June 16, 1964 E. N. STANLEY 3,137,469

TRASH CAN HOLDER

Filed June 1, 1962

2 Sheets-Sheet 1

Fig-1

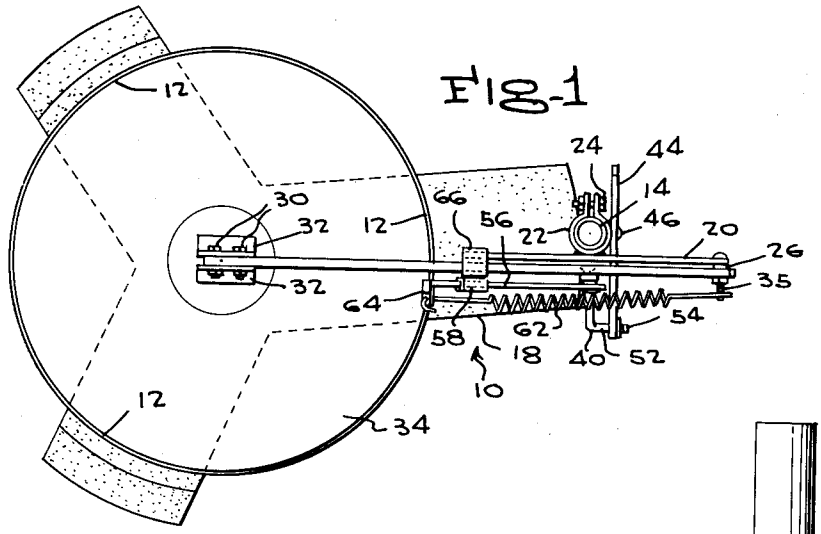


Fig-4

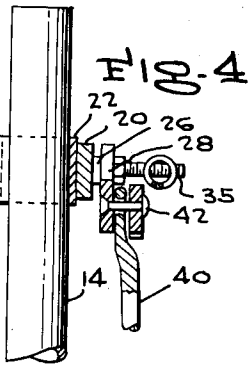
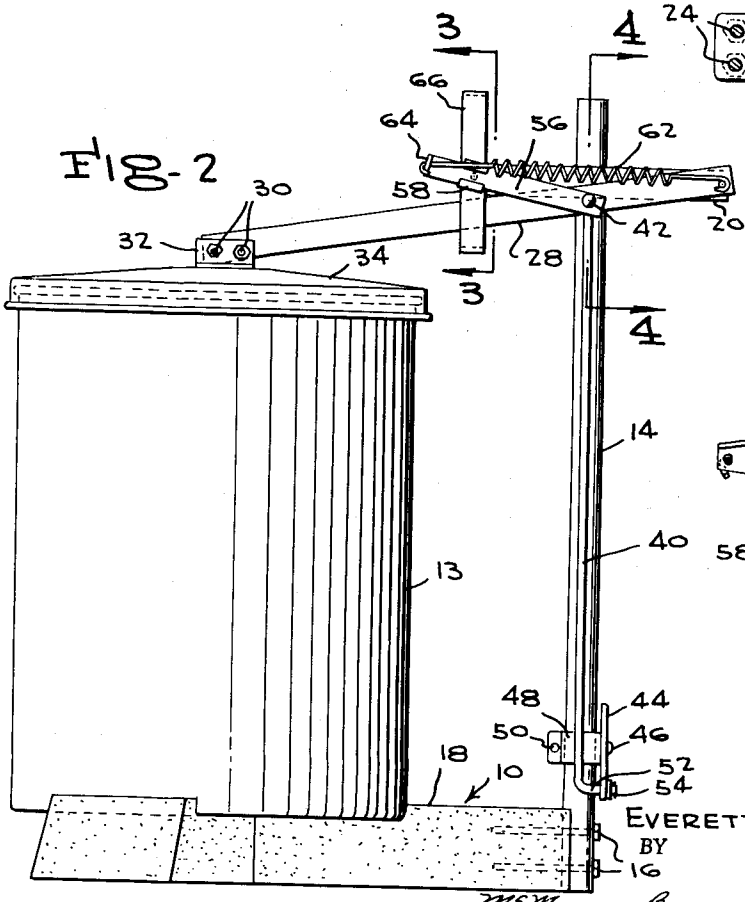


