

April 6, 1937.

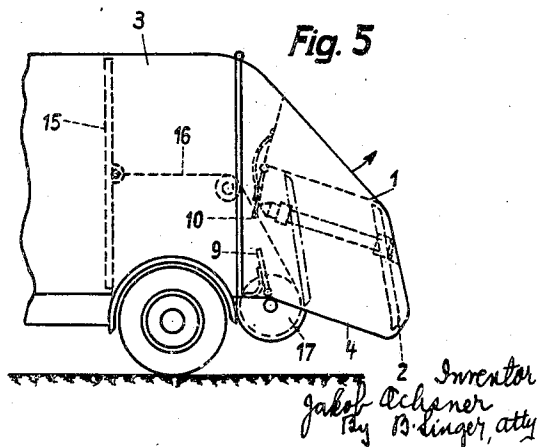
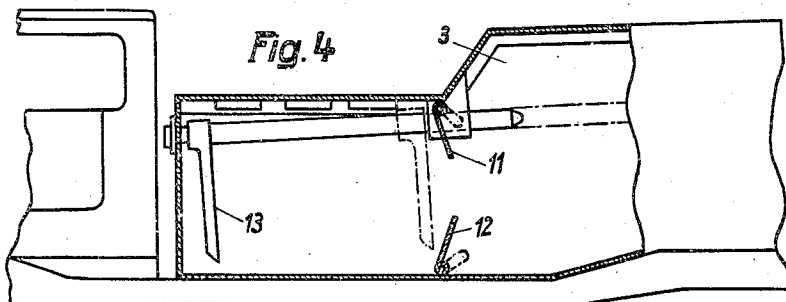
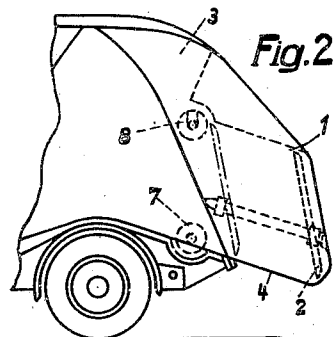
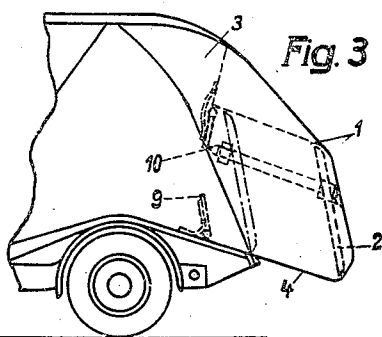
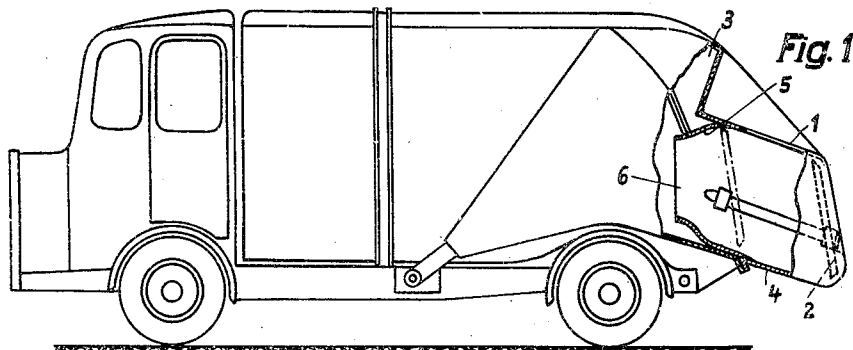
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2,076,504

