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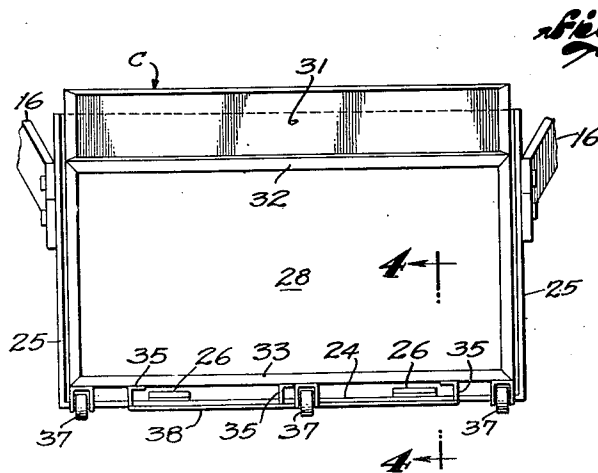
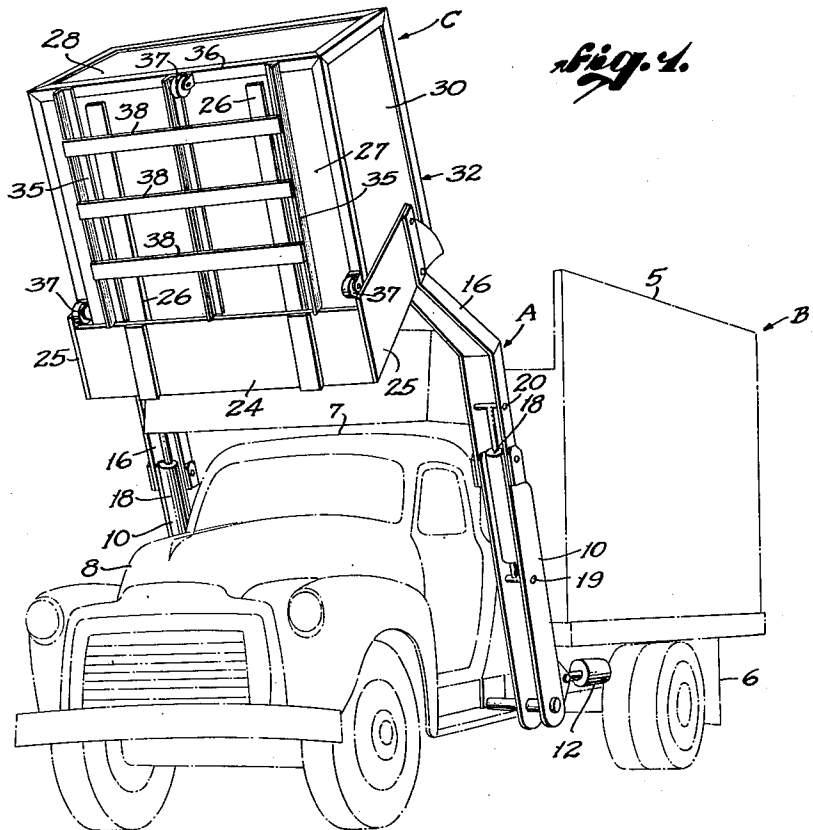
P. J. GENTILE

