United States Patent

[11] 3,563,452

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a partnership

[54] **WASTE RECEPTACLE**
11 Claims, 5 Drawing Figs.

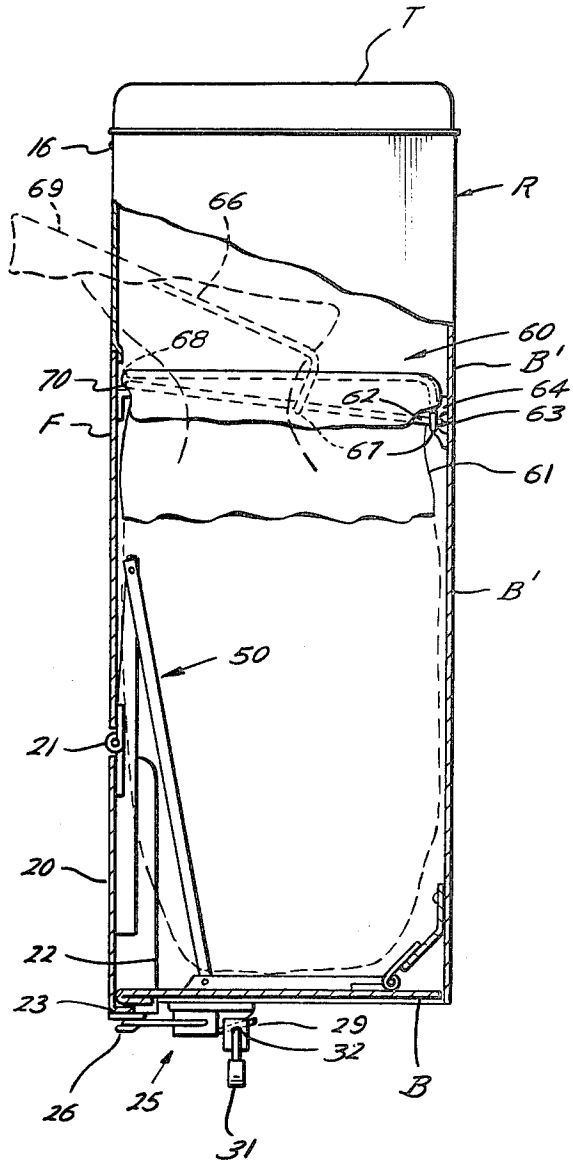
[52] **U.S. Cl.** **232/43.2,** 248/99, 232/44
[51] **Int. Cl.** **A65f 1/00**
[50] **Field of Search** 232/43.2, 43.1, 1, 25, 44; 248/101, 97, 99; 312/324, 275, 276

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ABSTRACT: An enclosed, suspended receptacle having an opening in its upper portion for receiving waste with a hinged door in the lower portion of the front of the receptacle and a bottom on the receptacle that is hinged adjacent the rear of the receptacle, the bottom and door having a linkage connecting them so as to move the bottom downwardly relative to the receptacle as the door pivots outwardly away from the receptacle to form a waste exit in the receptacle.



