will find its way through this joint and enter the interior of the container through ports 66 formed in the cylinder above the upper position of the lower edge of the piston. Atmospheric pressure is thus maintained within the container permitting the functioning of the pump.

10 It will be understood that, assuming the pump to be empty, if we depress the piston by means of the thumb-piece 54 and with it the chamber and the spout 52 carried thereby, then on the return stroke valve 16 opens and the pump chamber fills. On the next depression stroke valve 15 16 is closed, discharge valve 50 is opened and the contents of the cylinder are discharged into the chamber above it and out through the spout 52. After a desired amount of the contents has been used, it is desirable to empty or substantially empty the spout 52 to prevent drip, and this is effected by arranging for a delayed closing of the valve 50 so that at the beginning of the upward or suction stroke this valve will be open for a brief period in advance of the opening of valve 16 to suck back through the spout 52 any residue therein. This is herein effected by a suitable design of the conical seating surfaces 44 and 14 respectively. It will be observed from the drawing that the angle of the sloping sides of the cone 14 is about 30° to the vertical whereas the angle of the sides 44 is about 45°. In the use of the device it will normally be tipped somewhat to the left in a position corresponding to about a 45° rotation counterclockwise of the drawing. In this position 30 the open valve 50 will be resting on a surface horizontal or nearly so and the tendency for it to return to its seat by gravity is much reduced. On the other hand, the surface adjacent the valve 16 slopes upwardly so that the ball still must roll uphill, as well as pass through the medium filling the cylinder, in order to open. As the result of this construction the closure of the valve 50 is somewhat delayed and the opening of valve 16 likewise somewhat delayed so at the beginning of 45 the suction stroke the action of the pump is to suck back material remaining in the nozzle before closure of valve 50 and the drawing of a new charge into the pump chamber from the main supply within the container 6.

50 I am aware that the invention may be embodied in other specific forms without departing from the spirit or essential attributes thereof, and I therefore desire the present embodiment to be considered in all respects as illustrative and not restrictive; reference being had to the appended claims rather than to the foregoing description to indicate the scope of the invention.

I claim:

60 1. Dispensing mechanism for liquids and semi-liquids comprising a cover adapted to be fitted to a portable container and having an opening therethrough, parts comprising a cylinder and a housing bearing on the cover at the inner and outer sides thereof respectively, one of said parts 65 having a reduced neck extending through the opening, to which neck the other part is secured, a piston in the cylinder having a hollow rod extending through the opening, a chamber guided in the housing into which said rod opens and to which it is secured, a spring within the housing 70 interposed between the chamber and cover, a spout projecting laterally from the chamber, the housing having a suitable slot in which said spout may work means extending from the chamber for manually reciprocating the same and valves con-

trolling intake to the cylinder and discharge to the chamber.

2. Dispensing mechanism for liquids and semi-liquids comprising a cover adapted to be fitted to a portable container and having an opening 5 therethrough, parts comprising a cylinder and a housing bearing on the cover at the inner and outer sides thereof respectively, one of said parts having a reduced neck extending through the opening, to which neck the other part is secured, 10 a piston in the cylinder having a hollow rod extending loosely through the opening, a chamber guided in the housing into which said rod opens and to which it is secured, a washer about the rod at said opening, a spring within the housing 15 interposed between said chamber and washer, a spout projecting laterally from the chamber, the housing having a suitable slot in which said spout may work, means extending from the chamber for manually reciprocating the same and 20 valves controlling intake to the cylinder and discharge to the chamber.

3. Dispensing mechanism for liquids and semi-liquids comprising a cover to be fitted to a portable container having an opening, a part com- 25 prising a cylinder of sheet material having an apertured bottom and an upper end bearing on the inner surface of the cover about the opening therein, another part comprising an exterior casing bearing on the exterior of the cover around 30 the opening therein, one of the parts having a shoulder and a reduced extension passing through the opening and connected to the other part at the other side of the cover, the reduced portion being apertured, a piston in the cylinder and a 35 closed cap sliding in the casing connected by a tubular connection passing through the aperture, a dispensing spout extending from the cup through the exterior casing, means manually accessible from without the casing for depressing the closed cup and piston, a return spring for 40 the parts, a suction valve for the bottom of the cylinder, and a valve controlling discharge to the cup.