2,808,161

REFUSE TRUCK COLLECTING APPARATUS

Filed Feb. 28, 1955

2 Sheets-Sheet 1



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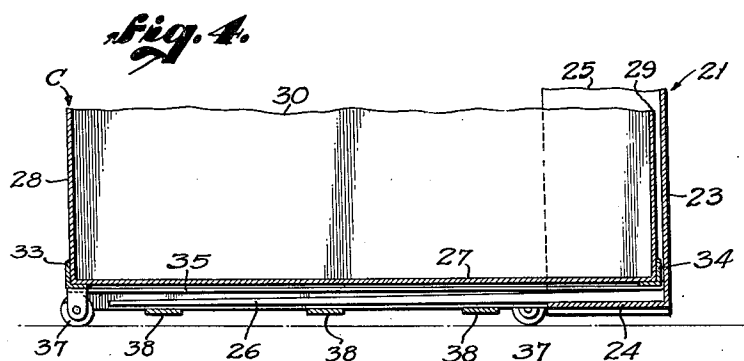
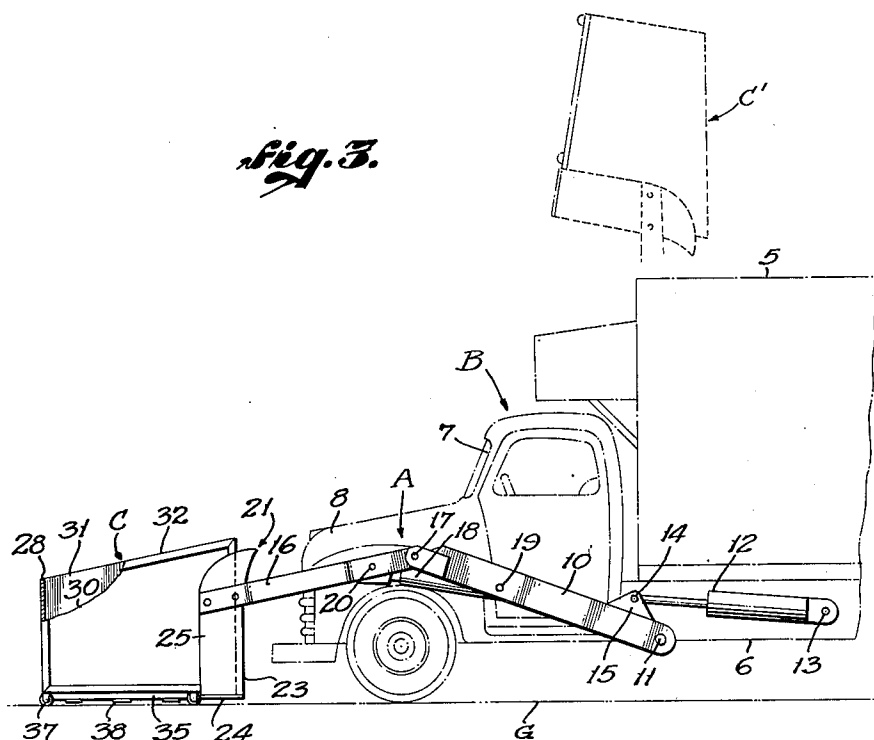
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REFUSE TRUCK COLLECTING APPARATUS

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REFUSE TRUCK COLLECTING APPARATUS

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Application February 28, 1955, Serial No. 490,844

18 Claims. (Cl. 214—302)

This invention relates to the collection of refuse, and has as its general object to provide an improved apparatus whereby the collection and disposal of refuse may be greatly simplified and expedited.

A specific object of the invention is to provide a collection and transport apparatus which eliminates the necessity for manual handling of collection receptacles by the operator or operators of a refuse collection and transport truck in transferring the contents of the collection receptacle into the truck.

In general, the invention contemplates the combination of two units, namely, a refuse collection receptacle which may be disposed in an alley or other suitable location where the tenants of an adjoining building may deposit refuse therein; together with a transport truck equipped with lifting mechanism including a lift cradle that is especially constructed for coaction with the collection receptacle in a manner such that the truck may approach the receptacle, engage the receptacle in the lift cradle, elevate the receptacle while securely captive in the grasp of the cradle, and tilt it through an arc of 90° or more to a dumping position above the truck body; whereby the contents of the receptacle may be dumped into the truck body and the receptacle then may be returned to its initial position resting upon the ground, without any necessity for manual manipulation of the receptacle by the truck operator.

One of the improved results obtained by the invention is the reduction in the number of operators normally considered necessary in the operation of a refuse collection truck. It is almost the universal practice, in the collection of refuse, to utilize a driver to shift the truck forwardly from station to station along a collection route, together with one or more operators who handle the collection receptacles (such as garbage cans), lifting them over the side of the truck body and dumping them into the truck. This extremely hard manual labor is eliminated by the apparatus of my invention.

Other objects will become apparent in the ensuing specifications and appended drawings in which:

Fig. 1 is a perspective view of a collection and transport apparatus embodying my invention, the parts being shown in an intermediate position of elevation of the collection receptacle toward its dumping position;

Fig. 2 is a front elevational view of the collection receptacle and the lift cradle associated therewith;

Fig. 3 is a side elevational view of the apparatus; and

Fig. 4 is a detailed vertical sectional view taken as indicated by the line 4—4 of Fig. 2.

