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DUST CART

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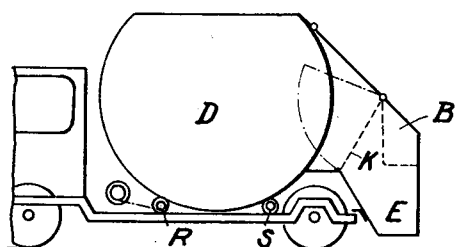


FIG. 1.

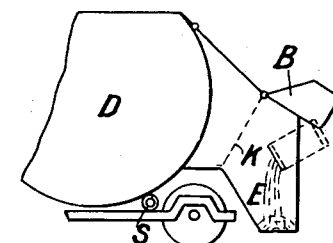


FIG. 2.

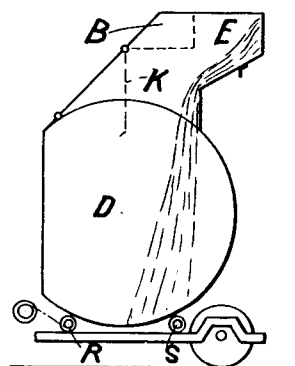


FIG. 3.

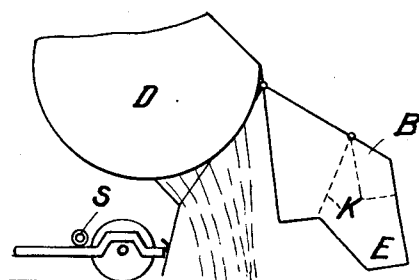


FIG. 4

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## UNITED STATES PATENT OFFICE

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## DUST CART

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Vehicles for the conveyance of granular material are known, which are loaded from the rear, and in which the conveyance of the material into the interior of the vehicular receptacle is effected by means of worm conveyers, belt conveyers or other devices. These vehicles, however, all suffer from the defect that the devices necessary for the conveyance of the granular material have to be moved continuously with a not inconsiderable expenditure of power, and are subject to a rather considerable amount of wear, owing to the nature of the granular material. Vehicles with drum superstructure having their axes of rotation parallel to the longitudinal axes of the vehicles are likewise known, but these, if filled from the rear, suffer from the same disadvantage as have been enumerated above.

The present invention obviates the defects existing in the vehicles hitherto in use and ensures undisturbed operation not only for small material but also for larger lumps.

The invention is diagrammatically illustrated by way of example in the accompanying drawing, in which: Fig. 1 is a side elevation of the vehicle according to the invention, Fig. 2 is a side elevation of the invention illustrating the manner in which the filling box is loaded, Fig. 3 is a side elevation of the invention showing the rotary superstructure in its loading position and, Fig. 4 is a side elevation of the invention showing the rotary superstructure in its material discharging position.

The invention is based upon the fact that the vehicle is provided with a body or superstructure D, which is drum-shaped and preferably has a filling aperture at the rear. This structure is so arranged that its axis of rotation is transverse to the longitudinal axis of the vehicle. Means are provided for rotating the superstructure about this axis, and the superstructure is supported for this purpose upon rollers R and S for example. In the constructional example illustrated there is arranged at the rear end a filling box E, which can be charged from the rear or from the side after opening a flap valve B.

In a special constructional form the filling

box is releasably connected with the superstructure.

Now the filling box E of the superstructure or body is first of all filled up. By rotating the entire body D about its imaginary axis, which is effected by means of a wire rope, a chain wheel, a toothed wheel or a worm wheel, the first of these being employed in the constructional example illustrated, the filling box E filled with granular material is raised, so that the granular material, when the filling box E has reached a position vertically above the axis of rotation of the superstructure as a whole, falls into the interior of the body D.

When the filling box E is emptied, the body is rotated back into the loading position. When this series of operations has been repeated four or five times, the entire body D will be filled. In order to prevent part of the granular material from falling back out of the drum-shaped portion into the filling box E as the superstructure is being rotated back into its normal position, a flap valve K is provided, which rocks automatically as the entire body rotates and closes automatically, that is, as a result of its own weight, during the return rotation. The emptying of the superstructure may be effected for example by tilting the latter by means of lifting mechanism towards the right or left and opening one of the side walls of the superstructure.

