

[54] REFUSE CONTAINER

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[56] References Cited

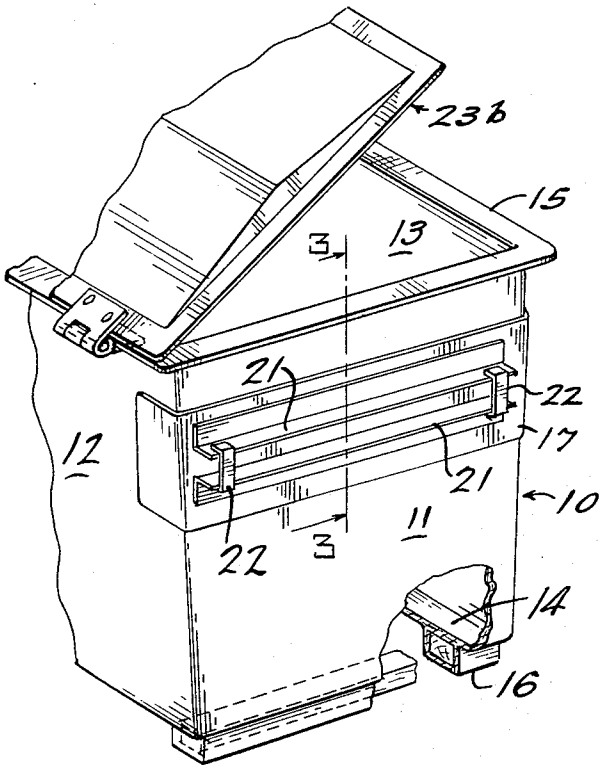
| UNITED STATES PATENTS |        |                      |         |
|-----------------------|--------|----------------------|---------|
| 3,136,575             | 6/1964 | Kolling .....        | 214/302 |
| 3,315,828             | 4/1967 | Dubo .....           | 214/302 |
| 3,230,003             | 1/1966 | McAfoos et al. ....  | 294/73  |
| 3,122,249             | 2/1964 | Dempster et al. .... | 214/621 |

