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Ullman, Jr.

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[45] **Oct. 30, 1973**

[54] **COMPACTING APPARATUS**

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[21] Appl. No.: **232,447**

[52] **U.S. Cl.** **100/45**, 100/52, 100/53, 100/73, 100/218, 100/244, 100/246, 100/255, 100/256, 100/290

[51] **Int. Cl.** **B30b 15/30**, B30b 1/18

[58] **Field of Search** 100/45, 52, 53, 244, 100/290, 218, 73, 246, 252, 255, 256, 264

[56] **References Cited**

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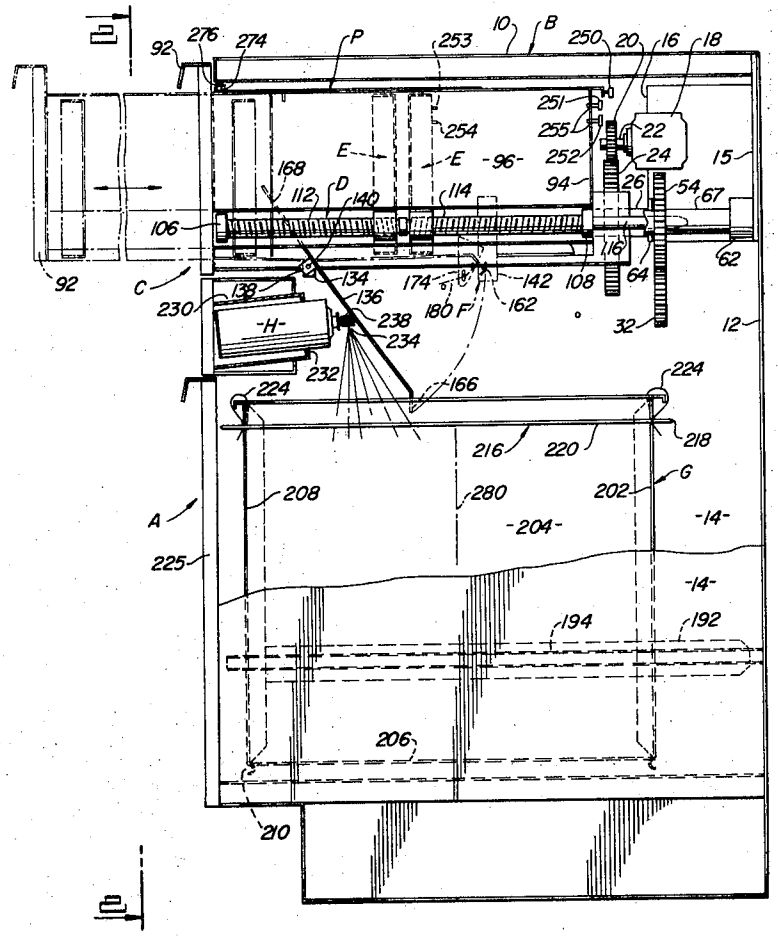
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Primary Examiner—Billy J. Wilhite
Attorney—James H. Tilberry et al.

[57] **ABSTRACT**

Compacting apparatus includes a slidable drawer defining a compacting chamber for compacting materials placed therein. Compacting means is movably mounted in the drawer for compacting materials placed therein. The drawer is movable between a loading position and a compacting position. Power means is provided for moving the compacting means. Separable coupling means is provided between the power means and compacting means. The separable coupling is engaged when the drawer is in its compacting position and disengaged when the drawer is in its loading position.

33 Claims, 16 Drawing Figures



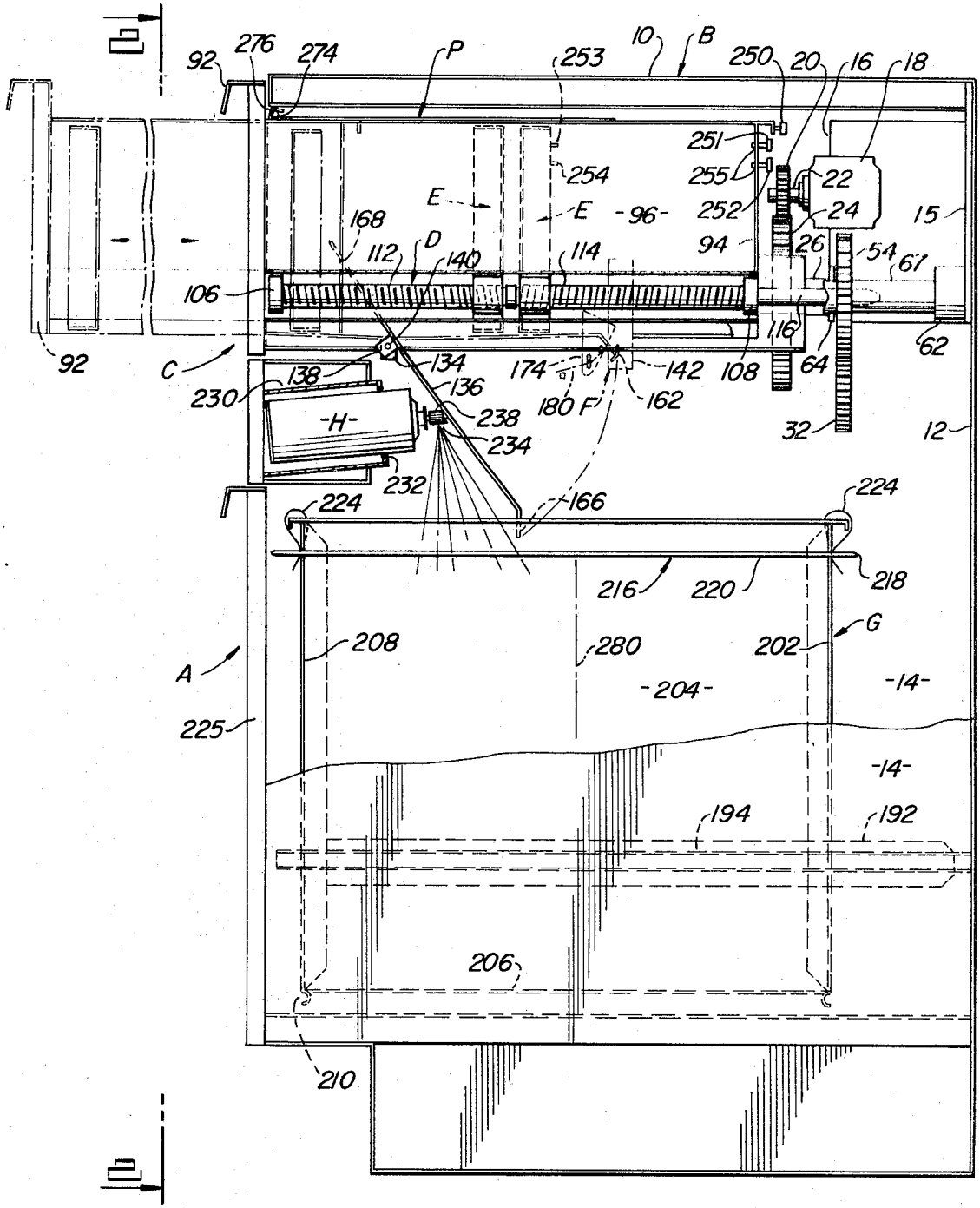

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C
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142
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64
230
136
180
F
162
-H-
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Fig 1

