

[54] TRASH COMPACTOR CONTAINER

[76] Inventor: Sheldon H. Weaver, 58 Wilshire,  
Cheektowaga, N.Y. 14425

[22] Filed: Nov. 1, 1971

[21] Appl. No.: 194,701

[52] U.S. Cl. .... 214/82, 100/229 A, 214/38 D

[51] Int. Cl. .... B60p 1/00

[58] Field of Search ..... 214/82, 38 D; 100/229 A

[56] References Cited

UNITED STATES PATENTS

3,071,264	1/1963	Totaro et al. ....	214/82
3,257,012	6/1966	Berolzheimer .....	214/82
2,873,502	2/1959	Hodges et al. ....	214/516
3,486,646	12/1969	O'Brien et al. ....	214/82
2,984,370	5/1961	Wade .....	214/82
3,207,336	9/1965	Boeck et al. ....	214/82
2,800,234	7/1957	Herpich et al. ....	214/82
3,489,302	1/1970	Danzart .....	214/82 X
3,465,902	9/1969	Colletti .....	214/82
3,417,883	12/1968	Felts .....	214/82 X

Primary Examiner—Robert J. Spar

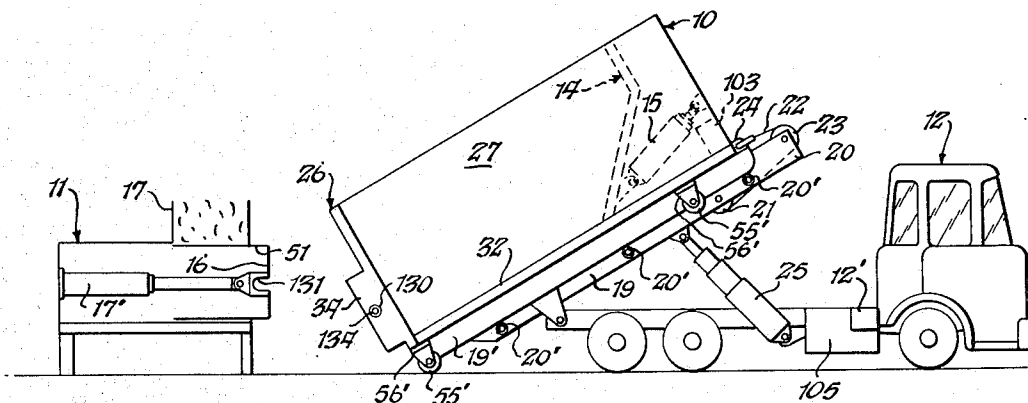
Attorney, Agent, or Firm—Joseph P. Gastel, Esq.

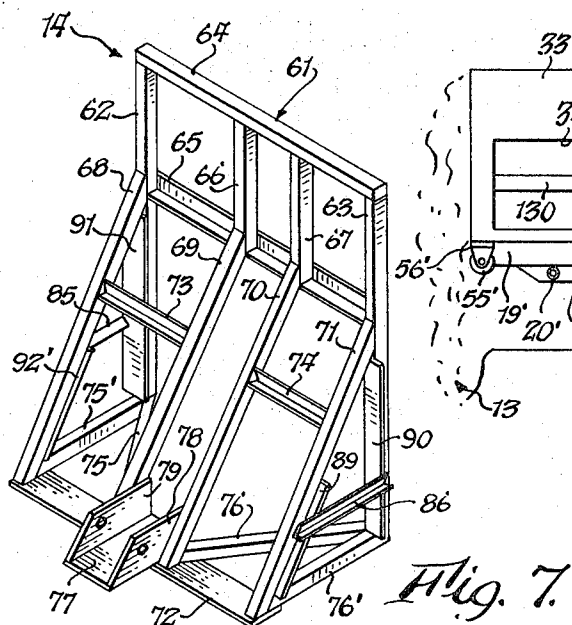
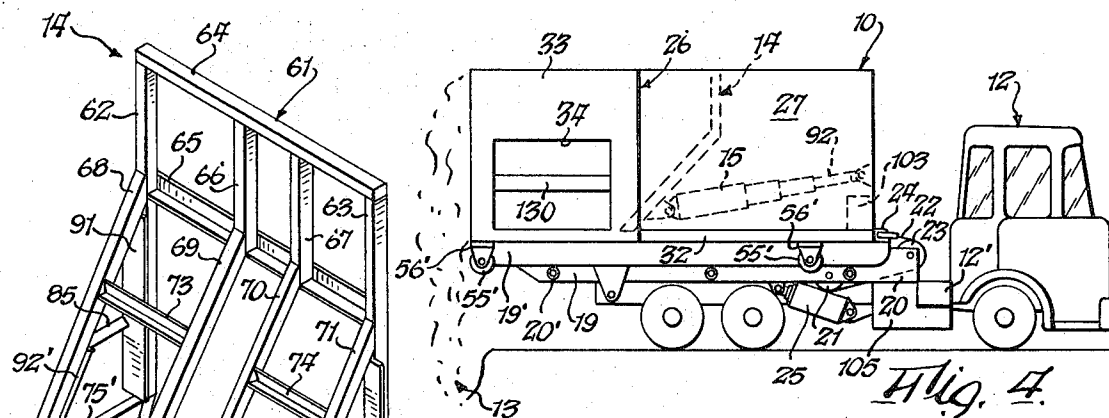
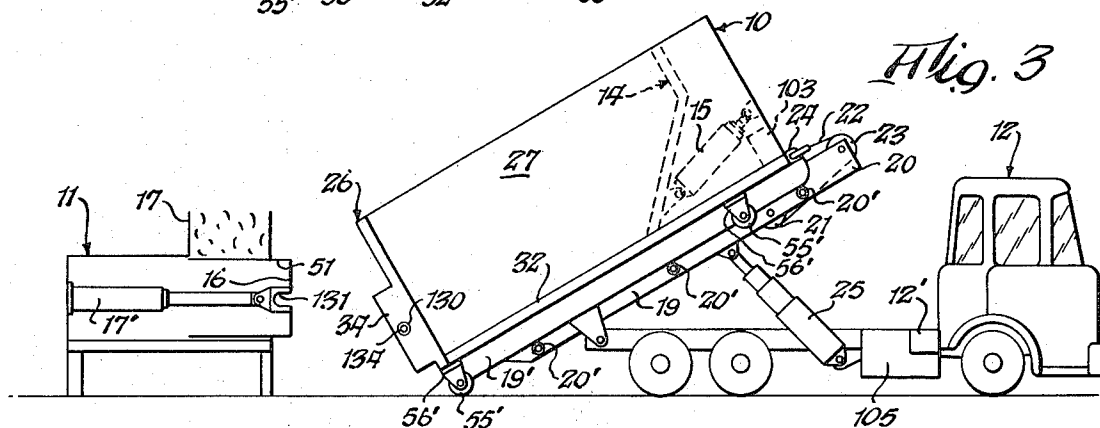
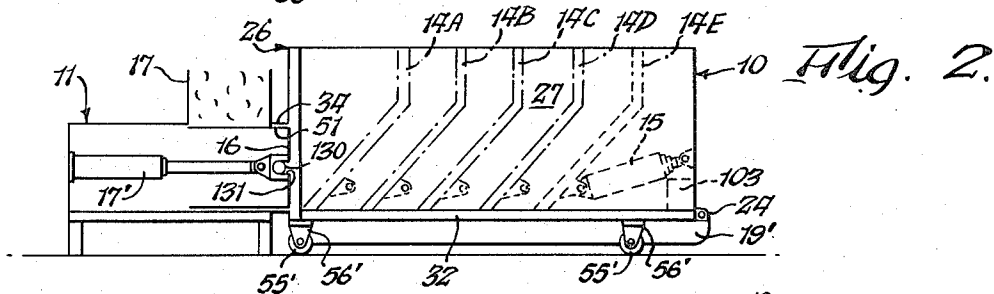
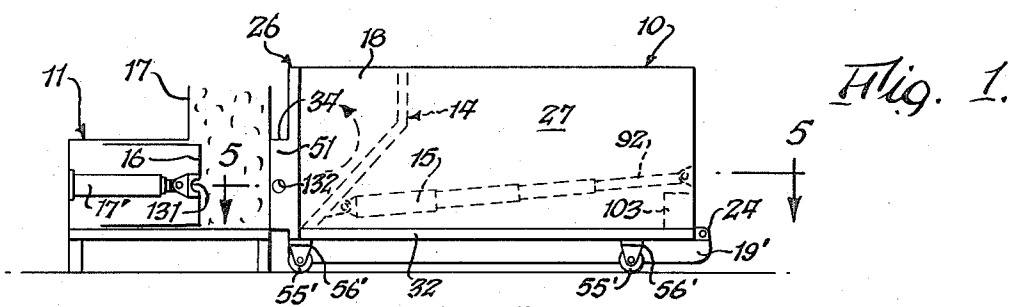
[57]

