Dec. 24, 1957 E. K. MILLS, JR 2,817,476

BOTTOM OPENING GARBAGE CAN

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Fig. 1.

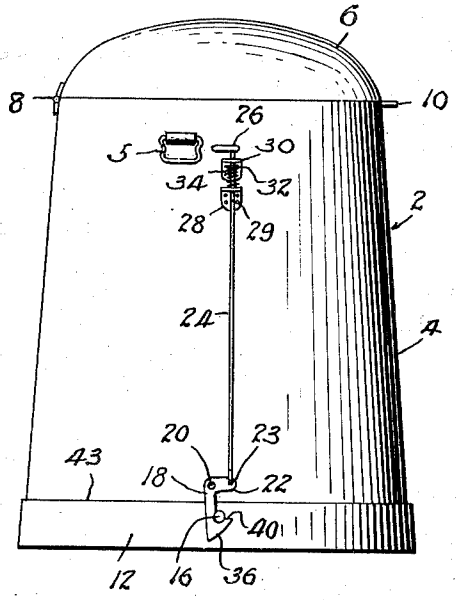

Fig. 2.

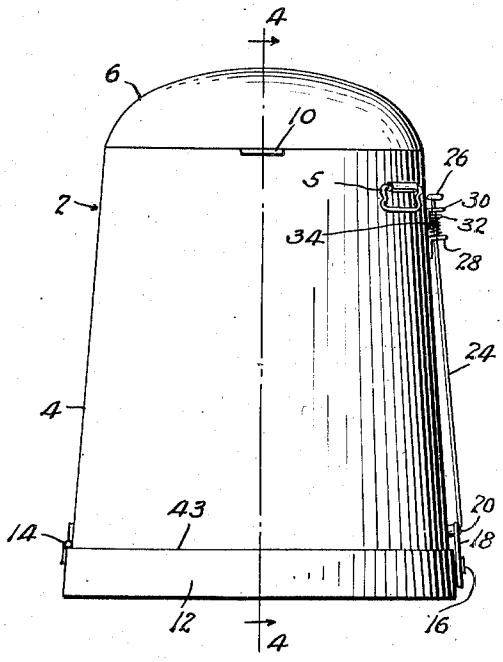

Fig. 3.

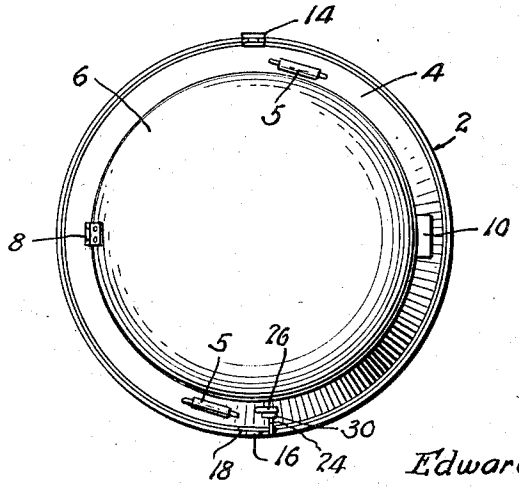

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Fig. 8.

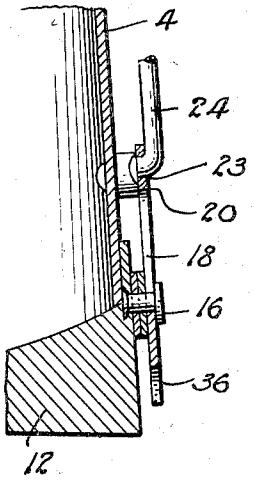


Fig. 4.

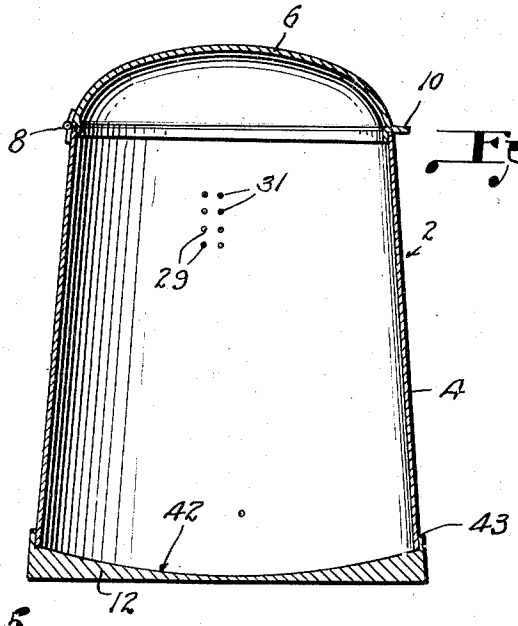


Fig. 5.