VEHICLE FOR COLLECTING REFUSE

Filed Nov. 2, 1935

2 Sheets-Sheet 1



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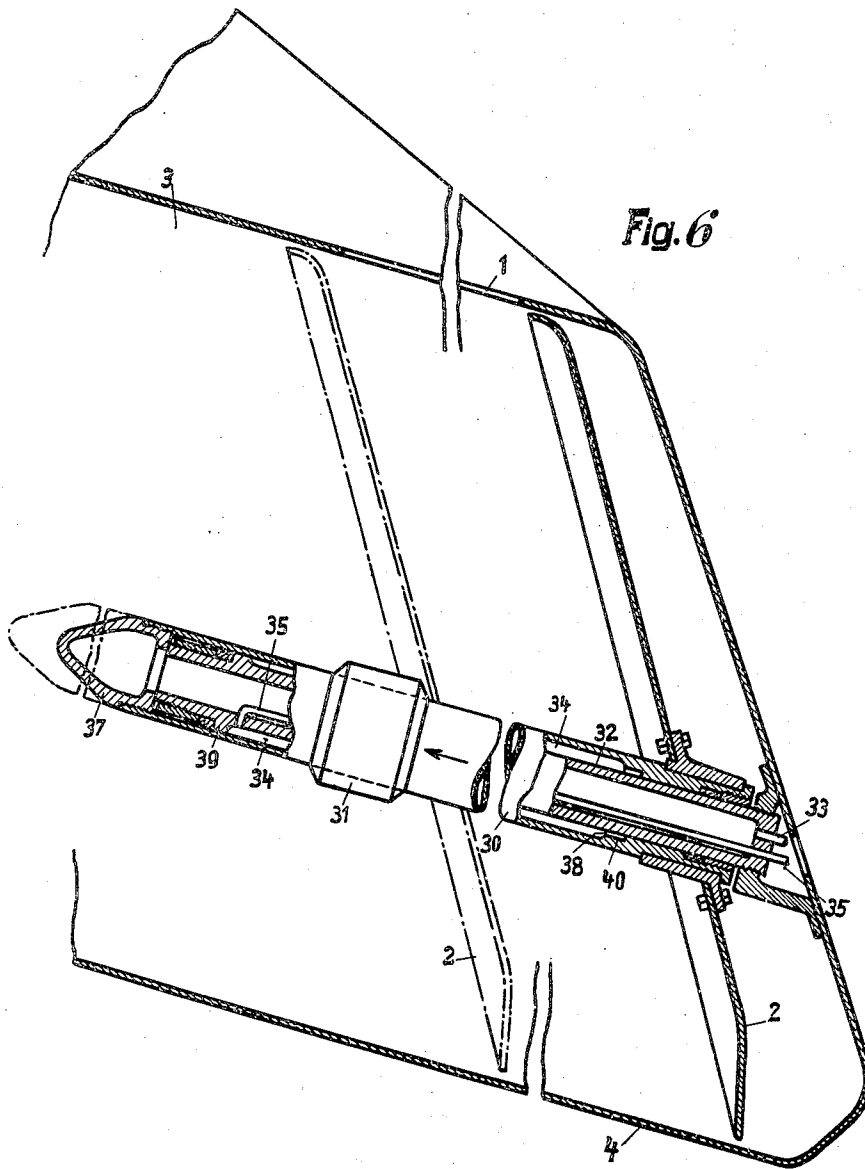
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VEHICLE FOR COLLECTING REFUSE

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

2,076,504

VEHICLE FOR COLLECTING REFUSE

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Application November 2, 1935, Serial No. 48,044
In Austria August 17, 1935

7 Claims. (Cl. 214—67)

The invention relates to a refuse collecting vehicle particularly adapted for the transport of unwieldy, bulky and dry refuse, paper boxes and so on.

In order to enable the carrying capacity of a collecting vehicle to be used to better advantage it has been suggested previously to compress the refuse, that is to say to press it together; motor driven pressure plates and so forth were provided in the collecting chamber of the vehicle body which pressed the freshly thrown refuse towards the front wall of the vehicle and thus reduced the volume of refuse.

It is also known practice to charge the refuse into the collecting chamber with the bottom upwards against the weight and resistance of the refuse already contained in the vehicle.

The novelty of the refuse collecting vehicle according to the present invention resides in the fact that the refuse to be charged into the collecting chamber receives a preliminary compression and thereafter is still further compressed. The charging point for the refuse into the collecting chamber may therefore be located at the front or behind, at the bottom or at the top or laterally of the vehicle body.

In the accompanying drawings are shown diagrammatically examples of construction of the invention.

Fig. 1 shows a refuse collecting vehicle in side elevation partly in section.

Figs. 2 to 6 show parts of the refuse vehicle, partly in elevation, with modifications of the new arrangement.

The refuse vehicle in Fig. 1 is of known construction per se. The refuse is introduced into the charging opening 1 of a receiver 4 and is pushed by a plate 2 fixed to a piston into the collecting chamber 3 of the refuse collecting vehicle. In front of the ejection end of the hopper 4 is provided a mouthpiece 5. The cross sectional area of the mouthpiece is substantially smaller than the cross sectional area of the receiver 4 so that the refuse, when pushed into the collecting chamber 3, is pressed together and compressed in this as it is pushed into the collecting chamber 3. The refuse passing out of the receiver 4 must be pushed against the refuse already contained in the collecting chamber so that a further compression of the refuse volume takes place in the collecting chamber 3.

