United States Patent [19]

White

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[45] **July 8, 1975**

[54] **HORIZONTAL TRASH COMPACTOR**

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[21] Appl. No.: **246,640**

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 55,706, July 17, 1970, Pat. No. 3,657,999.

[52] **U.S. Cl.** **100/53**; 100/192

[51] **Int. Cl.**[2] **B30B 15/28**

[58] **Field of Search** ..... 100/53, 43, 98 R, 250, 100/192, 229 A, 179, DIG. 5, DIG. 8, 245; 425/376; 141/391, 392

[56] **References Cited**

UNITED STATES PATENTS

711,752	2/1904	Pilliod	100/DIG. 5
2,240,338	4/1941	Locke	99/443 C
2,484,506	10/1949	Hawk	425/376
3,213,783	10/1965	May et al.	100/DIG. 8
3,229,622	1/1966	French et al.	100/98 R
3,384,007	5/1968	Boje et al.	100/229 A
3,520,411	7/1970	Busse et al.	100/250 X
3,577,911	5/1971	Morse	100/245
3,593,484	7/1971	Dussich	100/229 A X
3,789,752	2/1974	Wirz	100/98 R

Primary Examiner—Billy J. Wilhite

Attorney, Agent, or Firm—Shlesinger, Arkwright, Garvey & Dinsmore

[57] **ABSTRACT**

This invention is a trash compactor for compressing trash as it is moved in a horizontal direction, the compactor including a rectilinear section into which the trash is placed, a power member for forcing the trash through the rectilinear section and a curvilinear section into which the trash is forced for further compression. The curvilinear section is of sinuous or S-shape configuration and is disposed in either a vertical or horizontal plane. Engagement of the trash with the walls of the curvilinear section effect compaction of the trash prior to emission for disposal. A gate within the curvilinear section is operative to increase compaction therein before emission from the compactor.

