Dec. 5, 1961 G. B. HOLTZCLAW 3,011,830

STATIONARY TEXTILE WASTE RECEPTACLE FOR TRAVELING SUCTION CLEANER

Filed Feb. 3, 1960 5 Sheets-Sheet 1

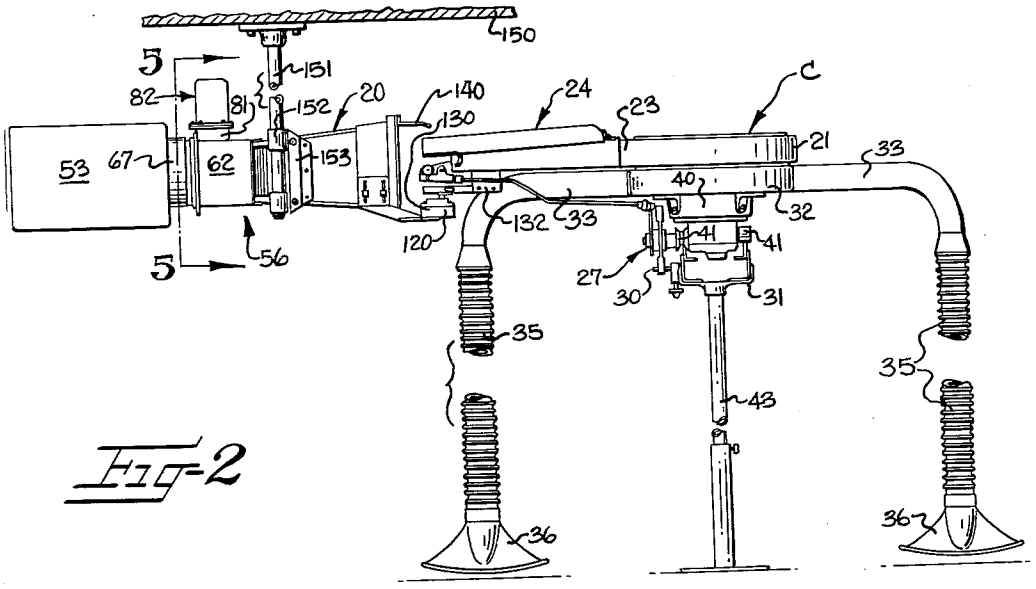


Fig-2

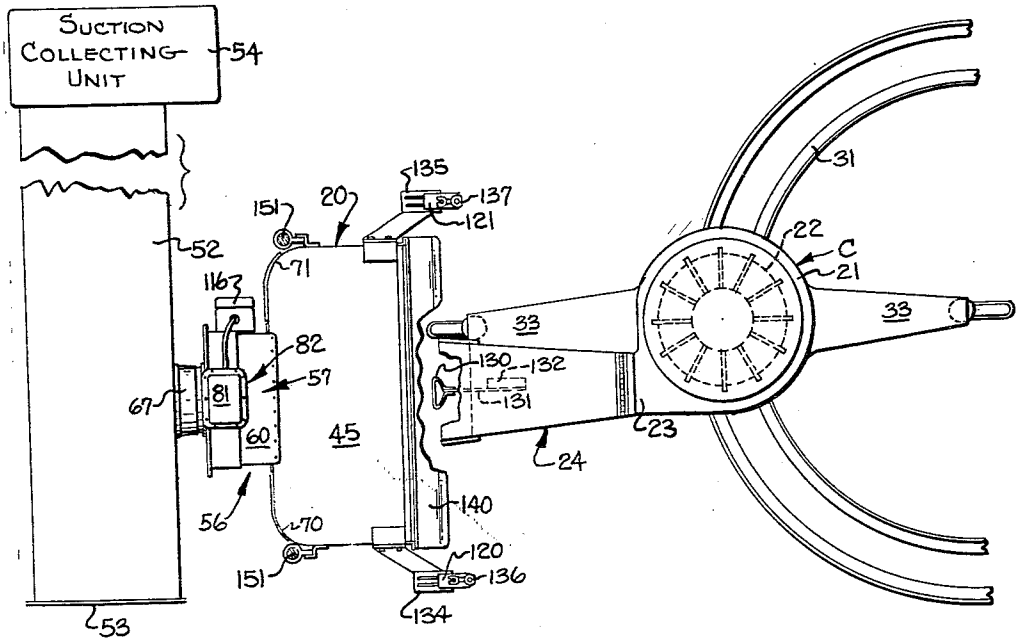


Fig-1

INVENTOR
GROVER B. HOLTZCLAW

BY Eaton, Bell, Hunt & Seltzer
