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TRUCK BODY LOADER

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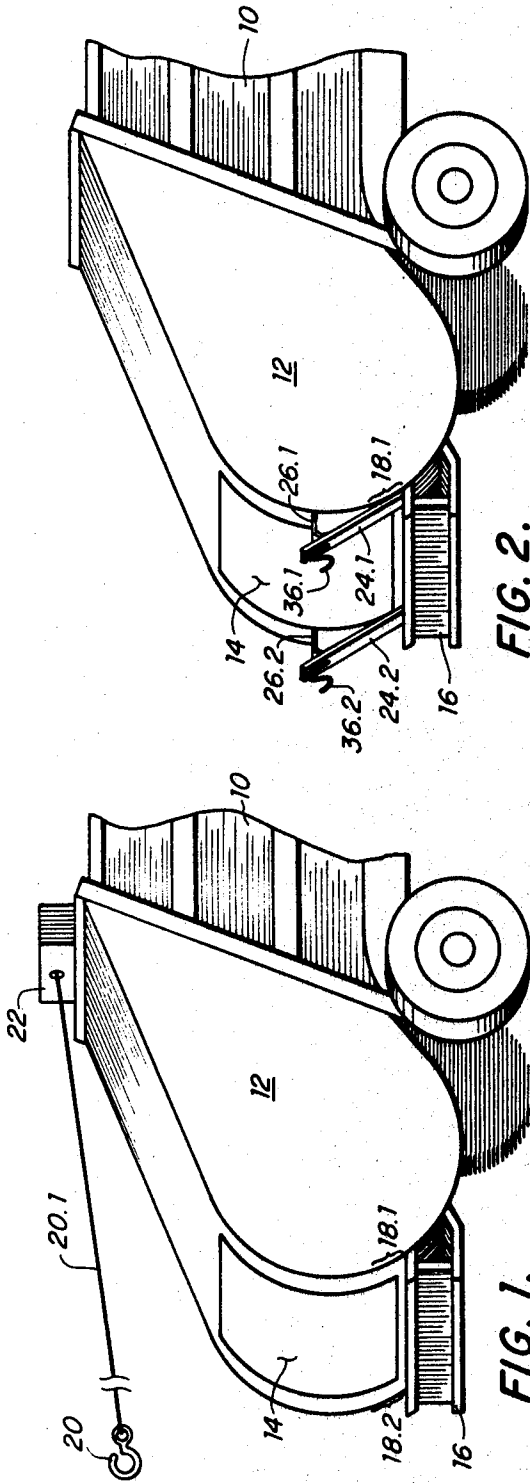


FIG. 2.

FIG. 1.

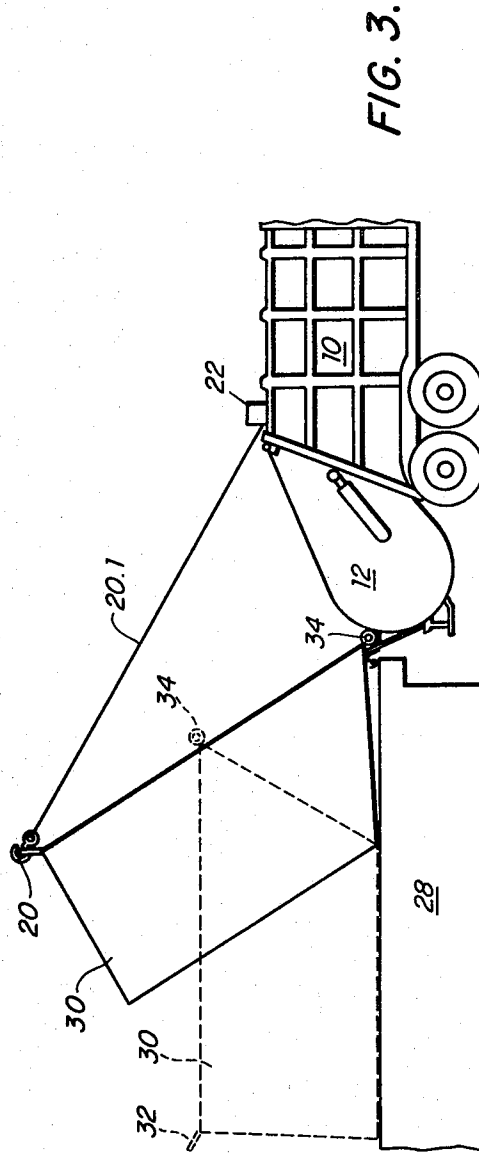


FIG. 3.

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TRUCK BODY LOADER

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6 Claims. (Cl. 214-302)

This invention relates to truck bodies and, more specifically, to an improved refuse compaction truck body unit.

