United States Patent

Heine

[15] **3,690,480**

[45] **Sept. 12, 1972**

[54] **DEVICE FOR DISCHARGING A BODY OR CONTAINER BY MEANS OF A PRESSURE MEMBER OR PLATEN**

[72] Inventor: **Desire Heine**, 48a, Av. Roger Salengro, Mulhouse, France

[22] Filed: **June 15, 1970**

[21] Appl. No.: **46,435**

[52] **U.S. Cl.** .....**214/17 D**, 214/82

[51] **Int. Cl.** **B65g 65/40**

[58] **Field of Search**...214/82, 17 D, 510, 514, 83.22, 214/83.3

[56] **References Cited**

UNITED STATES PATENTS

2,865,286	12/1958	Newell	214/82 X
2,204,033	6/1940	Austin	214/82 UX
2,047,602	7/1936	Tomlinson	214/82
2,430,973	11/1947	Boissonnault	214/82 X
2,693,890	11/1954	Bridge	214/82
2,912,128	11/1959	Kamin	214/82
3,302,975	2/1967	Vandenberg	214/82 X
3,465,458	9/1969	Wagner	214/82 X

FOREIGN PATENTS OR APPLICATIONS

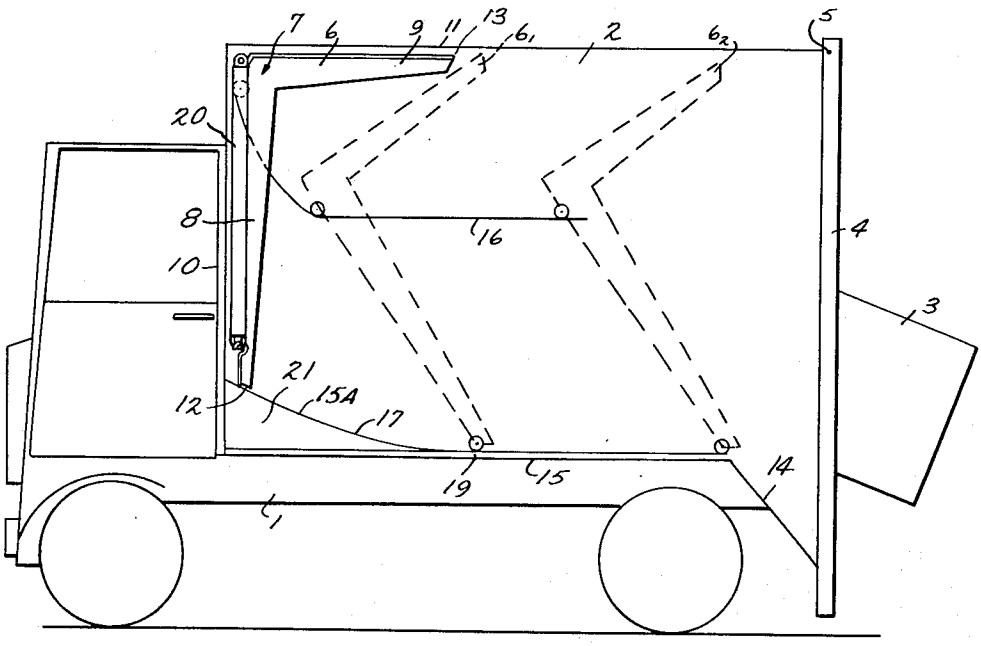
998,477	7/1965	Great Britain	214/82
37,967	12/1930	France	214/82
1,059,362	6/1959	Germany	214/82

