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Basuino

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[54] **NO STEP GARBAGE CAN PRESS**

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[52] **U.S. Cl.** **100/228;** 100/266; 100/293; 100/295

[51] **Int. Cl.²** **B30B 1/04**

[58] **Field of Search** ..... 53/124 B; 141/73, 80; 100/226, 293, 295, 229 A, 260, 228, 266, 288; 248/206 A

[56] **References Cited**

UNITED STATES PATENTS

312,968	2/1885	Carey	53/124 B
594,008	11/1897	Hanak	100/295 X
938,462	11/1909	Carter	100/293 X
2,507,312	5/1950	Mariani	100/288 X
2,850,072	9/1958	Bryans	248/206 A X
3,438,322	4/1969	Marasco	100/293 X
3,641,947	2/1972	Finney	248/206 A X

FOREIGN PATENTS OR APPLICATIONS

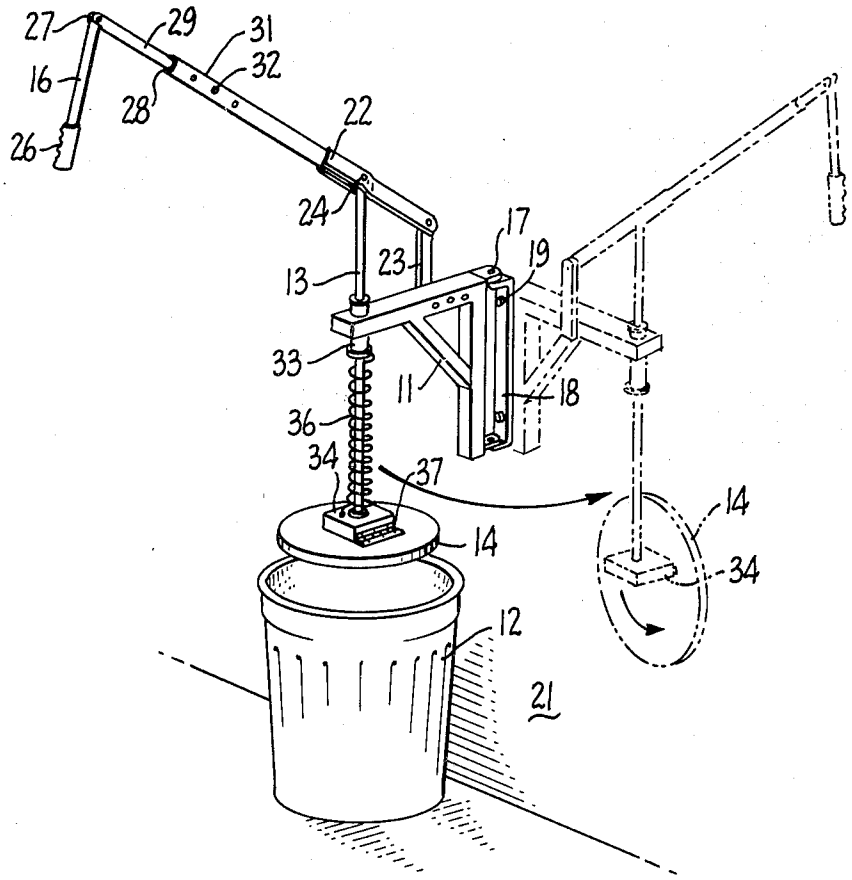
141,692	6/1951	Australia	100/293

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[57] **ABSTRACT**

A manually operated garbage compacting press positionable above an open top conventional garbage container, the press having a pressing member, carried on a plunger for movement down into the container. The plunger is operatively connected to a lever arm which is connected through a linkage to a frame assembly having a shaft guide through which the plunger reciprocates vertically. The frame assembly is pivotally connected to a vertical mounting plate,and the pressure member is pivoted on the plunger, for convenient folding flat against the wall and out of the way when not in use.

