

Feb. 28, 1967

J. W. ROGERS

3,306,464

RECEPTACLE HOLDER AND SUPPORT

Filed April 21, 1966

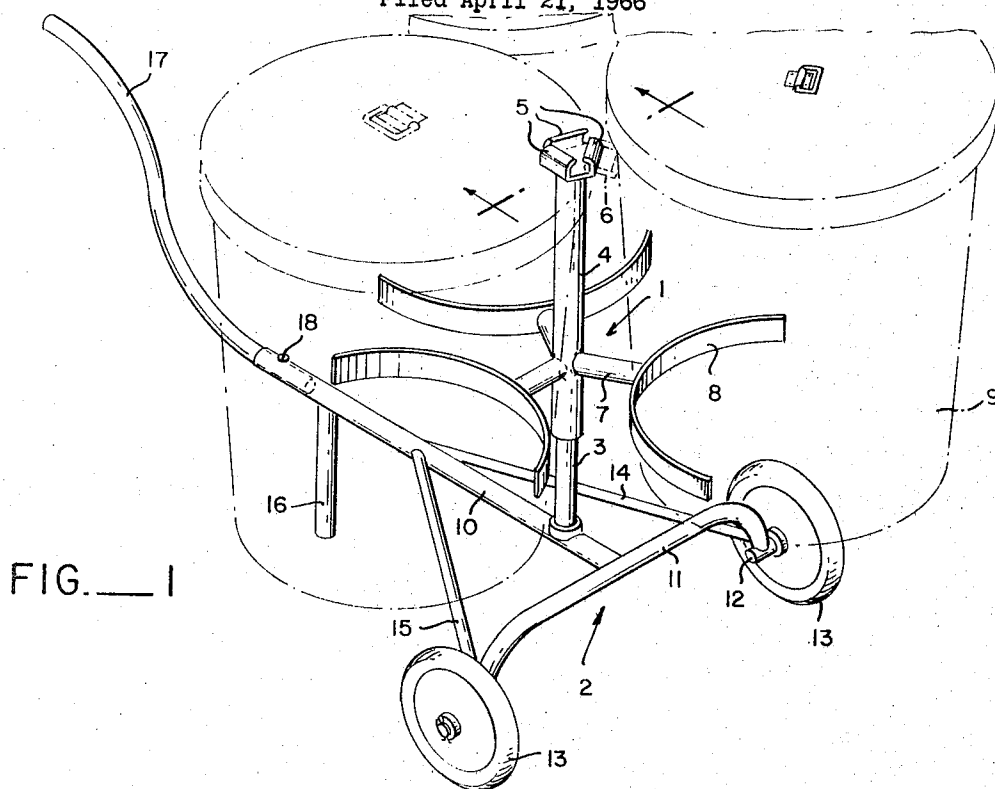


FIG. 3

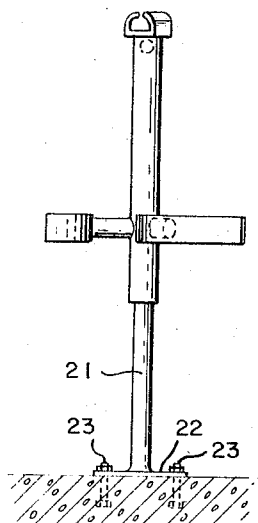
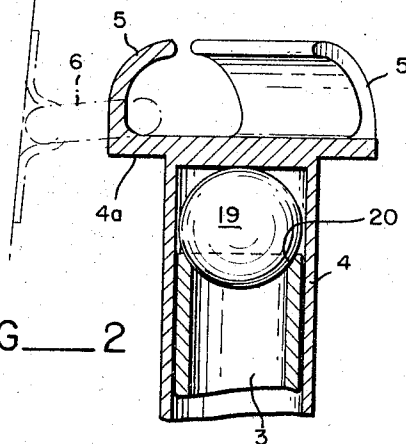


FIG. 2



JOE W. ROGERS
INVENTOR

BY

Spalding & Barry

ATTORNEYS

1

3,306,464

RECEPTACLE HOLDER AND SUPPORT

Joe W. Rogers, 806 Madison Ave.,

Toppenish, Wash. 98948

Filed Apr. 21, 1966, Ser. No. 544,168

12 Claims. (Cl. 211-78)

The present invention relates to receptacle holders and supporting structures therefor and more especially to improvements in holders and supporting means for garbage or refuse cans.

