S. GASSLER.

REFUSE WAGON.

APPLICATION FILED MAY 20, 1914.

1,122,902.

Patented Dec. 29, 1914.

3 SHEETS—SHEET 1.

Fig. 1.

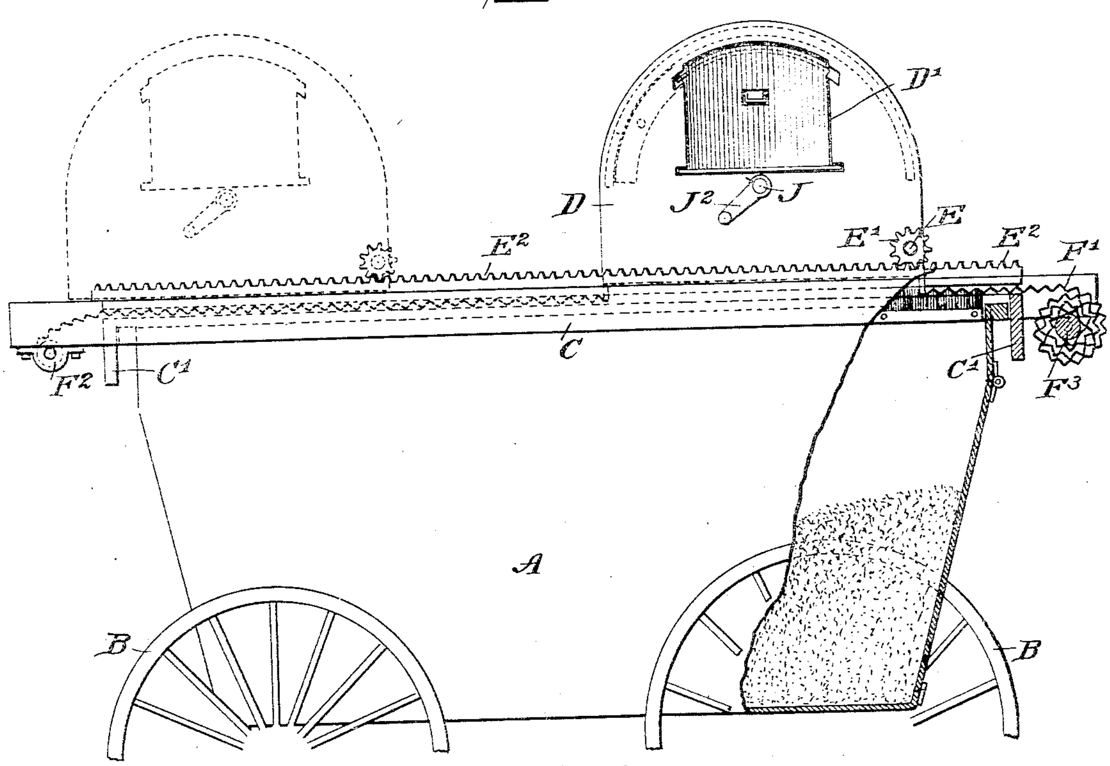
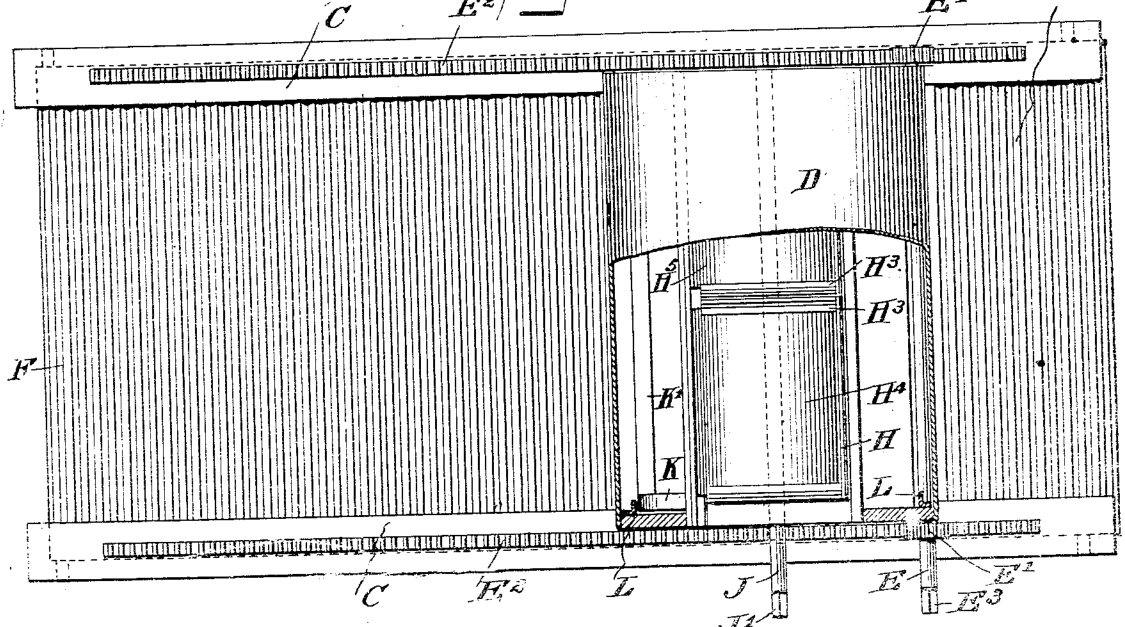