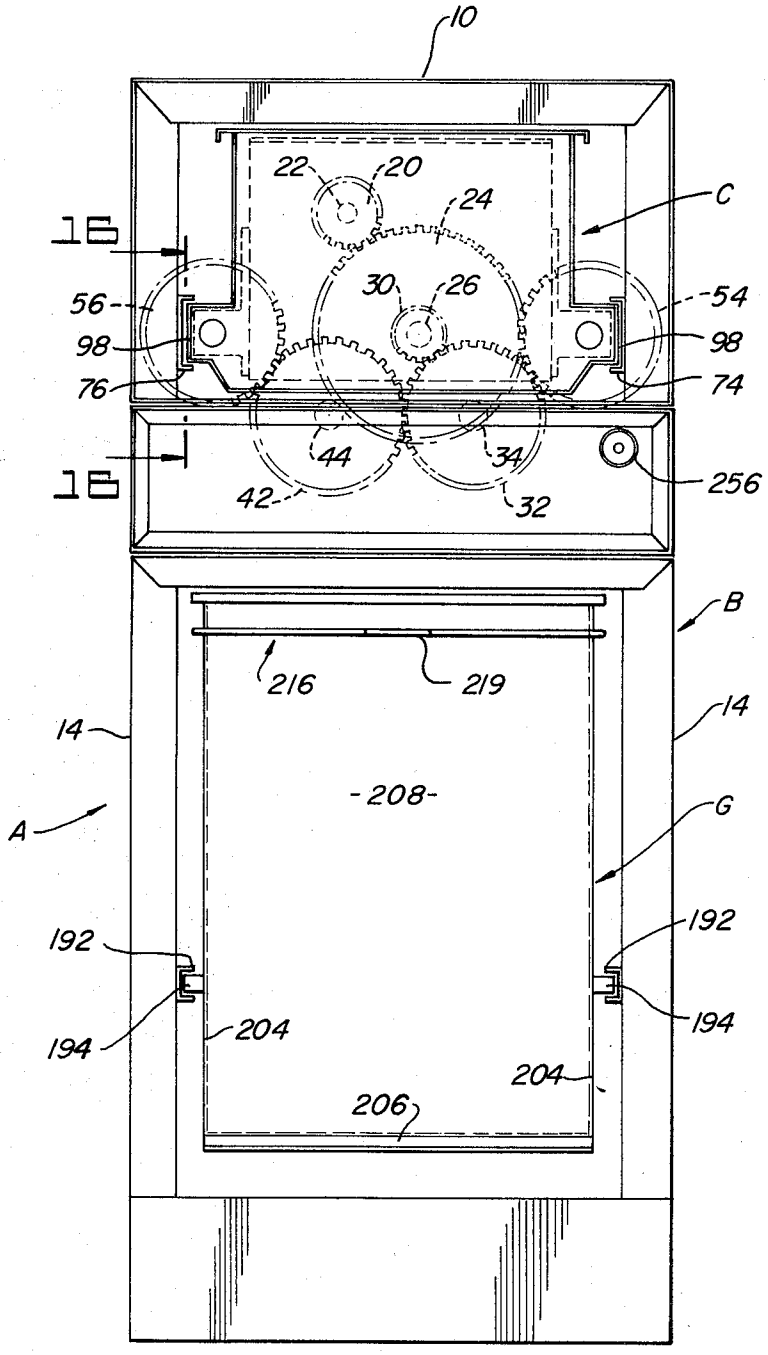

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Fig 2

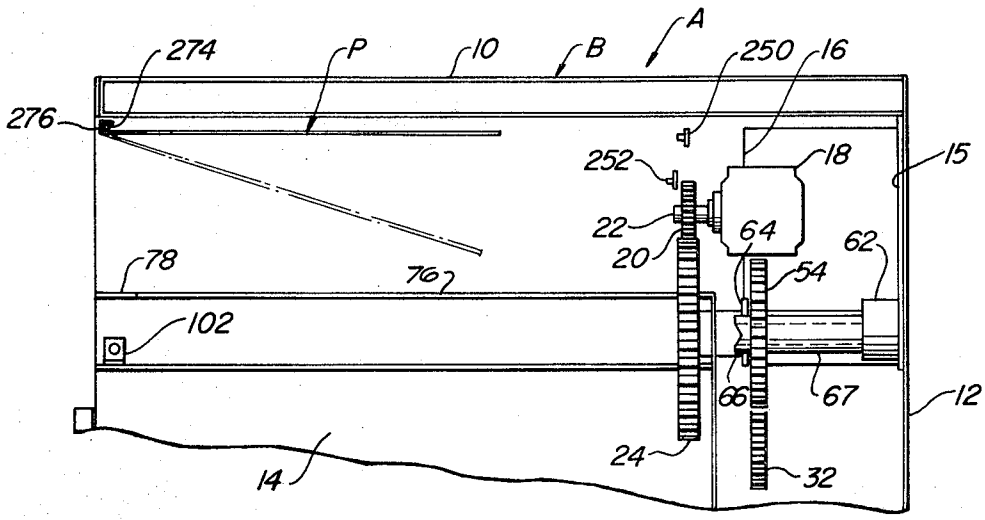


FIG 3

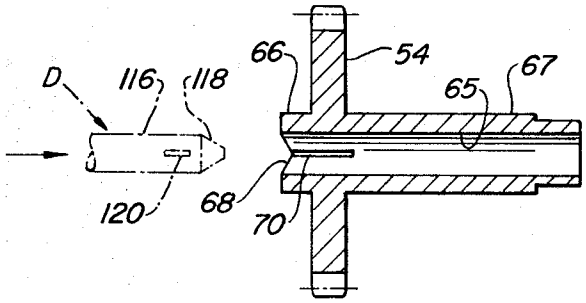


FIG 4

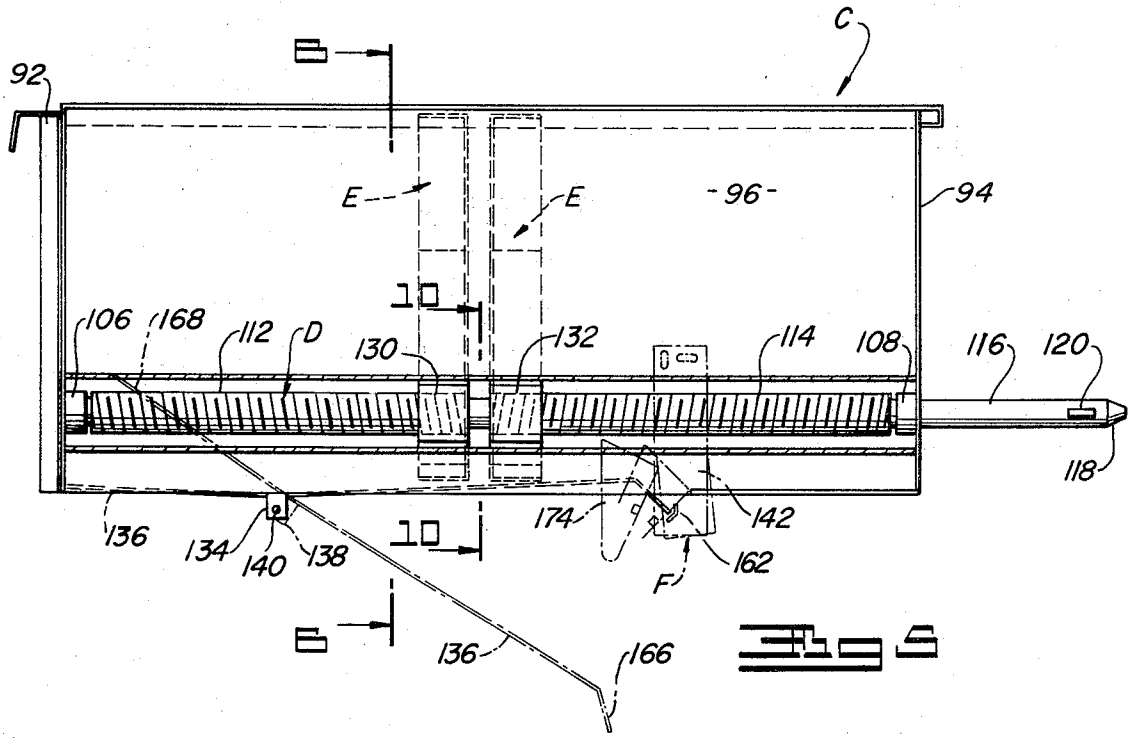


FIG 5

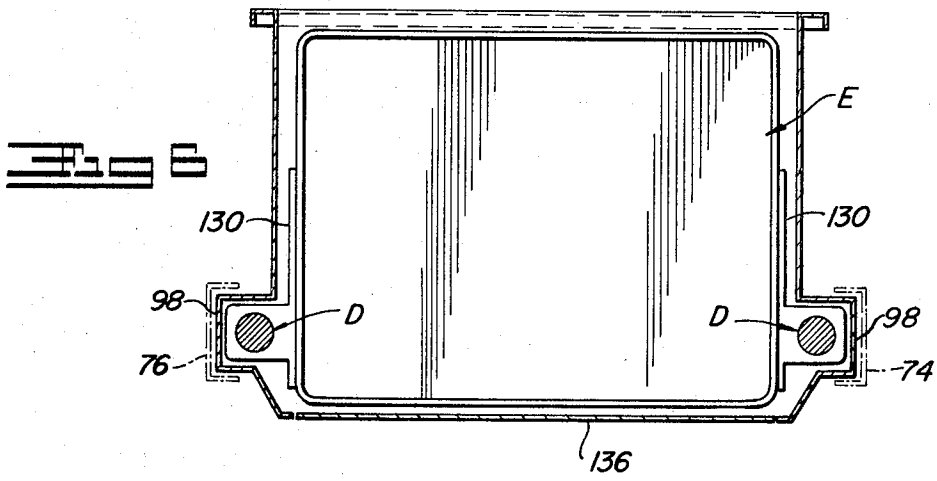


Fig 6

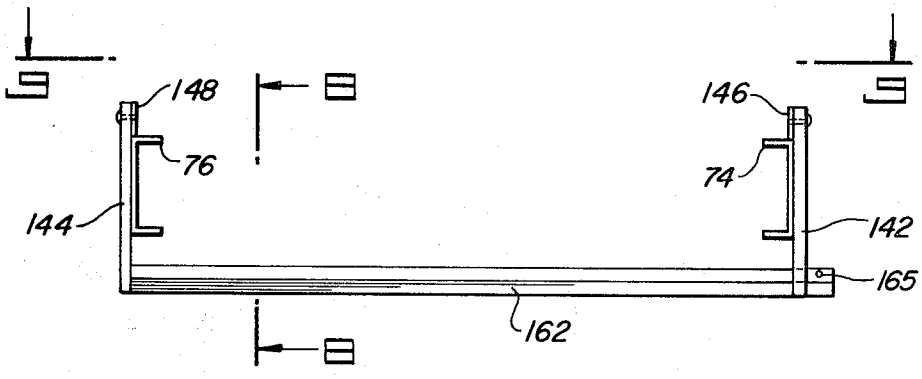


Fig 7

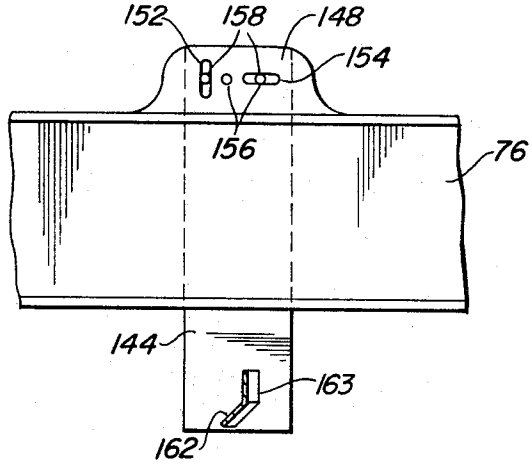


Fig 8

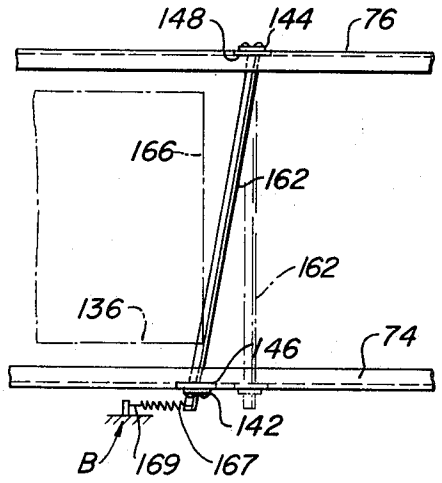


Fig 5

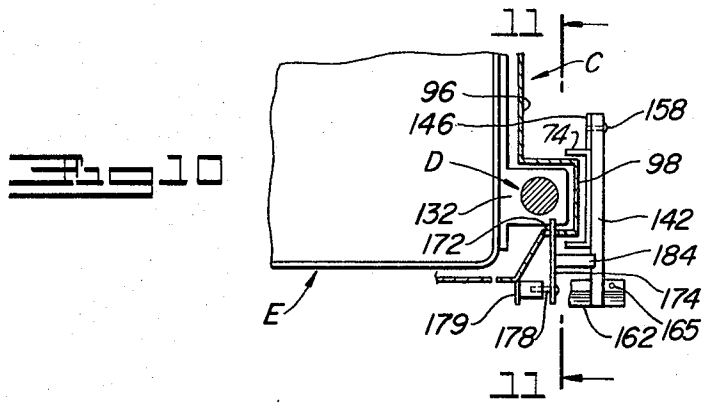


Fig 10

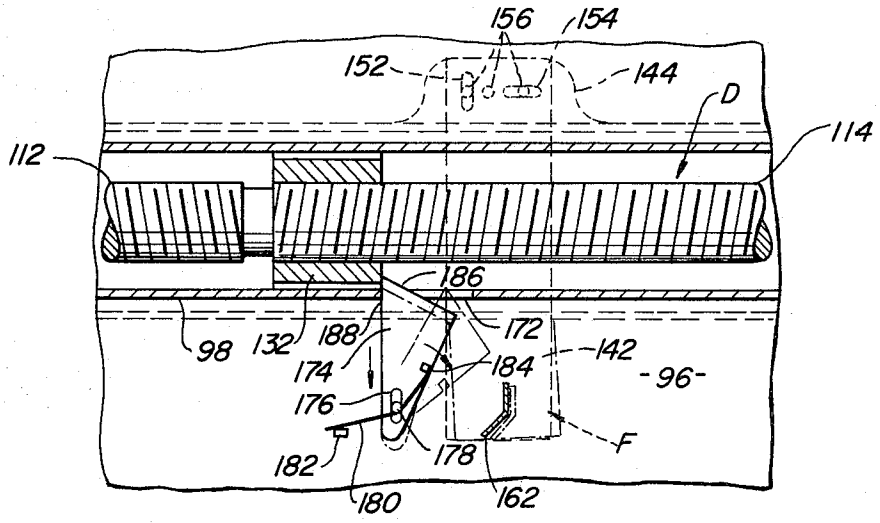


Fig 11

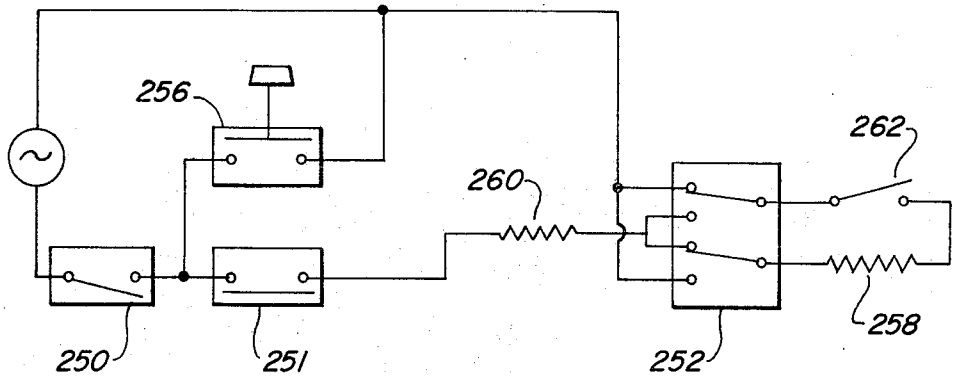
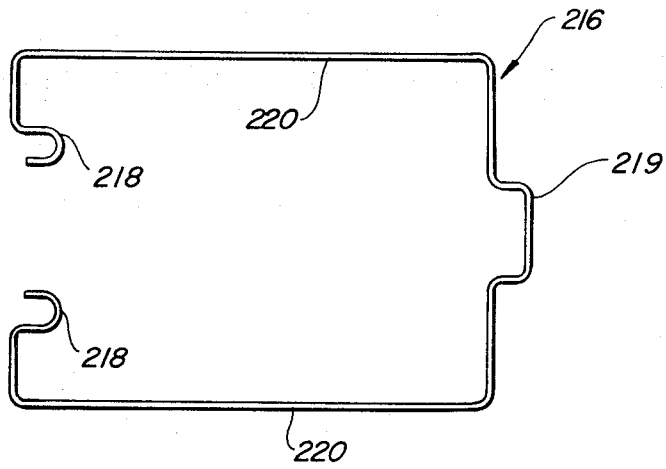


Fig 12

Fig 13



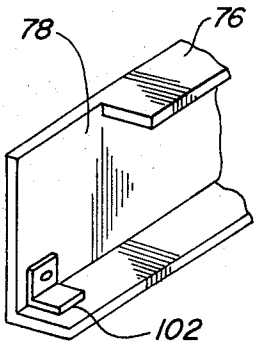


Fig 14

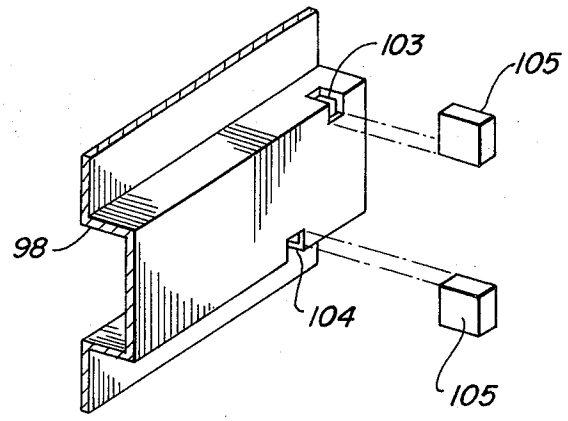


Fig 15

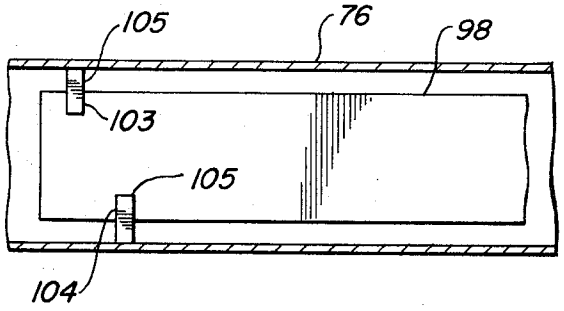


Fig 16

COMPACTING APPARATUS

BACKGROUND OF THE INVENTION

This application pertains to the art of compacting and more particularly to compacting materials with a press-like device. The invention is particularly applicable to use with a device for compacting trash and will be described with particular reference thereto. However, it will be recognized that the invention has broader applications and may be used for compacting other materials.

Other compacting apparatus of a known type includes a pair of platens between which material is compacted. At least one of the platens is movable toward and away from the other by hydraulic or electro-mechanical power means. Such devices are extremely hazardous to persons using the device and to curious children. Many safety arrangements have been developed for preventing injury to persons or curious children. These include key operated locks and interconnected electrical switches for preventing operation of the device when the compacting chamber is open. Previous apparatus of the type described is also very difficult to clean. Liquid and solid food from cans and bottles compacted in the apparatus forms deposits on the platens and in the compacting chamber to create a noxious and unsanitary condition. In previous apparatus, access to the compacting chamber is very difficult for cleaning purposes. In certain apparatus of the type described, the movable platen acts directly on material to be compacted in the receptacle for storing the compacted material. This arrangement requires a heavily reinforced receptacle and supporting framework.

