United States Patent [19]

Brisson

[11] **3,870,174**

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[54] **OVERFLOW SHIELD FOR REFUSE COLLECTION VEHICLE BODY HOPPER OPENING**

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[73] Assignee: **Lodal Inc.,** Kingsford, Mich.

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[21] Appl. No.: **396,847**

[52] **U.S. Cl.** **214/303**

[51] **Int. Cl.** **B65f 3/02**

[58] **Field of Search** 214/301, 302, 303, 307, 214/314

[56] **References Cited**

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Attorney, Agent, or Firm—Andrus, Sceales, Starke & Sawall

[57] **ABSTRACT**

A top-loading refuse collection vehicle having a refuse body with an opening through which refuse is dumped by a boom elevated tiltable refuse container. A horizontal shield is disposed at one end of and proximate the body opening for receiving possible refuse spillage during the dumping operation. After the refuse container is withdrawn, the shield is tilted upwardly toward the opening to dump the spillage back thereinto.

2 Claims, 3 Drawing Figures

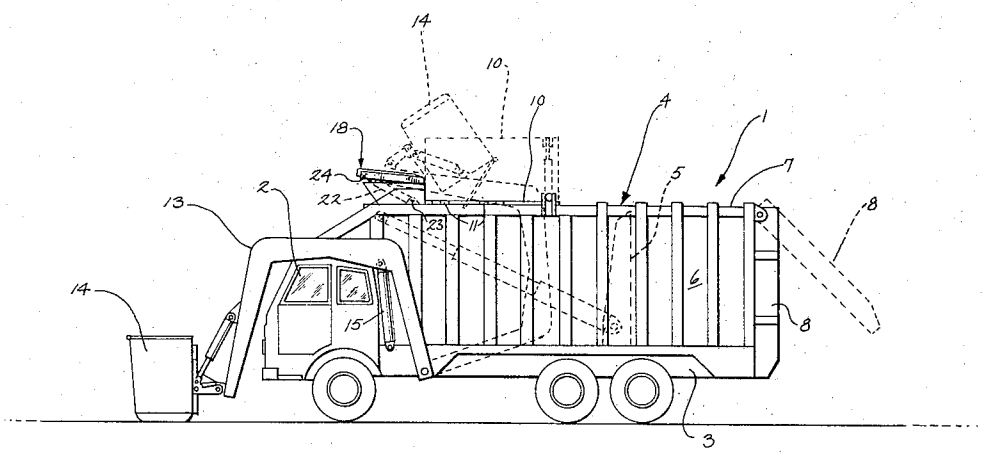


Fig. 1

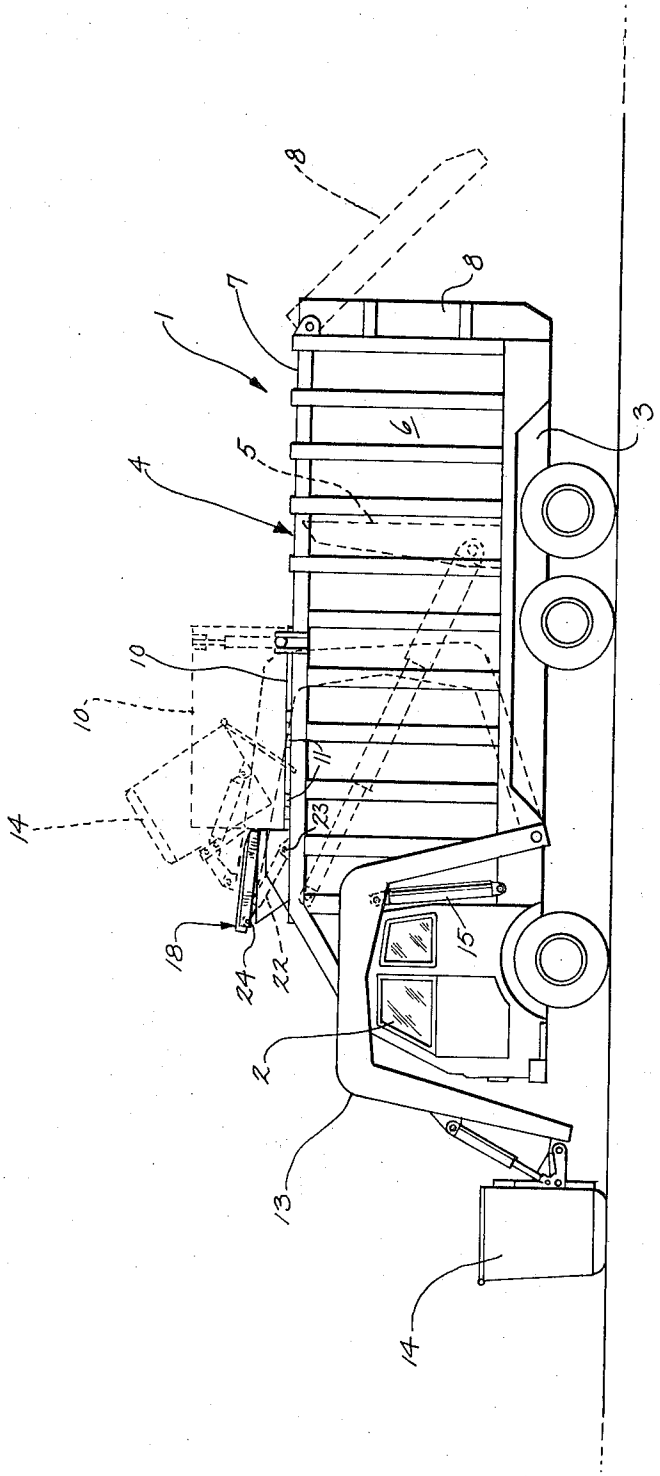


Fig. 2

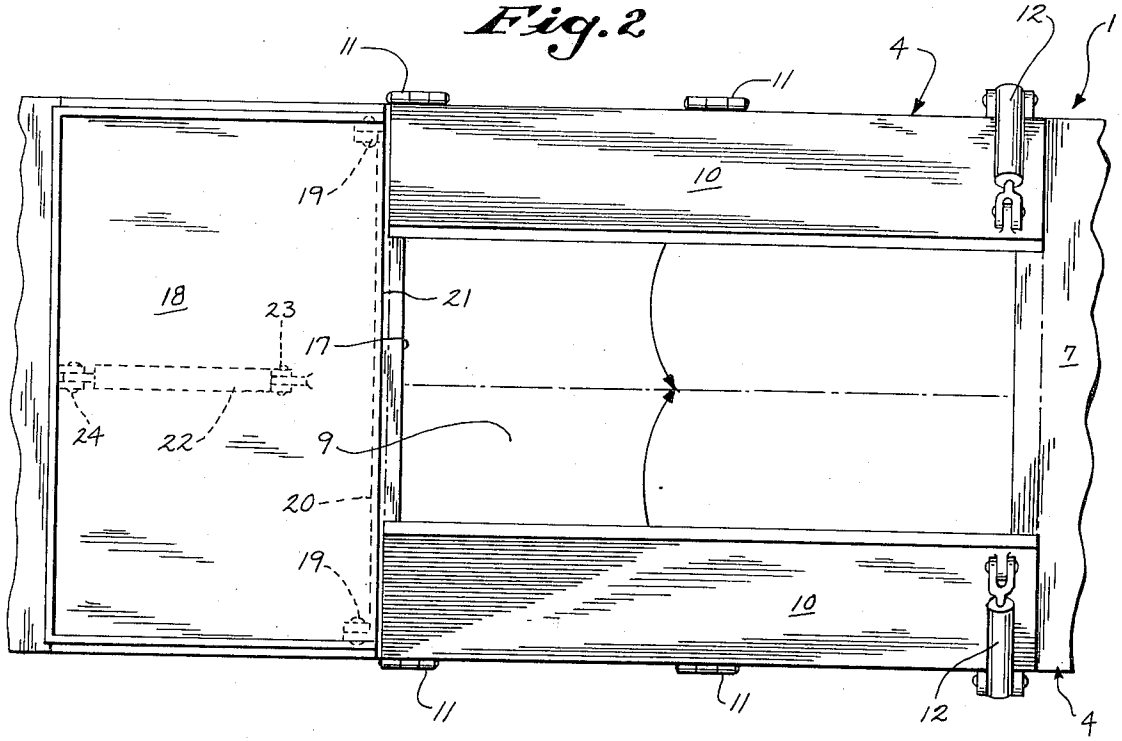
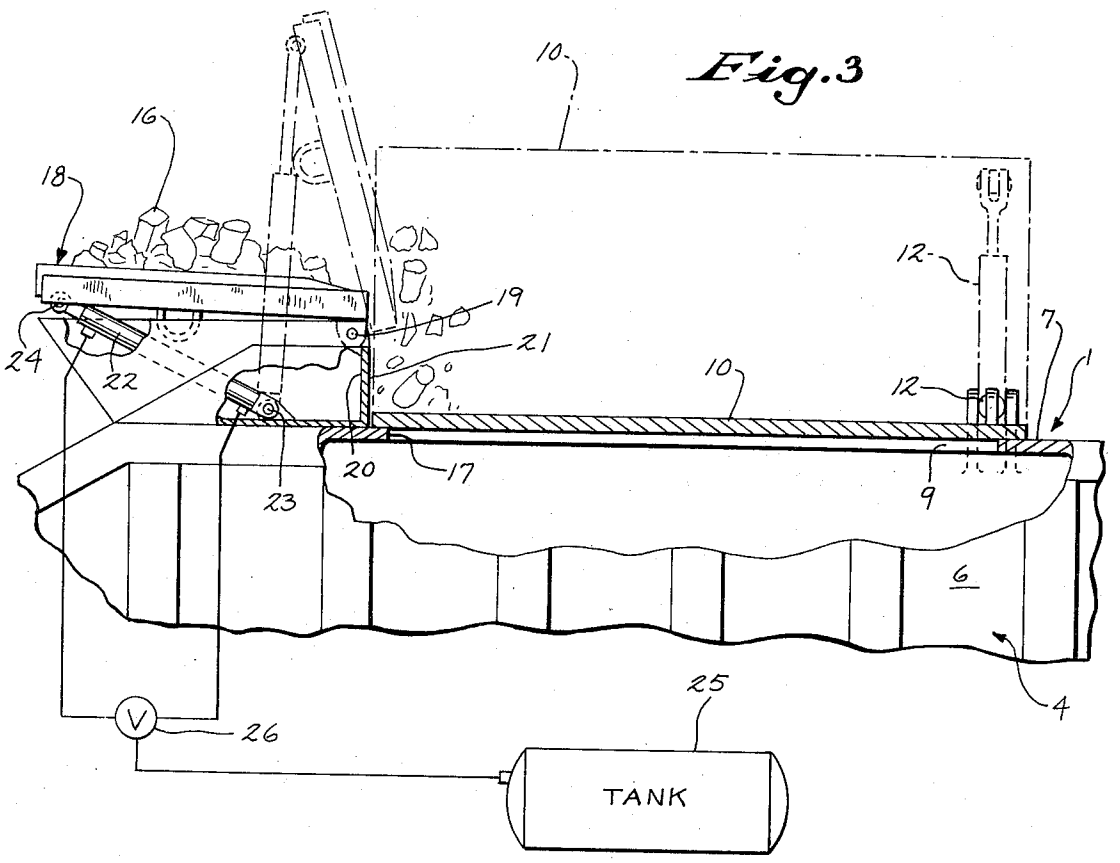

