Dec. 8, 1931. C. B. TOMPKINS 1,835,541

DISPENSING DEVICE

Filed Nov. 28, 1930

Fig. 2.

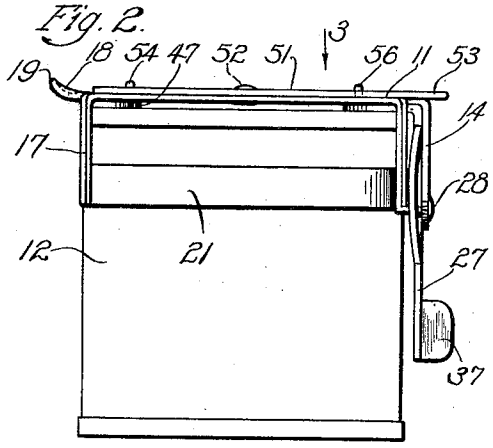


Fig. 1.

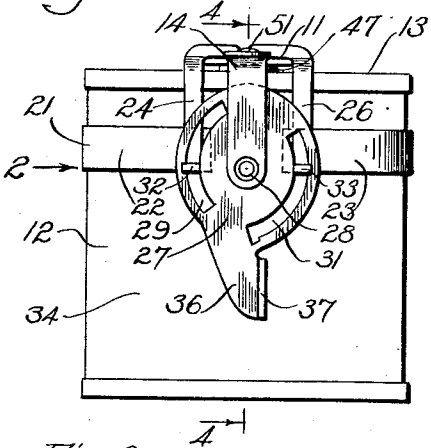


Fig. 3.

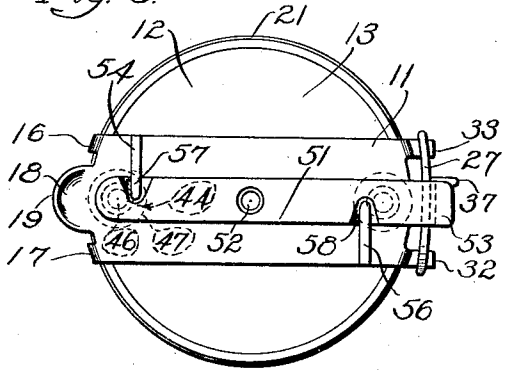


Fig. 6

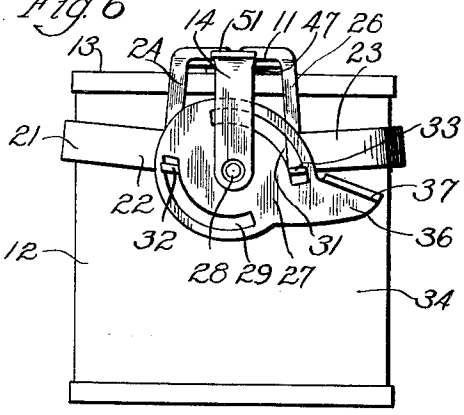


Fig. 4

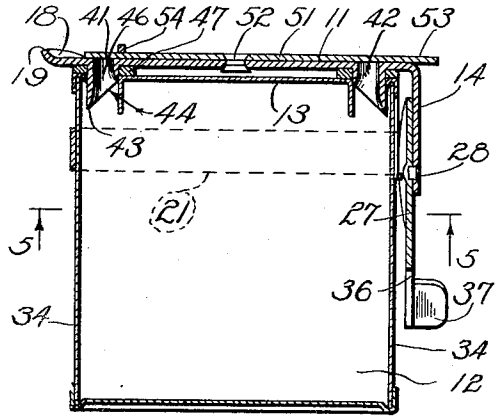
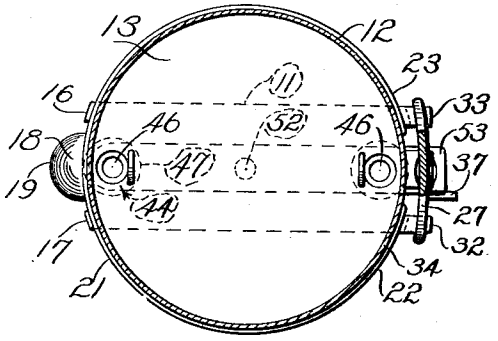


Fig. 5.



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UNITED STATES PATENT OFFICE

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DISPENSING DEVICE

Application filed November 28, 1930. Serial No. 498,789.

This invention relates to dispensing devices, and has for an object the provision of a pouring or dispensing spout adapted to afford convenience in opening a can and removing liquid contents therefrom.

Another object is to provide a pouring spout for a can as described provided with means for securely clamping the spout in operative position upon the can, so as to prevent inadvertent removal thereof before the desired time.