Referring now to the drawings in detail, as an example of one form in which the invention may be embodied I have shown therein a refuse handling apparatus which includes, in general, a lift apparatus A attached to a dump truck B, and a deposit receptacle C which is adapted to be engaged by the lift apparatus A while resting in a normal position on the ground, indicated at G, elevated to a dumping position indicated in broken lines at C' (whereby its contents are discharged into the container

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body 5 of the truck B) and then returned to its original position resting upon the ground.

The truck B, which may be any conventional dump truck, includes, in addition to the body 5, a chassis 6 upon which the body 5 is supported in a normally horizontal position as indicated, with its open top facing upwardly; an operator's cab 7; an engine 8; and means (which may consist in any conventional hydraulic lift, and is therefore not illustrated in the drawing) for tilting the body 5 upwardly about a hinge axis at the rear end of the truck, whereby the contents of the body may be discharged at a dumping station.

Lift apparatus A comprises two lift units, disposed at the respective sides of the truck B, in embracing relation thereto. Each of these units includes an inner lift arm 10, pivoted at 11 to truck chassis 6; a hydraulic actuator 12 of the cylinder and piston type having one end (e. g. its cylinder end) pivoted at 13 to chassis 6 and having its other end (e. g. piston rod end) pivoted at 14 to a bracket 15 projecting upwardly from the respective arm 10, forwardly of its pivot 11; an outer lift arm 16 having its inner end pivoted at 17 to the forward end of inner lift arm 10; and a second hydraulic actuator unit 18 of the piston and cylinder type, having one end thereof (e. g. cylinder end) pivoted at 19 to inner lift arm 10 rearwardly of pivot 17 and having its other end (e. g. piston rod end) pivoted at 20 to the outer lift arm 16 forwardly of pivot 17. Lift apparatus further includes a receptacle engaging cradle unit 21 which is secured to and carried by the outer ends of outer lift arms 16.

As illustrated in Fig. 1, lift arms 10 and 16 are of channel section, opening downwardly when in the generally horizontal position shown in Fig. 3, and the actuator units 18 are arranged to be received within the arms 10 and 16 when the latter are aligned as in Fig. 1, the end portions of actuator units 18 being at all times accommodated within the arms 10, 16. When the arms 10, 16 reach the aligned condition of Fig. 1, the actuator units 18 function to limit hinging movement between arms 10, 16 so that they cannot pass beyond "dead center." Thus, with maximum fluid pressure operating in actuator units 18 in the direction to extend them, the arms 10, 16 will attain their aligned condition and become locked in that condition as the fluid pressure is maintained, and may then move as rigid units to swing the receptacle C to the dumping position C'.

In the manipulation of the lift units in the return movement downwardly, the downward movement of inner arms 10 is limited at the position shown in Fig. 3, and the arms are permitted to break at the hinge axis 17, with the outer arms 16 continuing their downward movement to arrive at the positions of Fig. 3. Thus the weight of the outer arms 16 and receptacle C may be utilized to break the hinge 17 and eliminate the necessity for a two way power action in actuator unit 18. By limiting the downward movement of arms 10 so that in their lowermost positions they are inclined upwardly and forwardly, the leverage of actuator unit 12 against arms 10 in the initial stage of elevation is increased.

Cradle 21 comprises a back rest 23 having a bottom 24 and end members 25, together with fingers 26 which project forwardly from bottom 24 to which they are secured. Fingers 26 are spaced from end to end of cradle 23 and are adapted to be inserted beneath receptacle C for lifting the same, with the rear side of receptacle C cradled against back rest 23 as the lift apparatus A elevates the container C and tilts it to the dumping position of C'. Forward arms 16 of the lift apparatus are secured to the end members 25 near the upper extremities thereof as shown in Fig. 3.

Deposit receptacle C comprises a bottom 27, a front wall member 28, a rear wall member 29, and end mem-

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bers 30 cooperatively defining a top opening 31. Suitable marginal reinforcing members, indicated generally at 32, include a pair of forward and rear lower longitudinal corner sills 33, 34 which may as shown be of angle iron construction. These reinforcing sills are securely attached, as by welding, to the various wall members of container C. A plurality of beams 35, spaced inwardly from the respective ends of receptacle C, are disposed in longitudinally spaced relation, extending forwardly and rearwardly and secured at their respective ends to the undersides of sill members 33 and 34.

Secured to sill member 33 and to end sill member 36, respectively, are three roller brackets (Fig. 1) in which are rotatably mounted supporting rollers 37.