Basically, there are two designs for truck bodies in the refuse collection arts; namely, the front loader and the rear loader. Both are well suited for many applications in the collection of both industrial refuse and municipal refuse.

The front loader type truck has a body with an opening for refuse at the top. A pair of arms, extending along the sides of the cab, picks up a pre-loaded refuse container located on the ground in front of the cab and lifts it over the cab. When the container is in the overhead position, it is caused to tip over and discharge its contents into the top opening or hopper to be compacted. Thereafter, the arms lower the container back to ground level and the containers are ready to be refilled.

The rear loader type truck has an opening in the rear panel into which pre-loaded containers are emptied. As additionally distinguished from the front loader, the rear loader type truck is capable of accepting refuse from hand-held containers as well as the industrial size containers, while in the front loading operation, all refuse must be first placed in a large container which is then emptied.

In the rear loader operation, the large containers are usually set on the ground and the truck is backed up to the front of the container so that it is adjacent the opening or hopper in the rear truck panel. A winch, located atop the truck body, is used to take up or shorten a cable having its free end connected to the far end of the container. The forward end of the container is caused to mate with a narrow extension on the lower edge of the hopper, whereby when the cable is shortened to raise the far end of the container, the front end is maintained at the lowest level of the hopper opening and the refuse in the container is discharged into the hopper opening.

While both systems have their particular merits as well as drawbacks, neither system is, as presently constituted, equipped to deal with the most desirable setup at industrial installations. Specifically, in both systems of loading, the refuse container must be at ground level before its contents may be discharged into the loading hopper of the refuse truck. In the front loader, the refuse container is located in the front of the truck, while in the rear type of loader, either the hand-held containers such as barrels or the large industrial type containers are located on the ground at the rear of the truck body.

The most desirable circumstances, insofar as industrial refuse collection is concerned, is the situation wherein either the barrel or the industrial containers are located on a loading dock or platform which may also be used by the industrial installation for shipping and receiving. In practice, the loading dock or platform has a canopy thereover for the protection of any material placed thereon. It should be obvious therefore that, in the absence of any large refuse container on the loading platform, it becomes rapidly cluttered with refuse during inclement weather when plant personnel is most reluctant to take the refuse out to a container at ground level. It, therefore, becomes highly desirable to have a container located on a loading platform that may be discharged directly into the hopper of a refuse truck or compaction unit.

This compaction unit would become considerably more desirable to the rubbish removal art if it were capable of

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being utilized with containers located either at ground level or on a loading platform. In this manner, the same compaction unit, on its regular tour, would be able to service any installation whether its refuse containers were located either at ground level or up on a loading platform.

In accordance with the principles of my invention, I am able to provide a compaction unit capable of servicing either barrels or industrial refuse containers, both at ground level or at a higher level such as upon a loading platform, by providing at the rear of the compaction unit a bumper and ledge assembly together with an associated hook assembly, the combination tailored to accept the refuse container at either of the two levels.

It is, therefore, an important object of the present invention to provide a refuse compaction unit capable of accepting refuse containers located above ground level.

Another important object of the present invention is to provide a refuse compaction unit capable of accepting refuse containers either above ground level or at ground level.

A still further object of the present invention is to provide a rear loader type compaction unit capable of accepting refuse containers either above ground level or at ground level.

Yet another important object of the present invention is to provide a rear loader type compaction unit capable of accepting both barrels or pre-loaded industrial containers either above ground level or at ground level.

The features of my invention which I believe to be novel are set forth with particularity in the appended claims. My invention itself, however, both as to its organization and method of operation, together with further objects and advantages thereof, may best be understood by reference to the following description taken in conjunction with the accompanying drawings in which:

FIG. 1 is a fragmentary perspective view of the loading hopper of a rear loaded compaction unit before modification;

FIG. 2 is a fragmentary perspective view of the loading hopper of a rear loaded compaction unit showing my invention thereon; and

FIG. 3 is an elevation view of a rear loaded compaction unit showing the cooperation of my invention with an industrial refuse container that is located on a loading platform.

Referring now to FIG. 1, there is shown a compaction unit 10 having a rear loading hopper 12 into which refuse is loaded through opening 14. In units of this sort, the compaction unit is delivered from the manufacturer with a bar 16 running the width of the unit at the lower edge of opening 14. When it is desired to discharge refuse containers into opening 14, the whole truck 10 is backed up until the forward edge of the refuse container makes contact with loading hopper 12 at an approximate area designated by the brackets 18.1 and 18.2. Thereafter, a hook 20 is engaged with a corresponding loop at the opposite end of the refuse container and the opposite end is then raised when cable 20.1 is shortened by the action of winch 22, the action of which is controlled by the operator. As the far end of the container is raised, the front end of the container (not shown) is lowered until it mates with the junction of bar 16 and hopper 12. The entire container is thus eventually raised to the point where gravity causes the refuse in the container to flow into hopper 12.

