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Miller

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[54] **REFUSE COMPACTOR SUPPORT MEANS**

[75] Inventor: **Frank E. Miller,** Danville, Ky.

[73] Assignee: **Whirlpool Corporation,** Benton Harbor, Mich.

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[52] **U.S. Cl.**..... **100/100,** 100/229 A, 312/250

[51] **Int. Cl.**..... **B30b 15/00**

[58] **Field of Search**..... 100/229 R, 229 A, 100/299, 100; 62/239, 297; 68/3 R; 312/249, 250, 253; 248/188.4, 23, 127

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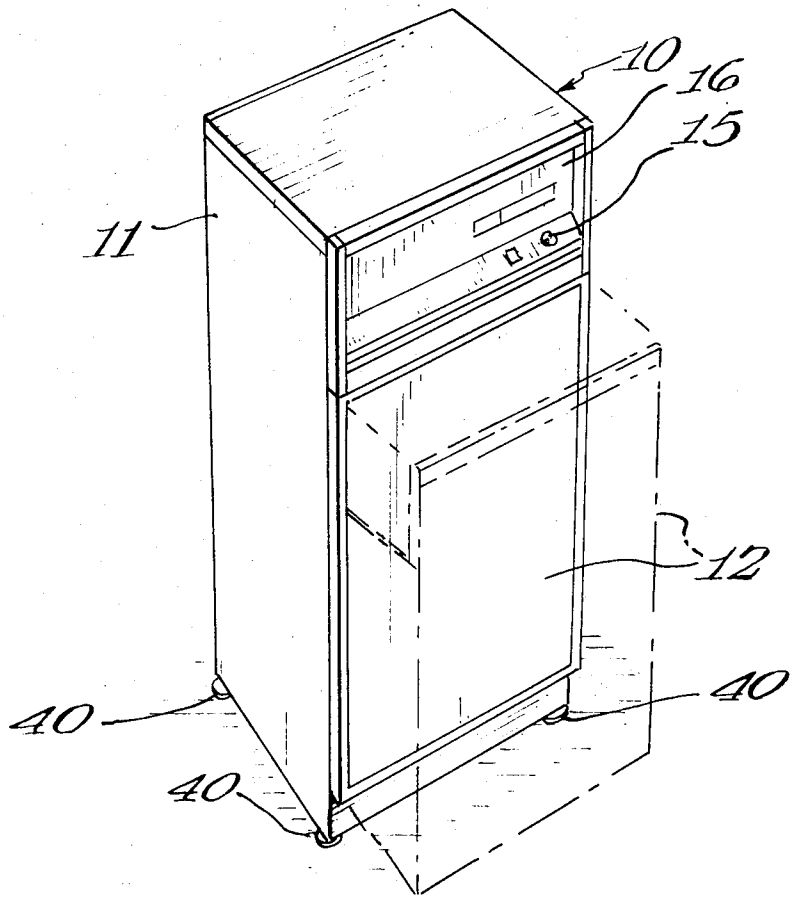
Primary Examiner—Billy J. Wilhite

Attorney—James S. Nettleton et al.

[57] **ABSTRACT**

A refuse compactor having a receptacle in which refuse is compacted for facilitated disposal. The compactor includes an outer cabinet and improved means at the lower end of the cabinet for enclosing moving parts of the compactor and for selectively movably carrying the compactor, such as for moving the compactor over a floor surface during installation thereof, and adjustable means for supporting the compactor when so installed for compacting operation.