SUMMARY OF THE INVENTION

Compacting apparatus of the type described includes a compacting chamber which is movably mounted on a support for movement between a loading position and a compacting position. Compacting means is movably mounted in the compacting chamber for compacting materials therein. Power means is mounted on the support for moving the compacting means. A separable coupling is provided between the power means and the compacting means. The separable coupling is automatically engaged when the chamber is in its compacting position, and is disengaged when the chamber is in its loading position. This arrangement eliminates the need for key operated locks or interconnected safety switches. The separable coupling prevents movement of the compacting means when the chamber is accessible by a persons hand.

In accordance with a preferred arrangement, the compacting chamber comprises a horizontally slidable drawer which is completely removable from its support so that it can be carried to a sink for cleaning. Easy removability of the entire compacting chamber and platens makes it very simple to clean so that unsanitary conditions will not exist.

In one arrangement, the compacting drawer includes a movable bottom closure. The closure remains closed during a compacting operation and opens to discharge compacted material into a lower receptacle. In one arrangement, the closure is moved between its open and closed positions in response to movement of the platens.

In accordance with another aspect of the device, a chemical dispensing device is positioned for dispensing

a germicide or deodorant into the receptacle which holds the compacted material. The chemical dispensing device is operated in response to opening movement of the bottom closure on the compacting drawer.

In a preferred arrangement, the compacting means in the compacting drawer comprises a pair of platens mounted on rotatable screws having reversely threaded opposite portions. The screws are rotatably mounted in the drawer and have a separable coupling connection with gears driven by an electric motor on the support. Rotation of the screws in one direction moves the platens toward one another in a compacting direction, and rotation of the screws in the reverse direction moves the platens away from one another. One platen operates a latch which normally holds the drawer bottom closure in its closed position. The one platen also contacts the movable closure for moving it to the closed position.

In accordance with another aspect of the device, the receptacle for receiving compacted material includes a downwardly swingable front panel which is normally held in a closed position by removable clamping means which also holds a flexible bag in the receptacle.

It is a principle object of the present invention to provide an improved compacting apparatus which is more economical to manufacture and assemble, and very reliable in operation.

It is also an object of the present invention to provide a compacting device which is easy to clean.

It is a further object of the present invention to provide a compacting apparatus which minimizes danger to persons or curious children.

BRIEF DESCRIPTION OF THE DRAWING

The invention may take form in certain parts and arrangements of parts, a preferred embodiment of which will be described in detail in this specification and illustrated in the accompanying drawings which form a part hereof.

FIG. 1 is a side elevational view of the improved compactor of the present invention with portions cut away for clarity of illustration;

FIG. 2 is a cross-sectional elevational view looking generally in the direction of arrows 2—2 of FIG. 1;

FIG. 3 is a side elevational view with portions cut away for clarity of illustration and showing the upper portion of the apparatus of FIG. 1 with a drawer unit removed;

FIG. 4 is a cross-sectional elevational view showing a separable coupling drive arrangement for use with the improved device of the present invention;

FIG. 5 is a side elevational view showing a drawer unit constructed in accordance with the present invention and with portions cut away for clarity of illustration;

FIG. 6 is a cross-sectional elevational view taken generally on lines 6—6 of FIG. 5;

FIG. 7 is a front elevational view showing a latch arrangement;

FIG. 8 is a side elevational view looking generally in the direction of arrows 8—8 of FIG. 7;

FIG. 9 is a plan view looking generally in the direction of arrows 9—9 of FIG. 7;

FIG. 10 is a partial cross-sectional elevational view looking generally in the direction of arrows 10—10 of FIG. 5;

FIG. 11 is a cross-sectional elevational view looking

generally in the direction of arrows 11—11 of FIG. 10;

FIG. 12 is a diagrammatic illustration of a control circuit for use with the apparatus of FIGS. 1–11;

FIG. 13 is a plan view of a holding device for use with a receptacle in the apparatus of FIGS. 1–11;

FIG. 14 is a partial perspective view showing a drawer guide;

FIG. 15 is a partial perspective view showing slides on a drawer; and,

FIG. 16 is a sectional elevational view looking generally in the direction of arrows 16—16 of FIG. 2.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings, wherein the showings are for purposes of illustrating a preferred embodiment of the invention only and not for purposes of limiting same, FIG. 1 shows compacting apparatus A having the improvements of the present invention incorporated therein. Apparatus A includes a supporting and decorative cabinet structure B including top wall 10, rear wall 12 and sidewalls 14. All of these walls may have their ends bent in overlapping relationship and welded together in a known manner to form a unitized decorative and supporting cabinet structure.

A first supporting bracket 15 is secured inside of cabinet structure B to the upper portion of rear wall 12 as by welding or the like. Another supporting panel member 16 extends across sidewalls 14 in spaced relation to rear wall 12. Supporting panel 16 may have its ends bent adjacent sidewalls 14 and welded thereto.

An electric motor 18 is mounted on support members 14 and 16, and has a spur or helical gear 20 mounted on its output shaft 22. Motor output gear 20 engages and drives another gear 24 mounted on rotatable shaft 26 journaled in suitable bearings mounted to support members 16 and 15. Gear 24 has a smaller gear 30 on the rear face thereof driving an idler gear 32 mounted on rotatable shaft 34 which is journaled in suitable bearings secured to support members 15 and 16. Idler gear 32 engages another idler gear 42 mounted on rotatable shaft 44 which is journaled in suitable bearings secured to support members 15 and 16. Each idler gear 32 and 42 engages a drive gear 54 and 56 which are respectively journaled in suitable bearings 62 and 64 secured to support members 15 and 16.

In accordance with one arrangement, each gear 54 and 56 includes a hollow central portion 65 and a forwardly projecting hub portion 66. Hub portion 66 has a tapered cam slot 68 formed therein. A pair of oppositely disposed grooves 70 are formed in the wall of opening 65. Bearings 62 and 64 are hollow for receiving elongated portions 67 of gears 54 and 56. Elongated portions 67 and portions 66, may then be rotatably mounted in bearings 62 and 64.

In accordance with one aspect of the device, a pair of oppositely disposed channel-shaped drawer slide members 74 and 76 are secured within cabinet B to sidewalls 14 in a substantially horizontal position. Each drawer support member 74 and 76 has its upper portion cut away as at 78 at the entrance end portions thereof.