Secured to the lower sides of beam 35, extending longitudinally of receptacle C, and spaced from one another forwardly and rearwardly, are a series of retainer bars 38. Beams 35 are vertically narrow so as to define, between bottom 27 and retainer bars 38, relatively narrow spaces for reception of cradle fingers 26.

In the operation of the apparatus, it will be apparent that the deposit receptacle C may be supported in an alley or other suitable place, where refuse can be periodically deposited therein. Periodically, the collection truck B, making its rounds, will approach the receptacle C from the rear, with the cradle unit 21 in its lowered position shown in Fig. 3. The cradle fingers 26 will then be disposed horizontally, close to the ground, in a position to be inserted into the spaces between bottom 27 and retainer bars 38 as shown in Fig. 4. As the truck B is moved forwardly, the fingers 26 will enter these spaces, until the rear member 23 of cradle 21 engages the rear side of receptacle C to support it when tilted as in Fig. 1. The operator may then energize actuator 12 to elevate the cradle 21, lifting the receptacle C and swinging it upwardly while tilting it rearwardly. During this upward swinging movement, the actuator 18 may be energized to straighten the arms 10 and 16 into alignment, and at the top of the swing, the receptacle C may be tilted to the dumping position C'. The lift apparatus A may then be actuated in the reverse direction through actuators 12 (which are two-way hydraulically energized actuators) until the emptied receptacle C is again resting on its roller supports 37. The truck may then be backed away from the receptacle, withdrawing fingers 26 from beneath the receptacle C and the truck B may then proceed to the next deposit receptacle C.

I claim:

1. In a refuse collecting and loading apparatus, in combination: a deposit receptacle having a bottom, ends and front and rear side walls and open at the top, said receptacle including means to support it with said bottom spaced above a supporting surface, and including retainer means spaced below said bottom and extending lengthwise of said receptacle; a collection truck having a container body and an operator's compartment forwardly of said body; and loading mechanism including a cradle unit having fingers that are insertible into the spaces between said bottom and said retainer means and having a back rest projecting generally at right angles to said fingers and adapted to engage the rear side of said receptacle, said loading mechanism further including elevating arm units disposed on respective sides of the truck and pivoted thereto at their rear ends, said arm units having forward arm portions that are rigidly secured to said cradle unit; and power means operating between said arm units and the truck to swing said cradle unit to a position in which it is disposed forwardly of the truck, with said fingers extending horizontally adjacent the supporting surface and said back rest projecting upwardly from the rear ends of said fingers so that, by moving said cradle unit forwardly said fingers may be inserted beneath said bottom and said back rest moved into engagement with said rear side of the receptacle, said power means being further operable to swing said cradle unit arcuately

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at least 90 degrees to a position wherein said receptacle has been elevated above said container body and tilted on its side, rear side downwardly, for discharging its contents into said container body.

2. In a refuse collecting and loading apparatus, in combination: a deposit receptacle having a bottom, ends and front and rear side walls and open at the top, said receptacle including means to support it with said bottom spaced above a supporting surface, said support means including a plurality of vertically narrow beams disposed immediately beneath said bottom in supporting relation thereto and extending from front to rear and spaced from one another lengthwise of the receptacle, and retainer means secured to the under sides of said beams and extending lengthwise of the receptacle, in spaced relation to said bottom; a collection truck having a container body and an operator's compartment forwardly of said body; and loading mechanism including a cradle unit having fingers that are insertible beneath said bottom in the spaces between said retainer bars and said bottom and having a back rest projecting generally at right angles to said fingers and adapted to engage the rear side of said receptacle, said loading mechanism further including elevating arm units disposed on respective sides of the truck and pivoted thereto at their rear ends, said arm units having respective rear arm sections having lower limit positions inclined downwardly and upwardly from the axis of pivotal attachment of said arm units to the truck, and forward arm sections pivoted to the forward ends of the respective rear arm sections and having lower limit positions inclined forwardly and downwardly and projecting forwardly of the truck, said forward arm sections at their forward ends being rigidly secured to the ends of said cradle unit, and power means operating between said arm units and the truck to swing said cradle unit to a position in which it is disposed forwardly of the truck, with said fingers extending horizontally adjacent the supporting surface and said back rest projecting upwardly from the rear ends of said fingers so that, by moving said cradle unit forwardly said fingers may be inserted beneath said bottom and said back rest moved into engagement with said rear side of the receptacle, said power means being further operable to swing said cradle unit arcuately at least 90 degrees to a position wherein said receptacle has been elevated above said container body and tilted on its side, rear side downwardly, for discharging its contents into said container body.