18 Claims, 10 Drawing Figures

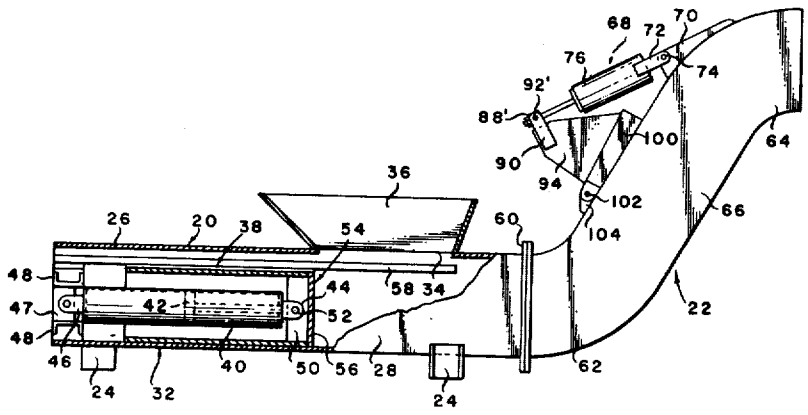


Fig. 1

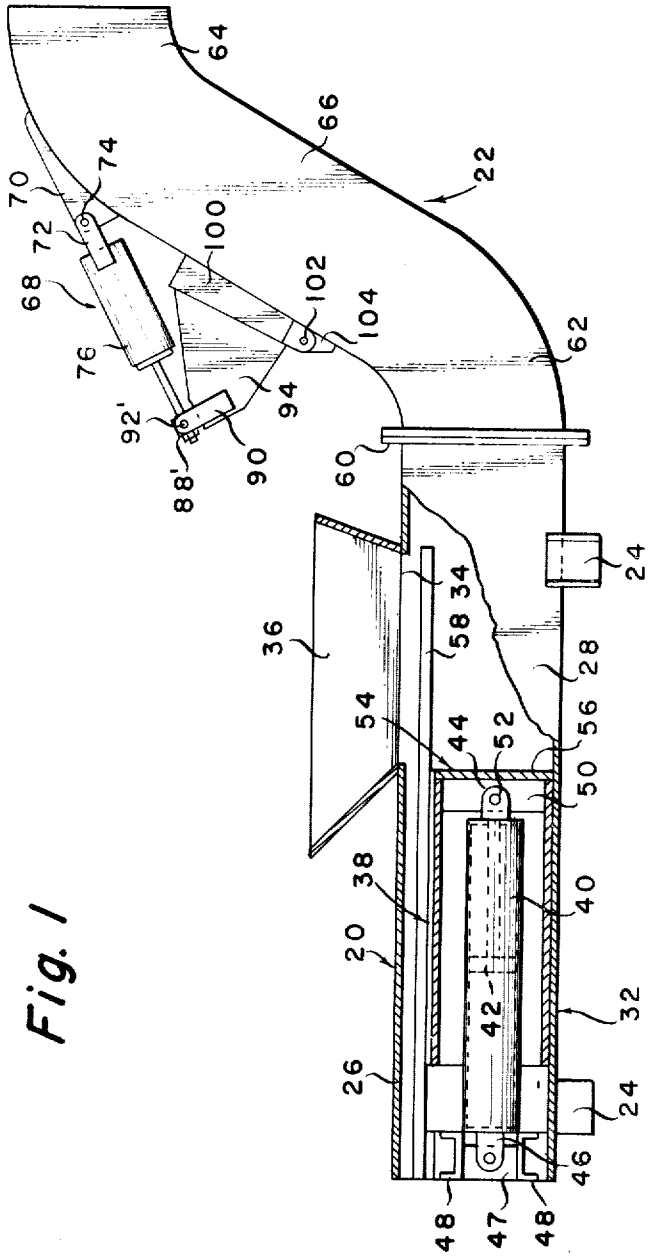

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Fig. 2

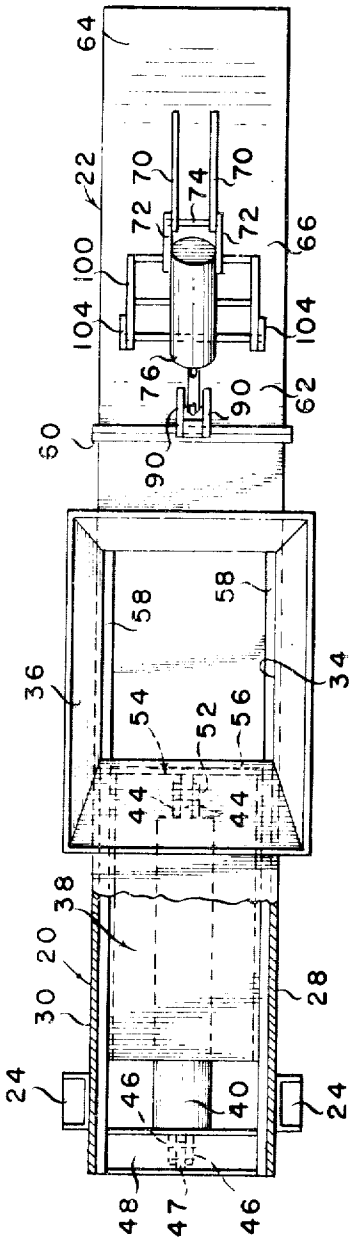
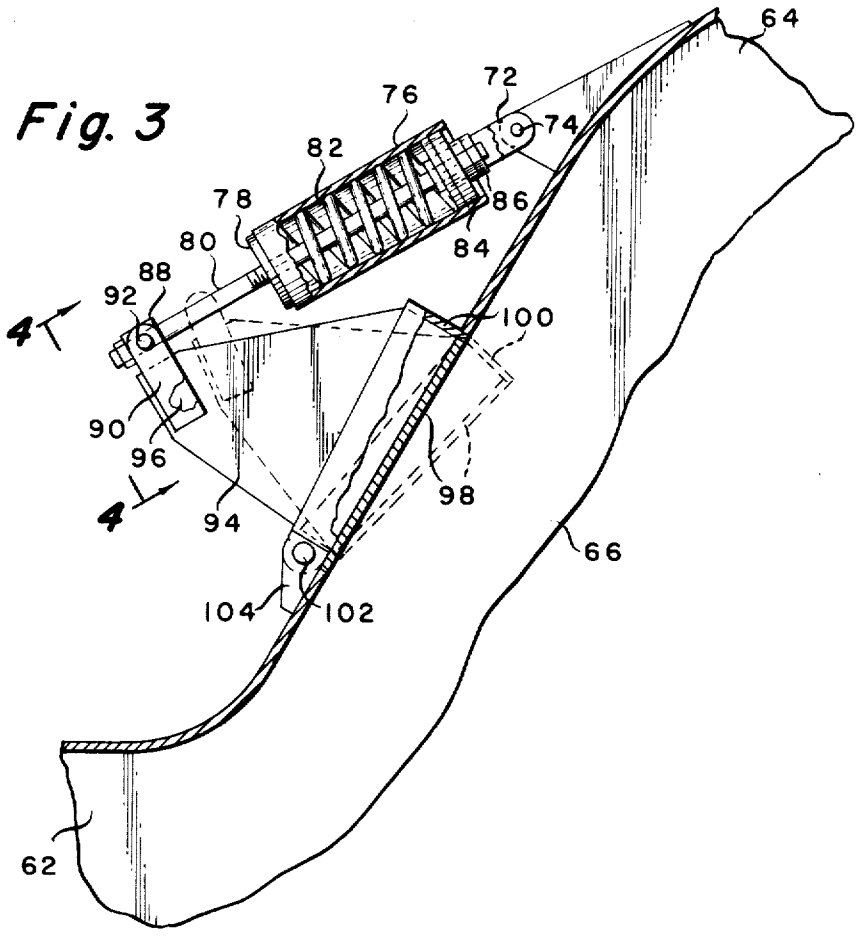

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Fig. 3


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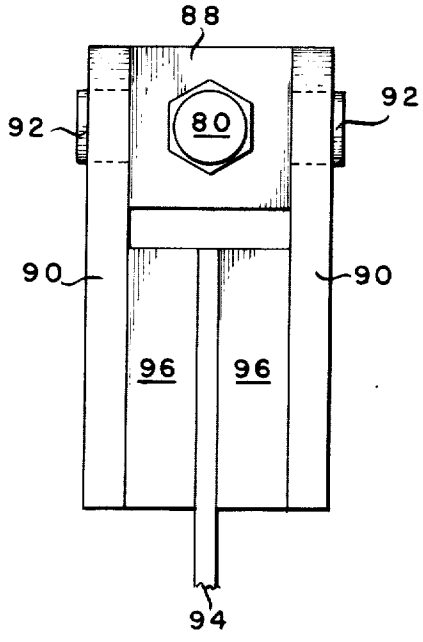