In a special constructional form in which the filling box is releasably connected with the superstructure, the emptying of the latter is effected by rotating it backwards, in which case the filling box, being released from the superstructure, is rocked upwards about a pivot at its upper end.

The entire vehicle has therefore no internal devices of any sort to be moved, the weight of the granular material itself being utilized for the conveyance of the said material into the front portion of the body.

The principal advantages of the apparatus according to the present invention are:—

(1) The absence of all internal appliances in the superstructure for conveying the granular material;

(2) The weight of the granular material itself is employed for the filling of the front portion of the vehicle body;

(3) The introduction of the granular material into the vehicle body can be effected at the rear end either from the rear or from the side;

(4) The introduction of the granular material into the vehicle may be effected either by one person or by a number of persons simultaneously;

(5) The charging edge may be arranged as low down as is desired;

(6) The construction and shape of the superstructure as a whole provide a very large capacity notwithstanding small dimensions and a comparatively small wheel base, thus enabling the vehicle as a whole to be satisfactorily steered;

(7) The granular material can be introduced either from the right or from the left over the entire breadth of the vehicle;

(8) When the vehicle is charged from the rear and discharged from the side, in the case of dust carts for example, a substantial simplification of the discharging is obtained, since with this arrangement it is not necessary to back the vehicle into the dust-discharging position but the dust is simply removed alongside the vehicle track;

(9) The charging and discharging are effected with the simplest means and with a minimum expenditure of power;

(10) There are no parts which are liable to give rise to trouble.

What I claim is:—

1. Vehicle for the conveyance of dust and refuse, comprising a portable frame, a drum-shaped superstructure rotatably mounted in the frame with its axis arranged transversely to the longitudinal axis of the vehicle, a single filling opening at the rear part of the drum-shaped superstructure, a filling box at the rear part of the drum-shaped superstructure substantially extending over the entire width of the superstructure and forming during the filling operation a part together with the superstructure, the opening of the filling box registering with the opening of the superstructure and means for rotating the drum-shaped superstructure together with the filling box and automatically discharging the contents of the filling box into the superstructure.

2. A vehicle for the conveyance of granular material, such as dust and refuse, consisting of a vehicle frame, a drum-shaped, rotatably supported superstructure arranged with its axis transverse to the longitudinal axis of the vehicle and formed with a filling aperture on its periphery, a filling box on the periphery of the drum-shaped superstructure, the said filling box opening into the said filling aperture, a flap valve in the filling box, adapted to prevent the granular

material from falling back into the filling box when the drum-shaped superstructure rotates back into its normal position, and means for rotating the drum-shaped superstructure, together with the filling box.

3. A vehicle for the conveyance of granular material, such as dust and refuse, consisting of a vehicle frame, a drum-shaped, rotatably supported superstructure arranged with its axis transverse to the longitudinal axis of the vehicle, and formed with a filling aperture on its periphery, a filling box on the periphery of the drum-shaped superstructure, the said filling box opening into the said filling aperture and extending down into the neighbourhood of the ground, a flap valve in the filling box, adapted to prevent the granular material from falling back into the filling box when the drum-shaped superstructure rotates back, a flap valve on the filling box, and means for rotating the drum-shaped superstructure, together with the filling box.

4. A vehicle for the conveyance of granular material, such as dust and refuse, consisting of a vehicle frame, a drum-shaped, rotatably supported superstructure arranged with its axis transverse to the longitudinal axis of the vehicle and formed with a filling aperture on its periphery, a filling box extending substantially over the entire width of the superstructure and releasably and rockably arranged on the periphery of the drum-shaped superstructure, the said filling box opening into the said filling aperture and extending down into the neighbourhood of the ground, a flap valve in the filling box, adapted to prevent the granular material from falling back into the filling box when the drum-shaped superstructure rotates back, a flap valve on the filling box, and means for rotating the drum-shaped superstructure, together with the filling box.

5. A vehicle for the conveyance of granular material, such as dust and refuse, consisting of a vehicle frame, a drum-shaped, rotatably supported superstructure arranged with its axis transverse to the longitudinal axis of the vehicle and formed with a filling aperture on its periphery, rollers for rotatably supporting the superstructure, a filling box on the periphery of the drum-shaped superstructure, the said filling box opening into the said filling aperture, and means for rotating the drum-shaped superstructure, together with the filling box.

In testimony whereof I have signed my name to this specification.

KARL SCHMIDT.