3. Apparatus as defined in claim 2, wherein said back rest is of bracket form, including end members to embrace the ends of the receptacle and to retain the same against lateral displacement.

4. Apparatus as defined in claim 3, wherein said arm units have forward end portions secured to the outer faces of said end members near the upper extremities thereof.

5. Apparatus as defined in claim 1, wherein said retainer means are spaced from said bottom to an extent such as to provide spaces just deep enough to freely receive said fingers, and are engageable with the undersides of the fingers when the cradle unit is in said elevated position, to retain the receptacle against tilting out of the grasp of said cradle unit.

6. In a refuse collecting and loading apparatus, in combination: a deposit receptacle having a bottom, ends, and front and back side walls, said receptacle including means to support it with said bottom spaced above a supporting surface and including retainer means spaced below said bottom; a collection truck having a container body and an operator's compartment forwardly of said body; and loading mechanism including elevating arm units disposed on respective sides of the truck each of said arm units including a rear arm section pivoted at its rear end to the truck and having a lower limit position in which it projects forwardly from its pivot, includ-

ing a forward arm section pivoted to the forward end of a respective rear arm section and projecting therebeyond, with a lower limit position in which it is inclined downwardly and forwardly from the respective rear arm section, and each of said arm units further including a hydraulic actuator, respective ends of which are pivoted to the respective forward and rear arm sections forwardly and rearwardly of the connecting pivots thereof; and power means operating between said arm units and the truck to swing said arm units from their aforesaid lower limit positions arcuately upwardly approximately 90° to overhead positions; and a cradle unit having respective ends thereof rigidly secured to the forward ends of the respective forward arm sections and being positioned with said back rest substantially vertical and said fingers substantially at ground level and projecting forwardly from the lower side of said back rest when said arm units are in their said lower limit positions; the said upward swinging movement of said arm units to said overhead positions being operable to bodily swing said cradle unit upwardly and arcuately while tilting it on its side to a position wherein said fingers project upwardly from said back rest and said back rest projects rearwardly from the fingers, whereby said receptacle will be tilted on its side, with its back side downward; said actuators being operable to move the forward arm sections into alignment with the rearward arm sections so that at the upper limit of swinging movement, the receptacle may have its back wall in a position inclined rearwardly and downwardly for facilitating the discharge of the receptacle contents.

7. A refuse deposit receptacle, open at the top and comprising a bottom, end members and forward and back side wall members; a plurality of retainer bars extending lengthwise of the receptacle and spaced from one another front to rear; and a plurality of vertically narrow beams disposed immediately beneath said bottom in supporting relation thereto, extending from front to rear, and spaced from one another lengthwise of the receptacle, said retainer bars being secured to the undersides of said beams, whereby said retainer bars are disposed in adjacent, parallel, spaced relation to said bottom in a common plane for resting against a horizontal supporting surface, with spaces therebetween to receive spaced fingers of a lift cradle, whereby the receptacle may be elevated and tilted for discharging its contents into a transport container.

8. A refuse deposit receptacle, open at the top and comprising a bottom, end members and side members; a plurality of retainer bars extending lengthwise of the receptacle and spaced from one another front to rear; front and rear support sills secured to and bracing the forward and rear longitudinal marginal portions of the receptacle; and a plurality of vertically narrow beams disposed immediately beneath said bottom, extending from front to rear, and spaced from one another lengthwise of the receptacle, said retainer bars being secured to the undersides of said beams and said beams being secured at their respective ends to the respective support sills and being in supporting relation to said bottom, whereby said retainer bars are disposed in adjacent, parallel, spaced relation to said bottom, with spaces therebetween to receive spaced fingers of a lift cradle, whereby the receptacle may be elevated and tilted for discharging its contents into a transport container.