9 Claims, 3 Drawing Figures



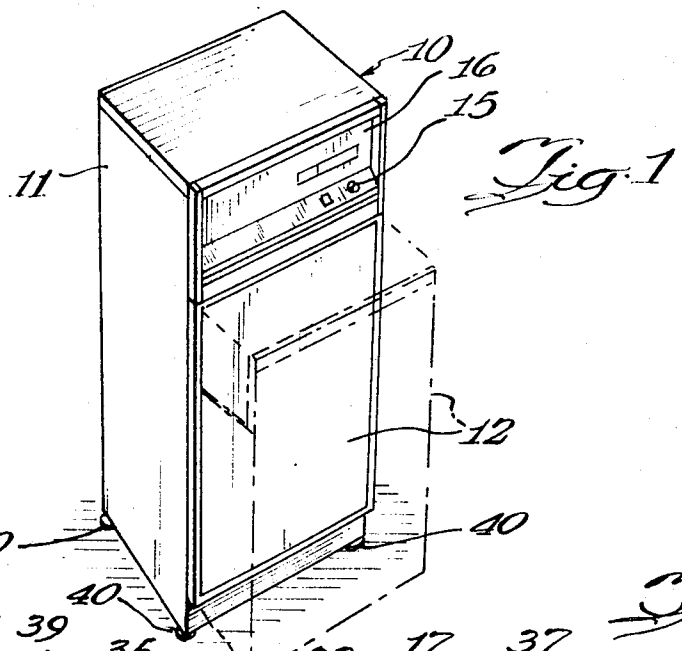


Fig. 1

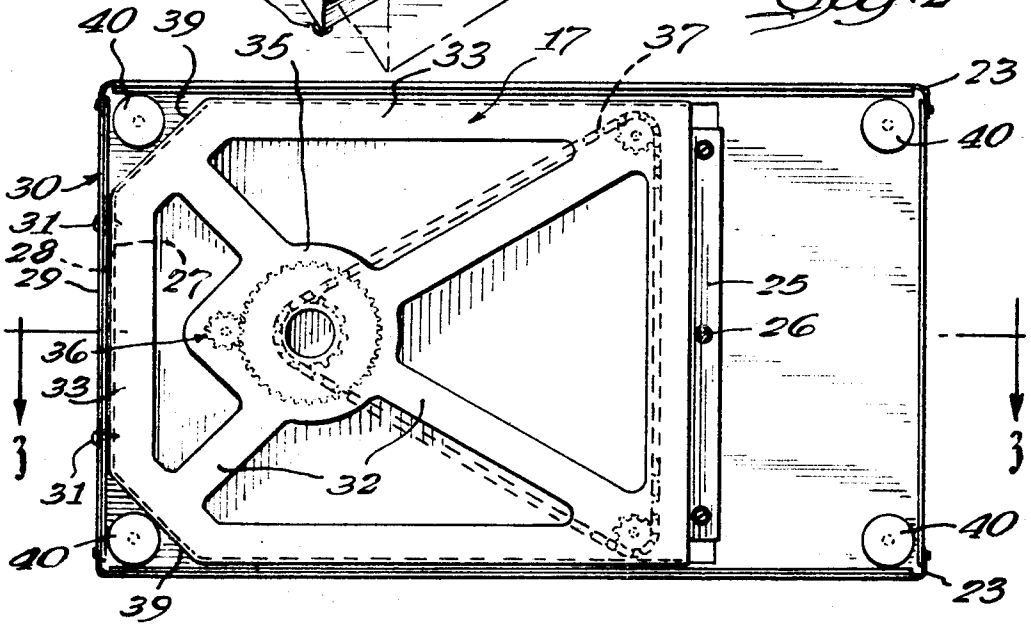


Fig. 2

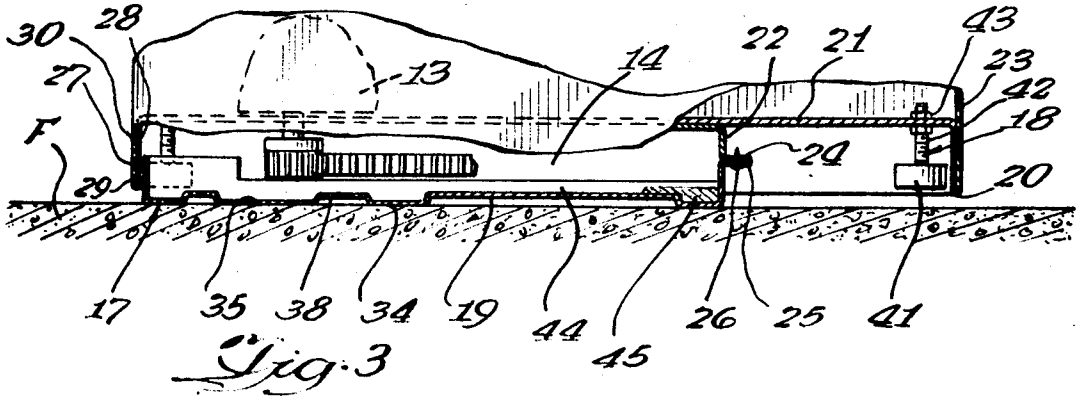


Fig. 3

REFUSE COMPACTOR SUPPORT MEANS

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to refuse compactors and in particular to means for enclosing moving parts of refuse compactors and for supporting refuse compactors on a subjacent floor.