10 Claims, 3 Drawing Figures



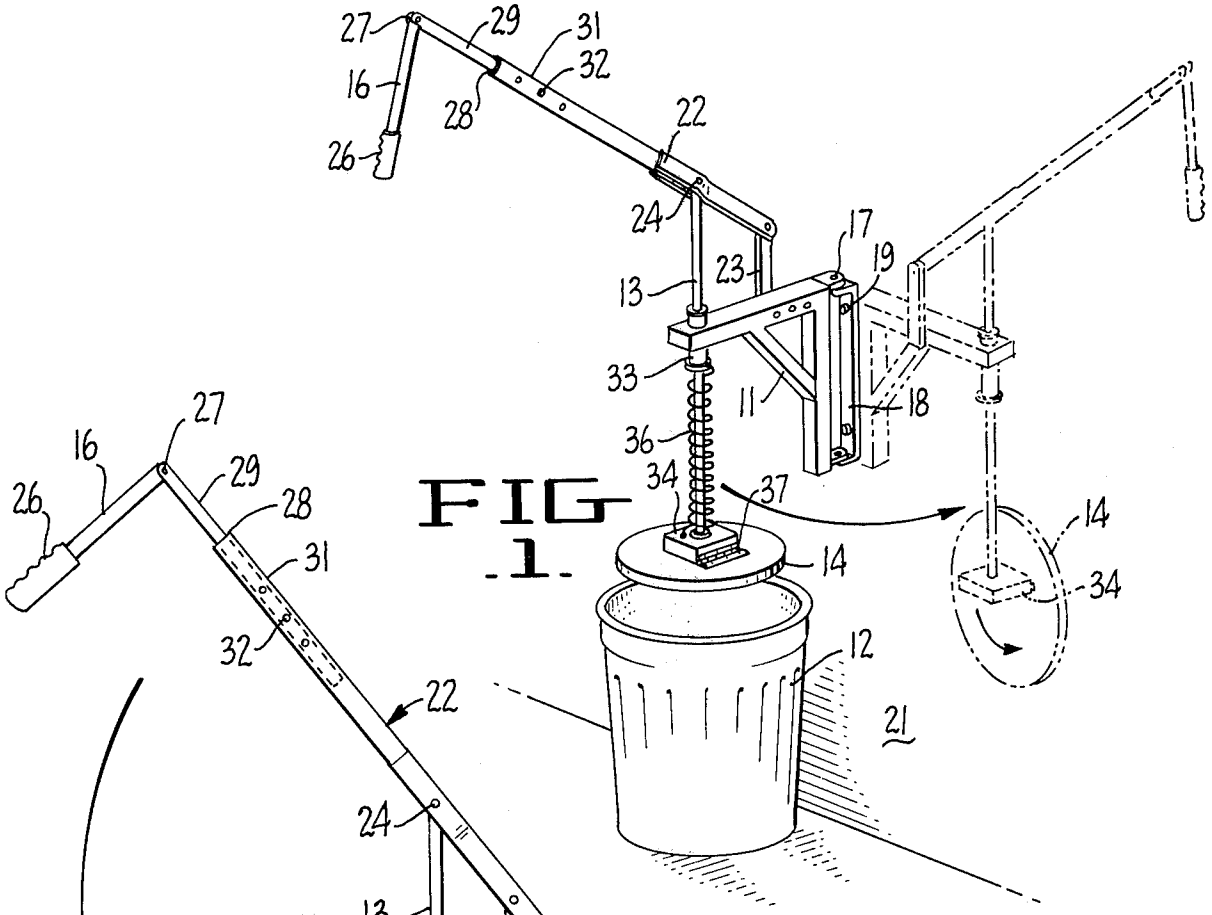


FIG. 1.