9. In a refuse collecting and loading apparatus, in combination: a deposit receptacle having a bottom, ends and front and back side walls and open at the top, said receptacle including means to support it with said bottom spaced above a supporting surface, and including retainer means spaced below said bottom; a collection truck having a container body and an operator's compartment forwardly of said body; and loading mechanism including a cradle unit having fingers that are insertable into the spaces between said bottom and retainer means and having a back rest projecting generally at right angles

to said fingers in a position to engage the rear side of said receptacle; said loading mechanism further including elevating arm units disposed on respective sides of the truck, each of said arm units including a rear arm section pivoted at its rear end to the truck and having a lower limit position in which it is inclined upwardly and forwardly from its pivot, and said arm units each further including a forward arm section pivoted to the forward end of a respective rear arm section and projecting forwardly therefrom, with a lower limit position in which it is inclined downwardly and forwardly, and each of said arm units further including a hydraulic actuator, respective ends of which are pivoted to the respective forward and rear arm sections forwardly and rearwardly of the connecting pivots thereof; and power means operating between said arm units and the truck to swing said arm units from their aforesaid lower limit positions arcuately upwardly approximately 90 degrees to overhead positions; said cradle unit having respective ends thereof rigidly secured to the forward ends of the respective forward arm sections and being positioned with said back rest substantially vertical and said fingers substantially at ground level and projecting forwardly from the lower side of said back rest when said arm sections are in their said lower limit positions; the said upward swinging movement of said arm units being operable to bodily swing said cradle unit upwardly and arcuately while tilting it on its side to a position wherein said fingers project upwardly from said back rest and said back rest projects rearwardly from the fingers, whereby said receptacle will be tilted on its side, with its back side downward; said actuators being operable to move the forward arm sections into alignment with the rearward arm sections so that at the upper limit of swinging movement, the receptacle may have its back wall tilted downwardly and rearwardly for facilitating discharge of the receptacle contents.

10. In a refuse collecting and loading apparatus, in combination: a deposit receptacle having a bottom, ends, and front and back side walls, said receptacle including means to support it with said bottom spaced above a supporting surface and including retainer means spaced below said bottom; a collection truck having a container body and an operator's compartment forwardly of said body; and loading mechanism including a pair of elevating arm units disposed on respective sides of the truck, each of said arm units including a rear arm section pivoted at its rear end to the truck and having a lower limit position in which it projects forwardly from its pivot, including a forward arm section pivoted to the forward end of a respective rear arm section and having a lower limit position in which it is inclined forwardly and downwardly therefrom and projects forwardly of the truck, and including a hydraulic actuator, respective ends of which are pivoted to the respective forward and rear arm sections forwardly and rearwardly of the connecting pivots thereof, power means operating between said arm units and the truck to swing said arm units from the aforesaid lower limit positions arcuately upwardly approximately 90° to overhead positions; and a cradle unit including fingers that are insertable into the spaces between said bottom and retainer means, including a back rest projecting generally at right angles to said fingers in a position to engage the rear side of said receptacle, and including respective ends rigidly secured to the forward ends of the respective forward arm sections in a relation such as to position said cradle unit with its back rest substantially vertical and said fingers substantially at ground level and projecting forwardly from the lower side of said back rest when said arm units are in their said lower limit positions; the said upward swinging movement of said arm units to said overhead positions being operable to bodily swing said cradle unit upwardly and arcuately while tilting it on its side to a discharge position wherein said fingers project upwardly from said back rest and said back rest projects rear-

wardly from said fingers, whereby said receptacle will be tilted on its side, with its back side downward and bearing against said back rest, and with said fingers bearing against said bottom and said retainer means so as to support said receptacle against tilting beyond said discharge position; said actuators being operable to move the forward arm sections upwardly and rearwardly with respect to the rearward arm sections, so that at the upper limit of swinging movement the receptacle may have its back wall tilted downwardly and rearwardly for facilitating the discharge of the receptacle contents.

11. In a refuse collecting and loading apparatus, in combination: a deposit receptacle having a bottom, ends, and front and back side walls, said receptacle including means to support it with said bottom spaced above a supporting surface and including retainer means spaced below said bottom; a collection truck having a container body and an operator's compartment forwardly of said body; and loading mechanism including a pair of elevating arm units disposed on respective sides of the truck, each of said arm units including a rear arm section pivoted at its rear end to the truck and having a lower limit position in which it projects forwardly from its pivot, including a forward arm section pivoted to the forward end of a respective rear arm section and having a lower limit position in which it projects forwardly therefrom and forwardly of the truck, and including a hydraulic actuator, respective ends of which are pivoted to the respective forward and rear arm sections forwardly and rearwardly of the connecting pivots thereof; power means operating between said arm units and the truck to swing said arm units from the aforesaid lower limit positions arcuately upwardly approximately 90° to overhead positions; and a cradle unit including fingers that are insertable into the spaces between said bottom and retainer means, including a back rest projecting generally at right angles to said fingers in a position to engage the rear side of said receptacle, and including respective ends rigidly secured to the forward ends of the respective forward arm sections in a relation such as to position said cradle unit with its back rest substantially vertical and said fingers substantially at ground level and projecting forwardly from the lower side of said back rest when said arm units are in their said lower limit positions; the said upward swinging movement of said arm units to said overhead positions being operable to bodily swing said cradle unit upwardly and arcuately while tilting it on its side to a discharge position wherein said fingers project upwardly from said back rest and said back rest projects rearwardly from said fingers, whereby said receptacle will be tilted on its side, with its back side downward and bearing against said back rest, and with said fingers bearing against said bottom and said retainer means so as to support said receptacle against tilting beyond said discharge position; said actuator being operable to move the forward arm sections upwardly and rearwardly with respect to the rearward arm sections, so that at the upper limit of swinging movement the receptacle may have its back wall tilted downwardly and rearwardly for facilitating the discharge of the receptacle contents.

