Dec. 31, 1968 H. P. ROSAIA 3,419,167

REFUSE PACKER CONSTRUCTION

Filed May 31, 1966

Sheet 1 of 2

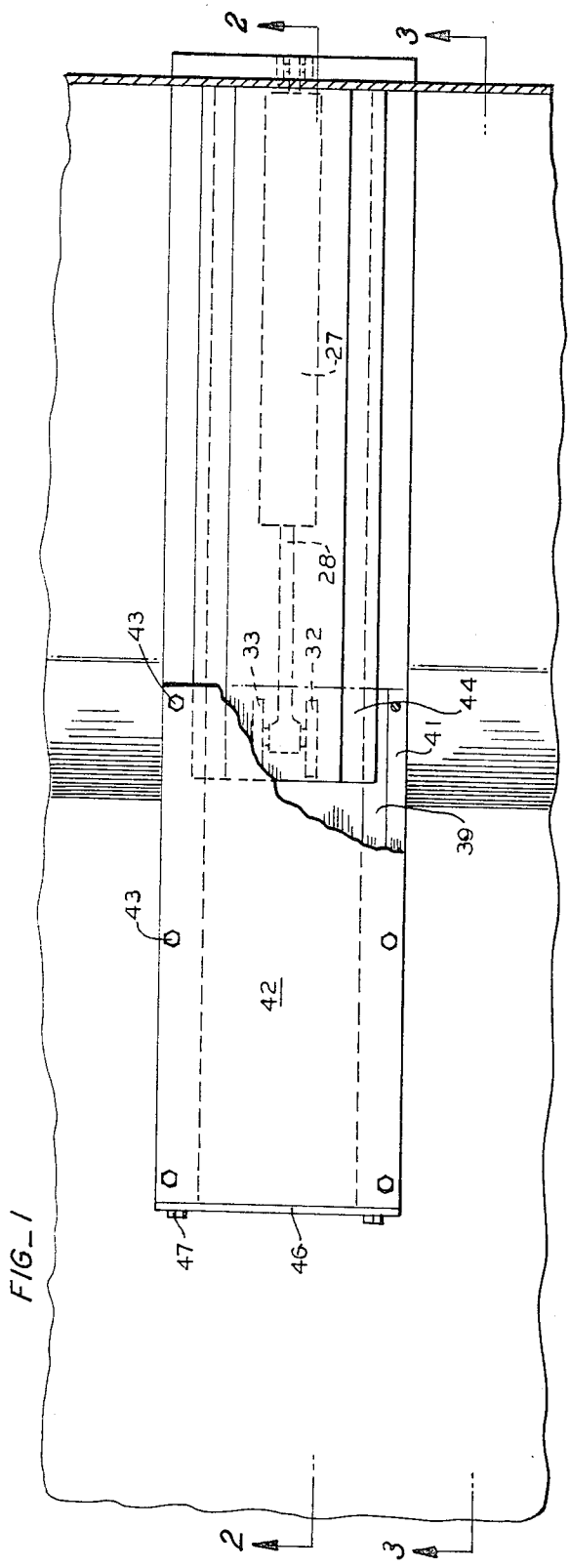


FIG_1

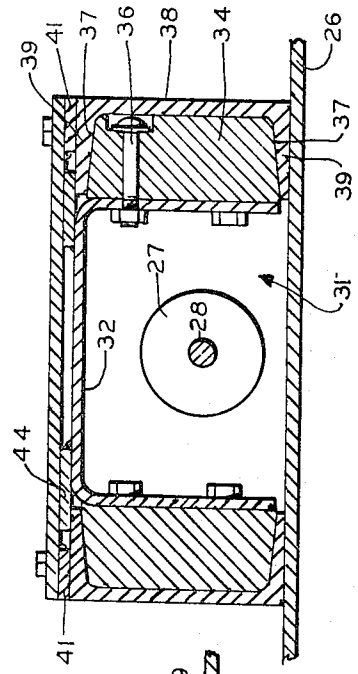