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SHEET 1 OF 2

Fig. 1

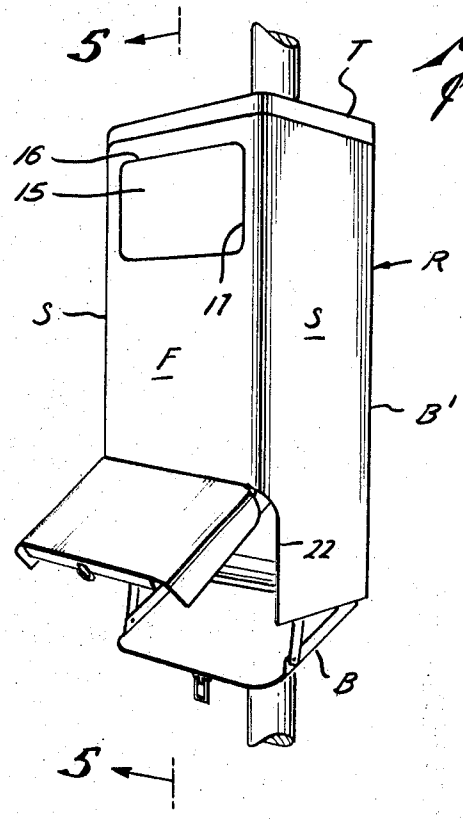


Fig. 2

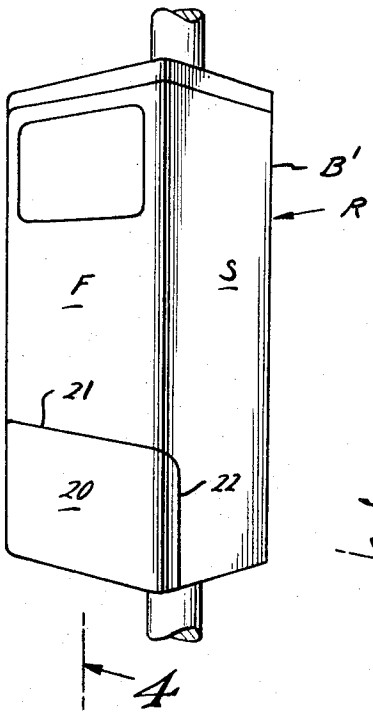
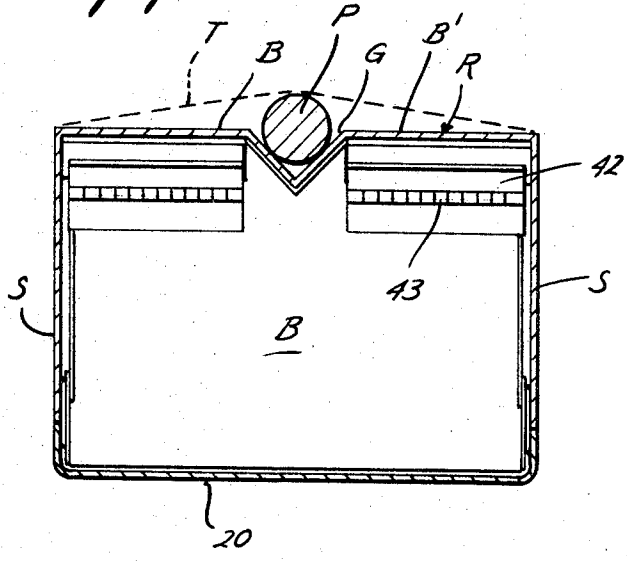


Fig. 3



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Fig. 4

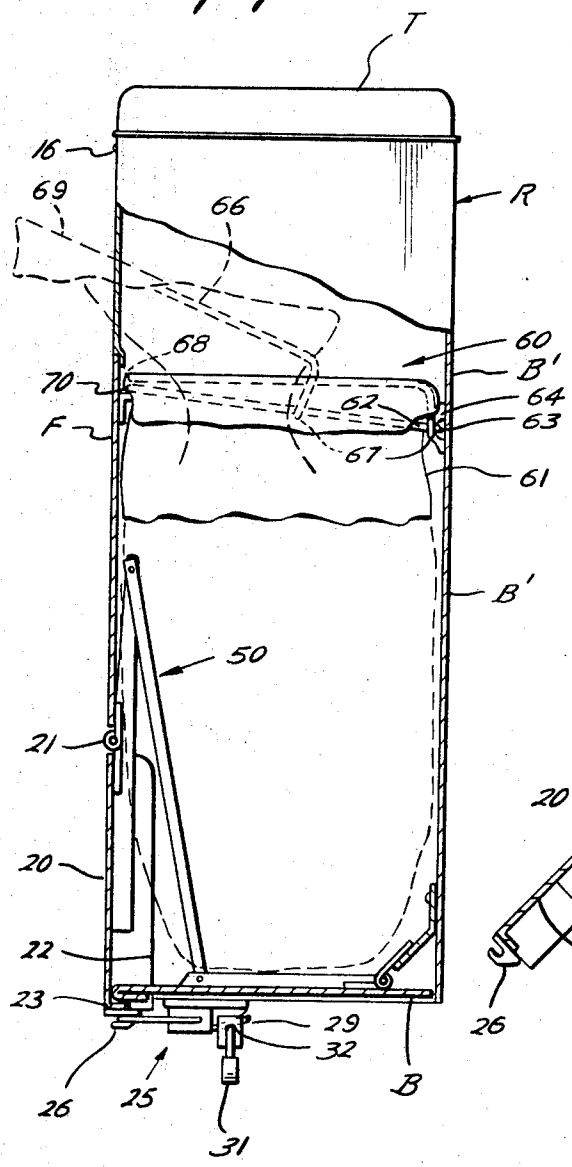
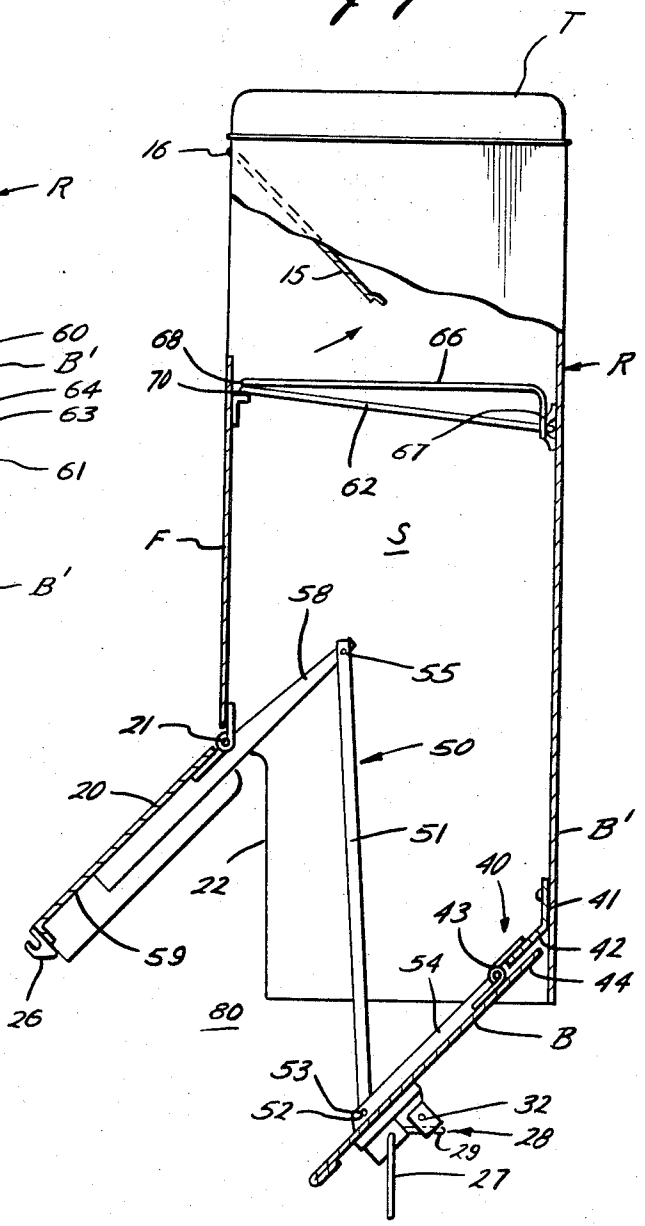