12. In a refuse collecting and loading apparatus, in combination: a deposit receptacle having a bottom, ends, and front and back side walls, said receptacle including means to support it with said bottom spaced above a supporting surface and including retainer means spaced below said bottom; a collection truck having a container body and an operator's compartment forwardly of said body; and loading mechanism including a pair of elevating arm units disposed on respective sides of the truck, each of said arm units including a rear arm section pivoted at its rear end to the truck and having a lower limit position in which it projects forwardly from its pivot, including a forward arm section pivoted to the forward end of a respective rear arm section and having a lower limit position in which it projects forwardly

therefrom and forwardly of the truck, and including a hydraulic actuator, respective ends of which are pivoted to the respective forward and rear arm sections forwardly and rearwardly of the connecting pivots thereof, power means operating between said arm units and the truck to swing said arm units from the aforesaid lower limit positions arcuately upwardly approximately 90° to overhead positions; and a cradle unit including fingers that are insertable into the spaces between said bottom and retainer means, including a back rest projecting generally at right angles to said fingers in a position to engage the rear side of said receptacle, and including respective ends rigidly secured to the forward ends of the respective forward arm section in a relation such as to position said cradle unit with its back rest substantially vertical and said fingers substantially at ground level and projecting forwardly from the lower side of said back rest when said arm units are in their said lower limit positions; the said upward swinging movement of said arm units to said overhead positions being operable to bodily swing said cradle unit upwardly and arcuately while tilting it on its side to a discharge position wherein said fingers project upwardly from said back rest and said back rest projects rearwardly from said fingers, whereby said receptacle will be tilted on its side, with its back side downward; and bearing against said back rest, and with said fingers bearing against said bottom and said retainer means so as to support said receptacle against tilting beyond said discharge position; said actuator being operable to move the forward arm sections upwardly and rearwardly with respect to the rearward arm sections, so that at the upper limit of swinging movement the contents may be fully discharged from the receptacle at said discharge position.

13. In a refuse collecting and loading apparatus, in combination: a deposit receptacle having a bottom, ends, and front and back side walls, said receptacle including means to support it with said bottom spaced above a supporting surface and including retainer means spaced below said bottom and extending lengthwise of the receptacle; a collection truck having a container body and an operator's compartment forwardly of said body; and loading mechanism including elevating arm units disposed on respective sides of the truck, each of said arm units including a rear arm section pivoted at its rear end to the truck and having a lower limit position in which it projects forwardly from its pivot, including a forward arm section pivoted to the forward end of the respective rear arm section and having a lower limit position in which it projects forwardly of the rear arm section and beyond the front end of the truck, and each of said arm units further including a hydraulic actuator, respective ends of which are pivoted to the respective forward and rear arm sections forwardly and rearwardly of the connecting pivots thereof and operable to move the forward arm section upwardly and rearwardly with relation to the rearward arm section; and power means operating between said arm units and the truck to swing said arm units from their aforesaid lower limit positions arcuately upwardly approximately 90° to overhead positions; and a cradle unit having fingers that are insertable into the spaces between said bottom and retainer means and having a back rest projecting generally at right angles to said fingers in a position to be moved into engagement with the rear side of said receptacle when said fingers are inserted into said spaces, said cradle unit having ends attached in fixed relation to the forward ends of the respective forward arm sections in relation such as to position said back rest substantially vertical and said fingers substantially at ground level and projecting forwardly from the lower side of said back rest for insertion into said receptacle spaces when said arm units are in their said lower limit positions; the said upward swinging movement of said arm units being operable to bodily swing said cradle unit upwardly and arcuately while tilt-

ing it on its side to a position wherein said fingers project upwardly from said back rest and said back rest projects rearwardly from the fingers, whereby said receptacle will be tilted on its side at the limit of upward swinging movement, with its back wall in a downward position for the discharge of the receptacle contents.