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Fig. 4

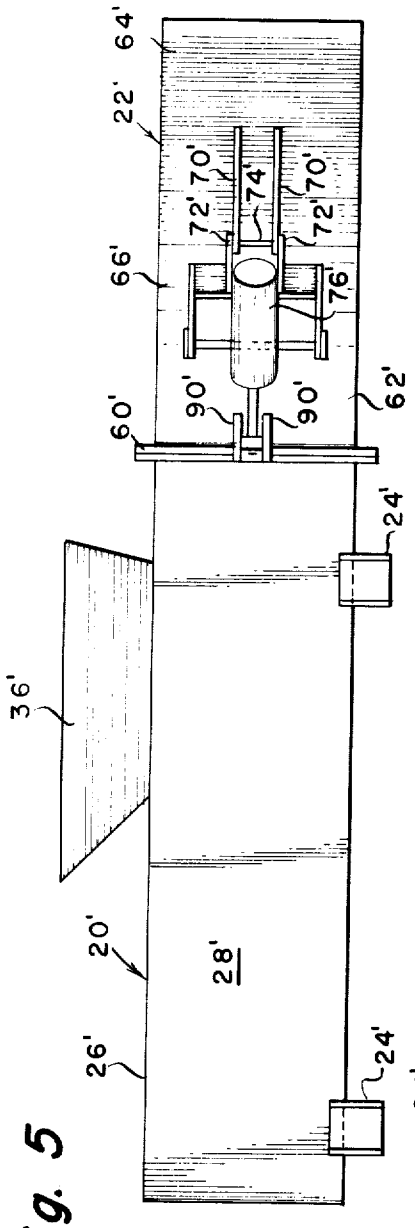

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Fig. 5

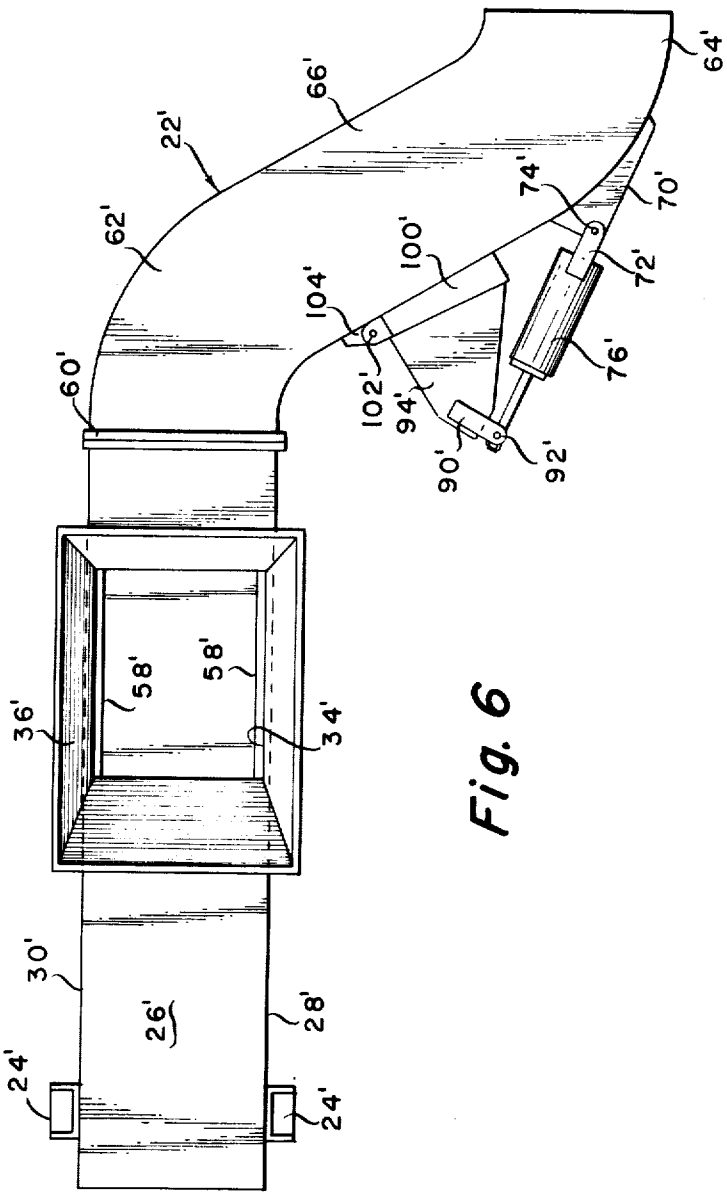

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Fig. 6

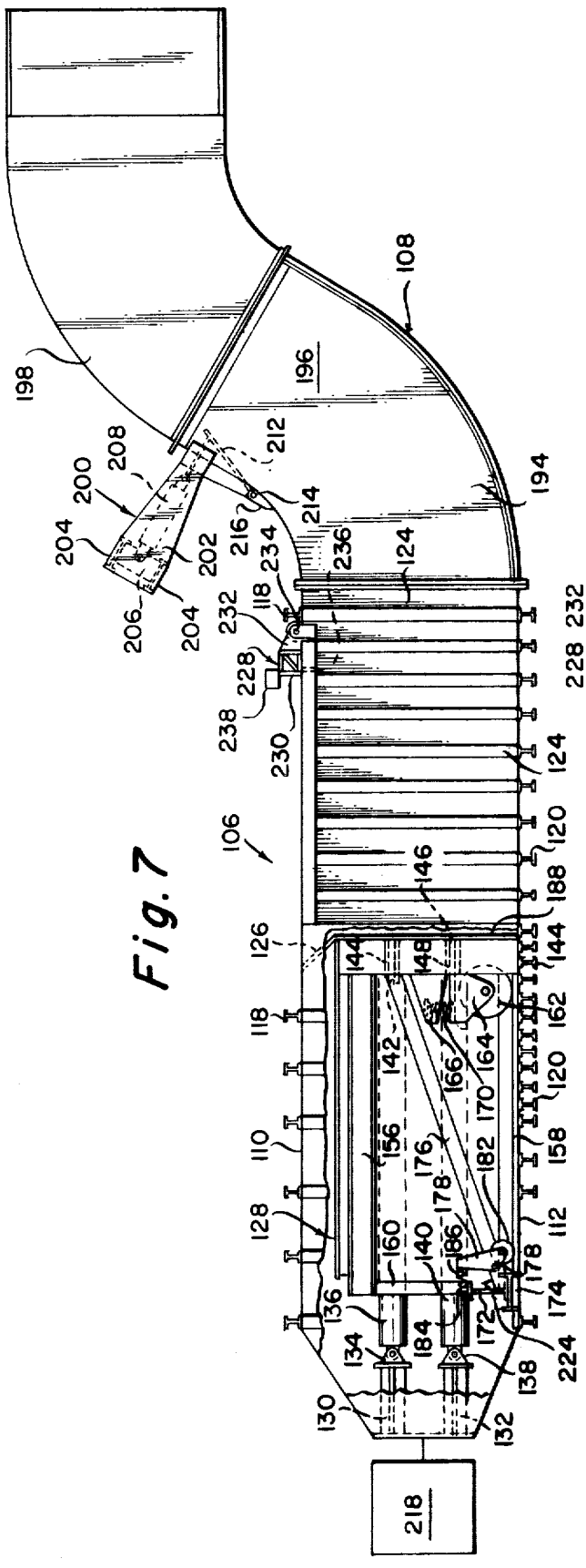

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Fig. 7

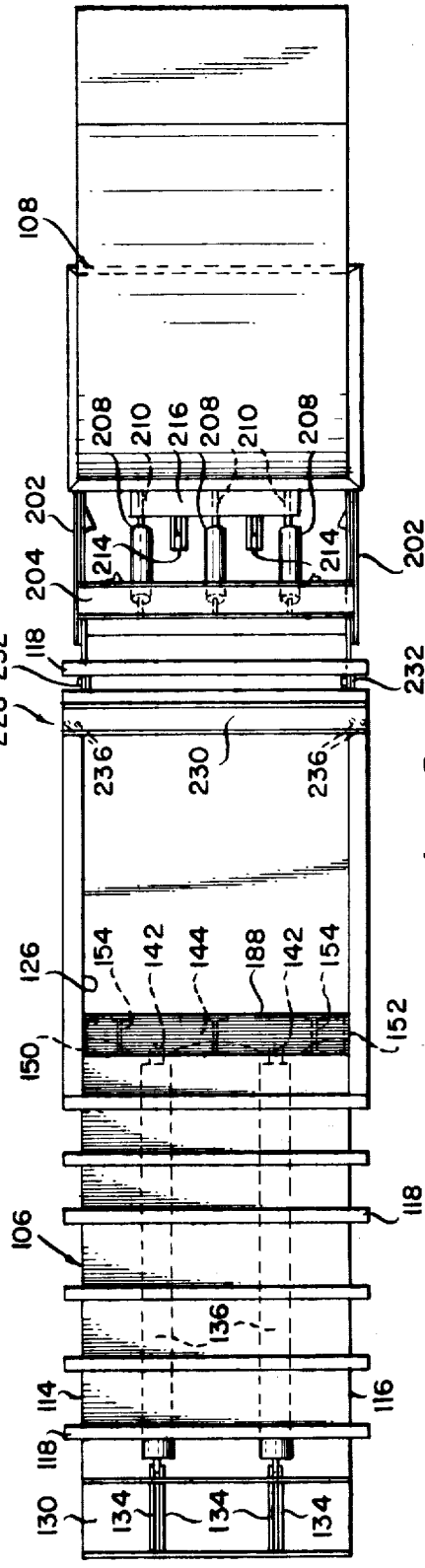

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Fig. 8

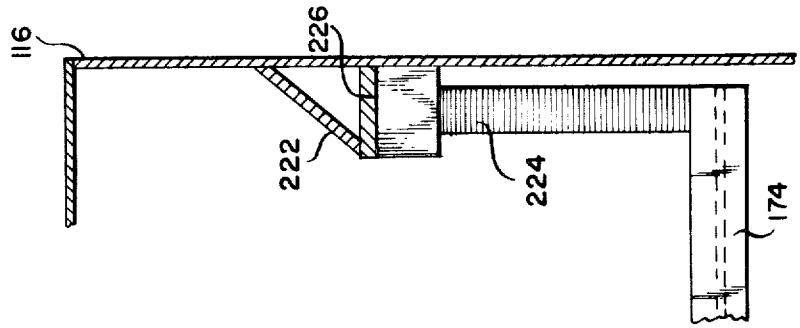

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Fig. 10

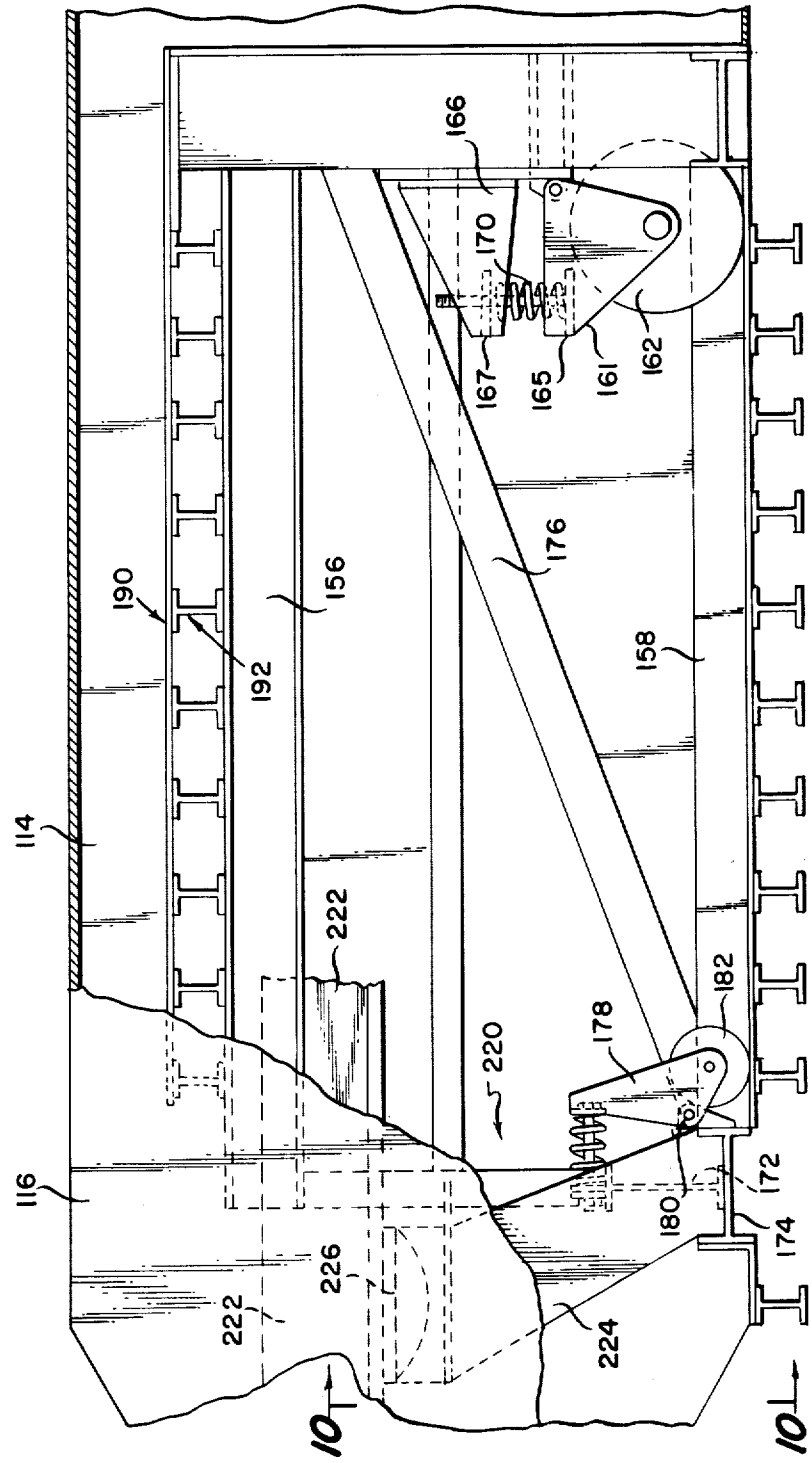

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Fig. 9

HORIZONTAL TRASH COMPACTOR

This application is a continuation-in-part of application Ser. No. **55,706,** filed July **17, 1970,** now U.S. Pat. No. **3,657,999.**

In my copending application there is disclosed apparatus for compacting trash by moving the trash horizontally through the rectilinear section into a curved portion where the trash is compacted by virtue of the frictional engagement of the trash with the walls of the curved section. It has been found that although the device of this invention is effective for compacting trash, it is desirable in some instances to effect a much greater compaction in order that the trash may take up a smaller volume of space upon disposal.