Fig. 2.



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3 SHEETS—SHEET 2.

Fig. 3.

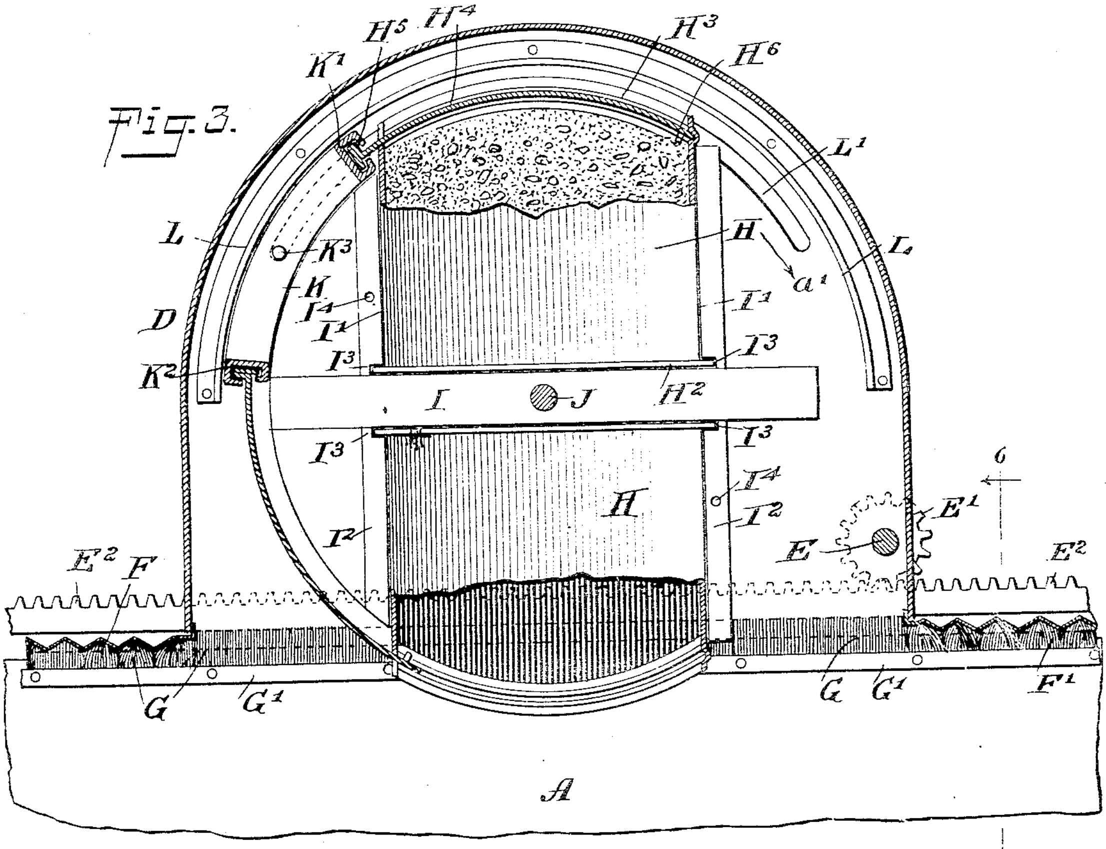
