

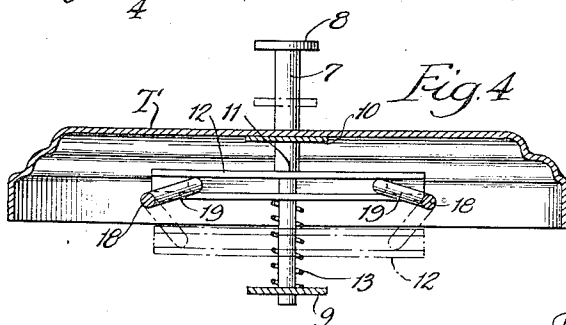
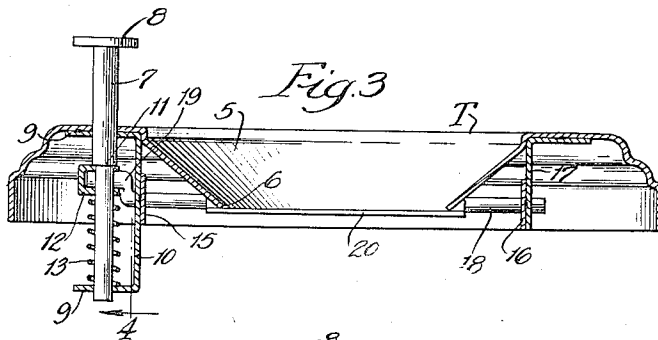
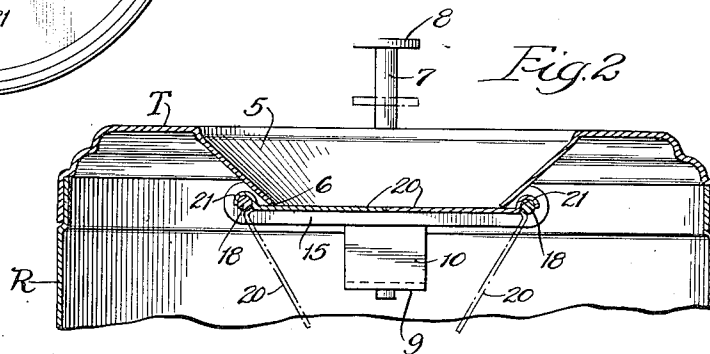
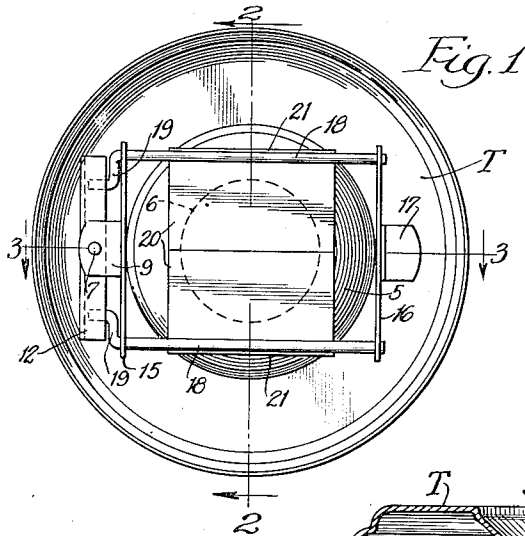
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CLOSURE FOR REFUSE RECEIVERS

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CLOSURE FOR REFUSE RECEIVERS

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5 Claims. (Cl. 220—36)

The present invention is concerned with a closure applicable to small refuse receivers, such as ash receptacles, smoking stands, etc., and is directed to certain features of improvement by which dumping of ashes and refuse into the receiver may be facilitated and by which escape of smoke and odors from such dumped material is effectively prevented. A simple and dependable mechanism for accomplishing these results is herein disclosed, a suggestive embodiment of my invention being illustrated in the accompanying drawing in the manner following:

Figure 1 is a bottom plan view of the closure unit applied to the apertured top of a refuse receiver;

Figs. 2 and 3 are vertical sections therethrough, taken respectively on lines 2—2 and 3—3 of Fig. 1; and

Fig. 4 is a detail in section, taken on line 4 of Fig. 3.

The present closure unit is applicable to a top or cover T which is fitted over or upon a refuse receiver R. As shown, such a top is formed with depending conical walls 5 for guiding ashes, refuse, etc. downwardly through a central aperture 6 into the receiver therebelow. The closure unit extends across this aperture to provide an imperforate door which will prevent escape of odors from the refuse within the receiver.