It is therefore an object of this invention to provide a trash compactor wherein the trash is compressed by forcing the same through a sinuous path, thereby producing compression by the frictional engagement of the trash with the walls of the compactor prior to removal for disposal.

Another object is to provide a trash compactor including a rectilinear portion lying in a horizontal plane and a curvilinear portion preferably of S-shape conformation, thereby forcing the trash to pass through a double curve section and be subjected to greater frictional resistance in passing through the compactor, for increased compaction of the trash.

A further object is to provide a device of the character described wherein gate means are provided in the curvilinear section for further increasing the compaction of the trash where desired, the gate means being selectively adjustable to reduce the size of the passage through which the trash passes, thereby increasing compaction of the trash.

A further object is to provide a compactor of the character described wherein the S-shape curvilinear section thereof is disposed in a vertical plane, thereby effecting greater compaction of the trash by forcing the trash to follow an upward path against the force of gravity, the compacted trash being delivered from the compactor appreciably above ground level, thereby enabling the same to be directly delivered onto a truck or other conveyance for removal.

A further object is to provide a compactor of the character described wherein the S-shape curvilinear section is disposed in a horizontal plane in order to permit delivery of the compacted trash to a point laterally of the compactor.

Other objects are to provide a trash compactor of the character described including a gate movable into the path of movement of trash within the curvilinear section for impeding the flow of trash therethrough, and increasing the compression of the trash; to provide a gate which is power operated for selective movement into operative position; to provide a gate which is spring-actuated for normally extending into the path of movement of the trash until the pressure of the trash against the gate overcomes the tension of the spring to force the gate to an open position, and to provide a spring-actuated gate, wherein the tension of the spring may be adjusted to vary the pressure by the trash required to open the gate.

Other objects will be apparent from the following description of the presently preferred forms of the invention taken in connection with the appended drawings wherein:

FIG. **1** is a side elevational view of a trash compactor constructed in accordance with the present invention, portions thereof being broken away to disclose details of construction;

FIG. **2** is a top plan view of the same;

FIG. **3** is an enlarged vertical section of a portion of the present invention, showing to advantage the spring-actuated gate forming a part thereof;

FIG. **4** is an elevational view taken along the line **4—4** of FIG. **3** looking in the direction of the arrows;

FIG. **5** is a side elevational view of a modified form of the invention illustrated in FIGS. **1** to **4**;

FIG. **6** is a top plan view of the form of invention illustrated in FIG. **5**;

FIG. **7** is a side elevational view of another modified form of the present invention, a portion thereof being broken away to disclose details;

FIG. **8** is a top plan view of the form of invention illustrated in FIG. **7**;

FIG. **9** is an enlarged side elevational view of a packerhead assembly comprising a part of the form of invention illustrated in FIG. **7**, and

FIG. **10** is a fragmentary sectional view taken along the line **10—10** of FIG. **9** looking in the direction of the arrows.

SUMMARY OF THE INVENTION

The present invention is a trash compactor which includes an elongated chamber comprising a rectilinear section which is disposed in a horizontal plane and a curvilinear section in communication with the rectilinear section. Trash is fed into the rectilinear section and moved towards the curvilinear section by a power member, and the major portion of the compression is effected within the curvilinear section.

The curvilinear section is of generally S-shape conformation so that, as the trash is fed into the compactor, it is forced to take a sinuous path, thereby effecting frictional engagement of the trash with the walls of the S-shape section, thereby compacting the trash.

A gate is movable into a portion of the curvilinear section to effect constriction of the passageway through which the trash travels, to increase the compression or compaction of the trash. This gate may be controlled manually or may be automatically operated through spring actuation.

The S-shape section of the compactor may line in a substantially vertical plane in order to effect increased compression of the trash by forcing the trash to move in an upward direction against the force of gravity, and this also effects delivery of the compacted trash at a point appreciably above the ground level for ready placement onto a vehicle for removal.

If desired, the S-shape section may lie in a horizontal plane for delivery of the compacted trash laterally of the compactor onto a railway car or other conveyance.

DESCRIPTION OF THE FORM OF INVENTION ILLUSTRATED IN FIGS. 1 TO 4

In FIGS. **1** to **4** there is illustrated a trash compactor constructed in accordance with one form of the present invention which includes an elongated chamber open at both ends and comprising a rectilinear section **20** which is in communication with a curvilinear section **22.** The compactor is preferably supported on pairs of legs indicated at **24.**

Rectilinear section **20** is preferably substantially square in cross section and includes a top **26**, sides **28** and **30** and a bottom **32**. A portion of top **26** is cut away to provide an opening indicated at **34**, and a hopper **36** is mounted on the top proximate to the opening to facilitate the delivery of trash to the interior of the rectilinear section.

A packer assembly **38** is mounted within rectilinear section **20**, as shown to advantage in FIG. **1**. This packer assembly is similar in construction to that illustrated in Application Serial No. **55,706**, and includes a horizontally disposed power cylinder **40** provided with a piston **42**, the free terminal of which is bifurcated to provide spaced ears **44**. The opposite terminal of cylinder **40** is also provided with a pair of spaced ears **46** between which a vertical support **47** fits between spaced horizontal supports **48**.

Ears **44** connected to piston **42** is engaged with vertical support **50** by pin **52**.

The packer assembly further includes a packer member **54** which is preferably square in cross section and provided with a front presser plate **56** connected to one end thereof. Packer member **54** is connected to support **50** and is movable longitudinally of the rectilinear section upon extension of piston **42**. Longitudinal guides are indicated at **58**. Beyond opening **34** and hopper **36**, the terminal of rectilinear section **20** is joined at **60** to curvilinear section **22**.