A drawer member C defines a compacting chamber and includes a front wall 92, a rear wall 94 and opposed sidewalls 96. All of these walls may have their meeting edges bent and welded together to form a substantially rectangular drawer. Sidewalls 96 are deformed outwardly as at 98 to form drawer slides which are receivable in channels 74 and 76. Channels 74 and 76 have small right angle polyamide pieces 102 secured to the lower front portions thereof as shown in FIG. 14 to define stops and provide slide bearings on which slides 98 move. The rear portions of slides 98 include upper and lower slots 103 and 104 in which rectangular polyamide pieces 105 are wedged to ride in the inner surfaces of channels 74 and 76. The polyamide pieces in lower slots 104 strike against members 102 in the maximum open position of drawer C. Drawer C may then be tilted upwardly due to cut away portions 78 on channels 74 and 76 so that the lower polyamide pieces will clear stops 102 and drawer C can be completely removed from cabinet B. It will be recognized that any conventional well-known drawer slide mounting may be used for supporting drawer C for horizontal sliding movement in cabinet B. Slides including rollers may be used for ease of sliding movement.

Bearings 106 and 108 are provided at the opposite ends of drawer slides 98 for rotatably mounting a pair of screw members D having reversely threaded opposite portions 112 and 114. End portions 116 of screws D extend through rear wall 94 and are tapered as at 118. Oppositely disposed keys 120 are provided on end portion 116 of screws D. Horizontal sliding movement of drawer C into cabinet B causes keys 120 on end portions 116 of screws D to engage cam surfaces 68 on gears 54 and 56 so that keys 120 will be guided into keyways 70. Screws D are then in driving engagement with gears 54 and 56.

A pair of platen members E are positioned within drawer C and include oppositely threaded bushings 130 and 132 secured to the opposite side edges thereof and threadedly engaged with portions 112 and 114 of screws D. Rotation of screws D in one direction will move platens E toward one another, while rotation of screws D in a reverse direction will move platens E away from one another.

Bottom end portions of sidewalls 96 on drawer C are formed with tabs 134. A substantially rectangular bottom closure member 136 has tabs 138 thereon in alignment with tabs 134. Suitable pins 140 extend through tabs 134 and 138 for pivotally connecting bottom closure 136 to drawer C.

A latch member F is provided for holding closure member 136 in its closed position. Latch member F includes plastic bracket members 142 and 144 attached to drawer guides 74 and 76. The upper portions of drawer portions of drawer guides 74 and 76 have tabs 146 and 148 bent upwardly therefrom. Each tab 146 and 148 may include a vertical slot 152 and a horizontal slot 154. Each plastic bracket member 142 and 144 has a plurality of holes 156 therethrough for adjustably aligning brackets 142 and 144 in desired position. Screws 158 extend through slots 152 and 154 into threaded engagement with holes 156. Screws 158 securing bracket member 144 to drawer slide 76 may be securely tightened in position so that bracket member 144 cannot move. Screws 158 attaching bracket member 142 to drawer slide 74 are left loose so that bracket member 142 can pivot. An elongated metal member 162 is tightly received in slots 163 in the bottom portions of bracket members 142 and 144. Bracket members 142 and 144 are mounted in transversely aligned relationship. However, metal member 162 projects

through brackets 142 and has a hole 165 therein for receiving an end portion of spring 167 which is attached at its other end 169 to cabinet B. Closure 136 has a bent end portion 166 engagable with member 162. Only one corner edge of end portion 166 engages member 162 as shown in FIG. 9.

When closure 136 is in its downward pivoted open position, its rear end portion 168 extends upwardly into drawer C when platens E are closely adjacent one another near the center of drawer C. Movement of platens E away from one another then causes one platen E to strike against rear portion 168 of closure 136 to pivot it to its closed position. Bent edge portion 166 of closure 136 will then engage member 162.

As shown in FIGS. 5, 10 and 11, drawer guide 98 has a slot 172 therethrough for receiving the upper edge of a pivot bracket 174. Bracket 174 has a vertical slot 176 therethrough receiving a screw 178 for attaching bracket 174 to a support 179 on sidewall 96. Screw 178 is left loose so that bracket 174 may move up and down relative thereto and pivot. A coil spring 180 surrounds screw 178 and has one end bearing against a tab 182 on sidewall 96, and its other end bearing against a lateral lug 184 on bracket 174 to normally bias bracket 174 upward and counterclockwise as viewed in FIG. 11. Bracket 174 normally strikes against the edge of slot 172. During movement of platens E toward one another, the right hand platen of FIG. 1 strikes cam surface 186 of bracket 174 and bracket 174 simply moves downward relative to screw 178 against biasing force of spring 180. During rearward movement of platens E away from one another, the right hand platen strikes against front edge 188 of bracket 174 to pivot it clockwise as viewed in FIG. 11. Lug 184 then strikes bracket 142 to move its bottom portion rearwardly and upwardly. This also causes member 162 to move rearwardly out of engagement with bent end portion 166 of closure 136 so that closure 136 may pivot to its open position.

Excessive downward pressure on closure 136 while crushing certain material also allows bracket 142 and member 162 to move rearwardly so that closure 136 can open and prevent damage. This is because member 162 is longitudinally bent to present a cam surface to deformed edge 166. Excessive downward pressure on closure 136 cams member 162 and bracket 142 rearwardly.

The bottom portion of cabinet B also includes oppositely disposed drawer guides 192 for slidably receiving drawer supports 194 on receptacle G. Receptacle G includes rear wall 202, sidewalls 204 and bottom wall 206. A front wall 208 is pivotally connected at its lower end by hinge 210 to the front edge of bottom wall 206. A substantially U-shaped wire member 216 is positionable around the upper portion of receptacle G. Wire member 216 includes resilient reversely bent portions 218 which engage rear wall 202 for releasably holding pivoted front wall 208 in a vertical position. Opposite arm portions 220 of member 216 may be grasped and moved away from one another to disengage member 216 from receptacle G so that front wall 208 may be pivoted downward to remove a bag of compacted material from receptacle G. Front arm portion 217 of wire member 216 may be deformed outwardly as at 219 to define a handle for sliding receptacle G in and out of cabinet B. A plastic bag 224 of polyethelene plastic or the like may be positioned in receptacle G and have its upper peripheral portion clamped against the outer surfaces of receptacle G by clamping member 216. A decorative front panel 225 may be part of cabinet B and pivoted at one vertical edge like a conventional door for inserting and removing receptacle G.

A cylindrical supporting member 230 is mounted within cabinet B above receptacle G. Cylindrical member 230 receives a pressurized spray can H containing a germicide or deodorant. A rubber O-ring 232 is positioned around container H and is tightly receivable in cylindrical support 230 for maintaining container H in desirable position with its outlet 234 facing the open upper end of receptacle G. Downward pivotal movement of closure 136 causes closure 136 to strike against actuator 238 of container H and the impact opens the spray valve to momentarily direct a brief spray of chemical into receptacle G. The dead weight of closure 136 itself is insufficient to hold actuator 238 depressed in its open position. Momentum of the falling closure opens the valve only momentarily.