According to the present invention, a holder is provided which is adaptable for use with either stationary or movable support means and which possesses particular advantages when combined with movable support means. The present invention provides an extremely simple design for eliminating the problem of spillage due to overturning by domestic animals or by other means. The invention also provides for easier transport of the receptacles when full and makes it possible to position a plurality of receptacles for easy access to any selected one.

Many devices have been conceived in the prior art for accomplishing the purpose of protecting refuse containers from spillage by domestic animals and for maintaining and handling the containers in a safe and efficient manner. The means utilized in the prior art for accomplishing these purposes are either too elaborate, however, or fall short of accomplishing the purpose. The present invention provides a structure which will positively accomplish the stated purposes and yet which is extremely simple and inexpensive to manufacture and maintain.

One of the objects of the present invention is, therefore, to provide a receptacle holder and support means which is simple in design, inexpensive to manufacture and yet is extremely efficient for preventing undesirable spillage or opening of the receptacle and provides for easy transport and handling.

Another object of the present invention is to provide a receptacle holder which is so constructed as to prevent overturning or removal of the lid by dogs or other animals and which will actually discourage such activity.

Another object of the present invention is to provide a receptacle holder of the character described which has a special utility combined with a movable wheeled support.

Another object of the present invention is to provide a receptacle holding device of the character described having a movable support means to facilitate moving or positioning a plurality of receptacles.

Another object of the present invention is to provide a receptacle holder of the character described wherein multiple cans are freely rotatable about a vertical post with anti-friction means being provided to facilitate the revolving action.

Another object is to provide a receptacle holder of the character described wherein the ability to freely pivot the receptacles about a vertical post prevents overturning of the wheeled base and provides for automatic centering of the load over the axle of the base so as to require very little effort to move a plurality of loaded receptacles.

The means by which the foregoing objects and other advantages of the present invention, which will be apparent to those skilled in the art, are accomplished are set forth in the following specification and illustrated in the accompanying drawing wherein:

FIG. 1 is a perspective view of one embodiment of the invention utilizing a wheeled base support;

FIG. 2 is a partial cross section taken along lines 2-2 of FIG. 1 illustrating the anti-friction mounting of the telescoping support members; and

FIG. 3 is a second embodiment showing the application of the holder to a stationary base.

2

Referring now to the drawings wherein like reference numerals indicate identical parts in the various views, FIG. 1 shows the holder portion, indicated generally at 1, and a movable or wheeled support device indicated generally at 2. The holder portion 1 comprises a vertical mounting post or pedestal 3 which may be constructed from common pipe stock or the like. Telescoping received on the post 3 is a tubular body member 4 having the top end thereof provided with a closure plate 4a or the like provided with a plurality of curved brackets 5 which engage the handles of conventional refuse cans. It will be noted that the brackets 5 are curved inwardly such that the container handles 6 must be moved inwardly and upwardly in order to detach them from the brackets. Radiating from the tubular body member 4 are a plurality of mounting arms 7 to which are fixed the arcuate saddle members 8 which engage the sides of the receptacles and provide lateral support to hold the cans upright. In the illustrated embodiment, three such saddle members and corresponding handle brackets 5 are illustrated as the preferred embodiment but it will be understood that more or less saddle member and brackets may be provided if desired. As illustrated in FIG. 1, the cans 9 obtain vertical support from the handles 6 which engage the brackets 5 with the saddles 8 holding the cans erect and away from the holder.