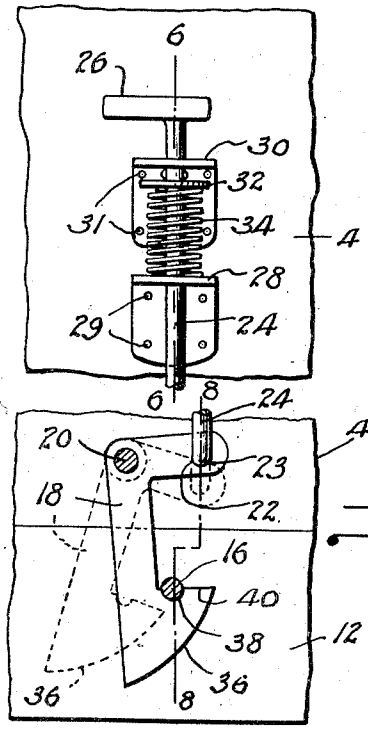
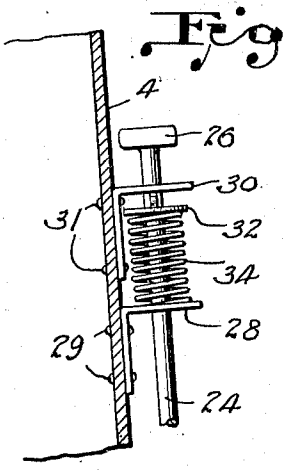


Fig. 7.

Fig. 6.



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BOTTOM OPENING GARBAGE CAN

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Application June 3, 1954, Serial No. 434,103

2 Claims. (Cl. 232—43.1)

This invention relates to garbage and trash cans and, more particularly, to a non-leak, bottom opening receptacle with a remotely operated latch mechanism.

The primary object of the invention is to provide an improved temporary container of the type used in kitchens, laboratories, and the like locale, which container will provide, among other things, a means for the efficient and sanitary transfer of its contents to the conventional larger outdoor garbage or trash can, by discharge of its contents directly into the larger outdoor can without opening the top of the smaller indoor container, thus eliminating unsanitary physical contact with, or unpleasant visual observation of, the contents and also eliminating the spillage, blowage, and breakage involved in the present standard practice of manually upending and dumping the contents from the smaller container to the larger. A main purpose for the truncated cone-shaped of the subject container is to assure the unobstructed discharge by gravity of its contents directly into the larger outdoor can. If the sides of the container were vertical or of the usual design, there would be a disposition for the contents to jam against the bottom of the sides and thus prevent the automatic discharge thereof.

In contrast with prior bottom opening garbage cans, the objects are, first, to guard against leakage of the odoriferous juices which accumulate at the bottom of a mass of garbage. To this end it is intended to provide a pivotally operable can bottom having an upwardly concave surface in which the juices will collect rather than seep through the joint between the can bottom and sides. Another object in providing the upwardly concave bottom closure is that, when it is pivoted open to dump the load, the accumulated juices and trivia will slide off, and the surface can be readily wiped clean.

Another major object is to provide a remotely operated latch for the pivoted bottom closure whereby the can may be held over a larger collection receptacle and dumped without soiling one's hands. By utilizing a cam and spring biased latch mechanism, provision is made for closing the can bottom by resting the free edge of the down-hanging bottom on the ground and, moving the can body towards the ground so that the lid will be swung closed, and snapped shut.

Still another object is to provide a can having a truncated cone-shaped body of great inherent stability, and easy to clean with a hose by opening the bottom and top, and by spraying the hose stream through from the bottom. By forming the side wall of the can as a downwardly enlarged truncated cone, bits of liquid and sticky semi-liquids which ordinarily stick to a vertically sided can will drain and fall off downwardly towards the upwardly concave catch basin formed in the can bottom.

These and other objects will be apparent from the following specification and drawings, in which:

Figs. 1 and 2 are front and side elevations, respectively, of the improved garbage can;

Fig. 3 is a top plan view of the can shown in Figs. 1 and 2;

Fig. 4 is a cross-section taken vertically along the line 4—4 of Fig. 2;

Fig. 5 is an enlarged fragmentary view showing in front elevation the details of the upper portion of the remote latch operating linkage;

Fig. 6 is a cross-section along the line 6—6 of Fig. 5;

Fig. 7 is an enlarged fragmentary view showing, in front elevation, the details of the remotely operated latch for the bottom closure; and,

Fig. 8 is a cross-section along the line 8—8 of Fig. 7.