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Fig. 3


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OVERFLOW SHIELD FOR REFUSE COLLECTION VEHICLE BODY HOPPER OPENING

BACKGROUND OF THE INVENTION

This invention relates to an overflow shield for a refuse collection vehicle body hopper opening. The invention is contemplated for use in connection with a refuse collection vehicle for receiving, compacting and storing refuse.

Previous refuse collection vehicles of the toploading type have been provided with a body having a top opening through which refuse was dumped by means of a front boom operated liftable refuse container. See, for example, U.S. Pat. No. 3,016,157 entitled "Loader Apparatus." The top opening has usually been provided with a pivotable cover means which is closed when refuse is not being dumped.

It has been observed that when a front tilting refuse container dumps refuse into a body which is substantially or nearly full, refuse tends to spill out over the front opening edge onto the vehicle cab. This refuse cannot be retrieved unless the operator climbs up onto the vehicle. Spillage may also be caused when the refuse container is withdrawn upwardly and forwardly from the body opening, which may tend to pull refuse along with it.

To the knowledge of the inventor, no one has previously solved the difficulty.

SUMMARY OF THE INVENTION

The present invention is directed to a simple, yet effective way to eliminate and/or retrieve spillage beyond the confines of the body opening. In accordance with the invention, a horizontal shield is disposed at one end of and proximate to the body opening for receiving possible refuse spillage. After the refuse container is withdrawn, the shield is tilted upwardly toward the opening to dump the spillage back thereinto.

BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying drawings illustrate the best mode presently contemplated by the inventor for carrying out the invention.