ABSTRACT

A compactor container comprising a box-like structure having a bottom wall, top wall and a pair of side walls, hollow rib means welded to the outsides of said walls to rigidize said walls and therefore permit said walls to be fabricated of relatively light gauge material, a push-out blade mounted within the container on track means welded to the side walls, and a hydraulic circuit for driving the push-out blade in a first direction during a trash ejection cycle and for resisting movement of the blade in the opposite direction during a trash compaction cycle, said hydraulic circuit including a conduit for effecting communication between a driving motor for the push-out blade and a reservoir mounted on the container, and pressure relief valve means in said conduit for permitting said push-out blade to yield against the force produced by a compaction ram on trash being compacted against said blade when said pressure in said conduit means is exceeded. The pressurized hydraulic fluid for driving said motor means during a trash ejection cycle is provided by a pump mounted on the truck which transports the container to the dumping site.

7 Claims, 18 Drawing Figures





INVENTOR.  
**SHELDON H. WEAVER**  
 BY  
*Sommer Weber & Gastel*  
 ATTORNEYS.

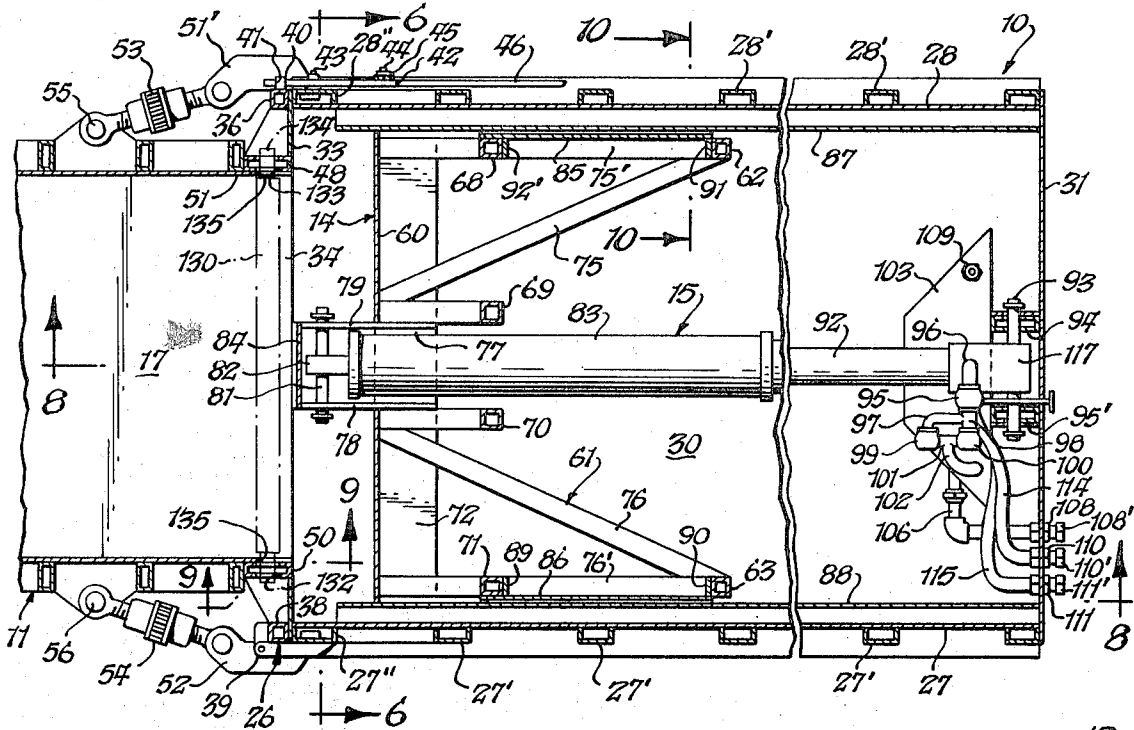


Fig. 5.

Fig. 9.

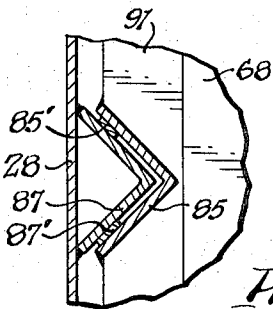
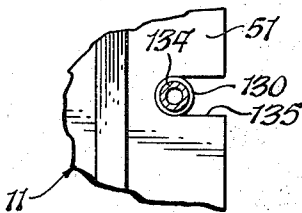


Fig. 10.

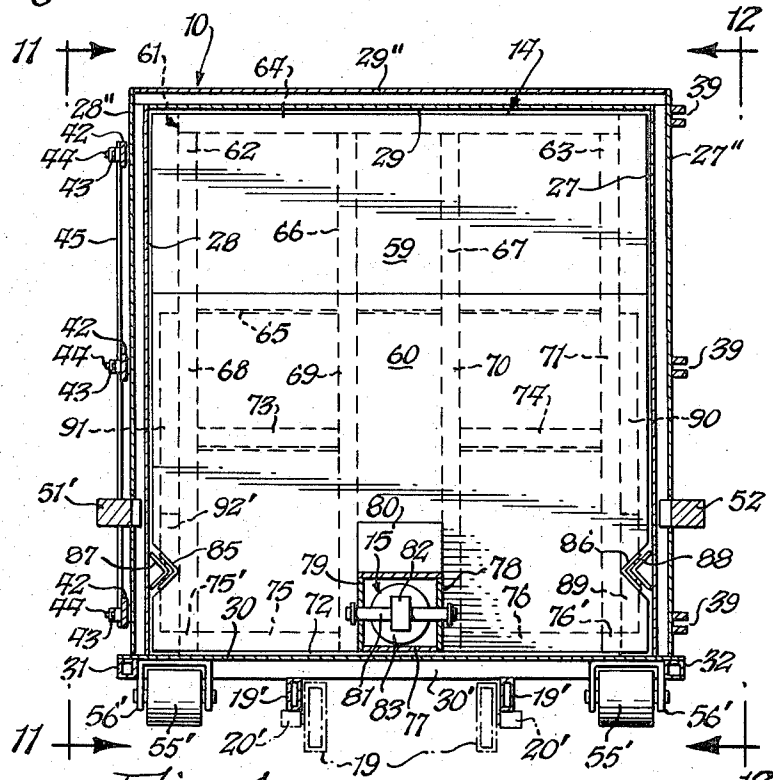


Fig. 6.

INVENTOR.

SHELDON H. WEAVER

BY

Sommer Weber & Gastel

ATTORNEYS.

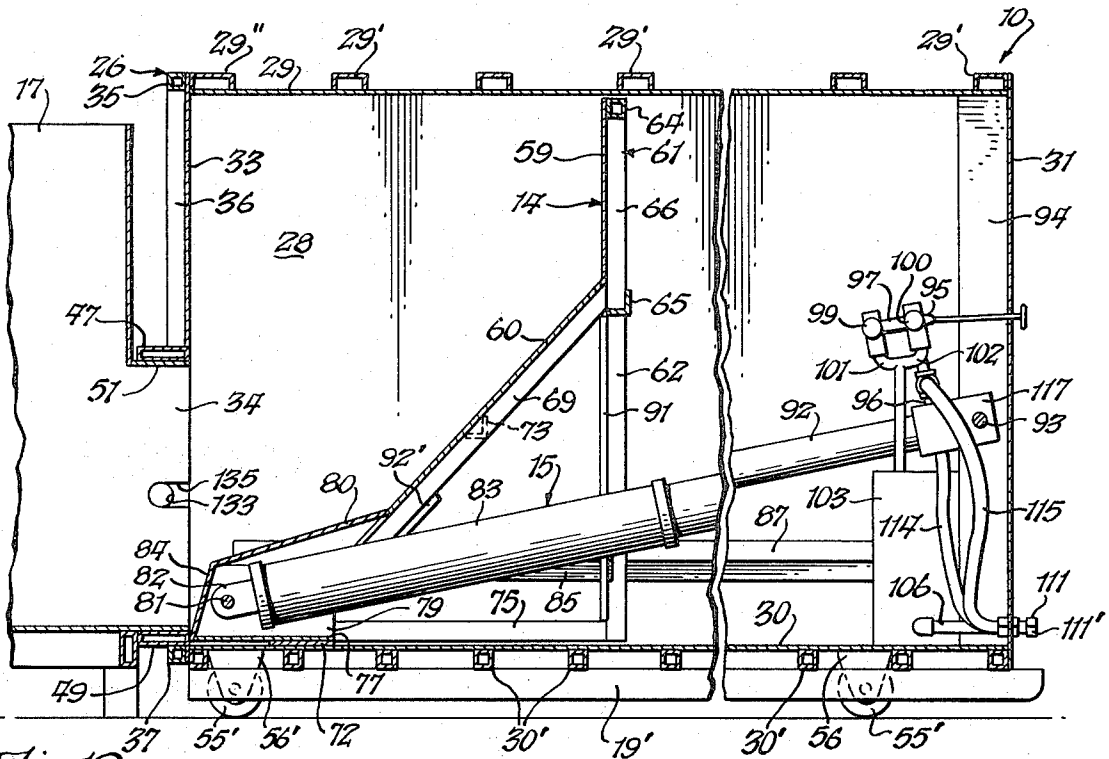


Fig. 12.

