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[54] WASTE COMPACTOR AND BAGGER

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[52] **U.S. Cl.** .....**53/124 B,** 100/250

[51] **Int. Cl.** **B65b 1/24**

[58] **Field of Search** .....53/124 B; 100/250

[56] **References Cited**

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[57] **ABSTRACT**

Waste material such as food waste, garbage and refuse or rubbish, paper scrap etc., is compacted and placed in a plastic bag. This is done by a plunger reciprocating within a body structure which has a compacting chamber projecting freely from one end, the plastic bag being placed over this portion of the apparatus. A rigid door is secured against the bottom of the bat and over the otherwise open end of the compacting chamber. The waste material is fed into a lateral opening and after repeated insertions and repeated operations of the plunger the compacting chamber is filled and then the bag is pushed off from the chamber in filled condition and tied.

4 Claims, 3 Drawing Figures

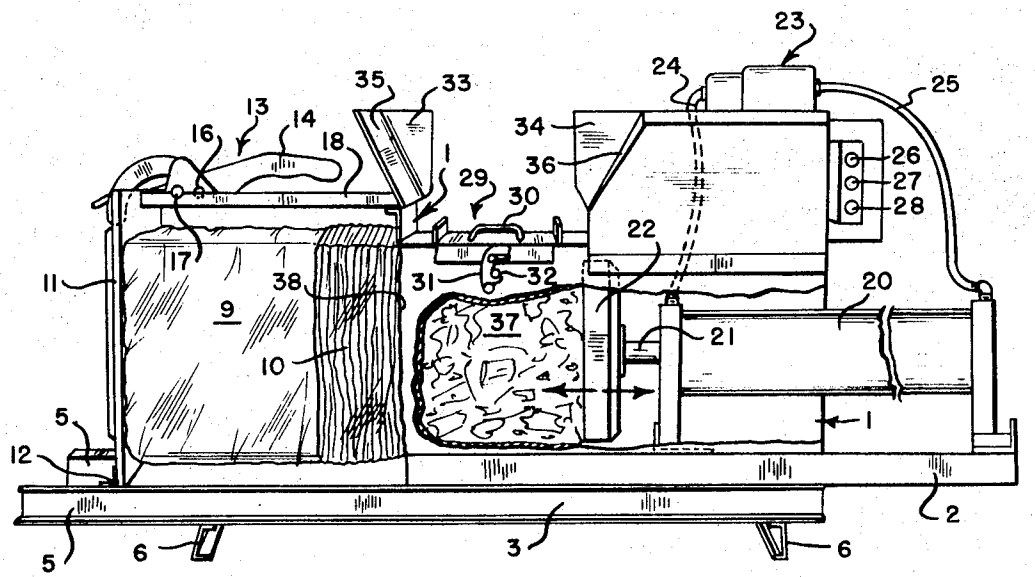


FIG. 1

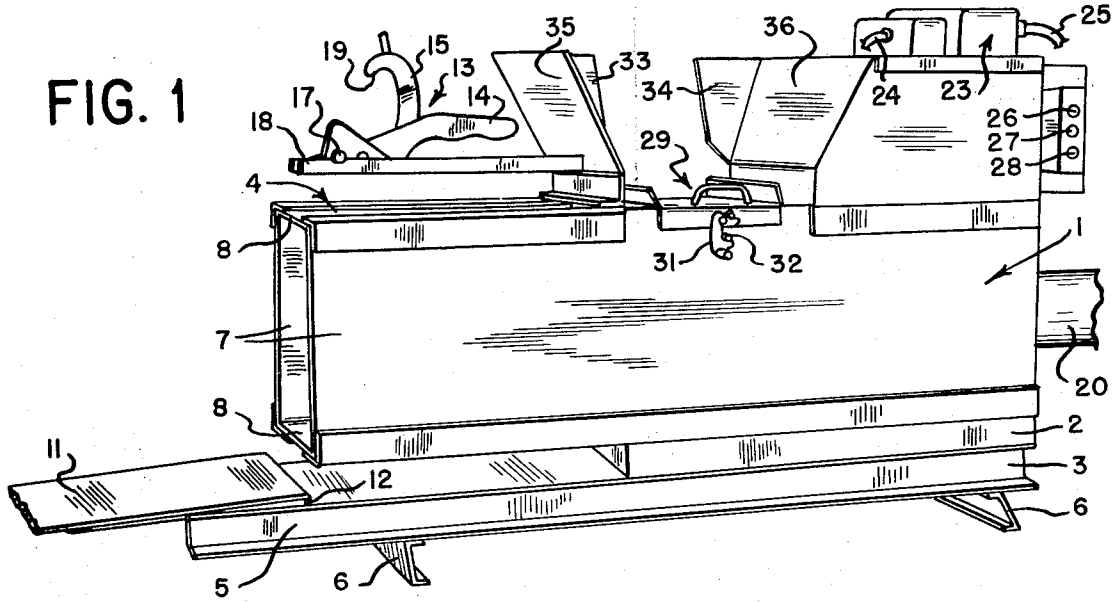


FIG. 2

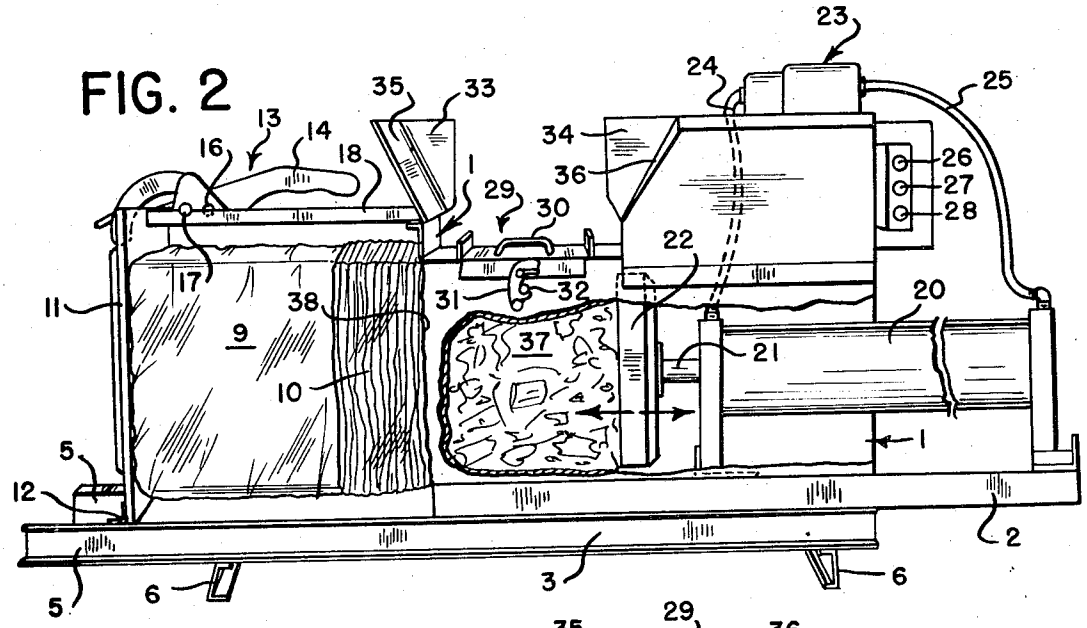
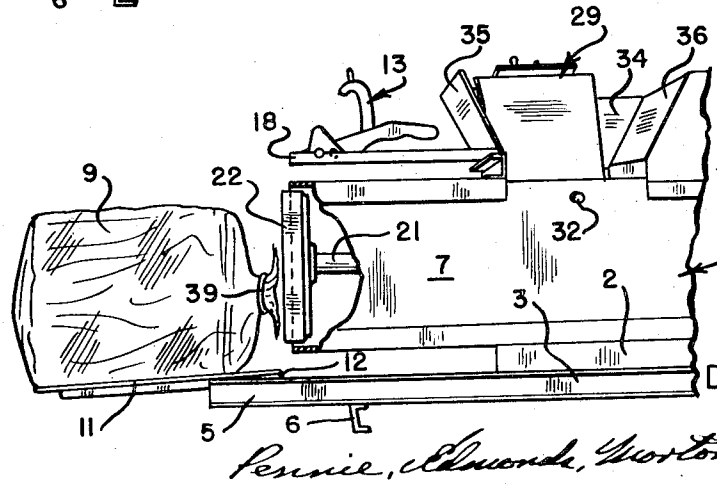


FIG. 3



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WASTE COMPACTOR AND BAGGER

SUMMARY OF THE INVENTION

A tubular structure or member is mounted to project from a supporting body in spaced relation to the chassis or support for such body so that a bag of suitable material can be placed upon or stretched upon the tubular member with the bottom of the bag covering the open outer end of the member. A rigid door is hinged at its lower edge to the chassis in spaced relation to the lower side of the tubular member. This door is closed after the bag is applied and forms a support for the bottom of the bag, the door being securely latched in closed position. A plunger or ram is reciprocated by suitable mechanism associated with the body and entering the tubular structure to compact waste material therein which has been inserted through a lateral opening in the body. Such opening is closed by a suitable hand operated door.

By repeatedly feeding in the waste material and repeated operation of the plunger the tubular structure is filled, whereupon the door latch is released and the door swung to horizontal position. A further operation of the plunger pushes the compacted material out of the tubular member and into the bag, also pushing the bag off of the tubular member. A suitable tie is then applied to the twisted end portions of the bag.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is an isometric or perspective view of the apparatus of the invention.

FIG. 2 is a side elevation with a portion of the casing broken away, and

FIG. 3 is a partial view, partly in side elevation and partly in perspective of the apparatus of FIG. 2 with parts shown in different positions.