In the drawings:

FIG. 1 is a side elevation of a refuse collection vehicle incorporating the concept of the invention, and showing the refuse container in lowered and dumping position;

FIG. 2 is a top plan view of the vehicle and showing the body opening and cover means; and

FIG. 3 is an enlarged fragmentary somewhat schematic side elevation of the overflow shield and its associated tilting controls.

DESCRIPTION OF THE PREFERRED EMBODIMENT

As shown in the drawings, the concept of the invention is contemplated for use in connection with a refuse collection vehicle **1** having a cab **2** and a chassis frame **3** which supports a refuse receiving and storing body **4.** A compaction unit of any well-known type, and having a platen **5,** may be disposed within the body to reduce the volume of refuse. Body **4** is provided with side walls **6,** a roof section **7** and also a tailgate **8** which may form an openable door for discharge of the refuse.

Roof section **7** is provided with a large generally rectangular opening **9** through which refuse is dumped.

Opening **9** has pivotable cover means comprising a pair of doors **10** which are hinged longitudinally at **11** along the side top portions of body **4,** and which approximately join at the center. Doors **10** may be pneumatically or hydraulically opened or closed selectively as by control cylinders **12.**

For purposes of loading body **4,** a suitable boom **13** is mounted to the forward portion of body **4** and is adapted to receive a refuse container **14.** A suitably controlled boom cylinder **15** pivots boom **13** to a raised position, as shown in FIG. **1,** whereby refuse in container **14** is dumped through opening **9** into body **4.** At this time, of course, doors **10** are opened.

As previously mentioned, refuse spillage **16** may occur forwardly of the front end edge **17** of opening **9.** In accordance with the invention, means are provided to receive this spillage and subsequently divert it back into body **4** after boom **13** is lowered. For this purpose, a transversely extending plate-like overflow shield **18** is disposed forwardly of edge **17** and is independent of doors **10.** The rearward edge of shield **18** is disposed proximate opening edge **17** at a slightly higher level and is hinged as at **19** to an upward extension **20** of body **4.** The rear face **21** of extension **20** is also plate-like to prevent spillage **16** from penetrating therebeneath.

A shield pivoting cylinder **22** is provided which is independent of cylinders **12** and which is connected between body **4** forwardly of hinge **19** and the forward lower edge portion of shield **18,** as at **23** and **24.** Cylinder **22** may be actuatingly controlled by any suitable pneumatic or hydraulic system, such as an air tank **25** and control valve **26.**

When refuse is being dumped into body **4,** shield **18** is in the normal down or horizontal position forwardly of opening **9,** shown in full lines in FIG. **3.** Subsequent to refuse dumping, valve **24** is actuated to raise shield **18** rearwardly to the approximately vertical position shown in dashed lines, whereby any spillage **16** is propelled back into the body. Doors **10** may then be closed.

By eliminating or removing loose spillage at the container dumping site, there will be no spillage to blow away when the vehicle travels on the street.

Various modes of carrying out the invention are contemplated as being within the scope of the following claims particularly pointing out and distinctly claiming the subject matter which is regarded as the invention.

I claim:

1. A refuse collection vehicle comprising, in combination:

a. a frame mounted on the vehicle,

b. a refuse receiving body disposed on said frame, said body having a top roof section with an opening therein,

c. closure means for closing said opening,

d. control means for actuating said closure means to selectively open or close said opening,

e. a pivotable boom on the forward portion of said vehicle and adapted to receive a refuse container thereon,

f. means to pivot said boom from a lowered position upwardly to a raised position so that refuse is dumped from said container through said opening and into said body when said closure means is open,

g. a transversely extending shield member independent of said closure means and with said shield

member having a rearward edge disposed proximate the forward edge of said opening, said shield member receiving spillage of refuse forwardly of said forward edge of said opening during dumping,

h. means hinging said rearward shield edge to said frame,

i. and means independent of said control means to hingedly tilt said shield from a normal generally horizontal position forwardly of said opening to a generally vertical position subsequent to refuse dumping for returning spillage into said opening before said closure means closes said opening.

2. The combination of claim **1**:

a. which includes a body portion extending upwardly from adjacent the forward edge of said opening, said body portion having a plate-like rear face to prevent penetration of spillage therethrough,

b. wherein the rearward edge of said shield is connected to said upwardly extending body portion by a hinge,

c. and wherein said shield tilting means comprises:

1. a shield pivoting cylinder extending between said body, forwardly of said hinge, and the forward lower edge portion of said shield,

2. and means to actuate said cylinder.

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