FIG_5

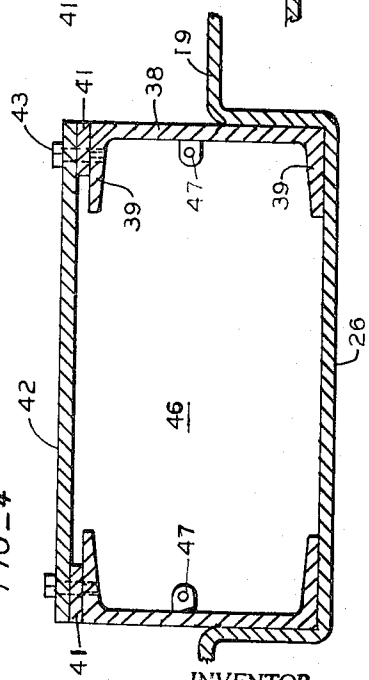


FIG_4

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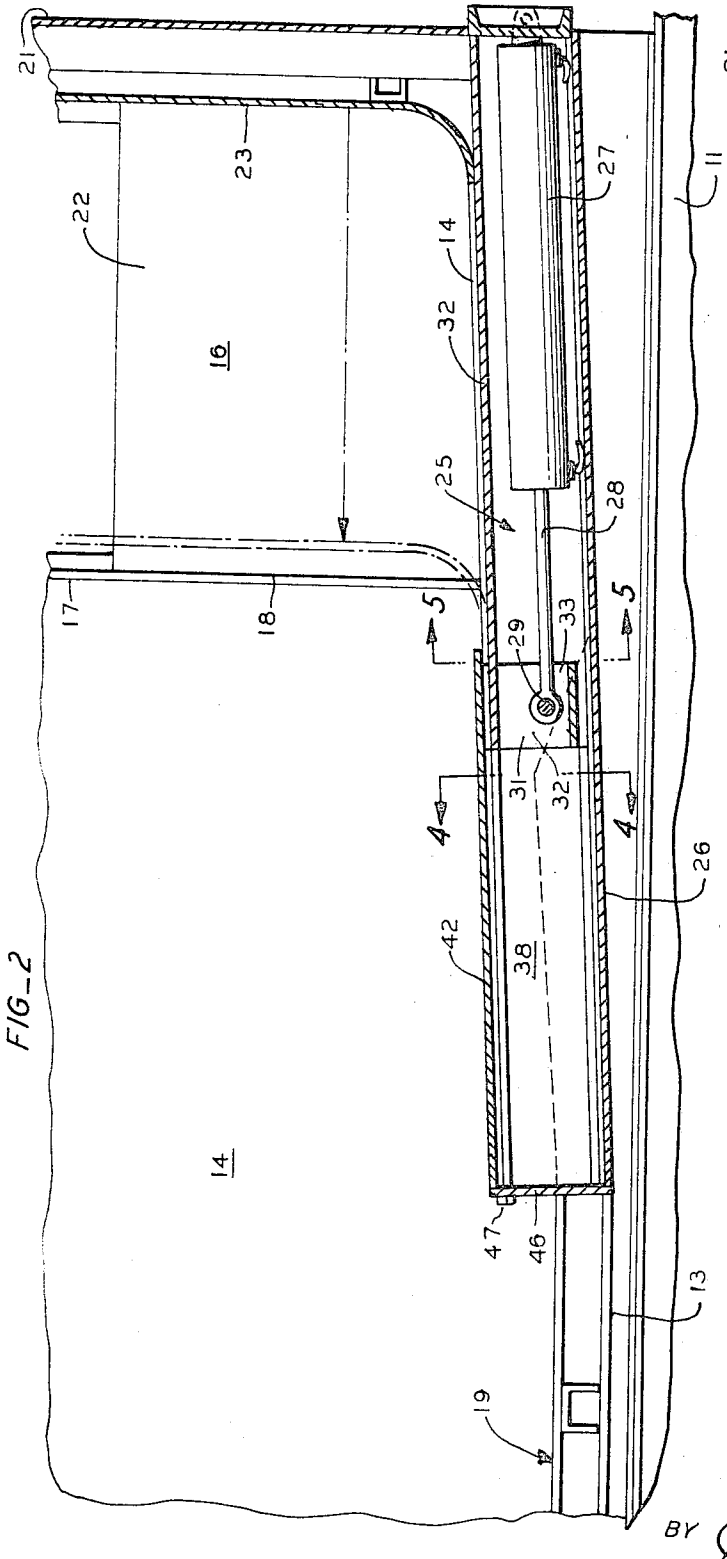