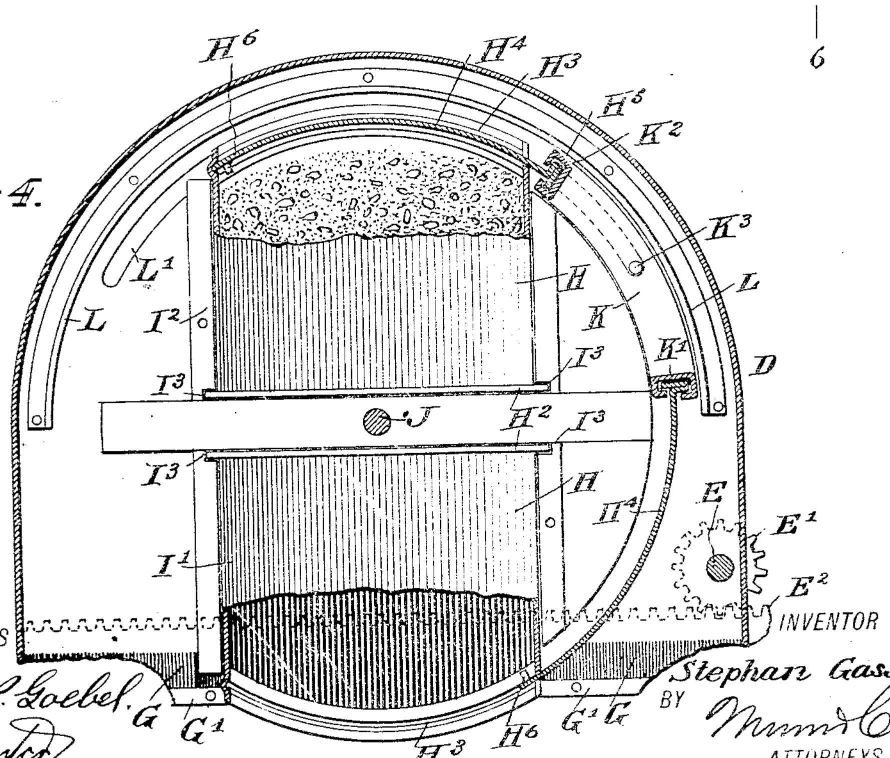


Fig. 4.



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3 SHEETS—SHEET 3.