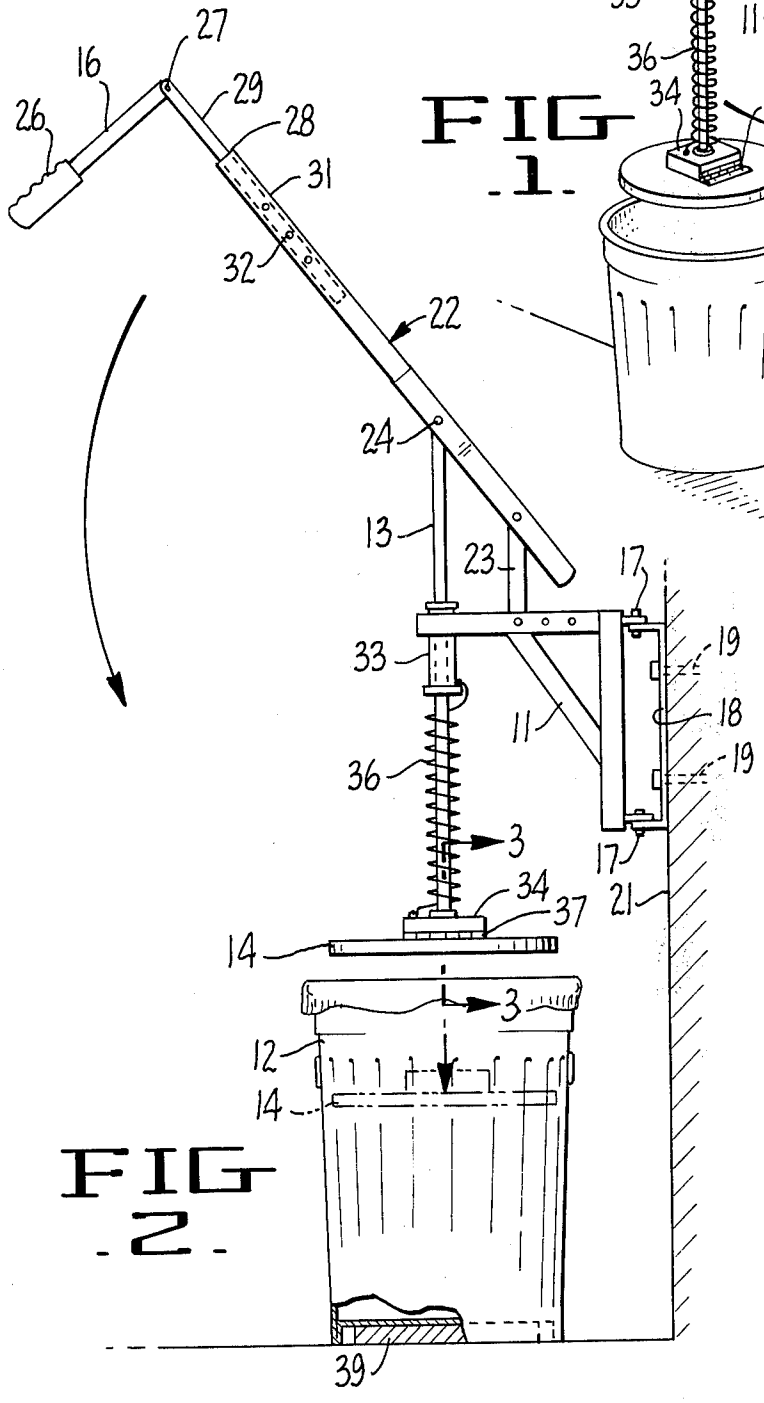


FIG. 2.

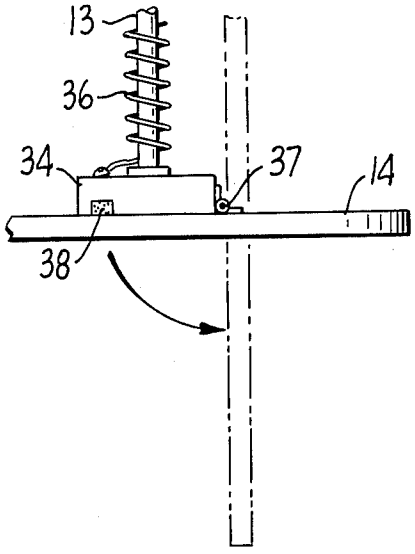


FIG. 3.