DETAILED DESCRIPTION

The apparatus includes a body portion 1 having a base or chassis 2 which rests upon a support 3 and has a forwardly extending tubular portion 4 which is open at its front end as shown particularly in FIG. 1, and which extends away from the front or left hand edge of base 2 in spaced relation to the support 3. Support 3 as shown consists principally of two channel members 5 which are maintained in parallel position lengthwise of the apparatus by means of two crosswise channel members 6.

The projecting tubular portion 4 may be of any suitable shape in cross section but is shown as being rectangular and forms a compacting chamber which has parallel vertical sides 7 and at right angles thereto parallel top and bottom walls 8. These walls are made of rigid sheet material such as sheet steel and may be continuations of the walls of body member 1.

FIG. 2 includes a plastic bag 9 which is to be filled with the waste material. For this purpose it is placed over the chamber 4 leaving the upper portion 10 of the bag folded upon itself to be used later on for closing and tying purposes. A rigid door member 11 is hinged at 12 along its bottom edge to the support 3 and thus at a distance below tubular member 4 so that bag 9 can be applied. It can be swung about this hinge into a vertical position as shown in FIG. 2, and a latch mechanism 13 for holding the door firmly in this position comprises a handle 14 and a latch member 15 pivoted thereto at 16.

Handle 14 is pivoted at 17 to a horizontal channel bar 18 which extends from body member 1 substantially to the open end of tubular member 4, and spaced above this member to allow for the application of the plastic bag.

Door 11 provides a rigid support for the bottom of the plastic bag 9 holding it squarely against the open end of chamber 4 and closing this chamber to make it constitute a compacting chamber. Latch member 15 has a lip portion 19 which engages the outer surface of door 11, and the placing of pivots 16 and 17 is such that when handle 14 is in the closed position of FIG. 2 a toggle arrangement is provided which locks the parts in closed position.

At the right end of the apparatus body 1 and in the lower part thereof a hydraulic cylinder 20 is arranged and on the left end of its piston 21 there is a compression ram or plunger 22. An electric motor and pump combination 23 is mounted on the top of body 1 and has hose connections 24 and 25 with the opposite ends of cylinder 20. For controlling this mechanism three manually operated buttons 26, 27 and 28 are provided. Button 28 actuates a control switch for starting and stopping the electric motor of the device 23, while button 26 causes plunger 22 to move forward toward the left, and button 27 when pressed causes the plunger to move backward toward the right.

In order to provide a feeding or charging position for placing the waste material in the apparatus a manually operated door 29 is hinged on one side of an opening in the top of the central portion of body member 1 between it and the entrance to the compacting chamber within extension 4. Door 29 is provided with a lifting handle 30 and with a latch member 31 which engages a pin 32 on the front surface of body member 1 when the door is in a horizontal or closed position.

When it is desired to open door 29 it is swung upwardly as shown in FIG. 3 somewhat beyond vertical position where it engages a pair of wing members 33 and 34 which are fixed in spaced relation to body member 1 and extend upwardly. Portions 35 and 36 of these wing members slope away from each other, and together with door 29 when in open position, form a feeding space for guiding the waste material into the horizontal feed opening.

In FIG. 2 is shown a mass of material 37 which has been placed in front, that is, to the left of plunger 22, and when the forward button 26 is operated the plunger will move this material to the left into the compression chamber and compress it against the bottom of plastic bag 9 which is held firmly by the closed door 11. The reverse button 27 is then pressed and plunger or ram 22 is moved back to the position of FIG. 2 to receive another charge of waste material in front of it. This procedure is repeated until the waste material when compacted by plunger 22 is approximately opposite the right end of bag 9 which is indicated by numeral 38. Then latch 13 is operated to release door 11 and the door is swung to horizontal position resting on support 3 as shown in FIG. 3. Then forward button 26 is again operated and bag 9 is ejected in filled condition from the open ended compression chamber formed by extension 4. The folded portion 10 of the bag is manipulated to close the bag and any suitable tie member 39 is applied.

I claim:

1. A waste material compacting and bagging apparatus comprising:

a horizontal support,

a horizontal body resting on said support and having a portion projecting from one end thereof in spaced relation to said support and forming a tubular structure open at its outer end over which a bag of flexible material is applied,

a door hinged to said support and closing against the bottom of the bag and the open end of said tubular structure thus forming therewith a compacting chamber,

releasable means for maintaining the door in closed position,

means for securing said releasable means in position adjacent to said bag and out of contact with said bag,

said body having a lateral opening at the rear of said compacting chamber for receiving waste material,

said body also housing a plunger and operating mechanism therefor to compact waste material in the compacting chamber against said door and against the bottom of said bag,

said releasable means when released allowing the door to be swung to horizontal position so as to permit said plunger to force the compacted material into said bag and remove it from said tubular structure.

2. A waste compacting and bagging apparatus according to claim 1 in which the releasable means for holding the door closed is a toggle actuated latch mechanism.

3. A waste material compacting and bagging apparatus according to claim 1 in which the releasable means is a latch mechanism associated with the horizontal body and engaging the top portion of the door.

4. A waste material compacting and bagging apparatus according to claim 1 in which the support is a chassis member formed of steel beam sections.

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