Many different control arrangements may be provided for operating the device. In one arrangement, an on-off switch 250 is mounted within cabinet B for contact by rear wall 94 of drawer C. With drawer C in its closed position, switch 250 is closed so that the unit is ready for operation. When drawer C is moved outwardly from its fully closed position, switch 250 opens so that the device will not operate. Additional switches 251 and 252 mounted within cabinet D are adapted to be actuated by actuators 253 and 254 on one of platens E. Actuators 254 are extensible through holes 255 in rear wall 94 when platens E are in their open position. With platens E in their fully open position, switch 251 is open and double pole double throw reversing switch 252 is in position for rotating motor 18 to move platens E toward one another. A momentary-on switch 256 is positioned on the front of cabinet B. Depression of momentary switch 256 bypasses switch 251 and completes the circuit to both start winding 258 and run winding 260 of motor M for rotating screws D in a direction to move platens E toward one another. Movement of platens E toward one another causes switch 251 to close and establish a holding circuit to motor M. Releasing momentary switch 256 then keeps run winding 260 of motor M energized through switch 251. As soon as platens E start moving toward one another, switch 252 also moves to its opposite position for reversing the direction of current flow to start winding 258. Motor M rapidly comes up to top speed and centrifugal switch 262 opens to cut out start winding 258. Resistance to movement of platens E toward one another, when material is compacted and platens E are close to one another, causes the speed of motor M to drop. Centrifugal switch 262 then closes and the direction of current flow through start winding 258 is reversed due to the previous reversal of switch 252. This reverses the direction of motor M to drive screws D in an opposite direction for moving platens E away from one another. Once the motor is up to speed, centrifugal switch 262 will again open but motor M continues to run in a reverse direction by means of main winding 260. Once platens E reach their fully open position, the right hand platen E has its actuators 253 and 254 open switch 251 so that motor M is de-energized, and reverses switch 252 so that the apparatus is ready for another cycle.

In accordance with another aspect of the device, a rod 274 extends transversely across cabinet B above

drawer member C. The ends of rod **274** are suitably secured to sidewalls **96** of cabinet B. A substantially rectangular closure member P has a reversely bent end portion **276** hooked over rod **274.** Closure P has a width great enough to completely cover the normally open top portion of drawer C. Upper closure P also has a length sufficient to completely cover the area between platens E during compacting of material. Upper closure P need not be the entire length of drawer C. Breakage of glass and the like during compacting movement of platens E often causes particles to be thrown with somewhat explosive force in all directions. Upper closure P maintains such particles within drawer C. Upper closure P may be removed from cabinet B simply by pulling reversely bent hooked portion **276** from rod **274** for cleaning purposes. Upper closure P pivots about rod **274** and is loosely connected therewith for slight vertical movement so that it is in frictional engagement with the upper periphery of drawer C.

In operation of the device, platens E are normally in their maximum spaced-apart position with left hand platen E of FIG. **1** located adjacent front wall **92** of drawer C and with right hand platen E located adjacent rear wall **94** of drawer C. Drawer C may then be grasped and pulled horizontally to an open position for depositing material to be compacted between platens E through the open top of drawer C. Drawer C is then pushed horizontally into cabinet B until the separable coupling between drive gears **54** and end portions **116** of screws D engage. Momentary on button **256** is then momentarily depressed to energize motor **18.** Operation of the device to crush material and open trap door **136** then takes place as previously described. Movement of platens E from their position closely adjacent one another at the center of drawer C toward their maximum spaced positions then causes left hand platen E of FIG. **1** to strike rear portion **168** of closure **136** for moving closure **136** back to its closed position with deformed edge **166** engaging member **162.**

As previously explained, drawer C may be completely removed from cabinet B for ease in cleaning to maintain sanitary conditions. It will be recognized that all of the compacting force provided by platens E is taken by screws D so that extremely heavy construction of cabinet B and drawer C is unnecessary.

Instead of installing the compacting drawer and the drive mechanism for the platens in a unitary cabinet, it will be recognized that such mechanism may be installed in apartments without receptacle G positioned beneath drawer C. In such arrangements, each apartment would have a chute extending beneath drawer C for receiving compacted material and automatically feeding such material through the chute to a central collection point.

It will also be recognized that it is possible to divide receptacle G into several compartments by transverse partitions. Such partitions are generally indicated by shadow line **280** in FIG. **1.** With drawer G inserted as far as it will go in cabinet B, the paper and similar materials may be compacted for deposit in the receptacle on one side of the partition. Indicia may be provided on the outside wall or upper edge of receptacle G for alignment with the front edge of cabinet B when door **225** is open. Such indicia may say metal or glass or the like. Receptacle G would then be pulled out from cabinet B until that indicia is aligned with the front edge of the cabinet. Metal or glass would then be compacted and deposited on the other side of the partition into a separate compartment. It will be recognized that as many partitions as practicle could be provided within the receptacle. For example, partitions may be provided for separate collection of glass, paper, plastic, aluminum and steel. Indicia and partitions would be provided for each type of material.

While the invention has been shown and described with reference to a certain preferred embodiment, it is obvious that equivalent alterations and modifications will occur to others skilled in the art upon the reading and understanding of this specification. The present invention includes all such equivalent alterations and modifications and is limited only by the scope of the claims.

Having thus described my invention, I claim:

1. Compacting apparatus comprising; structural support means for supporting a compacting mechanism, compacting chamber means for receiving materials to be compacted movably mounted on said support means for movement between a loading position and a compacting position, compacting means movably mounted in said compacting chamber means for compacting materials in said chamber means, power means mounted on said support means for moving said compacting means, and separable coupling means between said power means and said compacting means, said coupling means being engaged when said chamber means is in said compacting position and being disengaged when said chamber means is in said loading position.

2. The device of claim **1** wherein said chamber means is detachable from said support means.

3. The device of claim **1** wherein said chamber means is movable in a substantially horizontal direction between said loading and compacting positions, said chamber means having a bottom wall, and closure means movably positioned on said bottom wall for movement between an open position and a closed position.

4. The device of claim **3** wherein said compacting means moves in a compacting direction and a reverse direction, and cooperating operating means on said compacting means and closure means for moving said closure means between said open and closed positions responsive to movement of said compacting means.

5. The device of claim **4** and further including chemical dispensing means operative in response to movement of said compacting means in said reverse direction.

6. The device of claim **4** and further including receptacle means for receiving compacted material from said chamber means through said closure means, and chemical dispensing means positioned for dispensing a chemical into said receptacle means, said dispensing means being operated by opening movement of said closure means.

7. The device of claim **6** wherein said closure means comprises a trapdoor pivotally mounted on said chamber means for downward swinging movement to said open position and upward swinging movement to said closed position, said dispensing means having an actuator positioned for contact by said trapdoor upon downward swinging movement thereof.

8. The device of claim **3** wherein said compacting means moves in a compacting direction and a reverse direction, and latch means for holding said closure means in said closed position, cooperating operating

means on said compacting means for releasing said latching means during initial movement of said compacting means in said reverse direction, and cooperating closing means on said compacting means and closure means for moving said closure means to said closed position during final movement of said compacting means in said reverse direction.