As shown in FIG. 1, the wheeled support 2 comprises a generally triangular frame having a longitudinal strut 10, and a transverse frame member 11 having downwardly curved end portions for mounting stub axles 12 for the wheels 13. Two side braces 14 and 15 extend from the ends of the transverse member 11 to a point along the length of the strut 10 in order to strengthen the frame. A vertical rear support or standard 16 extends downwardly from the rear end of the longitudinal strut 10. The frame members may be assembled and connected by welding or any other suitable means in order to form a rigid structure. A handle 17 is provided for the wheeled frame and may be detachably connected to the longitudinal strut 10 in a telescoping manner as shown in FIG. 1 with a release pin 18 being provided to enable the handle to be detached. The vertical post or pedestal 3 of the holder device 1 is welded or otherwise rigidly fixed in an upright position on the longitudinal strut 10 in a position closely adjacent the cross member 11 so as to be near the axis of the wheels 13.

As illustrated most clearly in FIG. 2, anti-friction step bearing means is provided between the vertical post 3 and the tubular member 4. The bearing comprises a ball member 19 of the proper dimensions in the open upper end of the post 3 which bears against the bottom side of the plate 4a to provide a point contact for vertical support. The circular edge of the upper end of the post 3 may be provided with a seat 20 if desired for the purpose of receiving a ball 19. With this construction, the vertical component of the force due to the weight of the loaded receptacles is concentrated on the surface of the ball 19 providing an extremely small area of contact even after substantial wear has occurred in order to allow the receptacles to be rotated about the vertical post with very little effort. Since the ball member 19 does not itself rotate, the position of the ball may be changed periodically as wear occurs thereby increasing the life of the anti-friction bearing.

FIG. 3 illustrates another embodiment of the invention which is adapted for a nonmovable installation. In this case, the vertical post 21 is provided with base plate 22 which may be welded or otherwise attached to the bottom end of the post. Plate 22 is provided with suitable holes for receiving the anchor bolts 23 which are used to anchor the holder. The remaining structure of the device shown

in FIG. 3 may be identical to that described in connection with FIGS. 1 and 2.

The advantages of the anti-friction step bearing for the body member 4 has proved to be outstanding in actual practice. In the portable as well as the stationary model, the freely and readily rotatable holder portion prevents a large dog or any other animal from overturning the receptacle since the minute any lateral force applied to any one of the receptacles, the body member 4 starts to rotate. Not only is a dog prevented from overturning the receptacle but also from removing the lid and jumping in. In addition, since the multiple receptacle holder rotates freely, the dog will most likely be struck by an oncoming receptacle which further discourages his activity. The rotating action also takes place during high wind conditions which oftentimes is responsible for overturning refuse containers. In case of the present invention, the holder 4 will simply rotate in the strong wind and the receptacles will remain upright and covered.

When the receptacle holder 1 is combined with the wheeled support 2, additional advantages are obtained through the combination. With multiple receptacles being mounted on the member 4, any time the handle 17 is used to lift the rear end of the wheeled frame to transport the receptacles, the heaviest load automatically pivots to a position overlying the frame member 11 and along the axis of the wheels 13. Thus the load becomes more or less balanced and easy to push. It has been found that, with loaded receptacles, lifting on the handle 17 and resulting rotating of the body member 4 because of a loaded receptacle actually catapults or pulls the wheeled frame forward. In addition to these results, the provision of the freely rotatable holder prevents the frame from being upset and allows a smaller and more compact wheel base to be used. The minute lateral pressure is put on one of the cans, the receptacles start to rotate. The advantages of providing a wheeled base for the holder structure are numerous and include the convenience of being able to transport the cans or receptacles to any desired location about a yard for instance to pick up refuse. In case of both the wheeled mounting and the stationary mounting shown in FIG. 3, the receptacles may be located in a corner since it is merely necessary to rotate the holder in order to get at any one of the cans desired. The provision of the base plate 22 allows the supporting post 21 to be securely anchored on bolts such as the anchor bolts 23 and yet to be removed if desired.