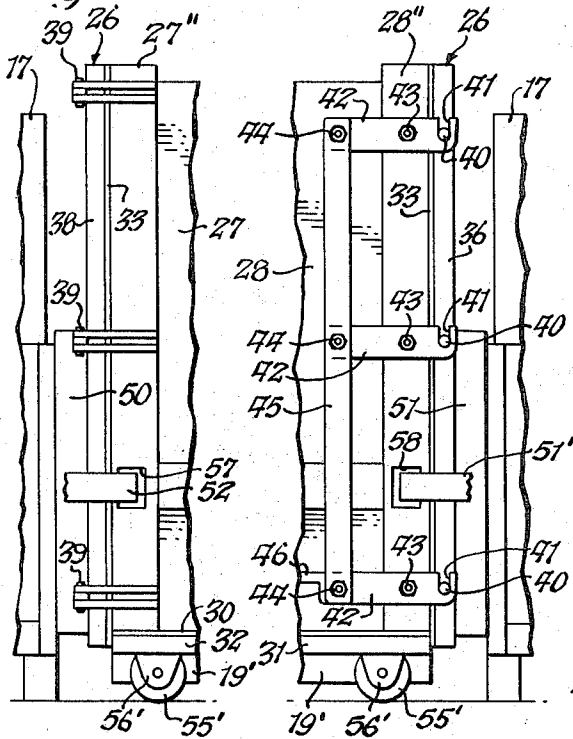


Fig. 17.

Fig. 8.

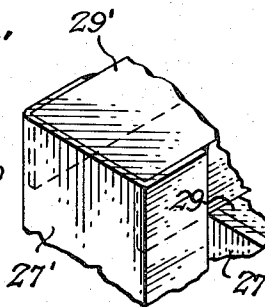


Fig. 14.

INVENTOR.  
 SHELDON H. WEAVER  
 BY  
 Sommer Weber & Gastel  
 ATTORNEYS.



## TRASH COMPACTOR CONTAINER

The present invention relates to an improved compactor container for receiving trash.

There is a type of compactor container now in use which is attached to a compacting device at a site where trash is to be accumulated and compacted. Thereafter the container is separated from the compactor and is lifted onto a truck for transporting to a dumping area where it is emptied by causing a push-out blade to eject the compacted trash after a door on the container is opened.

In the past containers of the foregoing type were subject to certain deficiencies. First of all, the actual structure of the container produced a high ratio of weight to volume and therefore limited the payload of compressed trash inasmuch as the total load was limited by the capacity of the vehicle which transported the loaded container. Secondly, the push-out blade in the container was usually mounted on a guideway on the floor and therefore during freezing weather the liquids in the container froze and therefore obstructed movement of the push-out blade. Thirdly, the hydraulic circuit used for actuating the push-out blade was of such a nature that it could not be conveniently used to provide resistance to the movement of the push-out blade during the compaction cycle when trash was pressed against it by a ram of the compactor, and this in turn caused containers to be filled with less trash than they otherwise had a capacity to receive. It is with overcoming the above enumerated deficiencies of prior art compactor containers that the present invention is concerned.

It is accordingly one object of the present invention to provide an improved container for receiving trash which has a relatively high ratio of volume to weight so as to be capable of carrying a relatively high payload of trash. A related object of the present invention is to provide an improved container which is relatively strong so as to withstand high compaction pressures, notwithstanding that it is fabricated from relatively lightweight materials. A further related object of the present invention is to provide an improved container which mounts on uniquely integrated rigidizing structure so as to cause it to have light weight.

Another object of the present invention is to provide an improved container for receiving trash which has a push-out blade mounted in a unique manner on the sides of the container so that frozen liquids, which could impede blade movement, cannot accumulate on the structure which mounts the push-out blade for movement back and forth within the container.

Yet another object of the present invention is to provide an improved container for receiving trash which includes an improved hydraulic circuit which is not only utilized to move the push-out blade during the trash ejection cycle but is also utilized to provide resistance to blade movement during the compaction cycle, whereby the trash is compacted to a relatively high degree when it is pressed between the push-out blade and the ram of the compactor associated therewith. Other objects and attendant advantages of the present invention will readily be perceived herein.

The improved compactor container of the present invention comprises a box-like container having a push-out blade therein which is mounted on tracks on the side walls of the container, hydraulic motor means

comprising a piston and a cylinder is coupled to the push-out blade and the container for driving the push-out blade in one direction during a trash ejection cycle and for resisting its movement in the opposite direction during a trash compaction cycle, a reservoir for hydraulic fluid on the container for receiving hydraulic fluid from the motor means during the compaction cycle, pressure relief valve means in conduit means leading from the motor means to the reservoir for preventing flow of hydraulic fluid to said reservoir until the relief pressure is exceeded to thereby provide a resistance by the push-out blade so that trash can be compacted against it, and additional conduit means coupled to the reservoir for selectively bleeding hydraulic fluid therefrom into a reservoir on the truck which periodically mounts the container for transportation to the dumping site. The motor means is provided with pressurized hydraulic fluid during a trash ejection cycle from a pump on the truck which causes the motor means to expand to eject compacted trash from the truck. The means for mounting the push-out blade on the sides of the container are of a configuration so that they are not susceptible to accumulating any liquids which can freeze and thus impede movement of the push-out blade. The container includes transversely oriented rib members mounted on its outer walls for the purpose of rigidizing these walls to permit lighter gauge metal to be used than would be used in the absence of the ribs. The rib members are essentially hollow, either of channel shape or of box shape so as to further lighten the weight of the container and thus permit it to carry a larger payload.

