Dec. 5, 1939. C. F. HAMEL 2,182,432

OPERATING MEANS FOR RECEPTACLE CLOSURES

Filed Feb. 12, 1938

Fig. 1

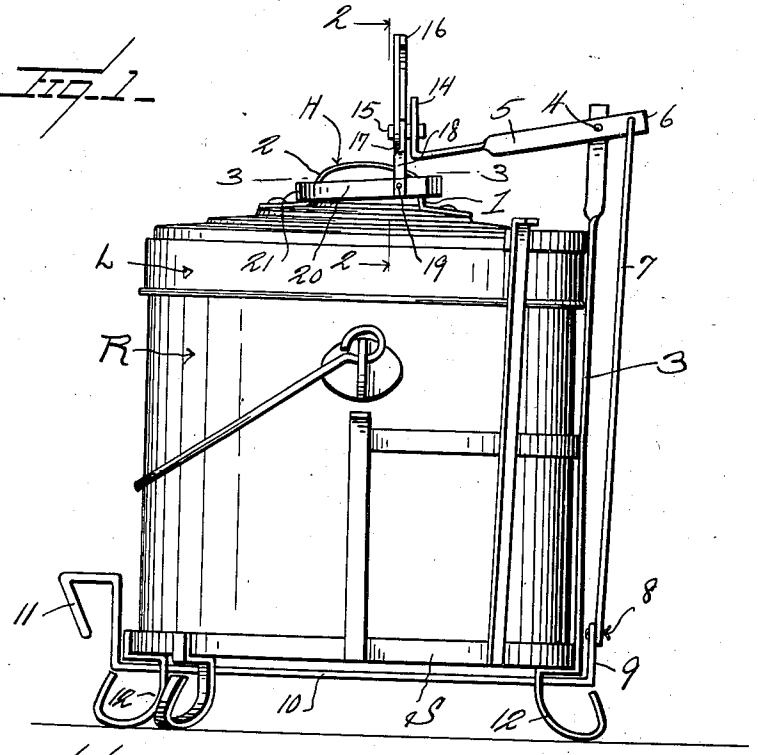


Fig. 2

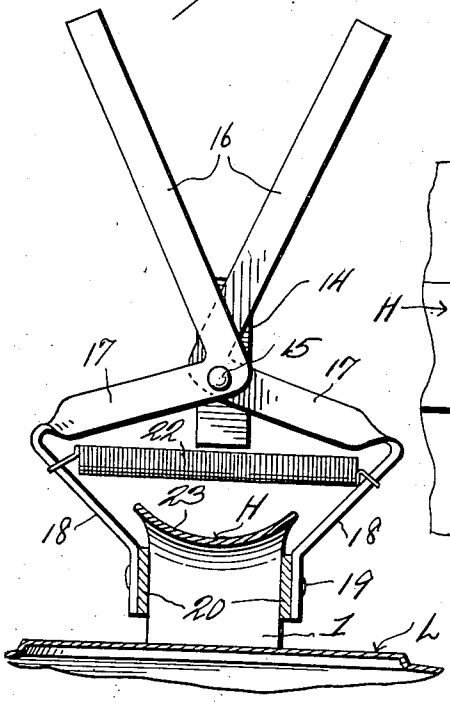
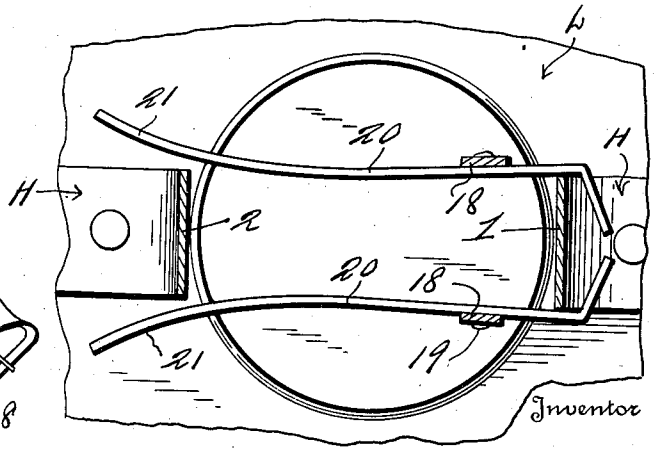


Fig. 3



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OPERATING MEANS FOR RECEPTACLE CLOSURES

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4 Claims. (Cl. 248—147)

This invention relates to operating means for receptacle closures, and it is primarily an object of the invention to provide a means of this kind which is especially designed and adapted for use with a flanged slip-on cover.