4. Dispensing mechanism for liquids and semi-liquids comprising a cover adapted to be fitted 45 to a portable container and having a casing projecting to each side thereof and provided with a suction valve at its internal end, a reciprocating member comprising a cup-shaped piston guided 50 in the interior part of the casing having a tubular extension from its bottom, a cup-shaped member guided in the exterior part of the casing having a depending tubular portion fitting the tubular extension, a discharge valve between 55 said parts, a flanged cap closing the outer cup-shaped member, a lateral spout from the cup-shaped member extending through the casing, means accessible manually from the exterior of the casing for depressing the reciprocating member, and a return spring within the exterior part 60 of the casing beneath the cup-shaped member and encircling the extension thereof.

5. Dispensing mechanism for liquids and semi-liquids comprising a cover adapted to be fitted 65 to a portable container and having a casing projecting to each side thereof and provided with a suction valve at its internal end, a reciprocating member comprising a cup-shaped piston guided 70 in the interior part of the casing having a tubular extension from its bottom, a cup-shaped member guided in the exterior part of the casing having a conical bottom leading funnel-like to a tubular portion fitting the tubular extension, a discharge valve seated in said conical bottom, a 75

flanged cap closing the outer cup-shaped member, a lateral spout from the cup-shaped member extending through the casing, means accessible manually from the exterior of the casing for depressing the reciprocating member, and a return spring within the exterior part of the casing beneath the cup-shaped member and encircling the extension thereof.

6. Dispensing mechanism for liquids and semi-liquids comprising a cover to be fitted to a portable container, a pump beneath the cover having a hollow piston rod projecting through the same, a cup-like member of sheet material having a bottom provided with a tubular extension fitting the rod, a valve controlling discharge by the pump to the member, a flanged cover for the member providing a peripheral wall of double thickness, and a discharge spout tapped into said wall.

7. A mechanism as defined in claim 6 having a housing on the top of the cover slidably receiving the cup-like member and its cover, the housing having a slot through which the spout projects.

8. Dispensing mechanism for liquids and semi-liquids comprising a cover to be fitted to a portable container, a pump beneath the cover having a hollow piston rod projecting through the same, a cup-like member of sheet material having a peripheral wall and a conical bottom merging into a tubular extension fitting the rod, a ball within the cone of the bottom providing a valve controlling discharge by the pump to the member, a flanged cover fitting the peripheral wall to provide a double thickness, a spout part and an actuating handle part connected to the cham-

ber formed by said member and its flanged cover, at least one of said parts being tapped through the double thickness and extending inwardly to overlie the ball to provide a keeper therefor.

9. Mechanism for dispensing liquids and semi-liquids comprising a cover to be fitted to a portable container, a pump beneath the cover comprising a cylinder having an intake valve and a piston, a chamber above the cover having a dispensing spout and having a rigid tubular connection with the further side of the piston traversing the cover, a valve controlling discharge from the pump to the chamber, the intake and discharge valves being so constructed and arranged that the closing of the latter valve is delayed relatively to the opening of the former on the beginning of the suction stroke whereby residue in the spout is sucked back.

10. Mechanism for dispensing liquids and semi-liquids from a portable container comprising a pump to be positioned therein and having an operating portion projecting exteriorly and further comprising an exterior chamber to which the pump discharges, said chamber having a dispensing spout, said pump having an intake valve comprising a conical seat and a gravity-actuated ball and a discharge valve to the container comprising a conical seat and a gravity-actuated ball, the angle of the former seat being substantially steeper than that of the latter to provide, when the container is tipped, a delayed closing of the discharge valve and a retarded opening of the intake valve whereby to suck back residue from the spout.

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