14. In a refuse collecting and loading apparatus, in combination; a deposit receptacle having a bottom, ends, and front and back side walls, said receptacle including means to support it with said bottom spaced above a supporting surface and including retainer means spaced below said bottom and extending lengthwise of the container; a collection truck having a container body and an operator's compartment forwardly of said body; and loading mechanism including a pair of elevating arm units disposed on respective sides of the truck, each of said arm units being pivoted at its rear end to the truck and having a lower limit position in which it projects forwardly from its pivot; and power means operating between said arm units and the truck to swing said arm units from the aforesaid lower limit positions arcuately upwardly approximately 90° to overhead positions; and a cradle unit including fingers that are insertable into the spaces between said bottom and retainer means, including a back rest projecting generally at right angles to said fingers in a position to be moved into engagement with the rear side of said receptacle when said fingers are inserted into said spaces, and including respective ends rigidly secured to the forward ends of the respective forward arm sections in a relation such as to position said cradle unit with its back rest substantially vertical and said fingers substantially at ground level and projecting forwardly from the lower side of said back rest when said arm units are in their said lower limit positions; the said upward swinging movement of said arm units to said overhead positions being operable to bodily swing said cradle unit upwardly and arcuately while tilting it on its side to a position wherein said fingers project upwardly from said back rest and said back rest projects rearwardly from said fingers, and wherein said receptacle will be tilted on its side of a discharge position; said fingers having a width such as to substantially bridge the spaces between said receptacle bottom and retainer means so as to simultaneously engage said bottom and retainer means, for supporting the receptacle in said discharge position.

15. In a refuse collecting and loading apparatus, in combination; a deposit receptacle having a bottom, ends, and front and back side walls, said receptacle including means to support it with said bottom spaced above a supporting surface and including retainer means spaced below said bottom and extending lengthwise of the container; a collection truck having a container body and an operator's compartment forwardly of said body; and loading mechanism including a pair of elevating arm units disposed on respective sides of the truck, each of said arm units being pivoted at its rear end to the truck and having a lower limit position in which it projects forwardly from its pivot; and power means operating between said arm units and the truck to swing said arm

units from the aforesaid lower limit positions arcuately upwardly approximately 90° to overhead positions; and a cradle unit including fingers that are insertable into the spaces between said bottom and retainer means, including a back rest projecting generally at right angles to said fingers in a position to be moved into engagement with the rear side of said receptacle when said fingers are inserted into said spaces, and including respective ends rigidly secured to the forward ends of the respective forward arm sections in a relation such as to position said cradle unit with its back rest substantially vertical and said fingers substantially at ground level and projecting forwardly from the lower side of said back rest when said arm units are in their said lower limit positions; the said upward swinging movement of said arm units to said overhead positions being operable to bodily swing said cradle unit upwardly and arcuately while tilting it on its side to a position wherein said fingers project upwardly from said back rest and said back rest projects rearwardly from said fingers, and wherein said receptacle will be tilted on its side to a discharge position with its back side downward and bearing against said back rest, and with said fingers bearing against said bottom and said retainer means so as to support said receptacle against tilting beyond said discharge position.

16. A refuse deposit receptacle, open at the top and comprising a bottom, and members and side members; front and rear support sills secured to and bracing the forward and rear longitudinal marginal portions of the receptacle; a plurality of vertically narrow beams disposed immediately beneath said bottom, extending from front to rear, spaced from one another lengthwise of the receptacle and secured at their respective ends to the respective support sills and in supporting relation to said bottom, and retainer means secured to the under sides of said beams and thereby positioned in downwardly spaced relation to said bottom to provide between said beams, spaces to receive spaced fingers of a lift cradle, whereby the receptacle may be elevated and tilted for discharging its contents into a transport container.

17. A refuse deposit receptacle as defined in claim 16, including supporting rollers attached to said support rails, for rolling support of said receptacle on a supporting surface.

18. A receptacle as defined in claim 16 wherein said support sills are of angle section, each including a bottom flange in contact with the receptacle bottom and bracing the same and including a vertical flange in contact with a respective side wall of the receptacle.

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