Fig-2



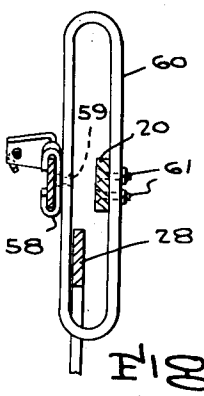


Fig-3

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TRASH CAN HOLDER

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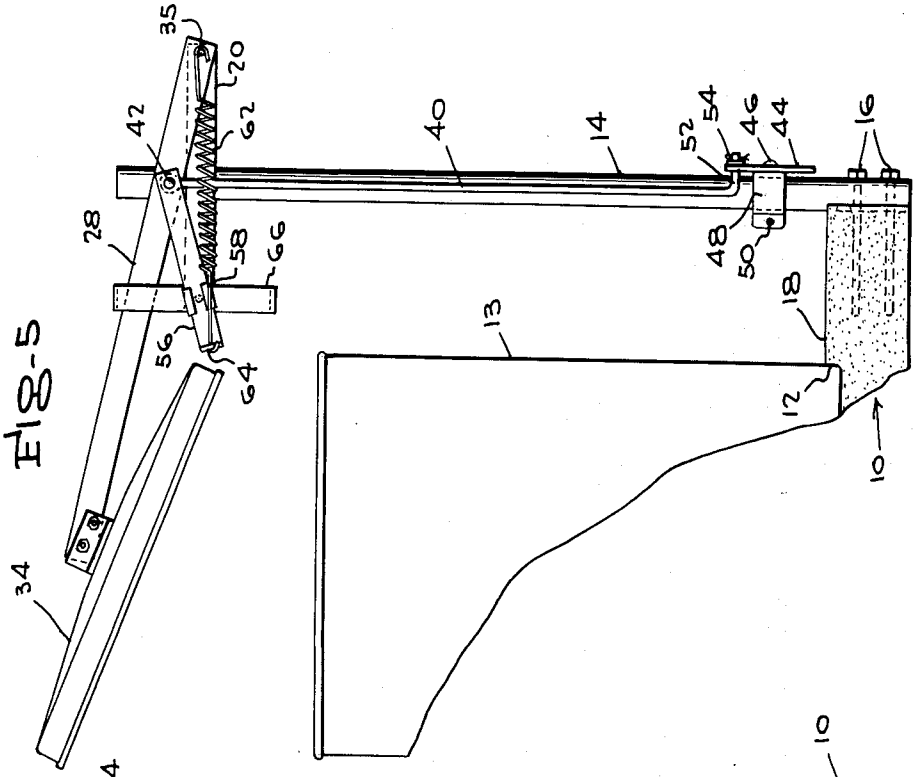


FIG-5

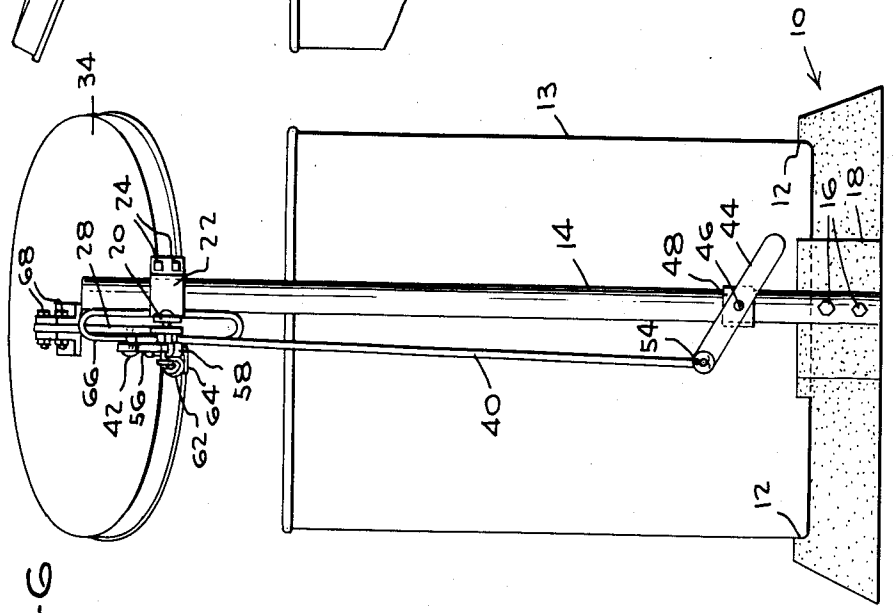


FIG-6

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TRASH CAN HOLDER

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13 Claims. (Cl. 248—147)

