

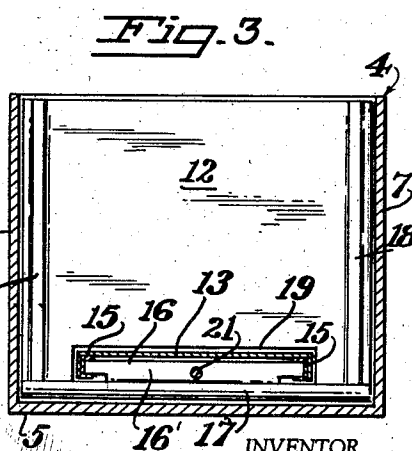
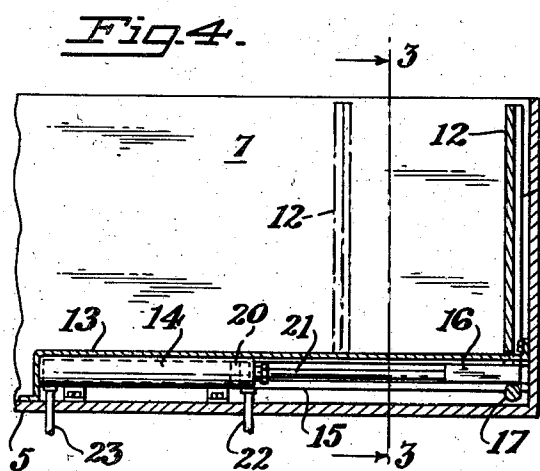
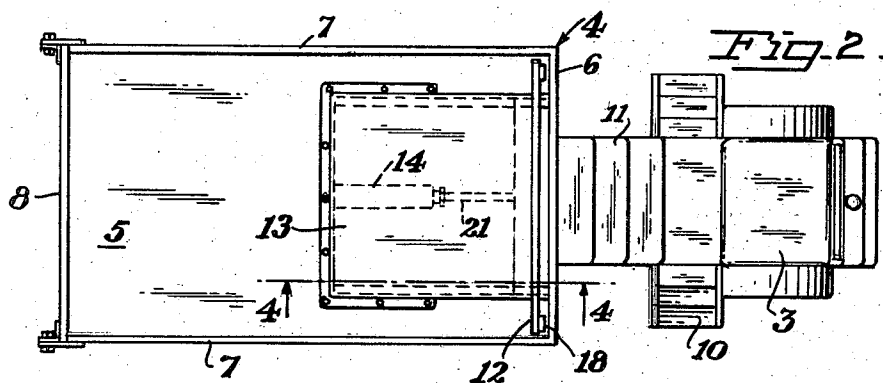
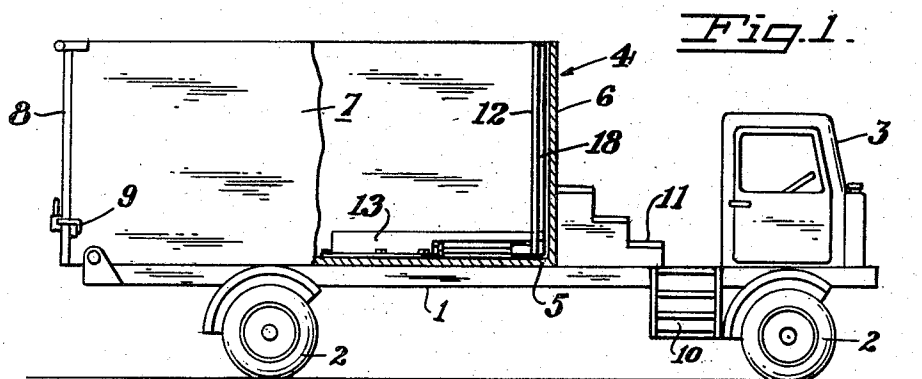
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REFUSE TRUCK

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2,856,086

REFUSE TRUCK

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2 Claims. (Cl. 214—82)

This invention relates to improvements in garbage trucks.

Garbage trucks of the kind now commonly used are provided with an ordinary truck body which has no equipment or mechanical means of any kind for compressing the refuse deposited therein, nor is any contrivance provided in such a truck body for shifting the refuse toward the rear when the front end becomes filled. The shifting of the refuse toward the rear from the front end of the truck body where it is now usually deposited is manually performed by a workman who sometimes is required to climb into and stand on the bottom of the truck body. Such a method of handling garbage is both unsanitary and expensive, and since with such a method the normally loose garbage deposited in the truck body is not compressed into compact form, a maximum load is not usually collected for subsequent disposal.

The garbage truck embodying the present invention is equipped with a power actuated plunger which is adapted to shift the refuse deposited in the front end of the truck body toward its rear end and at the same time compress such refuse into compact form so it occupies less space in the truck body. The compacting of the normally loose garbage inside the truck body by the operation of a mechanically operated plunger which at the same time functions to shift the garbage rearwardly from a forward position where it is usually deposited by workmen engaged in collecting such garbage, reduces the handling cost and also makes the operation considerably faster and more sanitary than is possible with equipment of the kind now commonly used.

The primary object of my invention is to provide a garbage truck of the kind characterized which is provided with mechanical means for shifting and compressing the garbage or refuse deposited in the body of the truck by workmen collecting the same.

Other and further objects of my invention will be pointed out hereinafter, or will be indicated in the appended claims, or will be obvious to one skilled in the art upon the understanding of the present disclosure. For the purpose of this application I have elected to show herein certain forms and details of a garbage truck representative of my invention; it is to be understood, however, that the embodiment of my invention herein shown and described is for purposes of illustration only and is therefore not to be regarded as exhaustive of the variations of the invention.