Another object is to provide a pouring spout as described provided with opposed tubular piercing means adapted to penetrate and extend through the top of a can, one of the piercing means being adapted to admit air to the interior thereof to take the place of the liquid displaced when part or all of the contents of the can are removed, and in which means are provided for simultaneously opening or closing both of the tubular piercing means, so as to prevent evaporation of the contents of the can and the entrance of dust and other contaminating agents into the can.

The invention possesses other objects and advantageous features, some of which, with those enumerated, will be set forth in the following description of the invention's particular embodiment which is illustrated in the drawings accompanying and forming a part of the specification.

Referring to the drawings:

Fig. 1 is a view in side elevation of a can, showing a dispensing device constructed in accordance with the principles of the present invention operatively mounted thereupon.

Fig. 2 is another side elevation taken in the direction of the arrow 2 of Fig. 1.

Fig. 3 is a top plan view, the direction of view being indicated by the arrow 3 of Fig. 2.

Fig. 4 is a vertical medial sectional view taken upon the line 4—4 of Fig. 1, with the direction of view as indicated.

Fig. 5 is a horizontal sectional view taken upon the line 5—5 of Fig. 4 and looking upwards as indicated by the arrows.

Fig. 6 is a view similar to Fig. 1, but showing the clamping means moved to released position.

The dispensing device of the present invention is intended for use in opening a conventional can, all or a portion of the contents of which are liquid, and in facilitating removal of the liquid contents therefrom. The device of the present invention finds particular utility in conjunction with cans containing evaporated milk, because of the fact that it is common practice to use these cans under such circumstances that only a portion of the contents thereof are removed at any one time, the remainder of the contents being left within the can until such subsequent time as it is desired to again use a quantity of the contents. Between such uses the dispensing device is adapted to be adjusted so as to seal the openings which have been formed in the can, with the result that evaporation of the contents is prevented, and the entrance of contaminating agents is prevented, as well as the entrance of air itself, which might expedite the oxidation of certain materials within the can and render them unfit for future use.

My improved dispensing device comprises a plate 11 slightly longer than the diameter of the can 12, with which it is to be used, this plate being adapted to be placed in such position that it extends diametrically across the top 13 of the can. A tongue 14 extends downwards from one end of the plate 11, and preferably a pair of spaced tongues 16 and 17 extend downwards from the other end of the plate, with a lip 18 extending between the tongues 16 and 17 substantially in the plane of the plate 11, except for the fact that the outer edge 19 of the lip 18 is curled upwards slightly to form a guide whereby pouring of liquid contents from the can 12 is facilitated, as will be described hereinbelow.

A band 21 is adapted to encircle the can 12 slightly below the top 13 thereof, and is secured intermediate its ends 22 and 23 to the tongues 16 and 17. The ends 22 and 23 are disposed adjacent the tongue 14 upon the opposite side of the can 12, and preferably are guided by means of additional tongues 24 and 26, respectively, which extend downwards from the plate 11 upon opposite sides of the tongue 14. Preferably, the tongues 24 and

26 are of relatively thin and light material and/or they are attached to the plate 11 in such a manner that either they or the plate may flex slightly, permitting the lower ends of the tongues 24 and 26 to move toward and away from each other as the ends 22 and 23 of the band 21 are moved. This adjustment of the band 21 is effected by means of a plate 27 mounted for rotary movement upon the lower end of the tongue 14 by a pivot pin 28, preferably a suitable rivet. The plate 27 is provided with opposed arcuate slots 29 and 31 disposed with the arcs described thereby having their centers slightly offset from the axis of the pivot pin 28, as best shown upon Figs. 1 and 6. Fingers 32 and 33 are formed upon the ends 22 and 23, respectively, of the band 21, and are slidably received within the arcuate slots 29 and 31, respectively, with the result that when the slotted plate 27 is turned the fingers 32 and 33, and accordingly the ends 22 and 23 of the band 21, will be forced apart or drawn together, depending upon the direction of turning of the plate 27. The parts are so proportioned and arranged that the band 21 may be contracted into gripping engagement with the cylindrical sides 34 of the can 12 in this manner. A lever 36, preferably having a laterally extending substantially flat portion 37, is provided upon the slotted plate 27, whereby turning of the plate 27 is facilitated.

Piercing means are provided, preferably adjacent each end of the plate 11. These piercing means are preferably in the form of tubes 41 and 42 secured to the under side of the plate 11, each of these tubes being provided with a penetrating point 43, whereby the tubes may be caused to penetrate the top 13 of the can 12 simply by pressing the plate 11 downwards theretoward, forming apertures 44 in the top 13, through which the tubes 41 and 42 may extend, as best shown upon Fig. 4. The bore 46 of each of the tubes 41, 42 is continuous through the plate 11, whereby contents of the can 12 may be poured therethrough after the tubes 41 and 42 have been caused to penetrate the top 13, as will readily be understood.