Referring now to the drawings in which like reference numerals denote similar elements the garbage can indicated generally at **2** is preferably formed of stiff sheet material, such as sheet metal or suitable plastic, and provided with a side wall **4** of truncate cone-shaped with the large end down. The garbage can is manually portable by two handles mounted on the side walls, one of which handles is shown at **5**. A lid **6** pivoted to the side wall as indicated at **8** and having a handle **10** provides access to the interior of the can from the top.

Garbage can **2** has a bottom closure **12** pivoted to side wall **4** by hinge **14** so that when the can is manually engaged at the upper region thereof and suspended in the air, bottom closure **12** may be pivoted open so as to hang substantially straight down from the position shown in Figs. 1, 2 and 4. Bottom closure **12** has, on the side opposite pivot **14**, an outwardly extending headed pin **16** engaged by latch **18** for keeping the bottom closed. Latch **18** is formed as a bell crank pivoted at **20** intermediate its ends, with a lever arm **22** pivoted, at **23** to the lower end of a push rod **24**. The upper end of push rod **24** has a thumbpiece **26**, and below the thumbpiece the push rod slides through apertured space guides **28** and **30**, respectively, at **29** and **31** to the can side wall **4**. A stop collar **32** affixed on push rod **24** forms an abutment for one end of a compression spring **34**, the other end of the spring being engaged against guide **28** so that push rod **24** is normally biased to an upper position, with latch **18** normally positioned as shown in Fig. 1 and in full lines in Fig. 7. As detailed in Fig. 7, latch **18** has a cam nose **36** on its lower end and a socket **38** in ledge **40** for nesting pin **16**. As shown in Fig. 4 the upper and normally inner side of bottom closure **12** is upwardly concave as indicated generally at **42**.

In operation, garbage can **2** rests on the floor with the bottom **12** closed. Debris deposited in the can after opening lid **6** falls to the enlarged bottom portion defined by truncate cone-shaped side wall **4** and becomes ballast. Because of the downwardly enlarged shape, the can is inherently stable and the downwardly and outwardly flaring inner surfaces of side wall **4** deter lodgment of liquid or sticky substances and enhance their downward flow off the inner surfaces of the side wall. The downwardly draining liquids gravitate to the catch basin formed by upwardly concave bottom surface **42** which constitutes an ample reservoir for the liquids so that they will not seep out between the flange **43** of bottom **12** and the overlapped bottom portion of side wall **4**. It should be noted that one handle **5** is near thumbpiece **26** of the remotely operating push rod **24** for latch **18** so that, when it is desired to empty can **2**, it is lifted by grasping handle **5** or handles **5**, **5¹**, can is held over a larger collecting receptacle, and the thumb is extended to engage thumbpiece **26** which, when pushed downwardly, operates through push rod **24** to unlock latch **18** about pivot **20** to the dotted line position shown in Fig. 7. Thereupon bottom closure **12** swings downwardly about pivot **14** and the contents of can **2** are discharged. The can may be easily washed by leaving the bottom open

and by resting it on its side on the ground or floor so that it can be flushed out through the open bottom. In this position, the interior surfaces of the can are all disposed towards the hose stream. However, the can need not be washed as often as conventional ones since very little if any matter sticks to the sides and the upwardly concave bottom can be easily wiped off. Bottom **12** is closed by resting the downwardly hanging edge against the ground or floor, and pressing the remainder of the can downward and over bottom **12** so as to engage pin **16** against cam nose **36** so that latch **18** snaps over pin **16** to re-engage socket **38** beneath the pin.

The invention is not limited to the details disclosed and described hereinbefore, but is intended to cover all substitutions, modifications and equivalents within the scope of the following claims.

I claim:

1. A portable bottom opening collection receptacle, comprising a downwardly enlarged body of truncated cone shape having a side wall of closed configuration and an open bottom and top, a top closure pivoted to said side wall at the top thereof, a bottom closure, a pivot mounting said bottom closure on one side of said side wall at the bottom thereof, a hook latch pivotally mounted on the exterior of said side wall adjacent the bottom thereof and on the side opposite said pivot, means on said bottom closure engageable by said hook latch for retaining said bottom closure closed, a pair of handles exteriorly mounted on opposite sides of said side wall

adjacent the top thereof and respectively disposed substantially directly above the pivot and hook latch, a latch operator comprising a vertical push rod mounted on the exterior of said side wall and connected at its lower end to said hook latch, said push rod being slidable downwardly and upwardly for pivoting said hook latch between engaging and disengaging positions with respect to the means on the bottom, the upper end of said push rod terminating adjacent the handle which lies substantially directly above the hook latch, a spring engaged between said side wall and push rod for biasing the latter upwardly, and a thumb piece on the upper end of the push rod.

2. The combination claimed in claim 1, the bottom closure being upwardly concave and having an upwardly extending peripheral flange overlapping the bottom of said side wall in the closed position of the bottom closure.

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