ATTORNEYS

Dec. 5, 1961 G. B. HOLTZCLAW 3,011,830

STATIONARY TEXTILE WASTE RECEPTACLE FOR TRAVELING SUCTION CLEANER

Filed Feb. 3, 1960 5 Sheets-Sheet 2

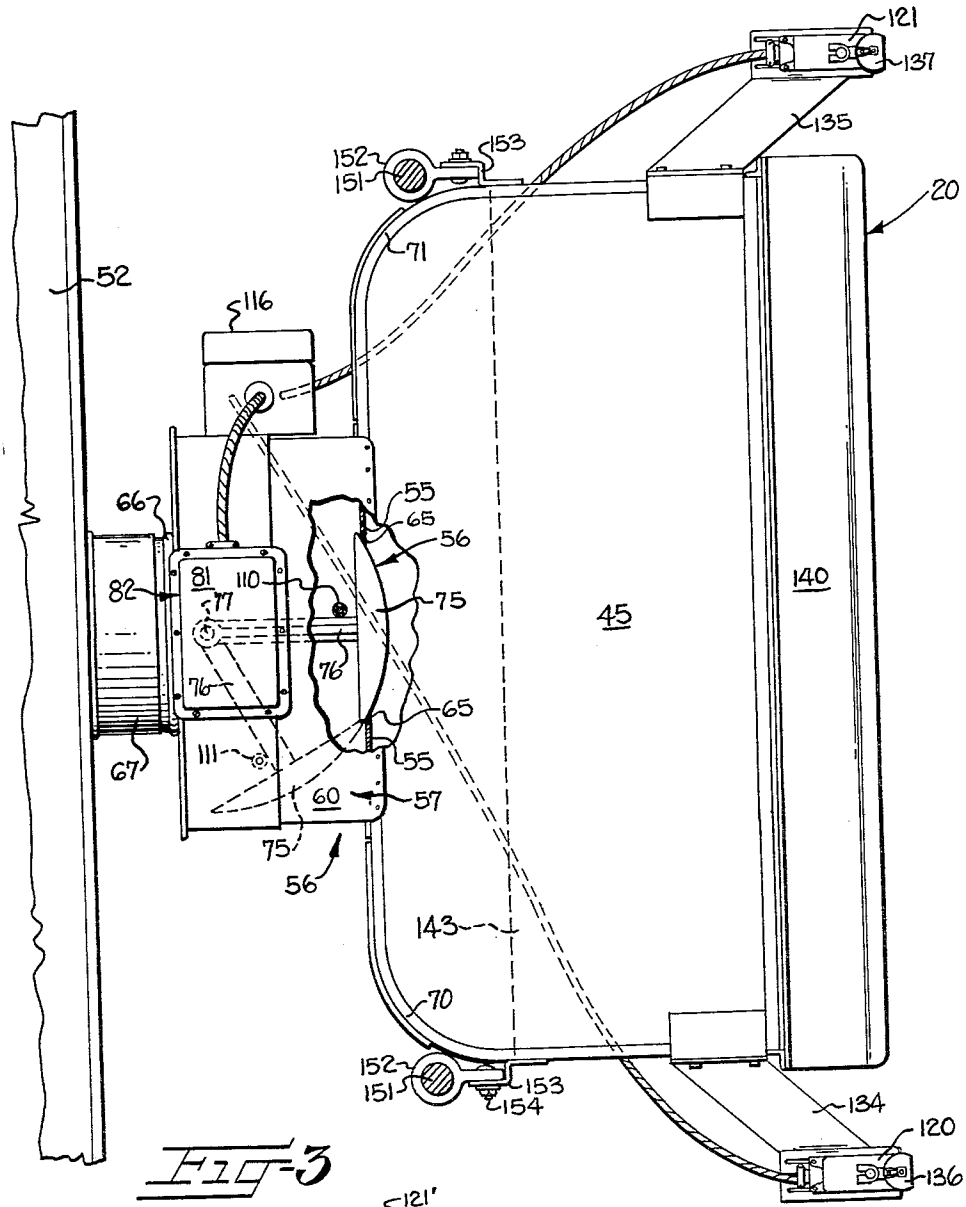


Fig-3

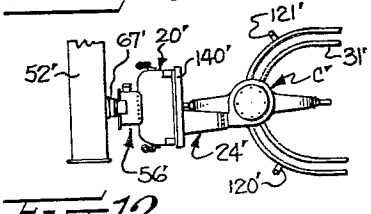


Fig-12

INVENTOR
GROVER B. HOLTZCLAW