In order to prevent leakage of the liquid contents around the exterior of either of the tubes 41, 42 and between the top 13 and the under side of the plate 11, sealing means, preferably in the form of resilient gaskets 47, are provided upon the tubes 41 and 42, each being in the form of a ring encircling the tube and adapted to be compressed tightly between the plate 11 and the top 13 when the dispensing device is in operative position upon the can 12.

A preferably flat bar 51 is mounted for pivotal movement by means of a rivet 52 or its equivalent, adjacent the central portion of the plate 11 on the upper side thereof. This bar 51 is of such length that it is adapted to extend over and close the bores 46 of both tubes 41 and 42, as illustrated upon Fig. 4. One end 53 of the bar 51 preferably is of such length that it extends beyond the associated end of the plate 11, thereby providing a handle portion whereby swinging motion of the bar 51 about the axis of the pivot 52 is facilitated. Preferably a pair of brackets 54 and 56 are provided upon the upper face of the plate 11, each having a horizontal arm 57 adapted to extend over the associated end of the bar 51 when the bar is in bore-closing position, and press the bar tightly against the plate 11, and thus establish tight sealing of the bore 44 of the associated tube. This effect is enhanced by providing a beveled portion 58 on the bar 51 in position to be engaged by each of the brackets 54 and 56, and thus develop a wedging action whereby the ends of the bar are pressed downwards with considerable force when the bar 51 is swung to that position illustrated upon Fig. 3.

The pouring spout described hereinabove is mounted in operative position simply by slipping the band 21, which has previously been expanded by turning the plate 27 to the proper extreme of its rotary motion, over an end of the cam 12, the contents of which are to be partially or completely removed. It should be noted that whereas the can 12 illustrated is cylindrical, it also would be entirely feasible to use the device of the present invention in a slightly modified form in conjunction with square cans or containers or other shapes. After the dispensing device has been positioned in this manner, the band 21 should be contracted by pressing the lever 36 downwards, turning the plate 27 substantially to the position illustrated upon Fig. 1, thereby drawing the ends 22 and 23 of the band 21 together, so as to contract the band 21 into gripping engagement upon the sides 34 of the can.

In slipping the band 21 onto the can, however, sufficient pressure should be exerted to cause the points 43 of the tubes 41 and 42 to penetrate the top 13, and to bring the gaskets 47 into firm pressure against the top 13. Hence, when the band 21 is tightened, tight sealing engagement between the plate 11 and the can 12 is established, with the result that the contents of the can cannot evaporate when the bar 51 is in closing position, nor can air or contaminating material enter the can, to the detriment of the contents thereof. However, when it is desired to remove all or a portion of the contents, the bar 51 may be swung slightly, so as to remove its ends from registry with the bores 46 of the tubes 41 and 42. The can may then be tipped, preferably with the tube 41 downwards, so that the contents will run through the tube 41 and over the lip 19, which serves as a pouring guide. Air will

enter the can 12 through the other tube 42 to displace the contents thus removed.

It is to be understood that the details of the invention as herein disclosed, are subject to alteration within the spirit or scope of the appended claims.

I claim:

1. A pouring spout for a can, comprising expansible means adapted to encircle the side walls of a can, means for contracting said expansible means into gripping engagement with said can, and piercing means carried by said expansible means and adapted to penetrate the top wall of said can and extend through the aperture thus formed to guide liquid in being poured from said can.

2. A pouring spout for a can, comprising expansible means adapted to encircle a can, means for contracting said expansible means into gripping engagement with said can, and tubular piercing means carried by said expansible means and adapted to penetrate the top of said can and extend through the aperture thus formed and sealing means operable to optionally open or close said tubular piercing means.

3. A pouring spout for a can, comprising expansible means adapted to encircle a can, means for contracting said expansible means into gripping engagement with said can, a pair of spaced tubes carried by said expansible means, each having a penetrating point adapted to pierce and extend through the top of said can, and sealing means common to both of said tubes and adapted to optionally open or close them.

4. A pouring spout for a can, comprising a plate adapted to extend across the top of said can, tubular piercing means adjacent each end of said plate and adapted to penetrate and extend through said top, a tongue extending downwards from each end of said plate, a band attached at its central portion to one of said tongues and extending around said can with its ends disposed adjacent the other of said tongues, and means carried by said other tongue for drawing said ends toward each other to clamp the band upon said can.

5. A pouring spout for a can, comprising a plate adapted to extend across the top of said can, tubular piercing means adjacent each end of said plate and adapted to penetrate and extend through said top, a tongue extending downwards from each end of said plate, a band attached at its central portion to one of said tongues and extending around said can with its ends disposed adjacent the other of said tongues, a plate mounted for rotary movement upon the other of said tongues and having opposed arcuate slots arranged therein eccentrically with respect to the axis of rotary movement of said slotted plate, and a finger adjacent each end of said band one finger engaging in one of said slots and the other finger engaging within the other of said slots to collapse the band upon said can when said slotted plate is turned.

In testimony whereof I have signed my name to this specification.

CHARLES B. TOMPKINS.