NO STEP GARBAGE CAN PRESS

BACKGROUND OF THE INVENTION

This invention relates to a NO STEP CARBAGE CAN PRESS and more particularly to devices for compacting garbage so as to occupy less space in the can.

The volume of garbage generated by society is increasing almost daily. This in turn imposes greater loads upon the primary garbage receptacles, such as the home garbage can, where the garbage is placed until it is collected and transferred to a dump or processing plant. The increased volume of garbage brings about the need for either greater frequency in collection times or an increase in storage capacity to hold the garbage in the interval between collection. Greater storage capacity requires either the use of larger container, the utilization of more receptacles, or more efficient use of existing cans. As the cost for collecting garbage is generally related to the frequency of collection and the volume of the containers, the cost of garbage removal has also been increasing.

Garbage by its general nature is highly compressible due to the character of its constituents which vary in form and content. Typically it is composed of such things as fibrous materials, cartons, cans, bottles, yard trimmings, and vegetation, all of which are capable of being compressed to one degree or another. This characteristic makes possible compressing of the garbage to produce a more efficient use of container space.

The most conventional method for compacting garbage is by using the hands, which can result in injury from sharp objects in the garbage, or by using the feet which can result in back strain or even a fall. Prior mechanical devices for compressing garbage typically have been either power or foot operated and have required special containers or have involved complicated equipment and multiple step operations. The necessity of reducing the volume of garbage has been recognized by the prior art. However the solutions presented are not adequate because of cost, complexity and space requirements of the appparatus.

BRIEF DESCRIPTION OF THE INVENTION

The present invention provides an improved apparatus for compacting garbage and is particularly adapted for use with standard open top garbage receptacles such as the conventional garbage can.

The present apparatus can easily and quickly be installed by an unskilled person, and is easy to operate. No special tools are required to install the device and it requires no external power connections. The installation takes up little space to operate or to store. Special containers are not required as existing garbage cans may be utilized. The set up time is small because the garbage can does not have to be placed in a special container or compressing mechanism. Lower storage and removal cost result from compressing garbage as more can be placed in the can thereby reducing the number of cans required and the garbage collection cost. Because of its simple construction it is sturdy and inexpensive and may be made of lightweight materials. Also it is simple to remove and relocate the press when desired.

The present invention accomplishes the compacting of garbage by forcing a pressure member downwardly in the can against the garbage. The pressure member is operatively connected to an elongated plunger which is

reciprocated vertically by a handle on a lever arm attached to the plunger and connected through a linkage to a frame assembly. A shaft guide journaling the plunger for axial reciprocation is mounted on the frame assembly. The lever arm is adjustable in both length and angle so that differing heights and lever ratios may be obtained.

As garbage is placed in the receptacle it will reach a height where it is desirable that it be compressed. Upon this occasion the pressure plate is centered over the opening of the can. The lever arm is pulled down thereby compressing the garbage to the suited level. The press mechanism may then be rotated from above the opening of the garbage container so that further garbage may be added or the can removed. When additional garbage is added, the operator simply pulls the handle again until the can is full of compacted garbage. The apparatus can be folded into a substantially planar configuration so as to lie flat against a supporting wall when not in use.

It is therefore a principle object of the present invention to provide a mechanism for compacting garbage using a standard garbage can as the receptacle.

Another object of the invention is to provide an apparatus of the character described which may be folded out of the way when not in use, thereby occupying little space for its storage.

A further object of the invention is to provide an apparatus for compacting garbage not requiring electrical or other power but adapted for manual operation.