FIG_2

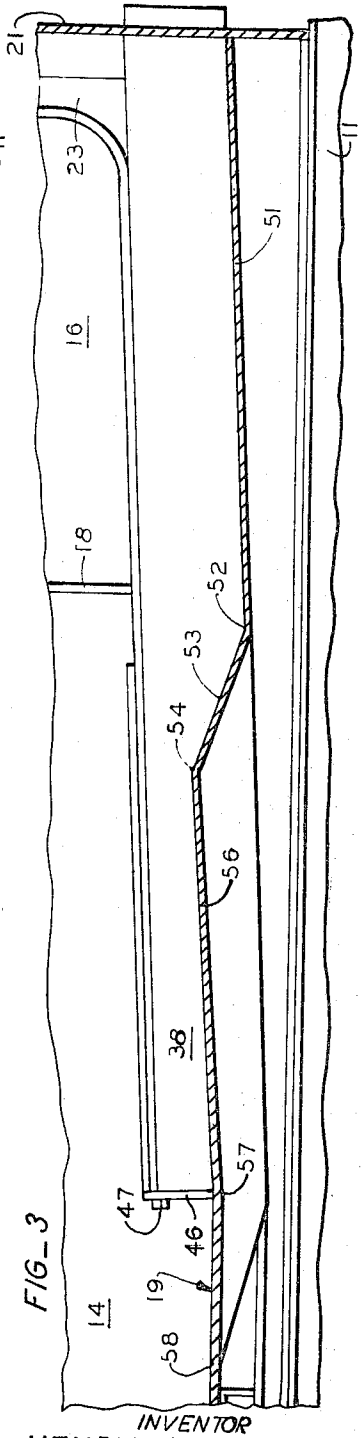


FIG_3

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3,419,167

REFUSE PACKER CONSTRUCTION

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Filed May 31, 1966, Ser. No. 553,786
6 Claims. (Cl. 214—83.3)

ABSTRACT OF THE DISCLOSURE

An improvement on Patent No. 2,996,203 on a refuse packer has a floor with downward-rearward slope at the forward loading compartment, an upward-rearward slope at the location of the gate, and a downward-rearward slope at the rear of the packing mechanism. This arrangement has the effect of rolling the refuse as it climbs the ramp, thereby compacting the mass. An improved track structure for the ram guides is disclosed.

This invention relates to a new and improved refuse packer construction and is an improvement on my patent, No. 2,996,203. A principal advantage of the present invention over the construction shown in said patent is the slope of the floor to either side of the housing for the ram actuating mechanism. Said floor slopes downwardly-rearwardly at the forward loading compartment, then slants upwardly-rearwardly at approximately the location of the gate, thence downwardly-rearwardly at the rear end of the packing mechanism, and thence horizontally to the rear end of the storage compartment. The sloping arrangement thus described has the effect of rolling the refuse as it climbs the ramp and therefore there is less tendency for the refuse to fall forwardly. The various particles of refuse tend to roll up into each other and hold themselves in a compact mass which simplifies loading.