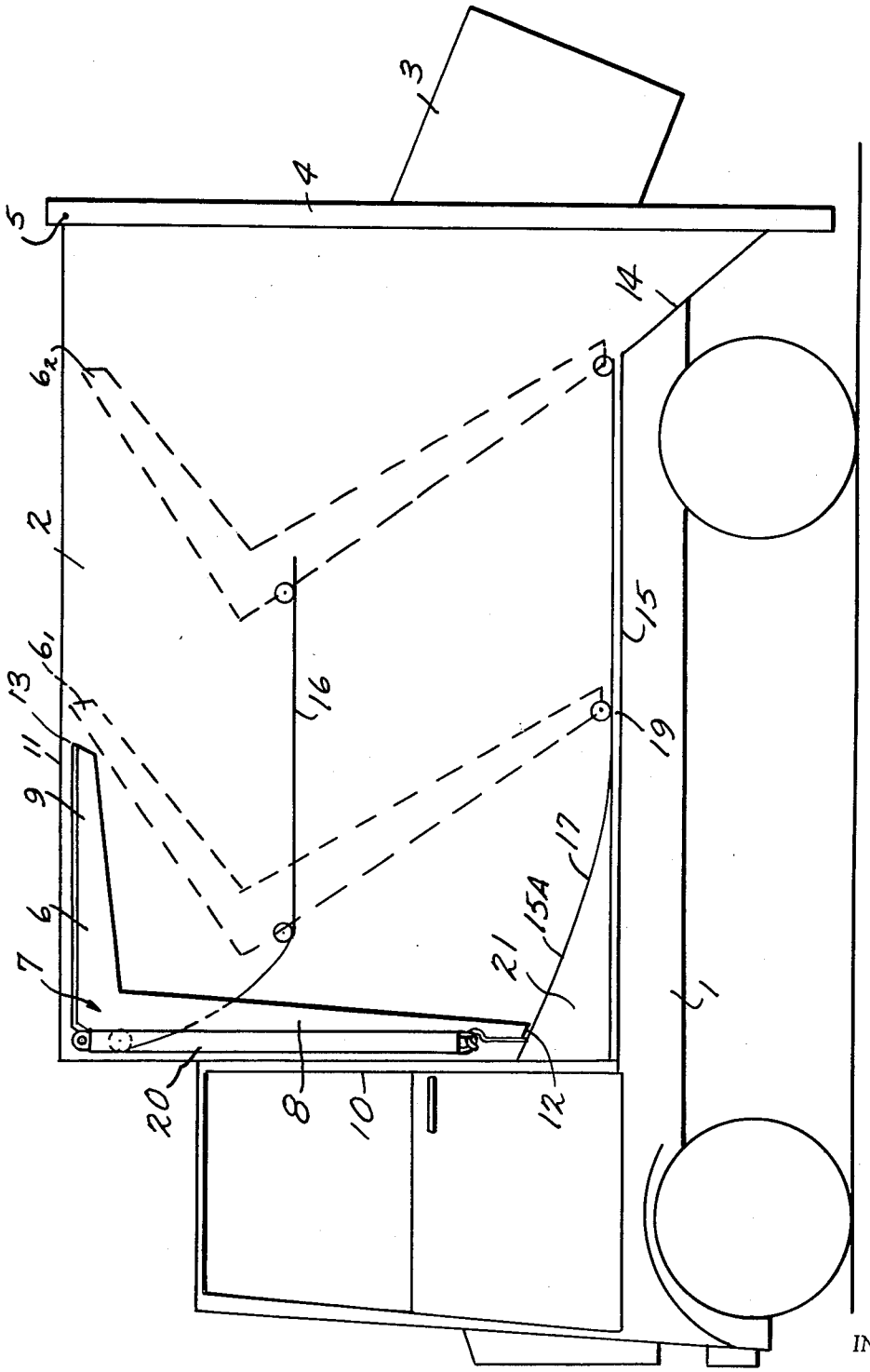
Primary Examiner—Robert J. Spar
Attorney—Cushman, Darby & Cushman

[57] **ABSTRACT**

A device for discharging or emptying a body or container, e.g., for refuse, by means of a pressure platen or member, which has two adjacent plates or faces abutting the bottom and one of the walls of the refuse body respectively, comprises pivot and guide means designed in such a way, that the attacking edge of each face of the pressure member follows the surface of the respective wall during emptying or discharging.

2 Claims, 1 Drawing Figure





INVENTOR
DÉSIRÉ AUGUST HEINZ
BY Cushman Darby & Cushman
ATTORNEYS

DEVICE FOR DISCHARGING A BODY OR CONTAINER BY MEANS OF A PRESSURE MEMBER OR PLATEN

This invention relates to a device for discharging or emptying a body or container, e.g., for refuse, by means of a pressure platen or pushing member, particularly in connection with domestic refuse collection vehicles.

Such vehicles are completely closed and comprise a feeding in device or intake for refuse, which is in general located at the rear end of the vehicle. When the refuse body is filled, this feeding in device is disconnected together with the rear end wall of the body for permitting discharge of the refuse.

There are several possibilities of emptying or discharging the refuse, such as using tiltable or pivotable bodies. Such tiltable bodies are pivoted at the rear end of the vehicle, and tilting thereof entails a displacement of the center of gravity. Such displacement is dangerous, since the vehicle proper runs the risk of tilting or turning over, particularly if it discharges its contents in a public dumping-ground where the soil is soft.

In addition to vehicles of this kind, the following system is known, which eliminates said risk. In this case a pressing or pushing plate provided at the bottom of the body is adapted to push the contents upwards out of the body by means of rams. This system is advantageous since it involves no risk and since the discharge is rapid.