This invention relates to holders for trash cans and the like, and in particular, to a type having a captive can cover. The difficulties attending the use of trash cans are well recognized, especially in respect to their vulnerability to mischievous children, marauding animals and adverse weather conditions, which involves overturning, spillage, and loss of can covers, among other things. As a consequence, remedial proposals have been made from time to time, including fixed mountings for the receptacle, and an anchorage for the cover on the mounting, and it is a general object of the present invention to provide improvements in a device of this general nature.

A further object is to provide a mounting having an anchorage for the cover which permits opening and closing in a swinging movement. More particularly, it is an object to provide a device as aforesaid having spring means to bias the cover to closed and open position, alternatively. In still greater particular, it is an object to provide an alternative spring bias, as stated, which involves an over-center, toggle action. Another object is to provide a swing mount for a cover, with end limits for the swing. A still further object is to provide a treadle means for the swing-controlling linkage. These and other ends, which will be readily apparent, are attained by the present invention, a preferred form of which is described in the following specification, as illustrated in the drawings, in which:

FIGURE 1 is a top plan view of the holder or mount, with a trash can in place and the cover in closing position;

FIGURE 2 is a side elevational view of the parts shown in FIGURE 1;

FIGURE 3 is a sectional view through the swing linkage, taken on the line 3—3 of FIGURE 2;

FIGURE 4 is another sectional view through the linkage, taken on the line 4—4 of FIGURE 2;

FIGURE 5 is a view similar to FIGURE 2, partly broken away, and showing the cover in the self-sustained, raised position, and

FIGURE 6 is a rear view of the parts shown in FIGURE 5, as seen from the right of FIGURE 5.

Referring to the drawings by characters of reference, there is shown a concrete base, or emplacement **10**, which is preferably formed with radially disposed arms, in the general shape of a Y, to avoid accumulation of debris, and to permit a hand purchase under the lower edge of the can. The arrangement, which could also be in T form is furthermore economical of material. Conveniently, the base sections will have upper flanges or lips **12**, for easy spotting of the can **13**, and for retaining it against sidewise movement. Although these are shown as arcuate, to conform to the shape of the can, this form is not necessary, since the restriction needs only to be applied at three suitable points.

An upright tube **14**, secured by a pair of bolts **16**, to the long leg **18** of the base, serves as a mount for the linkage carrying the can cover in its swinging movement. Thus, the upright carries a horizontal bar **20**, extending on both sides, which is secured, as by welding, to a split sleeve **22**, the latter secured in position on the upright by clamping action of a pair of bolts **24**. In working position, the cross bar **20** is generally aligned radially of the base, within the area of leg **18** thereof, and at its outer end carries a pin **26**, on which is pivotally mounted the outer end of a swinging arm **28**, the inner end of which is secured by bolts **30** to a pair of angle brackets **32**, fixed

to the can cover **34** at its center. The outer end **35** of pin **26** is threaded, and receives a nut **38**, which secures arm **28** on the pin. It will be seen that as arm **28** swings upwardly about pivot pin **26**, the cover will be lifted, and will be replaced on the can when the arm swings downwardly. In case of a close-fitting can cover, some degree of side play in the attaching bolts **30** may be necessary, but in view of the length of arm **28**, this is unlikely.

The lifting effort is imparted to the arm **28**, by a push rod **40**, acting along the line of upright **14**, and with its upper end pivotally secured to swinging arm **28** by a pin **42**. Thus, arm **20** being fixed, pin **26** is a fulcrum, and arm **28** is a third-class lever, with applied force at pin **42**, and output at brackets **32** on the can cover. The pushing effort, for raising the cover, is imparted by a first-class lever **44**, medially pivoted on a pin **46**, carried by a split sleeve **48**, secured in place on the upright by a clamping bolt **50**, and one end of lever **44** being bored to receive the transversely bent, lower end **52** of rod **40**, which serves as a pivot, and is secured by a cotter pin **54**. It will be seen that downward swing of the free end of lever **44** will result in upward movement of the other end, swinging arm **28** about pin **26**, and raising the cover **34**.