Fig. 5

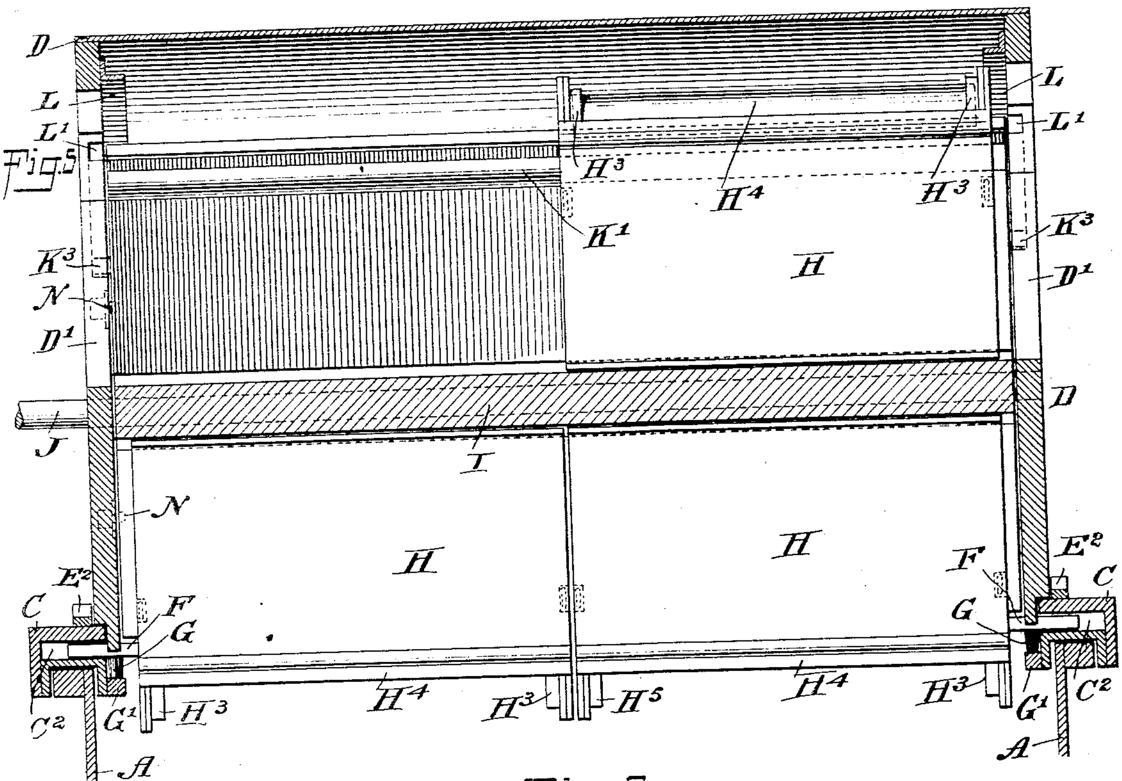


Fig. 6.

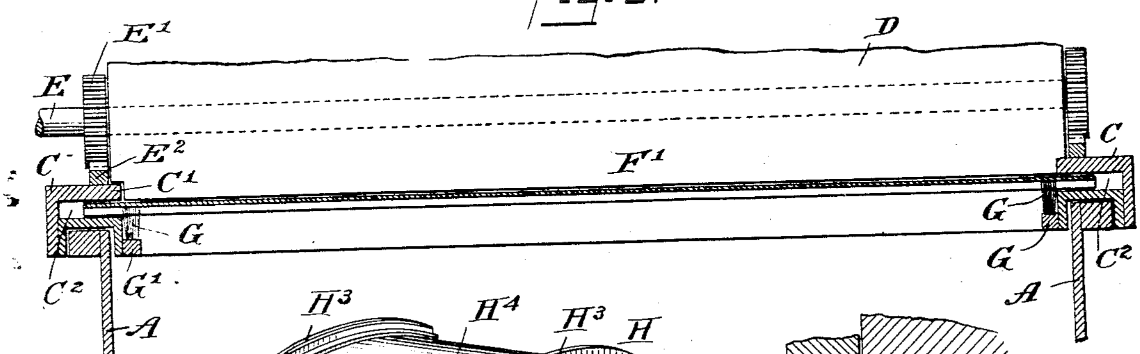
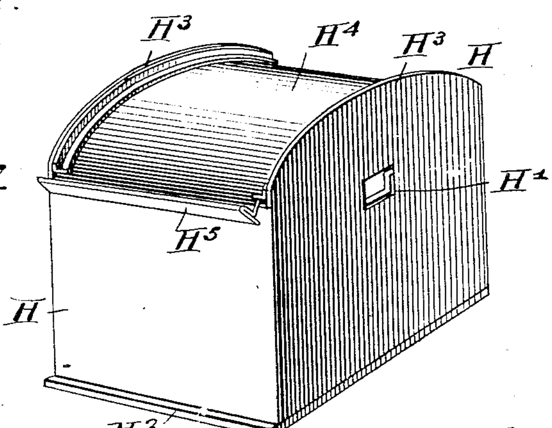