In the accompanying drawings:

Fig. 1 is a side elevation of a garbage truck embodying my invention, showing parts of the truck body broken away and in section;

Fig. 2 is a top plan view of the garbage truck;

Fig. 3 is an enlarged section taken on line 3—3 of Fig. 2; and

Fig. 4 is a sectional view taken on the line 4—4 of Fig. 3.

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Referring to the drawings, the numeral 1 designates a truck chassis mounted on a plurality of wheels 2. The truck is propelled in the usual manner by the power plant positioned forwardly of the driver's cab 3.

Mounted on the chassis 1 is a truck body 4 which is shown as having a large top opening, although it is also desirable in some instances to have a cover partially extending thereover. The truck body 4 has a bed 5, a front side 6, lateral sides 7, a rear discharge opening, and a pivoted rear end 8 which normally closes the rear opening and which is preferably hinged at its upper end to permit the contents of the truck body to be discharged therefrom when the said body is tilted or when other means is employed to move the said contents through the rear discharge opening. Releasable latch means 9 normally holds the rear end 8 in a closed position so the contents of the truck body are held therein. The truck is provided in the usual manner with flights of steps 10 and 11 positioned behind the driver's cab 3 which permit the loaders or garbage collectors to carry refuse manually into positions where it can be lifted over the front side 6 of the truck body and deposited onto the front end portion of the bed 5.

Mounted for reciprocating movement inside the front end portion of the truck body 4 is a vertical plunger or pusher element 12 which in its normal inactive position is arranged alongside and rearwardly of the front side 6 of the truck body. The plunger 12 is so shaped and proportioned that it extends across the interior of the truck body, with a slight clearance being provided between its lateral and bottom edges and the sides 7 and the bed 5 of the truck body to permit the reciprocation of the said plunger. The normal inactive position of the plunger 12 is such that the refuse deposited in the truck body 4 by workmen using the steps 10 and 11 will fall rearwardly of the said plunger onto the truck bed 5. The plunger is positioned in a plane extending substantially at right angles to the longitudinal axis of the truck body, and such plunger is adapted to reciprocate rearwardly and forwardly in the truck body.

Secured as by bolts to the bed 5 of the truck body 4 is a substantially rectangular enclosing structure 13 which is adapted to overlie the bed and an hydraulic cylinder 14 which is longitudinally supported in a central position on and above the forward portion of the said bed. Affixed to the lateral sides of the supporting structure 13 are two opposed longitudinally grooved guides 15 of substantially U-shape in cross-section which slidably support the ends of a transverse supporting element 16 having a depending extension 16'. Secured to the depending extension 16' is a rigid transverse support 17 which is securely affixed to the plunger 12. A plurality of upright reinforcing strips or braces 18 secured to the plunger are also secured at their lower ends to the connecting member 1. The opposed guides 15, through the transverse support 17 and the transverse supporting element 16 support the weight of the plunger 12. It will be noted that the lower edge of the plunger 12 is cut away as at 19 to provide suitable clearance with respect to the enclosing structure 13 to permit the reciprocation of the plunger. The enclosing structure 13 is longitudinally slotted at its lateral sides to permit the reciprocation of the transverse support 17.

Fitting inside the hydraulic cylinder 14 is a reciprocating piston 20 which is provided with a connecting rod 21 that is centrally secured to the transverse supporting element 16. Fluid under suitable pressure from a source of supply is alternately admitted to the front and rear ends of the cylinder 14 through conduits 22 and 23. The conduits lead to a suitable hand operated valve (not shown) which makes it possible selectively to control

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the backward and forward movement of the piston 20 and the plunger 12 to which the latter is connected.

The plunger 12 when at the forward end of its reciprocating movement is normally positioned alongside the front side 6 of the truck body 4. When the refuse deposited in the truck body has piled up to a considerable extent, the operator causes the rearward movement of the plunger 12 by directing fluid to the front end of the cylinder 14 through the conduit 22. As the plunger moves rearwardly, the refuse in its path is pushed in the same direction, thereby clearing the space in the front end of the truck body so additional refuse may be deposited therein. The plunger 12 is thereupon returned in a forward direction to its normal position by directing the pressure fluid to the rear end of the cylinder.

The usual reservoir or other source of supply for the pressure fluid, as well as the control valve and other connections associated therewith have not been illustrated since these elements are well known in the art and do not per se form any part of the present invention.

What I claim is:

1. In a garbage truck, a truck body having a bed, front and rear ends and opposed sides, a transversely disposed plunger fitting in the truck body and mounted for reciprocating movement between the front and rear ends of the truck body, the plunger being positioned at substantially right angles to the longitudinal axis of the truck body, supporting guide means mounted on and positioned above the truck bed and having opposed longitudinally arranged parallel guide members arranged

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in substantially parallel relation to the longitudinal axis of the truck body, a reciprocating transverse supporting structure secured to and supporting the plunger and having end portions slidably supported on the guide members, and operating means connected to the supporting structure for reciprocating the said supporting structure and the plunger, and enclosure means mounted on the bed and arranged in overlying position with respect to the operating means and the guide means.

2. In a garbage truck, a truck body having a bed, front and rear ends and lateral sides, a pair of opposed parallel guide members mounted on and above the bed in positions parallel to the longitudinal axis of the body, a transverse supporting member mounted for rearward and forward reciprocating movement on the guide members, a transverse plunger fitting in the body and arranged for rearward and forward reciprocating movement, the plunger being supported on and carried by the supporting member, operating means mounted on and above the bed for reciprocating the supporting member and the plunger, and an enclosure extending over the guide members, the supporting member and the operating means.

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