As shown, this closure unit comprises an actuating rod 7 equipped with a push button 8 at its upper end. The rod extends through the top at a point to one side of the cone aperture, being slidably supported at spaced points by the laterally turned ends 9 of a bracket 10 which depends from the top. Fitted against a shoulder 11 upon the rod is a channeled cross head in the form of a bar 12 whose flanges are both apertured to receive the rod therethrough. A compression spring 13 is coiled around the rod, extending between the cross head and lower end of the bracket so as to urge the rod to an upper position.

To the bracket is affixed a bearing head 15 which extends along one side of the conical walls of the top so as to lie outside of the aperture therethrough. A similar second bearing head 16 is arranged symmetrically upon the opposite side of the cone, being supported upon an angle bracket 17 which is affixed to the under side of the top. Each bearing head is formed with a pair of holes, one adjacent each end, and within each pair of opposite holes is journaled a pin 18 having one end bent laterally and then outwardly to form a crank 19 whose extremity is slidably received within and confined by the channel of the cross

head on the actuating rod. These cranks normally are inclined inwardly toward each other as shown in Fig. 4. A plate 20 having an arch 21 adjacent one edge to fit over the crank pin is secured fixedly thereto, as by welding, there being one such plate associated with each pin. The free edges of the plates are arranged to meet closely in a line which extends across the aperture of the top.

To operate, the push rod is depressed against the tension of the spring. The cross head is thereupon lowered with a consequent opposite rotation of the two cranks whose pins are turned through 90°, or more if necessary. The companion plates which form the closure for the apertured top are caused to swing downwardly and away from each other into substantially parallel positions beyond the confines of the aperture through the top. A clear passageway is accordingly provided for the entrance of refuse into the receiver. Upon release of pressure applied to the push rod, the plates are swung back in unison to closure position in response to the positive equalized force exerted by the spring.

It will be noted that simplicity characterizes the present mechanism. A feature of importance is the operation of the two closure plates in unison through 90° or more. Due to the short radius of each plate, the movements are rapid, resulting in a complete dislodgment and dumping of refuse whose release into the receiver is desired. This equalization of movement on the part of the closure plates comes about in part from the balanced relationship of the operating mechanism. For example, the cross head which may be loosely fitted upon the actuating rod receives a thrust from the coil spring at a point centrally of its length by which it is held against the rod shoulder in a horizontal plane; rotative movement of the cross head upon the actuating rod is prevented by the two cranks which are slidably fitted within the channel thereof; and motion both ways starting from the actuating rod, is transmitted through these connections to the two closure plates whose swinging movements proceed equally, oppositely, and, if desired, with amplification, to effect a quick, certain discharge of refuse into the receiver.

I claim:

1. For an ash receiver having an apertured top, a bracket depending from the top, a push rod slidably mounted in the bracket, a channeled head bar carried by the rod, a pair of crank pins slidably connected with the head for operative concurrent but opposed movement, a pair of supports

for the crank pins, one connected with the bracket, and a pair of plates with meeting edges extending across the top aperture, each plate being mounted on one crank pin for swinging movement therewith.

2. For an ash receiver having an apertured top, a pair of swinging plates with meeting edges disposed across the top aperture, and actuating means therefor comprising a push rod, a pair of cranks connected with the plates, and a head slidably connecting both cranks with the rod for movement of the cranks concurrently therewith in opposite directions.

3. In an ash receiver having an apertured top, a closure unit comprising a pair of plates arranged edge to edge below the top in position to close the aperture therethrough, a pair of crank pins arranged adjacent opposite edges of the top aperture and one affixed to an edge of each plate adapted when rotated to swing the plates downwardly through substantially 90° whereby to remove all obstruction to passage through the top aperture, an axially movable actuating rod disposed substantially parallel with the axis of the top aperture, a support in which the pins and rod are movably mounted, and a channeled head bar carried by the rod slidably receiving the cranks of the two pins adapted to impart rotation thereto.

4. A closure unit for an ash receiver having an apertured top, comprising an axially movable push rod extended through the top, a pair of rotatable crank pins below the top adjacent the aperture thereof, a frame work affixed to the under side of the top affording a mounting for the rod and pins, a channeled head bar carried by the rod slidably receiving the cranks of the two pins adapted to impart rotation thereto, a spring exerting opposing thrusts on the framework and head bar for returning the latter to an initial position, and a closure plate affixed to each crank pin.

5. For an ash receiver having an apertured top, a pair of swinging plates hinged along horizontal axes at opposite sides of the top aperture and serving to provide a closure for the top aperture, the meeting edges of the plates being disposed across the top aperture and adapted to move down and away from each other when the plates are swung in one direction, means interconnecting the plates positively for unitary swinging movements in both directions, and a reciprocable actuating device operatively connected with the interconnecting means for producing swinging movements of the plates in unison.

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