As shown in FIG. **1**, curvilinear section **22** is preferably of S-shape conformation and includes reversibly curved portions **62** and **64** which are connected by a straight portion **66**. Curvilinear section **22** is preferably of uniform cross sectional area throughout its length and, in the form of invention illustrated in FIG. **1**, the curvilinear section is disposed in a vertical plane with the outlet thereof in a horizontal plane appreciably above that of rectilinear section **20**.

By having the output of the compactor considerably spaced from ground level, the trash may be delivered directly onto a truck or other conveyance for removal to a disposal site. Also, as the trash is forced through the curvilinear section, it is forced to take a sinuous path whereby it first frictionally engages the walls of curved portion **62** and then the walls of curved portion **64**, thereby effecting compaction of the trash. Additional compaction is also effected by forcing the trash upwardly through curved portions **62** and **64** and straight section **66** against the force of gravity.

With the apparatus of the present invention, the compression of the trash may be further increased by means of a gate assembly **68** which is mounted on curvilinear section **22** and is effective to reduce the cross section area thereof to the desired degree for greater compaction of the trash.

Gate assembly **68** includes spaced brackets **70** mounted on the upper side of curved portion **64** in spaced parallel relationship. A pair of spaced parallel links **72** are hingedly connected at **74** to brackets **70**, the free terminals of links **72** being fixed to opposite sides of a cylinder **76**.

Referring now to FIG. **3**, it will be seen that one terminal of cylinder **76** is provided with an end cap **78** through which a threaded shaft **80** passes. A convolute spring **82** of the type employed for railroad cars is placed within cylinder **76** about threaded shaft **80**, one end of the spring being engaged with cap **78** and the opposite end thereof being engaged by a movable end plate **84**. Threaded shaft **80** extends through and beyond movable plate **84** and adjustment nuts **86** are threaded on the end of shaft **80** to relocate end plate **84** within the cylinder **76** in order to effect the desired spring tension. Shaft **80** extends through a block **88**, the lateral edges of which block are connected to ears **90** by pins **92**. As illustrated in FIG. **4**, a connector **94** is located between ears **90** and joined thereby by spacers **96**. An edge portion of connector **94** remote from shaft **80** is fixed to a gate or door **98** which is substantially perpendicular thereto. Gate **98** is provided with a peripheral upstanding frame **100** which is hingedly connected at **102** to supporting ears **104** mounted exteriorly of straight portion **66** of curvilinear section **22**.

As shown in FIG. **3**, gate **98** is movable in and out of an opening in straight portion **66** of curvilinear section **22**. Gate **98** assumes the position shown in dotted lines in FIG. **3** when no trash is within the compactor. This is effected by spring **82** exerting a longitudinal force on threaded shaft **80** in the direction of curved portion **64** against movable cap plate **84**, causing a corresponding movement of connector **94** and inward motion of gate **98** about hinge **102**.

Since gate **98** is normally located within the straight portion of curvilinear section **22**, any movement thereof to the full lines position shown in FIG. **3** is accomplished by virtue of the compacted trash exerting sufficient pressure on the gate to cause compression of spring **82**. The force which must be exerted to overcome the tension of the spring may be varied by adjusting nuts **86**. This regulates the pressure which must be exerted on gate **98** before it is rotated about hinge **102** to fully open the curvilinear section for passage of trash therethrough.

OPERATION

In use of the compactor of this form of the present invention, trash is admitted to the interior of the compactor through hopper **36**, after which packer assembly **38** is actuated to move packer member **54** longitudinally of the rectilinear section, thereby forcing the trash ahead of it in the direction of curvilinear section **22**. Continued reciprocation of packer member **54** causes the trash to be forced into curved portion **62** of curvilinear section **22** where it is compressed by virtue of the frictional engagement of the walls of the curved portion with the trash. The trash is then forced to move in an upward direction against the force of gravity through straight portion **66** where it engages gate **98** restricting the cross sectional area of the straight portion, thereby causing further compression of the trash until the pressure thereof overcomes the tension of spring **82**. This effects movement of the gate about hinge **102**, permitting the trash to pass upwardly into curved portion **64** where once again it is compacted further by frictional engagement with the walls thereof.

As the trash passes through curved portion **64**, it is bound together by the forces which have compressed the same into a shape corresponding to the cross sectional area of the outlet of the compactor. It may therefore be fed directly onto a flat bed truck or like conveyance since the outlet is appreciably above the ground level. When the conveyance is full, it may simply be removed and the compressed trash will break apart at the outlet of the compactor.

DESCRIPTION OF THE FORM OF INVENTION OF FIGS. 5 AND 6

In FIGS. **5** and **6** there is illustrated a modification of the form of invention illustrated in FIGS. **1** through **4** wherein the parts thereof are the same as illustrated in the form of invention of FIGS. **1** to **4** and accordingly are identified by like, primed numbers. However, in this form of the invention, as shown to advantage in the drawings, the S-shape rectilinear section **22'** is not disposed in a vertical plane but is disposed in a horizontal plane so that the trash is directed laterally of the rectilinear section **20'** of the compactor. This form of the invention is particulary adapted for applications where it is desired to deliver the compressed trash laterally of the unit, such as for example, onto a railway car or the like. The operation and the manner of usage in this form of the invention is the same as described above in connection with the form of invention illustrated in FIGS. **1** to **4**.

DESCRIPTION OF THE FORM OF INVENTION AS ILLUSTRATED IN FIGS. 7 TO 10

In FIGS. **7** to **10** there is illustrated a modified form of trash compactor of the present invention which is particularly adapted for use as a transfer station where large quantities of trash may be compacted prior to removal for disposal.

The horizontal trash compactor of this form of invention includes an elongated chamber having a rectilinear section **106** to which is connected a curvilinear section **108.**

Rectilinear section **106** includes a top **110,** a bottom **112** and sides **114** and **116.** The chamber formed between the top, bottom and sides of the rectilinear section are reinforced throughout their length by horizontal reinforcing means **118** secured to top **110,** horizontal beams **120** secured to bottom **112,** vertical beams secured to side **114** and vertical beams **124** secured to side **116.**

A portion of top **110** is removed to provide an opening or hopper **126** through which the trash to be compacted is admitted to the interior of the rectilinear section.