Fig. 5



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WASTE RECEPTACLE

CROSS REFERENCE TO RELATED APPLICATION

This application relates to an improvement in the copending application of Ralph Beach Mott, Sr., Ralph Beach Mott, Jr., Robert L. Woods, and Richard C. Cantella for "Waste Receptacle with Disposable Container" filed on May 21, 1968 and bearing Ser. No. 730,715.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a waste receptacle and more particularly to an elevated waste receptacle having an opening in the upper portion thereof for depositing waste or litter in the receptacle and a door on the lower portion of the front of the receptacle which is connected by linkage mechanism to the bottom of the receptacle so that when the door is swung outwardly to gain access to the receptacle, the bottom swings downwardly to provide an exit passage for waste or litter from the container. The receptacle is also constructed so as to receive a container or bag therein in open position adjacent the opening in the upper portion of the receptacle for the containment of liquids which may be deposited along with the litter or waste.

2. Description of the Prior Art

So far as is known to applicants, the prior art consists of a patent to S. F. Croft, Jr., U.S. Pat. No. 2,602,584. In the Croft patent above referred to, the receptacle is provided with a fixed sloping bottom which slopes towards the door provided in the front of the receptacle.

Such construction is disadvantageous in that the arrangement of the bottom tends to constrict or restrict the opening for exit of waste or litter from the receptacle. This not only reduces the capacity of the receptacle, but increases the difficulty of removing the waste and litter from the receptacle when in loose form in the receptacle, and increases the difficulty and possibility of tearing any disposable container or bag which may be positioned within the receptacle and in which the litter and waste are deposited.

SUMMARY OF THE INVENTION

The present invention relates to an enclosed, suspended receptacle which is provided with an opening in its upper portion for receiving waste in the receptacle, and a door and bottom in the receptacle which are hingedly connected together so that when the door is opened, the bottom pivots away from the door to provide an exit passage which is at least substantially the same size as the receptacle to aid in more readily removing litter and waste deposited within the receptacle.

Still another object of the present invention is to provide an arrangement in a receptacle for receiving an open end container and an exit passageway which is formed by a door and bottom that are both pivotally connected to the receptacle, there being a linkage between the door and the bottom so that when the door is open, the bottom is movable to provide an exit passageway therebetween for more readily removing the waste and litter from the receptacle.