Another feature of the invention is that it facilitates loading inasmuch as less pressure is needed in order to compact the refuse into a solid mass.

Still another advantage of the invention is that the floor tends to slide the refuse back even though the ram has reached the limit of its backward movement thus facilitating the operation of the ram on the next stroke since less material must be moved in order to compact same.

Another improvement of the present invention over the prior construction is the track structure which comprises long sliding members replacing the rollers. Such sliding members last longer and are stronger and are relatively trouble-free as compared with the previous construction.

Other objects of the invention are set forth in considerable detail in said patent No. 2,996,203 and the present invention has all of said features.

Other objects of the present invention will become apparent upon reading the following specification and referring to the accompanying drawings in which similar characters of reference represent corresponding parts in each of the several views.

In the drawings:

FIG. 1 is a fragmentary top plan view partly broken away in section of the ram mechanism, casing and surrounding portions of the floor.

FIGS. 2 and 3 are, respectively, fragmentary longitudinal sectional views taken along corresponding section lines in FIG. 1.

FIGS. 4 and 5 are fragmentary transverse sectional views through the track structures as shown by corresponding section lines in FIG. 2.

Many of the parts of the present invention are similar to those shown in Patent No. 2,996,203 and are not shown herein in detail. The body is installed on a conventional scavenger truck having a frame **11** supported by wheels

(not shown) and supporting a body **13** having a main storage compartment **14** and a loading compartment **16**. Main storage compartment **14** has a front wall **17** in which is formed a rectangular opening **18** extending up from the floor **19** of the body. Loading compartment **16** has a front wall **21** and vertically reciprocating sides **22**. Likewise located in loading compartment **16** is a substantially horizontally longitudinally reciprocating ram **23** which extends the full width of the loading compartment **16** and has a width substantially equal to that of opening **18**. In the initial position of its travel as shown in FIG. 2 ram **23** is at the front end of compartment **16** and doors **22** are in lowered position. When the operator moves a control as shown in said patent the doors **22** are raised to the position shown in FIG. 2 and the ram **23** moves rearwardly, pushing refuse in the loading compartment **16** through the opening **18** and into the main storage compartment **14**. Ram **23** then returns to its initial position and the doors **22** are lowered for subsequent loading.

Means for reciprocation of the ram forms one of the important features of the present improvement. A centrally-disposed longitudinally extending well **26** is formed in floor **19** extending the length of loading compartment **16** and partially into the main storage compartment **14**. The bottom of well **26** is not horizontal but slopes downwardly-rearwardly at a slight pitch. This pitch assists in pushing refuse rearwardly into the storage compartment. Located in well **26** and extending partially up above the surface of floor **19** is a ram actuating unit **25** which is self-contained so that it may be installed in an existing truck and in any event does not require that slots be cut in the bottom of the well or in the sides of the loading compartment, thus preventing drippage of contents onto the pavement. Located at the front end of the unit and extending longitudinally is a hydraulic cylinder **27**. Projecting rearwardly of cylinder **27** is a piston rod **28**, the rearward end of which is connected by means of wrist pin **29** to crosshead **31**. Crosshead **31** consists of an inverted channel **32** having vertical longitudinal depending legs **33** (see FIG. 1) receiving wrist pin **39**. Channel **32** carries on its outer flanges elongated horizontally disposed iron wood blocks **34** attached thereto by nuts and bolts **36**. The top and bottom surfaces **37** of blocks **34** are beveled.

Longitudinally extending conventional structural channels **38** are turned on their side and fixed to well **36** to receive blocks **34**, it being understood that as manufactured such channels **38** have tapered side flanges **39** which are complementary to blocks **34** and thus provide longitudinal guides for blocks **34** as the crosshead **31** reciprocates. Above top flange **39** along the outer edge thereof are longitudinally extending spacers **41** which support top cover **42** secured by bolts **43**. Resting on top of flange **39** inside spacers **41** are longitudinal strips **44** attached to ram **31** and concealing the gaps on either side of the structure which otherwise occur between inverted channel **32** and side channels **38**. Thus, refuse cannot fall into the interior of the ram reciprocating structure.