In order to effect compaction of the trash, there is provided a mobile packerhead assembly generally designated **128.** Packerhead assembly includes a pair of spaced, horizontally disposed I-beams **130** and **132** extending between sides **114** and **116** of the rectilinear section at the end thereof. I-beam section **130** is provided with two pairs of spaced ears **134** between which a pair of power cylinders **136** are connected. I-beam **132** is also provided with two pairs of spaced ears **138** to which power cylinders **140** are connected.

The forward end of power cylinders **136** are provided with pistons **142,** the outer ends of which are connected to a cross member **144.** In like manner, power cylinders **140** are provided with pistons **146,** the outer ends of which are connected to a cross member **148** which is in spaced parallel relationship to cross member **144.** The lateral extremities of cross members **144** and **148** are connected to vertical supports **150** and **152.** Intermediate vertical supports are indicated **154.**

Upper side rails **156** extend rearwardly from vertical supports **154** in spaced relation to top **110.** Bottom side rails are indicated at **158** and are located proximate bottom wall **112.** Vertical connectors are indicated at **160.**

In order to facilitate movement of the packerhead assembly, there are provided on each side thereof a pair of front wheels **162** rotatably mounted in bracket supports **164** which are hingedly engaged with vertical supports **154** and **152.** A second bracket support for each wheel is indicated at **166.** Flanges **165** and **167** extend from bracket supports **164** and **166** respectively and are connected by a bolt and spring assembly **170** for permitting limited vertical movement of wheels **162.**

At the aft end of the packerhead assembly, there is provided a cross beam **172** which is vertically disposed and is joined to a horizontally disposed cross beam **174.** Angular brace members **176** extend rearwardly from a point approximately the midpoint of vertical supports **150, 152** and **154** to the lower aft end of the packer member where it is secured to cross beams **172** and **174.** A pair of wheel brackets are indicated at **178** which brackets are hinged to brace **176** at **180,** the brackets rotatably supporting rear wheels **182.** The upper end of brackets **178** are connected to cross beam **172** by a bolt and spring assembly **186** for allowing limited movement of rear wheels **182** in a vertical plane.

A presser plate **188** is fixed to vertical support members **150, 152** and **154** for engaging the trash and pushing it in advance of the packerhead assembly. An upper plate is indicated at **190** which plate is secured to transfer braces **192** which span upper side rails **156.**

Curvilinear section **108** includes a curved portion **194** which is upwardly directed as indicated in FIG. **7,** which portion is connected by a straight portion **196** to a second curved portion **198** which is curved in a direction opposite to curved portion **194** thereby producing a curvilinear section of S-shape conformation similar to that illustrated in the form of the invention shown in FIGS. **1** to **6.**

A gate assembly is generally designated at **200** for restricting the flow of trash through the straight portion **196** thereby effecting compaction of the trash in addition to that already effected by virtue of the S-shape conformation of the curvilinear section. Gate assembly **200** generally includes a U-shape frame including side members **202** which are joined together by a pair of spaced I-beams **204.** A plurality of plates **206** are fixed between I-beam **204,** said plates being provided with openings to receive the terminals of spaced power cylinders **208.** Each cylinder is provided with a piston **210,** the outer end of which is connected to the upper limit of a gate **212** mounted in an opening in the top wall of straight portion **196.** Gate **212** is hingedly mounted at **214** on a support bar **216** mounted on the top of the curvilinear section. Upon actuation of the power cylinders **208** to extend the pistons **210,** gate **212** is pivoted inwardly about hinge **214** into the space within the curvilinear section to effect greater compaction of the trash in a manner similar to that shown and described in connection with the form of invention illustrated in FIGS. **1** to **4.**

Power cylinders **208** as well as power cylinders **136** and **140** are preferably of the hydraulic type and may be operated by suitable controls indicated at **218.** These controls are selectively operable to actuate the packerhead assembly to move the trash through the rectilinear section and also to actuate the gate assembly for effecting greater compaction when desired.

In order to prevent upward movement of packerhead assembly **128** as it moves longitudinally of rectilinear section **106**, there is provided a guide assembly generally designated **220**, which is shown to advantage in FIGS. **9** and **10**. Guide assembly **220** includes horizontal guide rails **222** of generally triangular shape which are mounted on the inner faces of sides **114** and **116** in the manner illustrated in FIG. **10**.

Stanchions **224** are welded or secured in any other manner at their lower end to the lateral limits of cross beam **174**, at the aft end of the compactor. As shown in FIGS. **9** and **10**, each stanchion extends upwardly, rearwardly and outwardly at an angle and a cast iron wear shoe **226** is mounted on the top of the stanchion. As the packerhead assembly moves longitudinally of rectilinear section **106**, wear shoes **226** engage guide rails **222** to prevent upward movement of the rear of the assembly upon engagement of presser plate **188** with the trash.

The present invention further includes a breaker bar assembly **228** which is mounted on top **110** of rectilinear section **106** adjacent the front of trash opening **126**. The breaker bar assembly is substantially coextensive with the width of top **110** and serves to prevent jamming of trash between packerhead of assembly **128** and top **110**.

Breaker bar assembly **228** includes a box-like member **230** which extends transversely of top **110**, the terminals of which are secured to brackets **232** hingedly connected to rectilinear section **106** at **234**. Member **230** is normally maintained in contiguous relation with top **110** by a plurality of bolts **236**. In the event that trash becomes wedged between the top of the rectilinear section and the packerhead assembly, pressure is exerted against the breaker bar assembly. Upon exertion of a predetermined pressure on the breaker bar assembly, bolts **236** will break and member **230** will pivot about hinge **234**. Movement of member **230** actuates a switch **238** connected to controls **218** for shutting down the machine to prevent longitudinal movement of the packerhead assembly with possible damage thereto. After the trash is removed from wedging engagement with the compactor, and bolts **236** replaced, the compactor is ready for operation.

The operation of this form of the invention is similar to that described above in connection with the form of invention illustrated in FIGS. **1** to **4**. In this form of the invention, however, the unit is so constructed that large quantities of trash may be compacted in the order of **1,800** pounds per linear foot.