Another object of the present invention is to provide a garbage compactor of the type described which is simple and sturdy in its construction and which lends itself to be fabricated from inexpensive materials.

A further object of the invention is to provide an apparatus of the character set forth which has few components and is convenient to operate by either men or women.

A still further object of the invention is to provide for flexibility in the design of the components so that the height of the operating handle may be adjusted to suit the operator's convenience and also to provide for adjusting the lever arm ratios so that varying compacting forces may be exerted by the pressure member.

Further objects and advantages of the present invention will become apparent as the specification proceeds and the new and useful features will be fully described in the claims.

BRIEF DESCRIPTION OF THE DRAWING

The preferred form of the present invention is illustrated in the accompanying drawing in which:

FIG. **1** is a perspective view of the garbage press of the present invention in the operative and non-operative positions.

FIG. **2** is a side elevation of the press apparatus in the operative mode.

FIG. **3** is a cross-sectional view taken substantially on the plane **3—3** of FIG. **2** and shows the pressing member in two operating positions.

While only the preferred forms of the invention have been shown in the drawings it will be apparent that changes and modifications could be made hereto within the ambit of the invention as defined in the claims.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring to the drawings in detail, it will be seen that the apparatus of the present invention includes a frame **11** adapted for mounting in operative position relative to a garbage receptacle **12**, plunger **13** carried for vertical movement by frame **11**, a pressure member **14** carried by plunger **13** for vertical reciprocation into and out of the garbage receptacle **12** and a manually operable means **16** for vertically displacing plunger **13** whereby pressure member **14** will bear down upon and compact garbage in receptacle **12.**

Provision is made for folding the apparatus out of the way when not in use. For this purpose, frame assembly **11** is pivotally connected by hinges **17** to a wall plate **18** so that the frame assembly may be rotated about a vertical axis. Mounting plate **18** is provided with fasteners such as screws **19** permitting the mounting plate **18** to be secured to a mounting surface such as a wall **21.** The height of mounting plate **18** is such that the pressure member **14** will be above the garbage container **12** when the plunger **13** is in its uppermost position.

The manually operable means **16** here includes a lever arm **22** connected through a linkage **23** to the frame assembly **11** for swinging up and down movement. Lever arm **22** is operatively connected to the plunger **13** by pivot pin **24** so that the up and down movement of lever arm **22** will move plunger **13** up and down accordingly.

To accommodate the apparatus to persons of different heights, handle grip **26** is provided with a height adjustment means **27** consisting of a lever extension pivoted on the distal end of lever arm **22** and securable by means of a bolt, lock washer and nut **27** in the desired angular relationship such that the preferred operating height is maintained.

In accordance with the invention, means **28** is provided for adjusting the length of lever arm **22** and thus varying the leverage ratio. As here shown, the lever arm telescopes and has a member **29** slidable within a sleeve **31** to form the lever arm **22.** The desired length of the lever arm is maintained by a retaining pin **32** selectively engageable through registerable holes provided in member **29** and sleeve **31.**

The plunger **13** is journaled for endwise vertical movement in a guide **33** carried on frame **11.** A base plate **34** is rigidly connected to plunger **13** at its lower terminus. Preferably, a return spring **36** is provided between plunger guide **33** and base plate **34** for effecting a return of the plunger **13** and lever arm **22** to their uppermost position when the operator releases handle grip **26.**

The pressure member **14** is here shown in the form of a circular plate and is operatively connected to base plate **34** by a hinge **37.** This permits the pressure plate **14** to be selectively rotated to either a vertical storage position or a horizontal operating position. Selectively releasable magnetic fasteners **38** maintain the pressure member **14** in the horizontal operative position, but permit easy movement to the vertical position where the unit can be swung back flat against wall **21.**

A support **39** is provided for use with containers **12** having recessed bottoms so as to prevent their distortion as the garbage is pressed down by plate **14.** Container **12** is an open top receptacle and may be of various sizes and shapes. It may also be constructed of differing materials such as plastic or metal. The standard

residence or commercial garbage can with removable lid is particularly suited for use with the garbage press of the invention. These containers may be lined with a bag or liner of plastic or other materials, if desired.