Other objects and advantages of the present invention will become more readily apparent from a consideration of the following description and drawings wherein:

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of the present invention showing the door swung open and the bottom moved downwardly to provide the exit passage in the receptacle;

FIG. 2 is a perspective view of the receptacle of FIG. 1 showing the door in closed position;

FIG. 3 is a sectional view on the line 3–3 of FIG. 2 to more clearly illustrate the linkage arrangement between the bottom and door;

FIG. 4 is a sectional view on the line 4–4 of FIG. 2 and shows in greater detail the arrangement of the pivoted bottom

and pivoted door and the linkage mechanism therebetween with a bag or container positioned therein. This figure also shows in dotted line the manner of positioning the container or bag within the receptacle; and

FIG. 5 is sectional view on the line 5–5 of FIG. 1 to illustrate the relationship of the door and the bottom of the receptacle to form the exit passageway.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Attention is first directed to FIG. 1 of the drawings wherein the waste receptacle of the present invention is referred to generally by the letter R, such waste receptacle being enclosed by the top T, bottom B, sides S, front F, and rear or back B'. The receptacle R of the present invention is particularly adapted to be suspended by suitable means such as on a telephone pole, or other pole positioned for such purpose, and as shown in FIG. 3, the pole P is adapted to be received within the recess or groove G formed within the back B' and extending throughout the extent thereof. The receptacle R may be positioned on the pole P by any suitable means such as the steel straps positioned about the receptacle and the pole P, such straps being shown in dotted line and represented by the letter P in FIG. 3.

Referring again to FIG. 1, a door 15 is provided in the upper portion of the front F of the receptacle, the door 15 being hinged at 16 along its upper edge and adapted to swing inwardly as shown in FIG. 5 of the drawings. The door 15 is larger than the opening 17 which is formed in the upper portion of the front F of the receptacle R so that the front F serves as a stop for the door 15 which is urged towards closed position by a spring on the hinge in a manner well known in the art.

A door 20 is hinged adjacent its upper edge 21 in the lower portion of the front F of the receptacle and is shaped to fit the cutaway portion 22 in the lower portion of the receptacle as shown in FIGS. 1, 2, 4, and 5 of the drawings. The door 20 is provided with a lower edge or lip 23 which overlaps the bottom B when the door is closed as shown in FIG. 4 of the drawings.

Suitable latch means represented generally by the numeral 25 are provided for retaining the door 20 and bottom B secured, such latch means 25 including the hook 26 which is secured by welding or other suitable means to the edge 23 which is adapted to be engaged by the link 27 pivotally mounted as shown in FIG. 5. The portion represented generally by the numeral 28 is a common "over the center" trunk latch so that when the link 27 is engaged with the hook 26 as shown in FIG. 4 of the drawings, the door 20 is urged towards the receptacle R as indicated in FIG. 4 whereupon the operating lever 29 may be moved to a position so that a lock 31 can be secured through the opening 32 to lock the lever 29 in place.

The bottom B is hingedly secured as represented generally by the numeral 40 adjacent the rear or back B' of the receptacle R, and as illustrated in FIG. 1, the form of the pivot 40 includes a bracket 41 secured by any suitable means to the back B' which bracket is provided with an arm 42 depending therefrom as illustrated in FIG. 5 of the drawings. A hinge 43 is secured to the arm 42 and to the bottom B in the position as shown so that a portion 44 of the bottom B overlaps the arm 42 as shown in FIGS. 4 and 5 of the drawings. The arm 42 thus serves as a stop for limiting downward movement of the bottom B when it is moved to open position as shown in FIG. 5 of the drawings, and this construction and arrangement provides an enclosed receptacle configuration of maximum capacity, and with minimum interference while cleaning or emptying the receptacle R.

A linkage mechanism represented generally by the numeral 50 is provided for connecting the door 20 and the bottom B so that as the door 20 is moved outwardly away from the receptacle R as shown in FIG. 5 of the drawings, the bottom B is moved downwardly relative to the receptacle as shown in FIG.

5 to provide an exit passage for dumping or discharging waste and litter from within the receptacle R. Such linkage mechanism includes the metal rod or lever **51** which is pivotally secured at one end **52** by suitable means such as a pivot pin **53** which extends through the bracket **54** mounted on the inner surface of the bottom B and through the end of the pin **51**. The other end of the pin **51** is provided with a pin **55** which extends therethrough and through the rod or lever **58** which is secured by suitable means such as welding or the like to the inner surface **59** of the door **20**.