9. The device of claim **8** wherein said closure means comprises a trapdoor pivotally mounted on said chamber means for downward swinging movement to said open position and for upward swinging movement to said closed position.

10. The device of claim **1** wherein said chamber means comprises a substantially rectangular drawer having an open top and being mounted for substantially horizontal sliding movement on said support means, said compacting means comprising a pair of platens movably mounted in said drawer for movement in a substantially horizontal direction toward and away from one another, and drive means mounted on said drawer for moving said platens, said separable coupling means being positioned between said drive means and power means.

11. The device of claim **10** wherein said drive means comprises screw means rotatably mounted on said drawer and having reversely threaded opposite portions, each of said platens being threadedly connected with one of said opposite portions for movement along said screw means during rotation thereof, said screw means being rotatable in a first direction for moving said platens toward one another in a compacting direction and in an opposite direction for moving said platens away from one another in a reverse direction.

12. The device of claim **10** wherein said drawer includes a bottom defined by movable closure means movably positioned on said drawer for movement between an open position and a closed position.

13. The device of claim **12** and including cooperating operating means on said closure means and at least one of said platens for moving said closure means between said open and closed positions.

14. The device of claim **13** and further including chemical dispensing means operative by movement of said closure means to said open position.

15. The device of claim **13** wherein said closure means comprises a trapdoor pivotally mounted on said drawer for downward swinging movement to said open position and upward swinging movement to said closed position.

16. The device of claim **15** wherein said trapdoor includes a front end portion and a rear end portion and is pivotally mounted on said drawer intermediate said end portions, latch means for holding said trapdoor in said closed position, said operating means on said one platen being operative to release said latching means during initial movement of said platens in said reverse direction, said one platen including a bottom edge engageable with said rear end portion of said trapdoor for swinging said trapdoor upward to said closed position during terminal movement of said platens in said reverse direction.

17. The device of claim **15** and further including receptacle means positioned beneath said drawer for receiving compacted material from said drawer through said trapdoor, and chemical dispensing means positioned for dispensing a chemical into said receptacle means, said dispensing means having an actuator positioned for contact by said trapdoor upon downward swinging movement thereof.

18. The device of claim **17** wherein said receptacle means is removable from beneath said drawer and includes a downwardly swingable front panel.

19. The device of claim **18** and further including releasable clamping means for holding said front panel in a substantially vertical closed position.

20. The device of claim **19** wherein said clamping means is substantially U-shaped and said receptacle means includes upstanding opposed sidewalls and a back wall, said clamping means extending along said front wall and sidewalls and including reversely bent end portions resiliently engaging said rear wall.

21. The device of claim **20** and further including a collapsible bag positioned in said receptacle means, said bag having an upper edge overhanging said walls and clamped thereto by said clamping means.

22. The device of claim **1** wherein said compacting chamber comprises a substantially rectangular drawer having an open top and being movable in a substantially horizontal direction between said compacting and loading positions, and top closure means pivotally connected to said support means for closing a substantial portion of said open top of said drawer in said compacting position thereof.

23. The device of claim **22** wherein said top closure means is releasable from said support means.

24. Compacting apparatus including a compacting chamber, compacting means movably mounted in said compacting chamber for compacting materials therein, drive means for moving said compacting means, power means for operating said drive means, separable mechanical coupling means having parts selectively lockable together for transmitting torque therebetween and between said drive means and power means, access means movable between an open position for placing said chamber in a loading condition and a closed position for placing said chamber in a compacting condition, said access means being operative to automatically separate said coupling means in said open position thereof and to connect said coupling means in said closed position thereof.

25. Compacting apparatus including a compacting chamber, compacting means movably mounted in said compacting chamber for compacting materials therein, drive means for moving said compacting means, power means for operating said drive means, separable coupling means between said drive means and power means, access means movable between an open position for placing said chamber in a loading condition and a closed position for placing said chamber in a compacting condition, said access means being operative to automatically separate said coupling means in said open position thereof and to connect said coupling means in said closed position thereof, and said access means comprising a substantially rectangular drawer having an open top and said chamber being in said drawer.

26. Compacting apparatus including a compacting chamber having an open bottom normally closed by movable closure means mounted for movement between an open position and a closed position, compacting means movably mounted in said chamber for compacting materials therein, said compacting means being movable in a compacting direction to a compacting position and in a reverse direction to a loading position

for said compacting chamber, a receptacle positioned beneath said chamber for receiving compacted materials through said open bottom when said closure means moves to said open position, operating means for moving said closure means to said open position subsequent to movement of said compacting means to said compacting position and for moving said closure means to said closed position in said loading position of said compacting means, chemical dispensing means for dispensing a chemical into said receptacle, said dispensing means having an actuator positioned for actuation by said closure means upon movement thereof to said open position.

27. The device of claim **26** wherein said closure means comprises a trapdoor pivotally mounted in said chamber for downward swinging movement to said open position and for upward swinging movement to said closed position.

28. Compacting apparatus including a compacting chamber having an open bottom normally closed by a pivotally mounted trapdoor swingable downwardly to an open position and upwardly to a closed position, said trap-door including a front end portion and a rear end portion and being pivotal about an axis located intermediate said front and rear end portions, compacting means movably mounted in said chamber for compacting materials therein, said compacting means being movable in a compacting direction to a compacting position and in a reverse direction to a loading position for said compacting chamber, latching means for normally holding said trapdoor in said closed position, operating means on said compacting means for releasing said latching means during initial movement of said compacting means in said reverse direction from said compacting position, said compacting means being engageable with said rear end portion of said trapdoor for swinging said front end portion thereof upwardly to said closed position during terminal movement of said compacting means in said reverse direction to said loading position.

29. In a compacting apparatus, a substantially rectangular drawer having an open top and a normally closed bottom defined by closure means movably mounted on said drawer for movement between an open position and a closed position, compacting means movably mounted in said drawer for movement in a compacting direction to a compacting position and in a reverse direction to a loading position releasable latch means for holding said closure in said closed position, and operating means on said compacting means for releasing said latch means subsequent to movement of said compacting means to said compacting position and for moving said closure to said closed position during terminal movement of said compacting means to said loading position in said reverse direction.

30. The device of claim **29** wherein said closure means comprises a trapdoor pivotally connected with said drawer for downward swinging movement to said open position and for upward swinging movement to said closed position.

31. The device of claim **29** and including drive means mounted on said drawer for moving said compacting means.

32. The device of claim **31** wherein said compacting means comprises a pair of platens and said drive means comprises elongated screw means rotatably mounted on said drawer, said screw means having opposite threads on opposite portions thereof, and each of said platens being threaded onto one of said opposite portions for movement therealong during rotation of said screw means.

33. The device of claim **32** wherein said closure means comprises a trapdoor pivotally connected with said drawer for downward swinging movement to said open position and for upward swinging movement to said closed position.

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