With the apparatus of the present invention efficient means are provided for compacting trash preparatory to removal thereof to a disposal site. Compaction is effected in a lateral direction and the sinuous or S-shaped configuration of the curvilinear path forces the trash to follow a siimilar path whereby it must pass through a double curve. The friction exerted by the double curve on the trash effects compression of the trash which compression may be increased when desired, by the gate operable within the curvilinear section. When the curvilinear section is disposed in a vertical plane, compression is increased by forcing the trash to move in an upward direction against the force of gravity.

While there has been herein shown and described the presently preferred forms of this invention, it is to be understood that such has been done for purposes of illustration only, and that various changes may be made within the scope of the appended claims.

What I claim is:

1. A trash compactor comprising:
a. an elongated chamber,
b. said chamber including a rectilinear section and a curvilinear section,
c. said curvilinear section being of S-shape conformation and comprising a pair of spaced, reversely curved portions connected by a straight portion,
d. means for admitting trash to the interior of said rectilinear section,
e. a packer assembly movable longitudinally of said rectilinear section for forcing trash in advance thereof into said S-shape curvilinear section, whereby the trash is compressed by frictional engagement with the wall thereof, and
f. power means engageable with said packer assembly for moving the latter longitudinally of said rectilinear section.

2. The trash compactor of claim **1** wherein:
a. said curvilinear section of S-shape conformation lies in a vertical plane.

3. The trash compactor of claim **1**, wherein:
a. said curvilinear section of S-shape conformation lies in a horizontal plane.

4. The trash compactor of claim **1**, with the addition of:
a. gate meanas positioned on said curvilinear section and movable into the interior thereof, for impeding the passage of trash therethrough, to effect compaction of the trash, and
b. means for moving said gate means into said curvilinear section.

5. The trash compactor of claim **4**, wherein:
a. said means for moving said gate means into said curvilinear section comprises a spring member engaged with said gate means for normally moving the latter inwardly of said curvilinear section to an operative position,
b. said gate means being forced to an inoperative position against the tension of said spring member by a predetermined force created within said curvilinear section by the trash being forced therethrough.

6. The trash compactor of claim **4**, wherein:
a. said means for moving said gate means comprises power members carried by said curvilinear section and engageable with said gate means.

7. The trash compactor of claim **1**, wherein:
a. said means for admitting trash to the interior of said rectilinear section includes an opening therein.

8. The trash compactor of claim **7**, with the addition of:
a. a hopper mounted on said rectilinear section circumjacent the opening therein for facilitating the delivery of trash through the opening to the interior of the rectilinear section.

9. A trash compactor comprising:
a. an elongated chamber,
b. said chamber including a rectilinear section and a curvilinear section,
c. said curvilinear section being of S-shape conformation and comprising a pair of spaced, reversely curved portions connected by a straight portion,
d. an opening in the rectilinear section for admitting trash to the interior thereof,

e. a gate hingedly engaged with said curvilinear section,
f. spring means carried by said curvilinear section,
g. connecting means extending from said spring means to said gate for normally urging said gate inwardly of said curvilinear section, for impeding the passage of trash therethrough, and
h. a packer assembly movable longitudinally of said rectilinear section for forcing trash in advance thereof into said S-shape section, whereby the trash is compressed by frictional engagement with the walls of the S-shape section and
i. power means engageable with said packer assembly for moving the latter longitudinally of said rectilinear section.

10. The trash compactor of claim **9**, wherein:
a. said spring mans includes a cylinder having a cap at one end,
b. means connecting one end of said cylinder to said curvilinear section,
c. a threaded shaft extending through said end cap into said cylinder,
d. a convolute spring within said cylinder around the threaded shaft,
e. one end of said convolute spring being engaged with said end cap,
f. a movable end plate positioned within said cylinder and engaged by the free end of said convolute spring, and
g. means engaged with the terminal of said threaded shaft proximate said end plate, said means being adjustable longitudinally of said threaded shaft to relocate said movable end plate to vary the spring tension on said gate.

11. The trash compactor of claim **9**, wherein:
a. said curvilinear section is disposed in a vertical plane.

12. The trash compactor of claim **9**, wherein:
a. said curvilinear section is disposed in a horizontal plane.

13. The trash compactor of claim **9**, wherein:
a. said packer assembly includes a cylinder and piston within said rectilinear section,
b. said cylinder being stationarily engaged with said rectilinear section,
c. a packer head carried by, and movable with, said piston for moving trash in advance thereof longitudinally of the rectilinear section, and
d. guide means on said rectilinear section for preventing vertical movement of said packer head.

14. A trash compactor comprising:
a. an elongated chamber,
b. said chamber including a rectilinear section and a curvilinear section,
c. said curvilinear section being of S-shape conformation and comprising a pair of spaced, reversely curved portions connected by a straight portion,
d. means for admitting trash to the interior of said rectilinear section,
e. a packer assembly comprising a mobile member movable longitudinally of said rectilinear section,
f. power means engageable with said packer assembly for moving the latter longituinally of said rectilinear section, and
g. gate means movable into said curvilinear section for impeding the passage of trash therethrough, to effect compaction of the trash, and
h. power means for moving said gate means into said curvilinear section.

15. The trash compactor of claim **14**, wherein:
a. said means for admitting trash to the interior of said rectilinear section comprises an opening therein, and
b. means on said rectilinear section adjacent the opening for preventing wedging of trash between said chamber and packer assembly.

16. The trash compactor of claim **15**, wherein:
a. said means on said rectilinear section includes a breaker bar assembly,
b. said breaker bar assembly comprising a boxlike member extending transversely of, and in engagement with, said rectilinear section,
c. said box-like member bieng hingedly engaged with said rectilinear section,
d. bolts securing said box-like member to said rectilinear section,
e. said bolts being broken upon application of force on said box-like member by trash, whereby said boxlike member moves out of engagement with said rectilinear section, and
f. switch means actuated by said box-like member upon movement of the latter,
g. said switch means being in operative engagement with said power means for halting movement of said packer assembly.

17. The trash compactor of claim **14**, with the addition of:
a. guide means for preventing vertical movement of said packer assembly.

18. The trash compactor of claim **17**, wherein:
a. said guide means comprises guide rails extending longitudinally of said elongated chamber, and
b. wear shoes mounted on said packer assembly and in sliding engagement with said guide rails.

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