Fig. 7



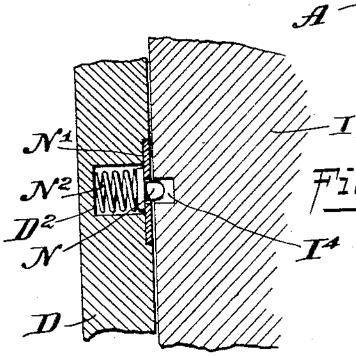
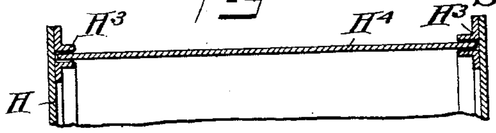


Fig. 9.

Fig. 8.



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UNITED STATES PATENT OFFICE.

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REFUSE-WAGON.

1,122,902. Specification of Letters Patent. Patented Dec. 29, 1914.

Application filed May 20, 1914. Serial No. 839,778.

To all whom it may concern:

Be it known that I, STEPHAN GASSLER, a subject of the King of Hungary, and a resident of Linden, in the county of Union and State of New Jersey, have invented a new and Improved Refuse-Wagon, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved refuse wagon arranged to permit of emptying the refuse-carrying receptacles in the wagon and conveniently distributing the refuse therein without danger of causing undesirable dust to escape from the wagon during the storing and distributing of the refuse therein.

In order to produce the desired result use is made of a hood lengthwise movable on top of the wagon body, the hood being provided at its sides with openings for the entrance of the receptacles holding the refuse, and a carrier mounted to turn in the said hood and having transverse guideways adapted to register with the said hood openings to allow of passing the refuse receptacle through the said hood opening into the guideways, the said carrier when given a half turn carrying the refuse receptacle along into an upside down or dumping position. Use is also made of a cover opening and closing device arranged within the hood and adapted to be engaged by the cover of the receptacle placed into the guideway so that when the refuse receptacle moves into dumping position its cover is moved into open position and when the empty refuse receptacle is returned to uppermost position then its cover is again moved into closed position.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the refuse wagon with parts in section; Fig. 2 is a plan view of the same with parts in section; Fig. 3 is an enlarged side elevation of the hood, the carrier and the receptacles held therein; Fig. 4 is a similar view of the same with parts in a different position; Fig. 5 is a transverse section of the same; Fig. 6 is a similar view of the same on the line 6—6 of Fig. 3; Fig. 7 is a perspective view of one of the refuse-holding receptacles; Fig. 8 is a cross section of the top of the same; and Fig. 9 is an enlarged cross section of the stop for holding the carrier against accidental turning.

The wagon body A is mounted on suitable wheels B and is adapted to be propelled by draft animals or by power, and on the top of the wagon body A are arranged longitudinally extending guideways C on which is mounted to slide forward and backward a hood D. The guideways C rest on the sides of the body A and are connected with each other near their ends by cross bars C^1 engaging the ends of the body A so as to securely hold the guideways in position on the top of the wagon body A and to allow of moving the said guideways from the wagon body whenever it is desired to do so.

A transversely extending shaft E is journaled in the hood D at one end thereof, and on the said shaft E are secured gear wheels E^1 in mesh with racks E^2 attached to the top of the guideways C.

One end of the shaft E is provided with a polygonal shank E^3 adapted to be engaged by a crank arm or other suitable tool for turning the shaft E with a view to cause the gear wheels E^1 to roll off on the racks E^2 and thereby move the hood D forward or backward on top of the wagon body A according to the direction in which the shaft E is turned.