The various aspects of the present invention will be more fully understood when the following portions of the specification are read in conjunction with the accompanying drawings wherein:

FIG. 1 is a diagrammatic side elevational view of a compactor container coupled to a compactor and showing the push-out blade in the position which it occupies at the beginning of compaction;

FIG. 2 is a view similar to FIG. 1 but showing the progressive positions which the push-out blade occupies in moving from left to right as the compactor container is filled;

FIG. 3 is a diagrammatic side elevational view showing the manner in which the filled compactor container is lifted onto a truck for movement to a trash disposal area;

FIG. 4 is a view showing the trash being pushed out of the compactor container by the push-out blade at the trash disposal area;

FIG. 5 is a fragmentary cross sectional view taken substantially along line 5-5 of FIG. 1 and showing the compactor assembled with the compactor container and also showing the push-out blade and the hydraulic motor and related conduits associated therewith;

FIG. 6 is a cross sectional view taken substantially along line 6-6 of FIG. 5 and showing the manner in which the push-out blade is mounted for sliding movement on the compactor container;

FIG. 7 is a perspective view of the frame of the push-out blade;

FIG. 8 is a fragmentary cross sectional view taken along line 8-8 of FIG. 5 and showing the mounting for the push-out blade;

FIG. 9 is a fragmentary cross sectional view taken substantially along line 9-9 of FIG. 5 and showing the

manner in which the opening of the compactor container is blocked to prevent premature dropping of the trash therefrom;

FIG. 10 is a fragmentary cross sectional view taken substantially along line 10—10 of FIG. 5 and showing further details of construction of the compactor container;

FIG. 11 is a fragmentary view taken substantially in the direction of arrows 11—11 of FIG. 6 and showing the latching arrangement for locking the compactor container door when closed;

FIG. 12 is a fragmentary view taken in the direction of arrows 12—12 of FIG. 6 and showing the hinge mounting for the door of the container;

FIG. 13 is a schematic hydraulic diagram illustrating the hydraulic circuit used in conjunction with the compactor container;

FIG. 14 is a fragmentary perspective view of the manner in which certain rigidizing ribs are joined;

FIG. 15 is a fragmentary cross sectional view of the push-out blade motor in relation to the hydraulic conduits associated therewith; and

FIGS. 16—18 are fragmentary cross sectional schematic views of various positions of the control valve for the push-out blade motor.

The improved compactor container 10 of the present invention is adapted to be attached to a compactor 11 at the site at which compaction of trash is to be effected. Thereafter it is detached from compactor 11, lifted onto truck 12 and conveyed to a trash disposal area 13 where the trash is dumped. After dumping, the container 10 is conveyed back to the area in which compactor 11 is located, unloaded from truck 12, and reattached to compactor 11 to receive more trash.

Broadly, the compactor container 10 includes a push-out blade 14 therein which is movable between the initial position shown at 14A in FIG. 2 at the beginning of compaction to the position shown at 14E in FIG. 2 when container 10 is fully packed. Between positions 14A and 14E, blade 14 occupies successive positions such as 14B, 14C and 14D. The movement of blade 14 to the right is resisted by the force provided by telescoping piston and cylinder motor unit 15, which collapses from its fully expanded position shown in FIG. 1 to its fully telescoped position shown in FIG. 2. Compactor 11 includes a ram 16 which is periodically driven from the position shown in FIG. 1 to the position shown in FIG. 2 by means of a hydraulic piston and cylinder unit 17' to compress trash which is placed into hopper 17. During compaction, the trash in hopper 17 is moved into space 18 by ram 16 against the resistance provided by push-out blade 14. As will become more apparent hereinafter, motor 15 will permit push-out blade 14 to yield to the right only when the pressure produced by ram 16 on the hydraulic fluid in motor 15 exceeds a predetermined value, for example, 1,500 pounds per square inch, and this yielding will be in increments until it occupies the position shown at 14E, at which time the container will be full. Thereafter, a truck 12 having a pair of spaced guides 19 on bed 20 will pull compactor container 10 up onto it by means of a winch 21 having a cable 22 which winds around pulley 23 and attaches to the front end 24 of container 10. The truck bed 20 is tilted to the inclined position shown in FIG. 3 by means of hydraulic motor 25 which thereafter causes it to return to the normal horizontal position shown in FIG. 4 which it occupies in transit

after container 10 has been loaded thereon. Guides 19 fit between guides 19' extending longitudinally of container 10 with a relatively close fit so as to facilitate loading and maintain container 10 firmly mounted on bed 20 in transit. Furthermore guides 19' roll on rollers 20' which extend outwardly from guides 19 at longitudinally spaced locations. After the truck 12 reaches the trash disposal area, it is merely necessary to open rear door 26 and actuate the hydraulic motor 15 to cause push-out blade 14 to move from its rightmost position shown in FIG. 3 to its leftmost position shown in FIG. 1 to push out the trash.

The compactor container 10 is essentially a box of solid rectangular configuration having side walls 27 and 28, top wall 29, bottom wall 30 and end wall 31. A door 26 forms the sixth wall of the container in opposition to end wall 31. Ribs in the form of channels 28' are welded to the outside of wall 28; ribs in the form of channels 27' are welded to the outside of wall 27; and ribs in the form of channels 29' are welded to top 29. The ends of channels 29' are oriented relative to and are welded to channels 27' and 28' in the manner shown in FIG. 14 along all common exposed adjacent edges to give strength. Channels 27', 28' and 29' are in line with each other so as to provide a continuous frame-like configuration on the two sides and top of the container 10. Ribs in the form of square tubular sections 30' are welded to bottom plate 30 to lend rigidity thereto and the above mentioned guides 19' are welded across tubular members 30'. The bottoms of channels 27' and 28' are welded to bottom plate 30. The ribs 27', 28', 29' and 30' rigidize the respective walls to which they are welded, thus permitting relatively light gauge stock to be used for the walls. The welding of guides 19' to ribs 30' further rigidizes the assembly. Because of the use of the various above-described ribs, the container 10 has a high ratio of strength to weight, thus permitting it to withstand high compaction pressures and permitting it to receive a relatively large payload. In the foregoing respect, it will be appreciated that the truck can only carry a certain maximum load, and the greater the weight of the container, the less will be the weight of its contents.