Referring now to FIG. 2, there is shown the lower bar 16, affixed to hopper 12, for engagement or mating with refuse containers located at ground level and, together with bumpers 24.1 and 24.2, for engagement with refuse containers located above ground level. Bumpers 24.1 and 24.2 have ledges 26.1 and 26.2, respectively,

associated therewith affixed directly to the sides of hopper 12 immediately adjacent opening 14 defining a pair of channels so that the forward end of refuse containers, located approximately 4-5 feet above ground level, may be mated to the compaction unit and the refuse discharged into opening 14. Bumpers 24.1 and 24.2 have S-shaped hooks 36.1 and 36.2 welded thereon so that a canvas curtain (not shown) may be extended across a portion of opening 14 when refuse containers are being discharged from positions above ground level.

Mode of operation

Referring now to FIG. 3 for a description of the operation of my device, reference is made to truck 10 having hopper 12 located at the rear thereof. In this view, truck 10 is backed up to a loading platform 28 having a refuse container 30 located thereon. When the truck is in position, winch 22 allows cable 20.1 to be extended so that hook 20 may mate with loop 32 located at the far end of container 30 (shown in dotted configuration). As cable 20.1 is shortened causing the far end of container 30 to be raised, the front end 34 of container 30 mates with ledges 26.1 and 26.2 which are forward of bumpers 24.1 and 24.2, respectively. Since ledges 26.1 and 26.2 are located below the uppermost reaches of bumpers 24.1 and 24.2, front edge 34 will be mated with and contained within the confines of the area between the bumpers and the body of hopper 12.

To prevent spillage while in this position, it is expedient to use a curtain extending between hooks 36.1, 36.2 and bar 16. Since this may take the form of either a hanging weighted curtain or any roll-up device, i.e. window shades, no detailed exegesis is necessary.

Thus, with the canvas supported on a bar extending between hooks 36.1 and 36.2, barrels may be discharged from the loading platform directly into opening 14, making it additionally convenient for operators to perform the discharging operation for barrels. Similarly, should my device be used with large industrial containers located at ground level, the removal of the curtain will allow the unimpeded discharge of either barrels or industrial containers into opening 14 by conventional means.

While I have described what is presently considered the preferred embodiment of my invention, it will be obvious to those skilled in the art that various other changes and modifications may be made therein without departing from the inventive concept and, it is aimed in the appended claims to cover all such changes and modifications as fall within the true spirit and scope of my invention.

I claim:

1. An improved refuse compaction unit, the combination comprising:

a rear loaded hopper;

a substantially rectangular opening having upper and lower edges and a pair of side edges in the rear of the hopper through which refuse is introduced therinto;

first support means located at and defining the lower edge of the opening for mating with a refuse container located at ground level;

second support means having a pair of substantially vertically disposed bumper members extending vertically and parallel to the side edges of the opening;

one end of each bumper member rigidly affixed to the hopper at the lower edge opening, the other end extending toward the upper edge opening; and a pair of horizontally disposed support ledges respectively affixed to and extending between each other end of each bumper member and that portion of the hopper adjacent the vertical side edges of the opening to mate with containers located above ground level.

2. The unit of claim 1 wherein:

the first support means is a structure of solid material rigidly affixed to the hopper below the lower edge of the opening formed wherein to allow ground level containers to mate with the compaction unit at the junction of the first support means and the hopper.

3. The unit of claim 2 further comprising:

a pair of S-shaped hooks affixed to the uppermost ends of the bumpers; and

a curtain having one end supported on the S-shaped hooks and extending down toward the first support means defining the lower edge of the opening.

4. In an improved refuse compaction unit of the kind having a rear loaded hopper with a substantially rectangular orifice therein into which refuse is introduced, the orifice being defined by upper and lower edges and a pair of side edges in the rear of the hopper, the combination comprising:

first support means located at and defining the lower edge of the orifice for mating with a refuse container located at ground level;

second support means having a pair of substantially vertically disposed bumper members extending vertically and parallel to the side edges of the opening;

one end of each bumper member rigidly affixed to the hopper at the lower edge opening, the other end extending toward the upper edge opening; and

a pair of horizontally disposed support ledges respectively affixed to and extending between each other end of each bumper member and that portion of the hopper adjacent the vertical side edges of the opening, to mate with containers located above ground level.

5. The unit of claim 4 wherein:

the first support means is a structure of solid material rigidly affixed to the hopper below the lower edge of the opening formed therein to allow ground level containers to mate with the compaction unit at the junction of the first support means and the hopper.

6. The unit of claim 5 further comprising:

a pair of S-shaped hooks affixed to the uppermost ends of the bumpers; and

a curtain having one end supported on the S-shaped hooks and extending down toward the first support means defining the lower edge of the orifice.

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