The hood D extends across the entire top of the wagon body A and to its ends are attached the ends of aprons or shutters F, F^1 extending over the top of the body A and winding up and unwinding on spring rollers F^2, F^3 journaled on the ends of the guideways C, the said rollers F^2, F^3 being of the type of spring shade rollers so as to render the aprons F and F^1 self-opening and closing on moving the hood D forward or backward over the top of the wagon body A. By the arrangement described the aprons prevent any dust arising from the dumping of refuse into the body A from passing into the air.

The side edges of the aprons F and F^1, preferably extend into auxiliary guideways C^2 formed at the guideways C, as plainly indicated in Figs. 5 and 6, and the under sides of the said aprons F and F^1 are engaged adjacent the guideways C^2 by brushes G extending lengthwise and having their backs G^1 attached to the guideways C. By this arrangement dust and other extraneous matter are not liable to pass into the guide-

ways C^2 which guide the aprons at the side edges thereof thus insuring free opening and closing of the aprons on shifting the hood D forward or backward on the body A.

The hood D is provided at the upper portions of its sides with openings D^1 to permit of passing the filled garbage receptacles H through the said openings D^1 into transverse guideways I^1 and I^2 formed on a carrier I extending within the hood D and secured to a transverse shaft J journaled in suitable bearings on the sides of the hood D. One outer end J^1 of the shaft J is made polygonal for the application of a crank arm J^2 to permit of turning the shaft J and with it the carrier I so as to move either guideway I^1 or I^2 into uppermost position and in register with the hood openings D^1.

The guideways I^1 and I^2 are disposed diametrically opposite each other and a half turn is given to the carrier I alternately in opposite directions so as to move the filled receptacles H from an uppermost position into an upside down dumping position to allow the contents of the receptacles H to drop down into the body A. The guideways I^1, I^2, the openings D^1 and the receptacles H are approximately of the same shape to permit of conveniently sliding the filled receptacles through the openings D^1 into the corresponding guideway I^1 or I^2 in uppermost position at the time, or to remove the empty receptacle H from the said guideway and the corresponding opening D^1.

In practice, the receptacles H are of a depth corresponding to somewhat less than one-half of the length of a guideway I^1 or I^2 so as to accommodate two receptacles H in each guideway, the receptacles being placed in position preferably from one side of the wagon to the corresponding openings D^1.

The receptacles H are provided with suitable handles at the sides for convenient handling of the receptacles and the said receptacles are also provided at the bottom with flanges H^2, adapted to engage corresponding recesses I^3 arranged on the guideways I^1 and I^2 to prevent the receptacles from falling out of the said guideways when in lowermost dumping position.

Each receptacle H is provided at its upper end with segmental guideways H^3 in which is mounted to slide a cover H^4 having one end terminating in a flange H^5 projecting somewhat from the corresponding end of the receptacle H. This flange H^5 is adapted to pass into either one of two bars K^1 or K^2, grooved correspondingly to the flange H^5 to receive and hold the same, as will be readily understood by reference to Figs. 3 and 4.

The bars K^1 and K^2 form parts of an opening and closing device K mounted to travel in segmental guideways L arranged on the inner faces of the sides of the hood D.

The opening and closing device K is provided at each side with a pin K^3 extending into a segmental groove L^1 formed in the inner face of the corresponding side of the hood D to limit the sliding movement of the opening and closing device K on giving a half turn to the carrier I, as previously explained.

When the several parts are in the position shown in Fig. 3 then the bar K^1 is in position for receiving the flange H^5 of the cover H^4 of a filled receptacle H, and when the operator imparts a half turn to the carrier I in the direction of the arrow a^1 then this filled receptacle H is moved downward into upside down or dumping position and at the same time the cover opening and closing device K is carried along in the same direction until the pins K^3 reach the right-hand ends of the grooves L^1 so that the device K is held against further movement during the time the carrier I moves to a final position whereby the cover H^4 is moved into open position on account of being held in place by the device K. Thus when the filled receptacle H reaches lowermost or upside down dumping position the cover H^4 is opened (see Fig. 4) to allow the contents of the vessel H to drop into the body A.