Tubular members 31 and 32 are welded to the ends of members 30' and to the underside of plate 30 and extend lengthwise of container 10. A pair of enlarged channels 27'' and 28'' are welded to plates 27 and 28, respectively, at the end of the container proximate door 26 and an enlarged channel 29'' is welded to top 29 with its ends welded to the ends of channels 27'' and 28''. By the orientation of the above described sides of container 10 with the various members welded thereto an extremely strong unit is obtained.

Door 26 includes a plate 33 having an opening 34 therein, with plate 33 being bounded by a tubular frame consisting of box sections 35, 36, 37 and 38 welded to plate 33 and to each other in the shape of a square to rigidize the plate. Door 26 includes hinges 39 on one side thereof which permits the door to swing from a position wherein it completely closes the end of the container to a position such as shown in FIG. 4 wherein it lies flush against the side 27 of the container to completely open the end of the container. The side door 26 which is opposite to the side on which hinges 39 are located includes a plurality of vertically spaced pins 40 extending outwardly from box section 36. These are received in slots 41 in levers 42 which are

pivotally mounted on pins 43 extending outwardly from pins on channel 28". Levers 42 are caused to swing in unison because they are pivotally attached at 44 to link 45. A handle 46 (FIGS. 5 and 11) is attached to the lowermost link 42 and when it is moved upwardly in FIG. 11, slots 41 will be disengaged from pins 40 to release door 26 so that it can be opened.

When the door 26 is closed, the periphery of opening 34, as defined by tubular members 47, 48, 49 and 50 which are welded to plate 33, receives the outlet 51 of compactor 11 in telescoping relationship. Thereafter, hooks 51' and 52, which are attached to turnbuckles 53 and 54, respectively, which are pivotally mounted at 55 and 56, respectively, to the side walls of compactor 11, are hooked into openings 57 and 58, respectively, in channels 27" and 28", respectively. The tightening of turnbuckles 53 and 54 causes the compactor 11 to be securely attached to the container 10. Wheels 55' are mounted on brackets 56' welded to the underside of container 10, and these wheels facilitate the moving of container 10 in position for attachment to compactor 11.

Push-out blade 14 includes an upper vertical plate 59 welded at its lower edge to the upper edge of inclined lower plate 60. Plates 59 and 60 are welded to frame 61 (FIG. 7) which includes vertical box section posts 62 and 63 having box section 64 welded to the tops thereof. An angle 65 has its opposite ends welded to posts 62 and 63, and the lower ends of box section struts 66 and 67 are welded to angle 65. The upper ends of struts 66 and 67 are welded to member 64. The lower ends of inclined box section struts 68, 69, 70 and 71 are welded to plate 72, to which the lower edge of plate 60 is also welded. The upper ends of struts 68, 69, 70 and 71 are welded to members 62, 66, 67 and 63, respectively. Angle struts 73 and 74 have their opposite ends welded between members 68-69 and 70-71, respectively. Box section strut 75 has its opposite ends welded between post 62 and strut 69, and box section strut 76 has its opposite ends welded between post 63 and strut 70. Strut 75' has its ends welded to struts 62 and 68, and strut 76' has its ends welded to struts 63 and 71. The front ends of struts 75' and 76' are welded to the top of plate 72.

A housing consisting of plates 77, 78, 79 and 80, which are suitably welded to each other, is located at the front of push-out blade 14 with plate 77 welded to plate 72 and plates 78 and 79 welded to struts 70 and 69, respectively. A pin 81 has its opposite ends mounted on plates 78 and 79, and this pin pivotally mounts bracket 82 which is attached to the cylinder 83 of motor unit 15. An end plate 84 is fastened as by welding across the ends of plates 77, 78, 79 and 80 to prevent refuse from entering the area surrounding pin 81. The piston rod 92 which extends out of cylinder 83 has its end mounted on a pin 93 which is supported by box sections 94 and 95' welded to the inside of plate 31, these box sections also serving the function of rigidizing plate 31.

Push-out blade 14 is mounted in a unique manner. In this respect, angles 85 and 86 which form a part of blade 14, are slidably mounted on angles 87 and 88, respectively, which have the outer ends of their legs secured by welding to walls 28 and 27, respectively. Angles 87 and 88 extend for substantially the entire length of container 10. Angle 86 has end portions which are welded to plates 89 and 90 which in turn are welded to

struts 63 and 71, respectively. Angle 85 has end portions which are welded to plates 91 and 92', which in turn are welded to struts 62 and 68, respectively. Straps such as 85' and 87' (FIG. 10) are welded to the outer portions of the legs of angles 85 and 86 and extend the entire length of angles 85 and 86 to provide bearing surfaces on angles 87 and 88. Because of the foregoing mounting of push-out blade 14 on the walls of container 10, it can be seen that there is no appreciable connection between the floor and blade 14. This is of importance in that frozen liquid on the floor cannot block the tracks provided by the angles 87 and 88. This can be more fully appreciated when it is considered that because of the orientation of angles 87 and 88 any liquid in the trash which may spill on them will in all probability drip therefrom before it can freeze, and thus movement of blade 14 on angles 87 and 88 will not be resisted by frozen masses of liquid thereon. Furthermore, the use of elongated complementary mating angles for guiding push-out blade 14 on opposite sides thereof minimizes cocking of the blade in operation.