In the form of construction in Fig. 2 the refuse is introduced between two rollers 7 and 8. The bearings of the rollers may be fixed. One or both rollers may be subjected to spring pressure.

As the drawings show, the upper roller 8 may be made heavy in weight and its pinions or shaft may be guided in vertical or substantially vertical slots in such a manner that the refuse while being fed into the collecting chamber is crushed by the upper heavy roller 8.

In the form of construction in Fig. 3 two flaps 9, 10 are provided between which the refuse is forced. The flaps 9, 10 are subjected to the action of springs, preferably torsion springs. The flaps yield only after the refuse has been compressed, they form moreover a non-return device for the refuse in the collecting chamber.

Fig. 4 shows a form of construction wherein the charging takes place in the collecting chamber. In the interior of the vehicle body flaps 11, 12 are provided, which are subjected to the action of springs, which present a sufficiently high resistance to the conveying of the refuse by the piston 13 as to compress the refuse before it passes into the collecting chamber 3.

In the form of construction in Fig. 5 a movable grate or wall 15 is provided in the collecting chamber. From this grate two or more wire ropes 16 pass to a brake drum 17. When pushing refuse into the collecting chamber 3 this wall is moved. It, however, presents a greater or lesser resistance according to the setting of the brake 17. The compression of the refuse may therefore be varied to a selectable degree by adjusting the brake 17. The grate 15 can be used for discharging the refuse from the collecting chamber.

The piston mentioned above may be constructed as shown in Fig. 6.

On a fixed wall for instance the back wall of receiver 4 a hollow tubular member 32 is rigidly fixed. On the tubular member 32 a hollow piston 37 is slidably mounted, the ram or piston plate 2 being fastened to said piston. The piston 37 is closed and the tubular member 32 is open at the face end. Between the inner wall of the hollow piston 37 and the mantle of the tubular member 32 a chamber 34 is formed. The chamber 34 is connected by a pipe 35 to a pump etc. delivering liquid under pressure and the hollow of the tubular member 32 is connected by a pipe 33 to the same pump not shown in the drawings. Valves or the like may be arranged to control the flow of the liquid. Packings 38, 39, 40 are provided to prevent leakage. If liquid under pressure enters the hollow tubular member 32, the piston 37 and therewith the plate 2 is pressed forward, into the position shown by broken lines (Fig. 6). The refuse is thereby fed into the chamber 3 and simultaneously compressed. While the piston

advances the pipe 35 is kept open. By opening pipe 33 and by pressing liquid through pipe 35 into the space 34, the piston is returned to its initial position.

5 What I claim is:—

1. In a refuse collecting vehicle, the combination with a collecting chamber of a feed passage, said passage having movable means to constrict the outlet opening leading into said chamber, and means for moving refuse along said passage and forcing said refuse through said constricted opening into said chamber.

2. In a refuse collecting vehicle, the combination with a collecting chamber, of a feed passage, means protruding into said passage to constrict the passage, and means within said passage for forcing refuse through said passage into said chamber.

3. In a refuse collecting vehicle the combination with a collecting chamber, of a feed passage having an outlet, a pair of rollers located one at the top and one at the bottom of said passage at the end thereof adjacent said collecting chamber and serving to constrict said outlet, and means for moving refuse along said passage and forcing said refuse through said constricted outlet into said chamber.

4. In a refuse collecting vehicle, the combination with a collecting chamber of a feed passage having an outlet, a pair of spring actuated plates located one at the top and one at the bottom of

said passage at the end thereof adjacent said chamber and serving to constrict said outlet, and means for moving refuse along said passage and forcing said refuse through said constricted outlet into said chamber.

5. In a refuse collecting vehicle, the combination with a collecting chamber, of a feed passage having an outlet, a pair of rollers located one at the top and one at the bottom of said passage at the end thereof adjacent said collecting chamber and serving to restrict said outlet, and means for moving refuse along said passage and forcing said refuse through said constricted outlet into said chamber, one of said rollers being spring mounted.

6. In a refuse collecting vehicle the combination with a collecting chamber, of a straight-way feed passage, a constricted mouth at the end of said passage adjacent said collecting chamber, and a piston mounted for reciprocation in the straight-way part only of said feed chamber.

7. In a refuse collecting vehicle, the combination with a collecting chamber, of a feed chamber spring actuated flaps located at the top and bottom of said feed chamber at the end thereof adjacent said collecting chamber, a piston mounted for reciprocation in said feed chamber, and a brake actuated wall in said collecting chamber.

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