It will be readily apparent to those skilled in the art that the present invention provides novel and useful improvements in receptacle holders and support means of the character described. The arrangement and types of structural components utilized within this invention may be subjected to numerous modifications well within the purview of this invention and applicant intends only to be limited to a liberal interpretation of the specification and appended claims.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. In combination, a vertical post, a body member telescopically received on said post, mounting means carried by said body member for mounting a plurality of receptacles, and anti-friction step bearing means located between said post and said body member providing vertical support and free rotation of the body member on the post.

2. In combination; a wheeled support, said support comprising a central frame member, transverse frame means fixed to said central frame member, spaced ground engaging wheels carried by said transverse frame member, a vertical post mounted in an upright position on said central frame closely adjacent said transverse frame member and the axes of said wheels, a body member telescopically received on said post, mounting means carried by said body member for mounting a plurality of receptacles, and anti-friction step bearing means located be-

tween said post and said body member providing vertical support and free rotation of the body member on the post.

3. In combination; a vertical post, a body member telescopically received on said post, said post and said body member constituting circular cross section tubular members, mounting means carried by said body member for mounting a plurality of receptacles, and anti-friction step bearing means located between said post and said body member, said bearing means comprising a bearing member having a special bearing surface received in the upper end of said post, and a closure plate fixed to the upper end of said body member, the underside of said plate providing a planar bearing surface for contact with said spherical bearing surface, whereby said bearing means provides vertical support and free rotation of the body member on the post.

4. The combination according to claim 2 including; a ground engaging leg extending downwardly from said central frame member remote from said wheels providing substantially three point ground engagement, and detachable handle means connected to said central frame member.

5. The combination according to claim 3 including; a wheeled support, said support comprising a central frame member, transverse frame means fixed to said central frame member, and spaced ground engaging wheels carried by said transverse frame member, said vertical post being mounted in an upright position on said central frame closely adjacent said transverse frame member and the axes of said wheels.

6. The combination according to claim 5 including; a ground engaging leg extending downwardly from said central frame member remote from said wheels providing substantially three point ground engagement, and detachable handle means connected to said central frame member.

7. The combination according to claim 3 wherein; said bearing member comprises a spherical ball member having a diameter greater than the inside diameter of said post, said ball member being supported by and partially received in the upper end of said post, whereby said ball remains stationary relative to said closure plate.

8. The combination according to claim 7 including; a wheeled support, said support comprising a central frame member, transverse frame means fixed to said central frame member, and spaced ground engaging wheels carried by said transverse frame member, said vertical post being mounted in an upright position on said central frame closely adjacent said transverse frame member and the axes of said wheels.

9. The combination according to claim 8 including; a ground engaging leg extending downwardly from said central frame member remote from said wheels providing substantially three point ground engagement, and detachable handle means connected to said central frame member.

10. The combination according to claim 7 including; a plurality of upwardly curved bracket means carried by said closure plate for engagement with receptacle handles, a plurality of corresponding arcuate shaped saddle members, and means to mount said saddle members about the circumference of said body member to provide lateral support for receptacles carried thereby.

11. The combination according to claim 10 including; a wheeled support, said support comprising a central frame member, transverse frame means fixed to said central frame member, and spaced ground engaging wheels carried by said transverse frame member, said vertical post being mounted in an upright position on said central frame closely adjacent said transverse frame member and the axes of said wheels.

12. The combination according to claim 11 including; a ground engaging leg extending downwardly from said central frame member remote from said wheels providing substantially three point ground engagement, and de-

5

tachable handle means connected to said central frame member.

References Cited by the Examiner

UNITED STATES PATENTS

824,083 6/1906 Roach ----- 211—165 X
2,750,140 6/1956 Smith ----- 248—154
2,904,345 9/1959 Bradley ----- 280—47.13

5

6

2,929,512 3/1960 McDougale ----- 211—71
3,007,664 11/1961 Fairbanks et al. ----- 248—126
3,091,342 5/1963 Crump ----- 248—154
3,111,333 11/1963 Marini et al. ----- 80—47.19
3,173,547 3/1965 Alissandrates ----- 211—71
3,219,195 11/1965 Mize ----- 211—71

CLAUDE A. LE ROY, *Primary Examiner.*