As noted above, push-out blade 14 occupies successive incremental positions between its leftmost position 14A and its rightmost position 14E during loading of container 10. The hydraulic pressure in the piston and cylinder 17' associated with the compactor ram 16 utilizes a pressure of 3,000 pounds per square inch. The push-out blade 14 is held against movement by telescoping motor unit 15 which provides a pressure of 1,500 pounds per square inch. When the 1,500 pound per square inch pressure on push-out blade 14 is exceeded, it will yield to the right in FIG. 2 until the pressure in it drops below the 1,500 pounds per square inch, at which time it will hold its position until this pressure is again exceeded by the force of the ram. In this manner the trash is compacted to a very great degree and very few voids are left within the container.

In order to achieve the foregoing desired trash compaction, the hydraulic circuit of FIG. 13 is used. During compaction valve 95 is opened and whenever the pressure of hydraulic fluid in motor 15 exceeds 1,500 pounds per square inch, there will be a flow of hydraulic fluid through conduits 114 and 114', open valve 95, and either of two branches 97 or 98, depending on which pressure relief valve 99 or 100 is opened, and then through either conduit 101 or 102 into reservoir 103 where the hydraulic fluid which empties from motor 15 is stored. Two pressure relief valves 99 and 100 are used to insure that there is a flow path in the event one valve sticks. It will be appreciated that at this time the compactor container 10 is not coupled to pump 104 or to reservoir 105, both of which are mounted on the truck 12. The portion of the hydraulic circuit enclosed by box 12' is permanently mounted on the truck. After push-out blade 14 has moved all the way to the right to the position 14E, the motor 15 is as empty of hydraulic fluid as it will become so that reservoir 103 will contain its maximum load of hydraulic fluid. Thereafter the container 10 is loaded onto a truck for movement to the trash dumping site, as described in detail above. During this time conduit 106 leading from reservoir 103 is coupled to conduit 107 leading to truck-mounted reservoir 105 through quick disconnect coupling 108 having part 108' on the end of conduit 106 and part 108" on the end of conduit 107. It will be appreciated that part 108' acts as a plug to prevent flow through conduit 107 until it is opened by



being coupled to part 108'. After conduits 106 and 107 have been coupled, reservoir 103 can drain into reservoir 105 on truck 12 by gravity considering that a vent 109 is provided in reservoir 103. At the time container 10 is mounted on the truck, quick disconnect couplings 110 and 111 are also coupled together. After the truck 12 reaches the dumping site, truck-mounted pump 104 is actuated after manual valve 95 has been closed and after valve 120 has been properly manipulated. This will cause hydraulic fluid to flow from reservoir 105 through conduit 112, pump 104, valve 113', conduit 113, spool valve 120, quick disconnect coupling 110 and conduit 114 so as to expand the motor 15, as described in greater detail hereafter, to cause push-out blade to move to the left from its position 14E to the position 14A during the trash ejection cycle to thus completely eject the load of trash from container 10. Quick disconnect coupling 110 has part 110' mounted at the end of conduit 114 and part 110'' mounted at the end of conduit 113 on the truck 12. It is to be noted that a conduit 115, which is in communication with conduit 96, leads to quick disconnect coupling 111 which is in communication with conduit 116'' leading back to the valve 120 and that conduit 116 leads from valve 120 back to reservoir 105. Quick disconnect coupling 111 has part 111' mounted at the end of conduit 115 and part 111'' mounted at the end of conduit 116'' which is on truck 12. This connection is necessary so as to permit recirculation of hydraulic fluid back to reservoir 105 while pump 104 is operating. A manually actuatable valve 113' in conduit 113 can be adjusted to vary the flow through the latter.

The manner in which hydraulic motor 15 is extended is as follows: The spool valve 120 is actuated so that spool 121 is moved to the right from the central position of FIG. 16 to occupy the position of FIG. 17, in which land 126 blocks off valve conduit 127. This will place conduit 113, leading from pump 104, in communication with conduit 116' which is in communication with conduit 114 (FIG. 15) leading to motor 15. The hydraulic fluid will thus pass through conduit 114 and into internal conduit 122 (FIG. 15) in communication therewith so that the hydraulic fluid will flow into the chambers 123 and 124 within motor 15 to thus cause cylinders 83 and 83' to move to the left in FIG. 15. At this time conduit 96, which is in communication with conduit 115 leading back to valve 120 will be in communication with conduit 116 leading back to reservoir 105 because spool 121 is in the position shown in FIG. 17. When it is desired to telescope motor 15 by the use of valve 120, spool 121 is moved to the left by the manipulation of lever 125 so that it is in the position of FIG. 18. At this time, the flow will be from conduit 113 to conduit 115 while land 126 blocks off conduit portion 128 in communication with conduit 116. However, there can be communication between conduit 116' and conduit portion 127 in communication with conduit 116. The foregoing will cause high pressure fluid to flow from conduit 116'' into conduit 115 and thence into conduit 96 from which it will fill the chamber 92' within cylinder 92. An aperture 129 is located at the end of chamber 92' and through this aperture hydraulic fluid will flow into chamber 130 between cylinder 92 and cylinder 83'. The pressure of this hydraulic fluid on end wall 131 will cause cylinder 83' to move to the right, considering that an annular seal member 132 is rigidly mounted at the end of cylinder 92. After

the cylinder 83' has moved to the right as far as it can, aperture 133 will be in communication with annular chamber 130 so that high pressure hydraulic fluid will be able to flow into annular chamber 134 to thereby exert a force on end wall 135 to move cylinder 83 to the right, considering that annular seal 136 is rigidly affixed to the end of cylinder 83'.