To operate the garbage press of the present invention plate **14** is rotated to a horizontal position where magnetic fasteners **38** secure it in the operative mode. Pressure member **14** is then centered over container **12** which as been filled with garbage to be compacted. Downward pressure is applied to manual grip **26** to force pressure plate **14** downwardly until contact is made with the garbage in container **12.** Increasing the pressure on handle grip **26** produces a greater downward pressure to compact the garbage and produce a reduction in garbage volume, thus making space for the addition of more garbage.

Upon completing the compaction of the garbage in container **12,** the operator releases the handle grip **26** and return spring **36** brings pressure plate **14** and the components connected thereto to their uppermost, retracted position. Frame assembly **11** may then be rotated about hinge assembly **17** until the apparatus is no longer directly above the container **12** and the compacting operation repeated until the container is filled with compacted garbage. When filled, container **12** may be set aside and a second container may replace it. The press therefore is usable to compact garbage in many receptacles in sequence.

To place the present apparatus in its inoperative position, plunger **13** is elevated and pressure plate **14** is pivoted about hinge **37** to a vertical position by pressing downwardly on the edge of pressure plate **14** so as to release magnetic fasteners **38.** Frame assembly **11** is then rotated about hinge assembly **17** until it is conveniently out of the way.

From the foregoing it will be seen that the garbage press of the present invention provides a manually operable garbage compacting mechanism suitable for use with conventional garbage cans to increase their capacity. The mechanism can be operated easily and safely by persons of different height and strength and can conveniently be swung out of the way when not in use.

I claim:

1. A manually operated garbage compactor for use with open top garbage receptacles comprising

a frame having a wall plate and adapted for mounting on a wall in operative position above a garbage receptacle,

a plunger carried for vertical movement by said frame,

a pressure member carried by said plunger for vertical reciprocation into and out of the garbage receptacle,

manually operable means for vertically displacing said plunger downwardly for forcing said pressure member down to compact garbage in the receptacle, and pivot means in said frame formed for swinging movement of said frame between a first position in which said plunger is vertically aligned with the can and a second position in which said frame is folded back against the wall to leave the area over the can unobstructed.

2. The apparatus as described in claim **1,** and wherein spring means is provided between said frame and said pressure member for urging said plunger and pressure member to a raised position when said manually operable means is not being employed.

3. The apparatus as described in claim 1, and wherein said pivot means comprises a hinge assembly between said wall plate and said frame to allow said frame and its component part to be rotated horizontally.

4. The apparatus as described in claim 1, and wherein said manually operable means includes a lever arm carrying said plunger and a lever arm handle is provided having means for adjusting the angle of said handle with respect to said lever arm.

5. The apparatus as described in claim 1, and wherein said pressure member comprises a flat plate.

6. The apparatus as described in claim 1, and wherein a support is provided for containers with recessed bottoms to prevent the distortion of said bottoms while said pressure member is bearing down on garbage in the receptacle.

7. The apparatus as described in claim 1, and wherein adjustment means is provided for selectively varying the length of said lever arm for adjusting the lever advantage and controlling the ratio between the force applied to said lever arm and the resultant force exerted by said pressure member upon the garbage.

8. The apparatus as described in claim 7, and wherein said adjustment means comprises forming said lever arm with telescoping portions, and retaining means formed for releasably securing said telescoping portions in desired positions.

9. The apparatus as described in claim 5, and wherein said pressure member is pivoted on said plunger for movement between a horizontal position for compacting garbage and a vertical position for folding flat against the wall.

10. The apparatus as described in claim 9, and wherein a plurality of selectively releasable magnets are provided to secure said pressure member in the operative position.

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