Channels **38** extend rearwardly to accommodate the full stroke of cylinder **27** and are closed off by a transverse rear end plate **46** held in place by bolts **47**.

An important feature of the invention is the slope of floors **19** as is best shown in FIG. 3. Below the loading compartments **16**, floor **19** has a downwardly-rearwardly sloping portion **51** which extends from the front end of the body **21** to a point immediately below opening **18** as indicated by reference numeral **52**. This portion **51** of the body lies to either side of well **26** and has a slope approximately equal to that of well **26**. From point **52** floor **19** slopes upwardly-rearwardly in a short stretch indicated by reference numeral **53**, rising to about one-half the eleva-

tion of channels **38** and terminating in a point **54** which is spaced rearwardly of opening **18**. Behind point **54** the section **56** slopes downwardly-rearwardly in a stretch **51** and then terminates at point **57** which is about opposite the back end of channels **38** in a horizontal rearward stretch **58**. When refuse is pushed rearwardly by ram **23** it slides down the ramp portion **51**, the slant facilitating rearward movement of the refuse, and then it is lifted up ramp **53** which rolls the refuse upon itself in a sort of ball or cylinder-like shape. Rearward of point **54** the refuse tends to slide down ramp **56** which facilitates movement of the refuse as the ram compacts one load behind the other and lessens the work which must be performed to move the refuse rearwardly. The rolling movement of the refuse as it slopes up ramp **53** and then down ramp **56** overcomes any tendency of the refuse to fall forwardly when the ram **23** returns to its forward position.

What is claimed is:

1. In a packer-type refuse truck, a body, means forming a loading compartment at the forward end of said body, means forming a storage compartment in said body rearward of said loading compartment, a ram movable longitudinally of said body for pushing refuse deposited in said loading compartment into said storage compartment, actuating means for said ram, a casing for said actuating means extending from the front of said loading compartment slanting downwardly-rearwardly to a terminus spaced inward of said storage compartment a distance greater than the length of said loading compartment, said body having a floor formed with a central well to receive said casing, said floor to either side of said casing in said loading compartment slanting downward-rearward at a first slope of about 10° equal to the slope of the bottom edge of said casing, commencing at the front of said storage compartment slanting upward-rearward at a steep second slope of about 30° to an elevation of about half the height of said casing and thence slanting downward-rearward in a third slope approximately parallel to said first slope, said slopes tending to roll refuse upon itself as said ram retracts to inhibit forward-falling of said refuse as said ram retracts.

2. The combination of claim **1** in which said casing comprises a pair of longitudinally extending, inwardly-facing channels positioned on their sides, a longitudinal top extending along the rear portion of the length of said channels and spacers spacing said top above said channels, said top having the width of said channels.

3. The combination of claim **2** in which said actuating means comprises an inverted second channel inside said first mentioned channels and fixed at its forward end to said ram, slide means for sliding said second channel between said first mentioned channels, a cylinder fixed to the forward end of said body, a piston rod extending rearward of said cylinder and fixed to said second channel.

4. The combination of claim **3** which further comprises longitudinal protection strips movable with said ram over the junctures of said second channel and said first-mentioned channels to prevent refuse entering said casing, said spacers providing room beneath said top for said strips as said ram moves rearwardly.

5. The combination of claim **1**, said casing comprising a pair of spaced, longitudinally-extending, inwardly-facing channels positioned on their sides and said actuating means comprising a cylinder fixed to said body, a piston rod extending rearwardly of said cylinder and a longitudinally extending slidable member, elongated longitudinal blocks fixed to said slidable member and each complementary to and fitting with one said channel, said blocks having a length about equal to the stroke of said cylinder.

6. The combination of claim **5** in which said blocks are of iron wood.

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