It will be appreciated that chambers, such as 123 and 124, are full of hydraulic fluid when the motor 15 is fully extended. Therefore, during telescoping as a result of manipulating valve 120, this hydraulic fluid will flow into conduit 122, then into conduit 114 from which it flows into conduit 116' and through the portion of valve housing 120 to the right of land 137 (FIG. 18) so that it will flow into conduit 127 which is in communication with conduit 116 leading back to reservoir 105. The retraction of push-out blade 14 by effecting the telescoping motor 15 is sometimes necessary in the event that ejection of the trash cannot be completed and it is necessary to jog the push-out blade 14 to attempt this ejection again. When spool 121 is in the neutral position shown in FIG. 16, there can be flow from conduit 113 leading from pump 104 directly back to reservoir 105 through conduit 116. However, it will be noted that since conduits 115 and 116' are blocked off by lands 137 and 138, there can be no flow of hydraulic fluid out of motor 15 and thus motor 15 will remain in whatever position it was last when spool valve 120 was centered.

During the above described compaction, quick disconnect couplings 111 and 110 are not in coupled condition. Therefore conduit 115 is effectively closed at its end by part 111', it being understood that it is opened only when the quick disconnect coupling parts 111' and 111'' join conduits 115 and 116''. Also, conduit 114 is effectively closed at its end by coupling part 110' and it is opened only when quick disconnect coupling parts 110' and 110'' join conduits 116' and 114. When quick disconnect coupling 111 is unconnected, as it must be when the container 10 is not mounted on the truck, fluid flow must be through valves 99 and 100 during compaction.

After the trash has been ejected, the container 10 is carried back to the compaction side by truck 12 and it is again coupled to the compactor 11 as shown in FIG. 2. At this time the motor unit 15 will contain its maximum load of hydraulic fluid, which is gradually bled therefrom into reservoir 103, as described above, as the container 10 is progressively filled during the compaction cycle.

It will be appreciated that when container 10 is detached from compactor 11, opening 34 must be obstructed to prevent the compressed trash from forcing its way out through this opening. This obstructing is effected by mounting a hollow tube 130 on the receiving cavity 131 on the face of ram 16 and by causing the ram to move until such point that hollow tube 130 is in alignment with holes 132 and 133 in sides 50 and 48, respectively (FIG. 5). Thereafter an elongated pin 134 which has an outer diameter slightly smaller than the inner diameter of tube 130 is slid through tube 130 to the position shown in FIG. 5. Thereafter ram 16 is withdrawn and the container 10 can be separated from compactor 11 because slots such as 135 are provided in the opposite sides of the opening 51 of the compactor. The ends of pin 134 will remain in holes 132 and 133 to obstruct opening 34. During trash ejection, pin

134 and tube 130 need not be removed from opening 51 because the door 26 is swung open to effect trash dumping, as explained in detail above.

What is claimed is:

1. A compactor container structure adapted to be selectively mounted on a truck for being transported to a trash disposal area and adapted to be coupled to associated structure on said truck comprising a box-like container, a push-out blade in said container, hydraulic motor means comprising a piston and cylinder coupled between said push-out blade and said container for driving said push-out blade in one direction during an ejection cycle and resisting its movement in the opposite direction during a compaction cycle, a reservoir for hydraulic fluid on said container, first conduit means coupled between said motor means and said reservoir for conducting hydraulic fluid from said motor means to said reservoir, pressure relief valve means in said first conduit means for preventing flow of said hydraulic fluid through said first conduit means until their relief pressure is exceeded during said movement of said push-out blade in said opposite direction, second conduit means coupled to said reservoir for periodically removing hydraulic fluid therefrom, a second reservoir in communication with said second conduit means for receiving hydraulic fluid from said reservoir, said second reservoir being mounted independently of said container on said truck, disconnectible coupling means in said second conduit means for selectively effecting communication between said reservoir and said second reservoir, pump means mounted independently of said container on said truck, third conduit means extending between said pump means and said motor means, and second coupling means in said third conduit means for selectively coupling and uncoupling said pump means and said motor means.

2. A compactor container structure as set forth in claim 1 including fourth conduit means coupled between said motor means and said second reservoir for selectively conducting hydraulic fluid from said motor means to said second reservoir when said pump means is in operation, and third coupling means in said fourth conduit means.

3. A compactor container structure as set forth in claim 1 including manually operable valve means in said first conduit means between said motor means and said pressure relief valve means for selectively terminating communication between said motor means and said pressure relief valve means when said pump means

are supplying pressurized hydraulic fluid to said motor means.

4. A compactor container structure as set forth in claim 2 wherein said coupling means, second coupling means, and third coupling means are quick disconnect couplings.

5. A compactor container structure adapted to be selectively mounted on a truck for being transported to a trash disposal area and demounted from said truck after it is returned from said trash disposal area comprising a box-like container, a push-out blade in said container, hydraulic motor means comprising a piston and cylinder coupled between said push-out blade and said container for driving said push-out blade in one direction during a trash ejection cycle and resisting its movement in the opposite direction during a trash compaction cycle, a reservoir for hydraulic fluid on said container, first conduit means coupled between said motor means and said reservoir for conducting hydraulic fluid from said motor means to said reservoir during said trash compaction cycle, pressure relief valve means in said first conduit means for preventing flow of said hydraulic fluid through said first conduit means until the relief pressure is exceeded during said movement of said push-out blade in said opposite direction during said trash compaction cycle, second conduit means on said container adapted to be coupled to pump means mounted solely on said truck for actuating said hydraulic motor means to cause said push-out blade to be driven in said one direction, and third conduit means coupled to said reservoir for periodically conducting hydraulic fluid therefrom which is to be deposited in a second reservoir on said truck while said container is mounted on said truck.

6. A compactor container structure as set forth in claim 5 including manually operable valve means in said first conduit means between said motor means and said pressure relief valve means for selectively terminating communication between said motor means and said pressure relief valve means when said push-out blade is being driven during said trash ejection cycle.

7. The compactor container structure as set forth in claim 5 including in combination therewith, said second reservoir mounted on said truck for receiving said hydraulic fluid from said first reservoir, and said pump means mounted on said truck.

\* \* \* \* \*

50

55

60

65