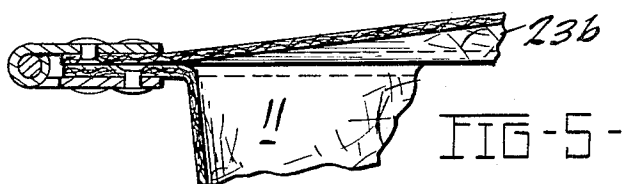
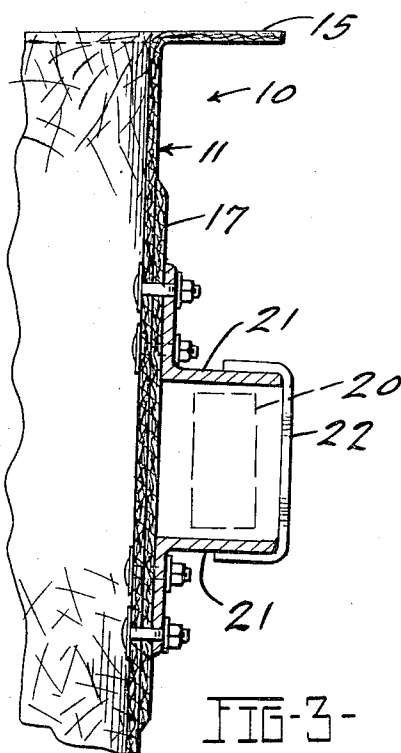
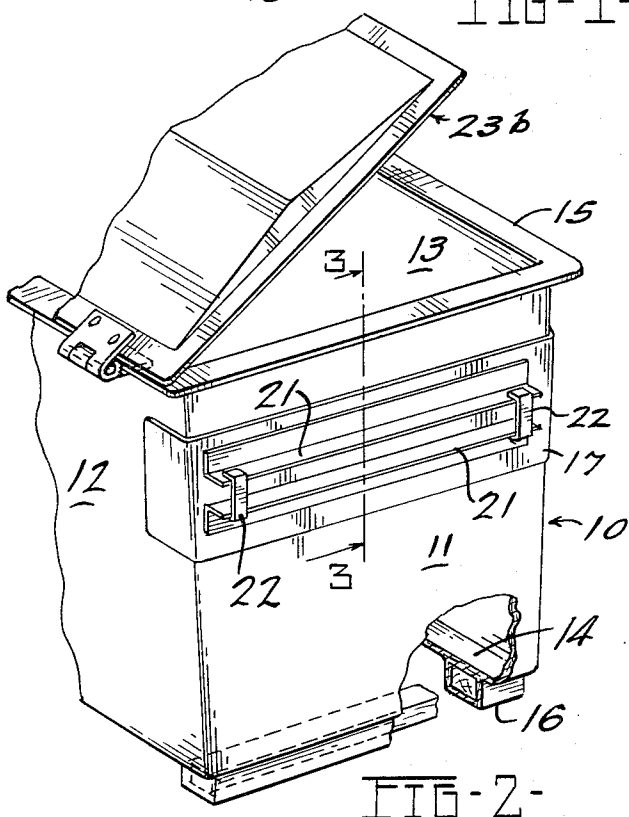
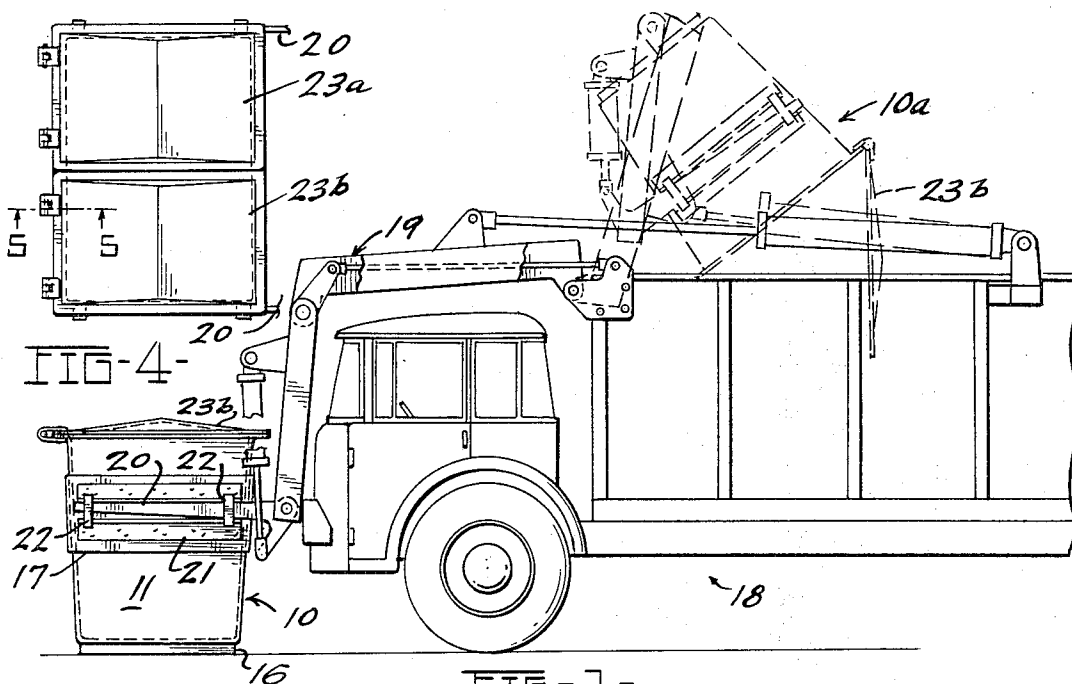
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[57] ABSTRACT

An open topped refuse container fabricated from fiber reinforced, hard resinous material. The end and side walls and the bottom are unitary in construction. The walls taper outwardly so the open top is larger than the bottom and there is an outwardly extending lip formed at the upper edge of the side and end walls. The end walls have extra reinforcing layers. Two vertically spaced channels are removably bolted at the outside of the reinforced end walls for receiving the tines of a lifting fork. Retaining straps extend vertically across between the channels. The container has a lid that is hinged to the lip at the front or back.

3 Claims, 5 Drawing Figures





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## REFUSE CONTAINER

## DESCRIPTION OF THE DRAWINGS

FIG. 1 is a fragmentary view in elevation showing a conventional front loader refuse truck illustrating how a refuse container embodying the invention is lifted and emptied thereby;

FIG. 2 is a fragmentary view in perspective, with parts broken away, showing a refuse container embodying the invention;

FIG. 3 is a fragmentary vertical sectional view taken along the line 3—3 of FIG. 2 and shown on a greatly enlarged scale;

FIG. 4 is a horizontal plan view of a refuse container shown on the same scale as in FIG. 1; and

FIG. 5 is a fragmentary vertical sectional view taken along the line 5—5 of FIG. 4 and shown on a greatly enlarged scale.

## DESCRIPTION OF A PREFERRED EMBODIMENT

A refuse container 10 embodying the invention is fabricated from a fiber reinforced, hard resinous material, the fiber reinforcing preferably being extremely strong such as glass fibers or the like. The container 10 is generally box-shaped and has two end walls 11, a front wall 12, and a back wall 13. The end walls 11 and the front and back walls 12 and 13 are upwardly tapered and are unitarily constructed with a generally horizontal bottom 14 which is of less area than the open top of the container 10 formed by the walls 11, 12, and 13. An outwardly extending lip 15 is unitarily formed with the walls 11, 12 and 13 to provide a flange or ledge at the open top of the container 10.