The length of the rod or lever **51** relative to the rod or lever **58** is such that the bottom B will be moved to its final closed position slightly before the door **20** to enable the lower edge **23** to overlap the bottom B in closed position as shown in FIG. **4** of the drawings. Also as shown in FIG. **4** of the drawings, the linkage **50** is illustrated in its position when the door **20** and bottom B are moved to a position to form the enclosed receptacle R.

Suitable support means as indicated generally by the numeral **60** are provided for supporting an open end container or bag **61** within the receptacle for containment of liquids which may be dumped within the receptacle R. The support means **60** includes a rod or bar **62** adjacent but spaced from the inner surface of the sides and the front of the receptacle and extending around the inside perimeter of the receptacle with its ends **63** being pivotally carried by the bracket **64** mounted adjacent or on the back B' of the receptacle R. This arrangement allows the bar or rod **62** to be pivoted or tilted upwardly for a purpose as will be described. An additional U-shaped rod or bar **66** is provided with a loop adjacent and extending downwardly at each end as shown at **67** for pivotally and slidably mounting it on the rod **62** adjacent each side S of the receptacle R. When it is desired to position a bag **61** on the hanger or support **60**, the forward end **68** of the rod **66** is grasped and moved to the dotted line position as illustrated at **69** whereupon it will be noted that the auxiliary rod **66** is moved out of the receptacle through the opening and is in elevated position so that the open end of the bag **61** may be wrapped therearound whereupon the bag may be inserted through the opening and through the bracket **62** extending around the inner perimeter of the receptacle whereupon the bag is clamped between the forward part **68** of the rod **66** and the forward part **70** of the rod **62**.

Thus, when access is desired to empty the receptacle, the door **20** will be moved to the position shown in FIG. **5**, and if desired and necessary, the upper end of the bag **61** can be released from between the portions **68** and **70** of the rods **66** and **62**, respectively, whereupon it may be pulled down through the exit passage **80** and the open end tied to prevent leakage or discharge from the bag **61**.

Particular attention is directed to the fact that the linkage arrangement **50** enables the door and bottom to form an exit passage **80** which is at least the size of the receptacle R and thereby avoid any constriction or restriction in the exit passage which might interfere with the normal discharge of the bag **61** and its contents therethrough.

The foregoing disclosure and description of the invention are illustrative and explanatory thereof, and various changes in the size, shape, and materials as well as in the details of the illustrated construction may be made without departing from the spirit of the invention.

We claim:

1. In an enclosed, suspended receptacle having an opening in its upper portion for receiving waste, the improvement comprising:

a. a hinged door in the lower portion of the front of the receptacle;

b. a bottom on the receptacle hinged adjacent the rear of the receptacle; and

c. linkage connecting said door and bottom to move the bottom downwardly relative to the receptacle as the door is pivoted outwardly away from the receptacle to form a waste exit in the receptacle.

2. The invention of claim **1** including means to latch the door and bottom to retain them in closed position.

3. The invention of claim **1** wherein the waste exit formed by the open door and bottom is at least substantially the size of the receptacle.

4. The invention of claim **1** including means for supporting an open ended container in the receptacle with the open end of the container adjacent the upper opening for receiving waste deposited therein.

5. The invention of claim **4** wherein the support means includes means for clamping at least a portion of the container adjacent its open end to support the container in an open position in the receptacle.

6. The invention of claim **4** wherein the support means includes hanger means extending about at least a portion of the inner perimeter of the receptacle and spaced inwardly thereof for receiving a portion of the container wrapped around the hanger means and stop means projecting interiorly of said receptacle for supporting said hanger.

7. The invention of claim **6** wherein said hanger means is pivotally secured adjacent the inner rear of said receptacle and said stop means is secured adjacent the inner front of said receptacle.

8. The invention of claim **6** including an auxiliary rod pivotally and slidably carried on said hanger means whereby said auxiliary rod may be moved out of the receptacle through the upper opening to receive an open end of the container to facilitate installation of the container on said hanger means.

9. The invention of claim **1** including stop means secured to the rear of the receptacle for limiting the downward movement of the receptacle bottom.

10. The invention of claim **1** including stop means secured to the rear of the receptacle and wherein the receptacle bottom is pivotally secured to and overlaps at least a part of said stop means for limiting the downward movement of the receptacle bottom.

11. The invention of claim **1** wherein the door is provided with a projecting lower edge and wherein the linkage connecting said door and bottom is constructed and arranged so that said bottom is closed before said door and thereby overlaps said lower edge of said door over said bottom.