For holding the cover in either closed, or open position, alternatively, the system employs a spring-biased, toggle arrangement, as follows: An auxiliary lever **56**, one end of which shares the pivot pin **42** with push rod **40**, is slidably mounted in a flat sleeve or bushing **58**, which carries a headed pin **59** by which it is rotatably mounted on a vertically disposed, flat loop **60**, fixed to cross bar **20**, by bolts **61** at the end opposite the fulcrum pin **26**. Thus, as the push rod rises from the position shown in FIGURE 2, the link **56** swings counterclockwise about pin **59**, and slides in sleeve **58**, moving to a position where it is aligned with cross rod **20**, and to positions beyond that position. The flat loop **60** not only serves to limit the swing of arm **28**, but also to retain it against sidewise movement.

The spring bias is provided by a tension spring **62**, one end of which is secured to threaded end **35** of pin **26**, and the other end to a laterally bent end tab **64** on the outer end of lever **56**. Thus, when the parts are in the position shown in FIGURE 2, the linkage is so arranged that the spring tension urges the can cover downwards, and when arranged as in FIGURE 5, the pin **42** having passed over center, the spring tension acts to retain the cover in raised position. For replacing the cover, manual pressure is applied to urge the cover downward, and after pin **42** has passed downward over center, the spring assists the downward movement, and acts to keep the cover in closed position. In this position the cover not only closes the can, but also holds it against overturning. The tension on the spring may be selected so as to be proof against the tampering efforts of small children.

The split sleeves **22** and **48** make for adjustability in the system. However, it is possible to omit these, and secure the lever system directly to the standard, in which case, square tubing may be preferable.

While a certain preferred embodiment has been shown and described, various modifications will be apparent, in the light of this disclosure, and the invention should not therefore, be deemed as limited, except insofar as shall appear from the spirit and scope of the appended claims.

What is claimed as new is:

1. A mount for trash cans and the like, comprising a base, with radially disposed elements having inner, depressed areas, a standard fixed to one of said elements, a lower, split sleeve secured to said standard, a first lever, pivotally attached, medially of its length to said sleeve, an upper, split sleeve secured to said standard, a horizontal cross bar, fixed to said upper sleeve and extending on both sides of said standard, a flat ring secured to one

end of said cross bar, a second lever passing through said flt ring and having one of its ends pivoted to the other end of said cross bar and its other end secured to a can cover, a slide bushing rotatably mounted on said ring, a third lever slidably mounted in said bushing, and pivotally mounted at one end to said second lever, adjacent said standard, a tension spring with one end anchored to said other end of said cross bar, and its other end anchored to said third lever, beyond said bushing, and a push rod with one end pivoted to said second lever on a common axis with said third lever, and its other end pivoted to one end of said first lever.

2. A mount for trash cans and the like, comprising a base, a standard fixed to said base, a lower, split sleeve secured to said standard, a first lever, pivotally attached, medially of its length to said sleeve, an upper, split sleeve secured to said standard, a horizontal cross bar, fixed to said upper sleeve and extending on both sides of said standard, a flat ring secured to one end of said cross bar, a second lever passing through said flat ring and having one of its ends pivoted to the other end of said cross bar and its other end secured to a can cover, a slide bushing rotatably mounted on said ring, a third lever slidably mounted in said bushing, and pivotally mounted at one end to said second lever, adjacent said standard, a tension spring with one end anchored to said other end of said cross bar, and its other end anchored to said third lever, beyond said bushing, and a push rod with one end pivoted to said second lever on a common axis with said third lever, and its other end pivoted to one end of said first lever.

3. A mount for trash cans and the like, comprising a base, a standard fixed to said base, a lower sleeve secured to said standard, a first lever, pivotally attached, medially of its length to said sleeve, an upper sleeve secured to said standard, a horizontal cross bar, fixed to said upper sleeve and extending on both sides of said standard, a flat ring secured to one end of said cross bar, a second lever passing through said flat ring and having one of its ends pivoted to the other end of said cross bar and its other end secured to a can cover, a slide bushing rotatably mounted on said ring, a third lever slidably mounted in said bushing, and pivotally mounted at one end to said second lever, adjacent said standard, a tension spring with one end anchored to said other end of said cross bar, and its other end anchored to said third lever, beyond said bushing, and a push rod with one end pivoted to said second lever on a common axis with said third lever, and its other end pivoted to one end of said first lever.