The strength of a container embodying the invention is increased by extending the layers of the fiber reinforcement around the corners at the junctions of the walls 11, 12 and 13 and their junctions with the bottom 14. Radii of small dimensions usually are formed along these junction lines to minimize the stress points. The lip 15 is also formed integrally with the walls 11, 12, and 13 and functions not only to provide a ledge at the open top of the container 10 but to strengthen the upper edges of the walls 11, 12, and 13, reducing their tendency to bow or deform.

If desired, and illustrated in this preferred embodiment, longitudinally extending skids 16 may be integrally constructed with the bottom 14 and may also be provided with heavy inserts such as bars of metal or the like to strengthen the skids 16 and the bottom 14 to aid in keeping the container 10 upright and to further rigidify the container 10 to provide for its being moved across uneven surfaces without injury to the bottom 14.

At more or less their median areas the end walls 11 are reinforced by extra layers 17 of fiber reinforced hard resin, the layers 17 being shown in FIG. 2 as extending around the corners between the end walls 11 and the front and back walls 12 and 13 to further strengthen the construction.

A refuse truck generally indicated by the reference number 18 conventionally is equipped with lifting booms 19 at the lower forward end of which there is mounted a pair of fork tines 20. The tines 20 are pivotally mounted at the lower end of the boom 19 and usually are spaced from each other transversely of the truck 18 a sufficient distance so as to embrace a container 10. The boom 19 and tines 20 are so constructed so to enable them to be elevated in order to lift the container 10 and empty it into the body of the truck 18.

A container 10 embodying the invention has a pair of vertically spaced, horizontal channels 21 illustrated in FIG. 3 as consisting of heavy angle irons with their horizontal webs

spaced vertically from each other a distance to receive the fork tines 20 therebetween and with their vertical flanges removably bolted to the end walls 11 through the reinforced layers 17. In order to further strengthen the fork engaging channels 21, a container embodying the invention has at least a pair of retaining straps 22 illustrated as being fabricated from strap iron and welded to the horizontal flanges of the channels 21.

The fork tines 20 are inserted into the spaces between the channels 21 between the outer sides of the reinforced layers 17 and the straps 22 and then power is applied to the booms 19 to swing them upwardly, lifting the container 10 and tilting it backwardly over the body of the truck 18 to empty the refuse therefrom. Because of the taper of the end walls 11, and front and back walls 12 and 13, the open top of the container 10 is larger than its bottom 14 so that refuse falls out of the container 10 when it is inverted as shown at the upper right hand side of FIG. 1 and indicated by the reference number 10a.

A refuse container 10 embodying the invention may also be provided with a lid 23, shown in FIG. 4 as consisting of two lid halves 23a and 23b. A single lid extending across the entire open top of the container 10 or the pair of lids 23a and 23b, are hingedly mounted on the lip 15 at the upper side of the front wall 12 and close, by gravity, against the lip 15. Extra reinforcement in the areas of the lip 15 and the edges of the lids 23a and 23b may be provided so that rivets or other fastening means extending therethrough are more firmly retained if desired. Locating the hinges for the lids 23a and 23b along the line provided by the lip 15 on the front wall 12, results in the lids swinging open automatically when the container 10 is inverted for dumping as illustrated in FIG. 1 and indicated by the reference number 23b.

The skids 16 also function to space the container bottom 14 above the level of the surface upon which the container 10 is resting so that a container 10 embodying the invention may also be elevated and handled by a conventional fork lift truck equipped with a pair of laterally spaced relatively flat lifting tines, when desired.

Having described my invention I claim:

1. A refuse container adapted to be lifted and emptied by a refuse truck having a pair of spaced fork tines mounted on swinging booms, said container comprising, a unitary, open-topped, box-like body fabricated from reinforced hard resinous material, the front, back, and side walls thereof being tapered to provide an open top larger than the bottom thereof; an outwardly extending lip formed at the upper edges of said walls for providing a ledge thereon; a median area of each end wall having a horizontally extending extra layer of reinforcement bonded onto the outer side thereof; the thickness of said extra layer being less than the difference in top and bottom horizontal dimension of said front and back sidewalls; a pair of horizontally extending, vertically spaced lifting channels removably mounted on the exterior side of each of said end walls for receiving the tines of a lifting fork; and tine retaining straps secured to said channels and extending across therebetween.

2. A refuse container as defined in claim 1 and a lid therefor fabricated from reinforced hard resinous material, said lid being pivotally attached to the lip on said container on a hinge line that is perpendicular to the lifting channels.

3. A refuse container according to claim 1 and downwardly extending skids formed on the under side of the bottom thereof and extending parallel to the lifting channels.

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