The invention also has for an object to provide means for removing or applying a flanged cover to a receptacle in a manner whereby tipping over of the receptacle is avoided.

Another object of the invention is to provide a means of this kind including a part engageable with the flanged cover in a manner to first impart a substantially direct vertical movement to the cover before carrying the cover into fully open position and which allows a final downward vertical movement of the cover when the same is being adjusted into closed position.

The invention consists in the details of construction and in the combination and arrangement of the several parts of my improved operating means for receptacle closures whereby certain important advantages are attained and the device rendered simpler, less expensive and otherwise more convenient and advantageous for use, as will be hereinafter more fully set forth.

The novel features of my invention will hereinafter be definitely claimed.

In order that my invention may be the better understood, I will now proceed to describe the same with reference to the accompanying drawing, wherein:

Figure 1 is a view in side elevation illustrating a closure operating means constructed in accordance with an embodiment of my invention;

Figure 2 is an enlarged detailed sectional view taken substantially on the line 2—2 of Figure 1;

Figure 3 is a fragmentary sectional view taken substantially on the line 3—3 of Figure 1.

As disclosed in the accompanying drawing, L denotes a flanged lid of a conventional type adapted to slip on the upper portion of a receptacle R for garbage or other refuse, and carried by the central portion of the lid L is an upstanding loop member or hand grasp H of a conventional semi-loop type. This loop member or hand grasp H is so constructed and mounted as to provide what may be termed the end legs 1 and 2.

As is particularly illustrated in Figure 1, the receptacle R is placed upon a stand S which includes a vertically disposed member 3 of a length to extend a desired distance above the lid L on the receptacle R when placed upon the stand S.

Pivotally connected, as at 4, with the upper portion of this member 3 is a rock arm 5 which extends inwardly of the stand and in a position overlying the receptacle R and its applied lid L when said receptacle is upon the stand S. This arm 5 at its pivoted end portion is provided with an outstanding tail piece 6 with which is operatively connected a rod 7. This rod 7 extends downwardly and is operatively connected, as at 8, with a rock arm 9 carried by a rod 10. This rod 10 is provided with a pedal 11 whereby upon depression of the pedal 11 by the foot of a person the arm 5 will be caused to rock or swing downwardly. The rod 10, as illustrated in Figure 1, underlies the bottom of the stand S and is disposed through and rotatably supported by the opposed supporting legs 12 for the stand S.

The arm 5 is of a length to partially overlie an end portion of the loop member or hand grasp H and which hand grasp, when the lid L is applied, is substantially aligned with the arm 5. The outer end of the arm 5 is provided with an upstanding bracket 14 to which is pivotally connected, as at 15, the lower end portions of the upwardly diverging levers 16. The pivoted end portions of the levers 16 carry the oppositely directed arms 17, the outer extremities of which are continued by the inwardly and downwardly converging arms 18. The lower extremities of these arms 18 are rigidly secured, as at 19, adjacent to similar extremities of the elongated lifting bars 20.

The bars 20 are of a length in excess of the distance between the legs 1 and 2 of the loop member or handle H and the end portions of the bars 20 remote from the arms 18 are disposed on an outward curvature, as at 21, so that said portions 21 are spaced apart a distance greater than the width of the adjacent leg 2 of the loop member or handle H.

The bars 20 are yieldingly urged one toward the other through the medium of a retractile spring 22 secured to and bridging the space between the upper portions of the arms 18.

The levers 16 provide means whereby the bars 20 may be moved away from each other to facilitate the engagement of said bars 20 with or their removal from the loop member or handle H.

It is to be stated that the handle or loop member H is of a type wherein the portion 23 thereof between the legs 1 and 2 is of a width in excess of said legs 1 and 2 and extend beyond opposite sides thereof, as is indicated in Figure 2 of the drawing.