2. Description of the Prior Art

In one improved form of refuse compactor, a drawer-type receptacle is movably received in a cabinet for receiving trash to be compacted. The trash is compacted in the receptacle within the cabinet by means of a ram driven by an electric motor through a gear and chain drive. The cabinet is provided with adjustable legs for supporting the cabinet in the installed arrangement.

Conventionally, the lower end of the cabinet comprises downwardly projecting lower wall end portions and adjustable leveling legs. Difficulty has been found in positioning such a compactor in the installation process because of the difficulty of sliding such downwardly extending wall end portions over the subjacent floor surface. Adjusting the legs to project downwardly from the cabinet has been attempted as one solution to the problem but such an arrangement may cause damage to the adjustable leg mounting means while sliding the relatively heavy compactor thereon over irregularities in the floor surface.

Further, conventional compactors have included a cabinet which extends downwardly coextensive with the compactor base. Difficulty has been found in moving such compactors without the leveling legs extended in that the cabinet end portion adjacent the supporting floor surface is easily damaged thus detracting from the appearance of the compactor.

Further, in one improved form of such refuse compactor, the gear and chain drive for driving the ram from the electric motor is disposed under a base plate at the lower end of the cabinet. It has been found desirable to provide means for enclosing the gear and chain drive to help prevent accumulation of dirt and foreign matter thereon in such a downwardly exposed arrangement.

SUMMARY OF THE INVENTION

The present invention comprehends an improved refuse compactor structure having improved support means for facilitating manufacture of the compactor and selectively supporting the cabinet in a refuse compacting, installed arrangement or in a slidable, transfer arrangement.

The support means herein comprise a slide plate mounted to the compactor at the bottom of the compactor and extending a small distance beyond the bottom of the compactor base to define a lower slide surface for slidably carrying the compactor on a subjacent floor surface and thereby providing for facilitated movement of the compactor laterally on the floor surface without damage to the compactor cabinet or floor surface for adjustably positioning the compactor as during installation. The compactor further includes adjustable supports mounted thereto for raising the cabinet and the slide plate above the floor surface in the installed arrangement, thereby to support the compactor for use in effecting compacting operations. The adjustable support permits the compactor to be suitably levelled for optimum disposition of the drawer which may

be mounted on roller guides for facilitated movement between a compacting arrangement within the cabinet and a refuse loading arrangement forwardly of the cabinet.

The slide plate may further define means for covering the gear and chain drive. Thus, the slide plate may cooperate with a base plate of the cabinet in effectively enclosing the gear and chain drive at the bottom of the cabinet.

The slide plate may be provided with cutout portions for accommodating a plurality of the adjustable supports as at rear corners of the cabinet. The slide plate may be spaced rearwardly of the front of the cabinet subjacent the drive motor and chain drive and may be removably secured to the base plate and cabinet by suitable means.

The slide plate may be defined by a plurality of elongated depending boss portions, some of which may extend diagonally to the sides of the parallelepiped compactor base, and some of which may extend parallel thereto for strengthening the slide plate and effectively minimizing the area of sliding surface while yet providing improved slidability of the compactor on the floor.

The invention is illustrated in conjunction with a refuse compactor, it being understood that the concept is equally applicable to other appliances requiring lateral movement over a subjacent floor surface in the installation thereof.

The refuse compactor support means of the present invention is extremely simple and economical of construction while yet providing the highly desirable features discussed above.

BRIEF DESCRIPTION OF THE DRAWING

Other features and advantages of the invention will be apparent from the following description taken in connection with the accompanying drawing wherein:

FIG. 1 is a perspective view of a refuse compactor having support means embodying the invention;

FIG. 2 is an enlarged bottom plan view thereof; and

FIG. 3 is a fragmentary vertical section taken substantially along the line 3—3 of FIG. 2.