By reference to Fig. 4 it will be noticed that when the carrier I reaches this position the previously emptied receptacles H can be removed from the carrier I and replaced by filled receptacles, as shown in Fig. 4. When this takes place the flanges H^5 of these filled receptacles engage the bar K^2 of the opening and closing device K, and when the carrier I is now turned in the inverse direction of the arrow a^1 then the filled receptacle H is moved downward into dumping position and at the same time its cover is drawn open while the previously emptied receptacle returns to uppermost position. This cover is returned to closed position as soon as the pin K^3 reaches the right-hand end of the groove L^1.

The covers H^4 are preferably provided at the underside of their free ends with stops H^6 to prevent the covers from being drawn out of their guideways H^3 completely.

In order to hold the carrier I against accidental turning use is made of stop pins N adapted to engage recesses I^4 arranged on one side of the carrier I, as plainly indicated in Figs. 3, 4, 5 and 9.

The stop pin N is mounted to slide in a keeper N^1 attached to the sides of the hood D and the said pin N is pressed on by a spring N^2 set in a recess D^2 in the corresponding side of the carrier D (see Fig. 9). The pin N and one of the recesses I^4 are so located relatively to each other as to be in engagement whenever a half turn is given

to the carrier I in either direction, as above explained.

The operation is as follows: Presuming the several parts to be in the position shown in Fig. 3 and the attendant having placed filled receptacles into the then uppermost guideways I^1 from one side of the wagon, then at attendant on the side of the wagon having the crank arm J^2 gives a half turn to the same to cause the carrier I to turn in the direction of the arrow a^1 so that the filled receptacles H move downward into upside down or dumping position and at the same time the covers H^4 of these filled receptacles are pulled open by the cover opening and closing device K, which latter moves with the carrier and into the right-hand position shown in Fig. 4. During the turning of the carrier I the previously emptied receptacles H in the guideways I^1 are moved into uppermost position and their covers H^4 are closed by the device K, as shown in Fig. 4. The empty receptacles are now removed and replaced by filled ones and then the operator gives the crank J^2 a half turn in the opposite direction to turn the carrier I and thereby move the filled receptacles H downward into dumping position while the previously emptied receptacles are returned to uppermost position.

In order to distribute the refuse evenly in the body A, the hood D and the parts carried thereby are moved from time to time lengthwise over the wagon body to dump the refuse into different parts of the wagon body A to evenly fill the same.

It will be noticed that the charging device consisting of the hood D, carrier I and cover opening and closing device together with the aprons F, F^1 and guideways C form a removable attachment for the wagon body A.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A refuse wagon, comprising a body, a hood lengthwise movable on top of the said body and provided at its sides with openings, and a carrier mounted to turn in the said hood and having sets of transverse guideways adapted to register with the said hood openings to allow of passing a refuse receptacle through the said hood opening into the guideways uppermost at the time, the carrier when given a half turn carrying the refuse receptacle along into an upside down dumping position.

2. A refuse wagon, comprising a body, a hood lengthwise movable on top of the said body and provided at its sides with openings, self-opening and closing aprons extending from the ends of the said body and attached to the ends of the said hood, and a carrier mounted to turn in the said hood and having sets of transverse guideways adapted to register with the said hood openings to allow of passing a refuse receptacle through the said hood openings into the guideways uppermost at the time, the carrier when given a half turn carrying the refuse receptacle along into an upside down dumping position.

3. A refuse wagon, comprising a body provided at the top of its sides with longitudinally extending guideways, a hood mounted to slide forward and backward on the said guideways, the hood being provided at the upper portion of its sides with openings, a carrier mounted to turn in the hood and having transverse guideways adapted to register with the said hood openings when in uppermost position, refuse receptacles having movable covers and adapted to be passed through the hood openings into the carrier guideway uppermost at the time, and means engaging the said covers to move the same into open position on turning the carrier and while the receptacles move from uppermost into lowermost position and closing the covers while the receptacles move from lowermost into uppermost position.