After the receptacle R with its applied lid L is placed upon the stand S the bars 20 are sufficiently separated to allow said bars 20 to engage

with the loop member or handle H at opposite sides thereof. With the lid L in applied position the bars 20 will only contact with the leg 1 of the handle or loop member H and which leg is nearest to the pivot 4 for the rock arm 5 and which leg is a material distance to one side of the axial center of the lid L. The engagement of the bars 20 with the leg 1 provides a loss motion connection to provide an initial vertical movement in a straight line of the lid L during the initial upward swinging movement of the adjacent end portion of the rack arm 5. The outwardly curved portions 21 of the bars 20 are free of the second leg 2 but the intermediate portions of the bars 20 are spaced apart a distance less than the major width of the intermediate portion of the loop member or handle H. Upon depression of the pedal 11 the arm 5 will swing upwardly. During the initial upward movement of the arm 5 the heavier weight of the lid L to one side of the points of contact of the bars 20 with the leg 1 will allow the lid L to move upwardly in substantially a direct or straight vertical path of travel a distance sufficient to assure the travel of the lid L entirely above and free of the receptacle R.

As the lid L has this initial direct or straight upward vertical movement the central portion 23 of the loop member or handle H will have its side marginal portions engaged from below by the bars 20 so that as the arm 5 continues to swing upwardly the lid L will be also carried upwardly and to one side of the receptacle so that convenient access may be permitted for depositing refuse within the receptacle.

Upon release of pressure from the pedal 11 the weight of the lid L will cause the same to return by gravity to closed position upon the receptacle R, and it is to be stated that in connection with this return movement the final travel of the lid L will be in a direct downward vertical path to assure the proper slipping of the lid L upon the upper portion of the receptacle R.

While my improved means is primarily to facilitate the removal or application of the lid L with respect to the receptacle R, it is to be pointed out that when the lid L is in applied position upon the receptacle R such lid is effectively held in place and particularly against attacks from stray animals.

From the foregoing description it is thought to be obvious that an operating means for a receptacle closure constructed in accordance with my invention is particularly well adapted for use by reason of the convenience and facility with which it may be assembled and operated, and it will also be obvious that my invention is susceptible of some change and modification without departing from the principles and spirit thereof and for this reason I do not wish to be understood as limiting myself to the precise arrangement and formation of the several parts herein shown in carrying out my invention in practice except as hereinafter claimed.

I claim:

1. Means for raising a flanged slip-on lid into open position comprising an elongated arm extending inwardly of the lid, means for pivotally supporting said arm for swinging movement in a vertical direction, an upstanding element carried by the central portion of the lid including end legs and an intermediate portion of a width in excess of the width of the legs, levers pivotally carried by the arm, bars operatively carried by the levers for placement at opposite sides of the element, said bars being so constructed and arranged to contact with only one of the legs of the element and to engage the intermediate portion of the element after the arm has been swung upwardly a predetermined distance.

2. Means for raising a flanged slip-on lid into open position comprising an elongated arm extending inwardly of the lid, means for pivotally supporting said arm for swinging movement in a vertical direction, an upstanding element carried by the central portion of the lid including end legs and an intermediate portion of a width in excess of the width of the legs, levers pivotally carried by the arm, bars operatively carried by the levers for placement at opposite sides of the element, said bars being so constructed and arranged to contact with only one of the legs of the element and to engage the intermediate portion of the element after the arm has been swung upwardly a predetermined distance, and means for yieldingly urging the bars one toward the other.

3. Means for raising a flanged slip-on lid into open position comprising an elongated arm extending inwardly of the lid, means for pivotally supporting said arm for swinging movement in a vertical direction, an upstanding element carried by the central portion of the lid including end legs and an intermediate portion of a width in excess of the width of the legs, levers pivotally carried by the arm, bars operatively carried by the levers for placement at opposite sides of the element, said bars being so constructed and arranged to contact with only one of the legs of the element and to engage the intermediate portion of the element after the arm has been swung upwardly a predetermined distance, and means for maintaining the bars in contact with the leg of the element.

4. An operating means for a slip-on lid for a receptacle comprising an arm, means for supporting said arm for swinging movement in a vertical direction, and a loss motion connection between said arm and the lid to one side of the axial center of the lid to provide initial straight line movement of the lid upon initial upward swinging movement of the arm.

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