DESCRIPTION OF THE PREFERRED EMBODIMENT

In the exemplary embodiment of the invention as disclosed in the drawing, a refuse compactor, generally designated **10** is shown to comprise a cabinet **11** selectively receiving a drawer **12** in which refuse to be compacted is placed. The refuse is compacted in the compactor by suitable compacting means (not shown) conventionally comprising a ram driven from a suitable electric drive motor **13** through a gear and chain drive **14.** Suitable electric switch means **15** may be provided on a control console **16** at the front of the cabinet above the drawer for controlling the compacting operation.

The present invention is concerned with the support of the compactor during manufacture and selectively during installation and in the installed normal use thereof. Thus, compactor **10** is provided with a first support means generally designated **17** for slidably carrying the compactor on a subjacent floor F for facilitated lateral movement of the compactor thereon such as during manufacture and installation, as shown in FIG. **3.** The support means further includes a second, adjustable means generally designated **18** for support-

ing the compactor in the installed arrangement for normal refuse compacting use thereof. In the installed arrangement, the adjustable means **18** is suitably disposed to disengage the first support means **17** from the floor surface so as to define normally the sole support means for the compactor.

More specifically, the first support means **17** comprises a slide plate member **19** extending to below the level of the compactor lower base plate **21.** The compactor cabinet includes wall ends **20** which are spaced above the level of the bottom edge of lower base plate **21.** A suitable stiffening channel **22** is secured to the base plate **21** spaced rearwardly of the front wall **23** of the cabinet and defines a horizontal flange **24.** Slide plate **19** includes a corresponding front flange **25** which may be secured to flange **24** by suitable removable means, such as screws **26,** to secure the front portion of the slide plate **19** to the base plate **21.** The rear of the slide plate may define an upturned flange **27** secured to a downturned flange **28** at the rear of the base plate and to the lower end **29** of the rear wall **30** of cabinet **11** by suitable removable means, such as screws **31,** to secure the rear end of the slide plate and the rear of the cabinet to the compactor frame.

The slide plate comprises a sheet metal member having a plurality of elongated diagonal bosses **32** and a plurality of elongated side bosses **33** providing reinforcement of the slide plate and defining the lowermost slide surfaces **34** engaging the upper surface of the floor, as shown in FIG. **3,** for providing an optimum limited slide surface area facilitating the sliding movement of the compactor on the floor. A depending circular boss **35** may be provided underlying the drive gears **36** connecting drive motor **13** to the chain drive means **37** of drive **14.** A low upstanding dimple **38** may be provided at the center of the boss **35** to reinforce the boss and rigidly space the slide plate from the moving gears.

Cabinet **11** may comprise a substantially parallelepiped cabinet whereby the horizontal section, as shown in FIG. **2,** is rectangular. Slide plate **19** is provided with cutouts **39** at the rear corners thereof to accommodate a pair of adjustable support elements **40** of the adjustable support means **18.** Two additional support elements **40** may be provided at the front corners of the cabinet, as shown in FIG. **2,** forwardly of the front end of the slide plate. As best seen in FIG. **3,** each of the support elements **40** defines a pad **41** carried on a threaded rod **42** threadedly received in a connector **43** such as a fastener mounted on base plate **21** or an extruded and threaded hole in base plate **21.**

Thus, the support elements **40** may be selectively positioned to be above the lowermost surface **34** of the slide plate as during manufacture and during lateral movement of the compactor over the floor surface such as during installation. When the compactor is disposed in the desirable position on floor F, the pads **41** may be brought downwardly by suitable threading of rods **42** in connectors **43** to dispose the pads below the level of the lower surfaces **34** of the slide plate and thereby define the means for supporting the compactor in the installed arrangement. As the support elements **40** are adjustable, the compactor may be readily levelled for facilitated movement of the drawer **12** into and from the cabinet **11** on the conventionally provided roller guide means (not shown).