4. A refuse wagon, comprising a body, a hood on the top of the body and provided at the upper portions of its sides with openings, and a carrier mounted to turn in the said hood and having transverse guideways adapted to register with the said hood openings at a time a guideway is in uppermost position to allow of passing a filled refuse receptacle into the uppermost guideway or removing an empty refuse receptacle from the same by way of the said hood openings.

5. A refuse wagon, comprising a body, a hood on the top of the body and provided at the upper portions of its sides with openings, a carrier mounted to turn in the said hood and having transverse guideways adapted to register with the said hood openings at a time a guideway is in uppermost position, a refuse receptacle having a movable cover and adapted to pass through a hood opening into the guideway in register at the time with the hood opening, and a cover opening and closing device in the said hood and adapted to engage the cover to open the same during the downward movement of the receptacle and to close the cover during the upward movement of the receptacle.

6. A refuse wagon, comprising a body, a hood on the top of the body and provided at the upper portions of its sides with openings, a carrier mounted to turn in the said hood and having transverse guideways adapted to register with the said hood openings at a time a guideway is in uppermost position, a refuse receptacle adapted to pass through a hood opening into the guideway in register at the time with the hood opening, a cover slidable on the said receptacle

and provided with a flange projecting beyond one side of the receptacle, and a cover opening and closing device having a limited sliding movement in the hood and provided with a holder adapted to engage the projecting flange of the cover to open and close the latter.

7. A refuse wagon, comprising a body, a hood on the top of the body and provided at the upper portions of its sides with openings, a carrier mounted to turn in the said hood and having transverse guideways adapted to register with the said hood openings at a time a guideway is in uppermost position, segmental guideways on the inner faces of the sides of the hood, a transversely extending cover opening and closing device having its ends mounted to slide in the said segmental guideways, the said cover opening and closing device having grooved bars spaced apart, a refuse-holding receptacle provided with a slidable cover having a flange projecting on one side of the receptacle, the said receptacle being adapted to pass through a hood opening into the carrier guideway in register at the time with the hood opening, the said cover flange being adapted to engage the said bar on passing the receptacle into the carrier guideway.

8. A refuse wagon, comprising a body provided at the top of its sides with longitudinal guideways and racks, a hood slidable on the said guideways and provided in the upper portions of its sides with openings, a transverse shaft journaled on the said hood and having gear wheels in mesh with the said rack, spring rollers journaled on the ends of the wagon, and aprons winding on the said rollers and attached to the ends of the said hood.

9. A refuse wagon, comprising a body provided at the top of its sides with longitudinal guideways and racks, a hood slidable on the said guideways and provided in the upper portions of its sides with openings, a transverse shaft journaled on the said hood and having gear wheels in mesh with the said rack, spring rollers journaled on the ends of the wagon, aprons winding on the said rollers and attached to the ends of the said hood, guideways on the sides of the body for the sides of the aprons to slide in, and brushes held on the said guideways and adapted to engage the aprons.

10. A refuse wagon, comprising a body, a hood mounted on top of the said body and provided on the upper portions of its sides with openings, a carrier within the said body and provided with diametrically opposite guideways disposed transversely each adapted to register at its ends with the said hood openings, the said guideways being adapted to receive refuse receptacles by way of the rack hood openings, a shaft journaled in the sides of the hood and on which the said carrier is mounted to allow of turning the carrier alternately in opposite directions on turning the said shaft in like directions, and an opening and closing device in the said hood and adapted to be engaged by the covers of the refuse receptacles to open and close the said covers on turning the said carrier.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

STEPHAN GASSLER.

Witnesses:
THEO. G. HOSTER,
PHILIP D. ROLLHAUS.