4. A mount for trash cans and the like, comprising a base, a standard fixed to said base, a lower sleeve secured to said standard, a first lever, pivotally attached, medially of its length to said sleeve, an upper sleeve secured to said standard, a horizontal cross bar, fixed to said upper sleeve and extending on both sides of said standard, a flat ring secured to one end of said cross bar, a second lever passing through said flat ring and having one of its ends pivoted to the other end of said cross bar and its other end adapted to be secured to a can cover, a slide bushing rotatably mounted on said ring, a third lever slidably mounted in said bushing, and pivotally mounted at one end to said second lever, adjacent said standard, a tension spring with one end anchored to said other end of said cross bar, and its other end anchored to said third lever, beyond said bushing, and a push rod with one end pivoted to said second lever on a common axis with said third lever, and its other end pivoted to one end of said first lever.

5. A mount for trash cans and the like, comprising a base, a standard fixed to said base, a lower sleeve secured to said standard, a first lever, pivotally attached, medially of its length to said sleeve, an upper, sleeve secured to said standard, a horizontal cross bar, fixed to said upper sleeve and extending on both sides of said standard, a flat

ring secured to one end of said cross bar, a second lever passing through said flat ring and having one of its ends pivoted to the other end of said cross bar and its other end adapted to be secured to a can cover, a slide bushing rotatably mounted on said ring, a third lever slidably mounted in said bushing, and pivotally mounted at one end to said second lever, adjacent said standard, a tension spring with one end anchored to said other end of said cross bar, and its other end anchored to said third lever, beyond said bushing, and a push rod with one end pivoted to said second lever intermediate its length, and its other end pivoted to one end of said first lever.

6. A mount for trash cans and the like, comprising a base, a standard fixed to said base, a first lever, pivoted medially of its length to said standard, a horizontal cross bar secured to said standard, above said first lever, at right angles to the latter, and extending on both sides of said standard, a flat ring secured to one end of said cross bar, a second lever passing through said ring and having one of its ends pivoted to the other end of said cross bar, and its other end adapted to carry a can cover, a slide bushing rotatably mounted on said ring, a third lever slidably mounted in said bushing, and pivotally mounted at one end to said second lever, intermediate its length, a tension spring with one end anchored to said cross bar on one side of said standard, and its other end anchored to said third lever on the other side of said standard, and beyond said bushing, and a push rod with one end pivoted to said second lever, intermediate its length, and its other end pivoted to one end of said first lever.

7. A mount for trash cans and the like comprising a base, a standard fixed to said base, a first lever pivoted medially of its length to said standard, a cross bar carried by said standard, a second lever pivoted to one end of said cross bar, a third lever pivoted to said second lever, intermediate its length, and having a slide mounting at the other end of said cross bar, spring means urging said link toward said standard, and a push rod attached to one end of said first lever, and at an intermediate position on said second lever.

8. In a device as in claim 7, stop means carried by said cross bar, and positioned to limit the degree of swing of said second lever.

9. A device as in claim 8, said stop means comprising a looped member in surrounding relation to said second lever.

10. A device as in claim 9, said slide mounting being rotatably mounted on said looped member.

11. A cover-handling device for use with trash cans and the like, comprising a standard, a pair of levers pivoted on said standard in spaced relation along its length, a push rod connecting said levers, a third lever pivoted to said second lever, spring means urging the outer end of said third lever toward said standard, and rotatable means carried by said standard, slidably mounting said third lever at a location laterally offset from said standard.

12. A cover-handling device for use with trash cans and the like, comprising a standard, a pair of levers pivotally carried by said standard in spaced relation along its length, and including a first, lower lever pivoted on the standard, and a second, upper lever pivoted at a point in spaced relation to the standard, a push rod connecting said levers, a third lever pivoted to said second lever at a point in spaced relation to the pivot point thereof, and spring means urging the outer part of said third lever toward the said pivot point of said second lever.

13. A device as in claim 12, the pivot point of said third lever being adjacent said standard.

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