This structure, however, is so designed that an essential portion of the volume of the body is lost. As a matter of fact these known pushing plates are inclined so as to provide a minimum trajectory and reliable mechanical operation. This inclination of the pushing plate entails the drawback that the pushing plate leaves under itself a non-utilizable space which occupies between 10 and 20 percent of the entire inner volume of the refuse body.

The principal object of the invention is to provide a refuse body discharging or unloading unit having a pressure member and affording the important advantage which resides in the achievement of the possibility of utilizing the space which is lost by the above principle. The new solution also eliminates the "nose" of the shell of the ram which was indispensible in connection with the horizontal or inclined rams of conventional systems. In addition hereto the discharging device also has other mechanical features and advantages. Thus, the moment acting upon the guide rails which was created by the pushing force is eliminated.

With the above object in mind, the invention relates to a device for discharging or emptying a refuse body by means of a pressure platen or pushing member. The device according to the invention is principally characterized in that said pressure member comprises two adjacent plates or faces abutting the bottom and one of the walls of the refuse body, and in that it comprises pivot and guide means designed in such a way that the attacking edges of each face of the pressure member follows the surface of the respective wall during emptying or discharging.

The invention will be more easily understood by the aid of the following description, in which reference is made to the accompanying drawing which diagrammatically and as a non-limiting example illustrates a preferred embodiment of the invention and in which the single FIGURE is a diagrammatic side view of the refuse truck discharging or unloading device according to the invention.

The vehicle **1** is intended for the collection of domestic refuse. With this object in mind it comprises a body or container **2** for collected refuse provided with feed means **3**. During the discharging operation the rear panel **4** is swung up by the aid of the pivot means **5**, whereby said feed means **3** is disconnected. The discharge is thus carried out rearwards with the discharging unit **7** by means of a pressure member **6**.

Said discharging unit **7** comprises a pressure member or platen **6** having two plates or faces **8** and **9**. The angle formed by these faces **8** and **9** is equal to the angle formed by the walls **10** and **11** of the refuse body. The dimensions of the faces **8** and **9** should be chosen in such a manner that the distance between the attacking edges **12** and **13** is equal to or greater than the height of the body **2**.

According to the FIGURE the pressure member **6** may thus occupy the position 6_1 and the position 6_2 and push the contents rearwards, which will slide onto a disengaging member **14**. The movements carried out are on one hand a rotational movement around the edge **13** and on the other hand a translational movement. Accordingly, it is necessary that the interior wall **15** is curved as at **15A**.

The means for accomplishing this movement are comparatively simple. It is sufficient to provide, at each vertical side wall of the refuse body, guide rails **16** and **17** along which sliding members **18** and **19** united with the pressure member are movable.

The pressure member or pushing platen **6** is actuated by a ram **20**. In dependence of the break-down of the forces created by this ram, the latter forces the pressure platen **6** to move in the guide rails. The ram is preferably hydraulic, and in this case the available space **21** is utilized as a hydraulic reservoir.

According to the present disclosure the advantages of the system according to the invention become very evident, on the one hand during the collection of refuse when the pushing member or platen **6** is juxtaposed to the walls and occupies substantially no space, and on the other hand from the fact that this disposition permits the utilization of a ram of very important dimensions which considerably increases the course or distance of travel of the pressure platen **6** and the feasible volume of the body.

It should be understood, of course, that the foregoing disclosure relates to only a preferred embodiment of the invention and that it is intended to cover all changes and modifications of the example of the invention herein chosen for the purpose of the disclosure, which do not constitute departures from the spirit and scope of the invention.

What is claimed is:

1. A device for emptying a container having a single open end forming a discharge orifice, a first wall disposed opposite the discharge orifice, a second and a third wall each having one end joined to said first wall with said second and third walls being disposed opposite to one another, said second and third walls each having another end spaced from said respective one ends which another ends form part of the discharge orifice, said third wall having a curved portion adjacent said first wall, said device comprising:

a pressure member movable between first and second positions, said pressure member having a first plate and a second plate, each of said plates having an edge along which said plates are rigidly joined together and a free edge, so that, when said pressure member is in said first position, said plates will extend adjacent and substantially respectively parallel to the first and second walls,

means for first pivoting said pressure member about said free edge of said second plate with said free edge of said first plate traversing the curved portion of the third wall and for subsequently displacing said pressure member substantially rectilinearly toward the discharge orifice into said second position to thereby empty the container.

2. An emptying device as claimed in claim 1 wherein the second wall is the top of the container and the third wall is the bottom of the container, said top and bottom lieing substantially in parallel planes.

* * * * *