Slide plate **19** includes upturned side flanges **44** extending to above the level of the cabinet wall bottom end **20** and lower base plate **21** so that slide plate **19** cooperates with the base plate **21** in effectively enclosing the drive **14** subjacent the base plate, thus preventing deposition of foreign matter on the drive means and facilitating maintenance thereof. The slide plate may be readily removed when desired, such as for maintenance of the drive means, by removal of screws **26** and **31.** The slide plate may further be provided with sound-deadening material **45,** shown fragmentarily in FIG. **3,** so as to absorb sounds emanating from the drive means, thereby providing quiet operation of the compactor. The projection of the slide plate to below the level of cabinet wall bottom ends **20** is relatively small so as to effectively minimize the overall height of the compactor with the slide plate installed thereon. The slide plate further reinforces the lower end of the cabinet **11** to provide improved rigidity of the cabinet structure. The small extension of the slide plate to below the cabinet bottom **20** permits for facilitated transfer of the support function to the adjustable legs **40** in the installed arrangement of the compactor.

The compactor may be shipped by the manufacturer with the levelling legs **40** removed rather than turned fully to the "up" position to prevent possible loss thereof in shipment. Thus, the compactor may be slid on floor F by means of the slide plate **19** to the desired position and the legs **40** installed or lowered with the compactor so disposed as desired.

The compactor is assembled in manufacture by inverting the frame (not shown), installing the drive motor **13** and the gear and chain drive **14.** The slide plate is then attached to the base plate **21** and the frame is inverted resting on slide plate **19** for the remaining assembly steps.

The slide plate not only prevents deposition of foreign matter on the drive means but further defines means for preventing injury to the drive means furing movement of the compactor over the floor which could result from an exposed arrangement of the drive means at the bottom of the cabinet as in the conventional compactor structures.

The foregoing disclosure of specific embodiments is illustrative of the broad inventive concepts comprehended by the invention.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. In a refuse compactor having a receptacle for receiving refuse to be compacted and a cabinet for selectively receiving the receptacle in a refuse compacting position therein, support means for selectively supporting the cabinet in a refuse compacting arrangement and in a slidable transfer arrangement, comprising: a rigid slide plate; means for mounting the slide plate to the compactor to extend generally horizontally at the bottom of the cabinet to define a lower fixed slide surface for slidably engaging a subjacent floor surface to slidably carry the cabinet for facilitated movement of the compactor laterally on the floor surface to adjustably position the compactor thereon; and adjustable supports mounted to the compactor for raising the cabinet and slide plate above the floor surface and defining spaced means for supporting the compactor for use in effecting refuse compacting operations therein.

2. The refuse compactor of claim **1** wherein said compactor includes a base plate extending horizontally

across the lower end of said cabinet, and means for removably securing said slide plate to said base plate.

3. The refuse compactor of claim 1 wherein said slide plate extends laterally across the bottom of the cabinet over an area substantially lower than the horizontal area of the bottom of the cabinet.

4. The refuse compactor of claim 1 wherein said slide plate is spaced rearwardly of the front of the cabinet.

5. The refuse compactor of claim 1 wherein said compactor includes an electric drive motor disposed in said cabinet rearwardly of said receptacle when said receptacle is in the refuse compacting position within the cabinet and said slide plate is spaced rearwardly of the front of the cabinet and under said drive motor.

6. The refuse compactor of claim 1 wherein said slide plate defines a plurality of cutouts and a corresponding plurality of said adjustable supports extend through said cutouts.

7. The refuse compactor of claim 1 wherein said compactor includes a gear and chain drive means spaced rearwardly of the front of the cabinet and said slide plate is spaced rearwardly of the front of the cabinet and extends subjacent said gear and chain drive.

8. In a refuse compactor having a receptacle for receiving refuse to be compacted and a cabinet for selectively receiving the receptacle in a refuse compacting position therein, support means for selectively supporting the cabinet in a refuse compacting arrangement and in a slidable transfer arrangement, comprising: a slide plate; means for mounting the slide plate to the compactor at the bottom of the cabinet to define a lower slide surface for slidably carrying the cabinet on a subjacent floor surface providing for facilitated movement of the compactor laterally on the floor surface for adjustably positioning the compactor thereon; and adjustable supports mounted to the compactor for raising the cabinet and slide plate above the floor surface and defining spaced means for supporting the compactor for use in effecting refuse compacting operations therein, said slide plate comprising an embossed plate having a minor portion thereof extending in a lowermost horizontal plane whereby only a minor portion thereof slidably engages the subjacent floor.

9. The refuse compactor of claim 1 wherein said compactor includes a base plate extending horizontally across the lower end of said cabinet, and said adjustable supports are threadedly mounted to said base plate.

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