BY Eaton, Bell, Hunt & Seltzer

ATTORNEYS

Dec. 5, 1961 G. B. HOLTZCLAW 3,011,830

STATIONARY TEXTILE WASTE RECEPTACLE FOR TRAVELING SUCTION CLEANER

Filed Feb. 3, 1960 5 Sheets-Sheet 3

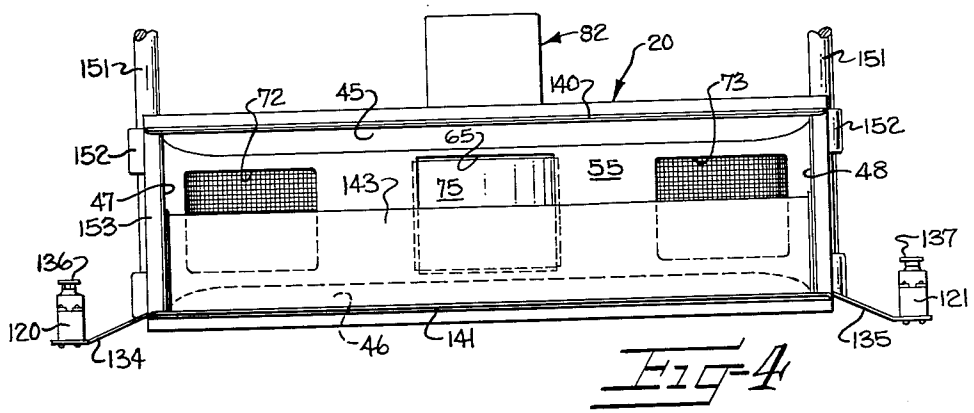


Fig-4

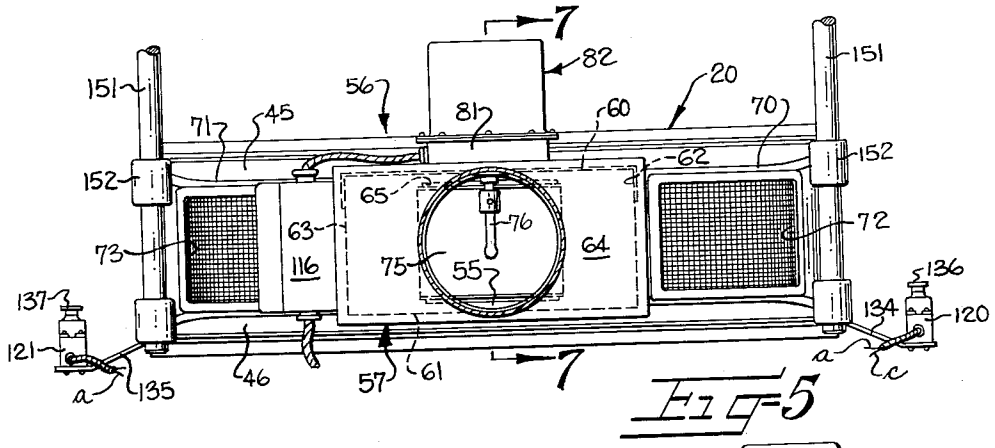


Fig-5

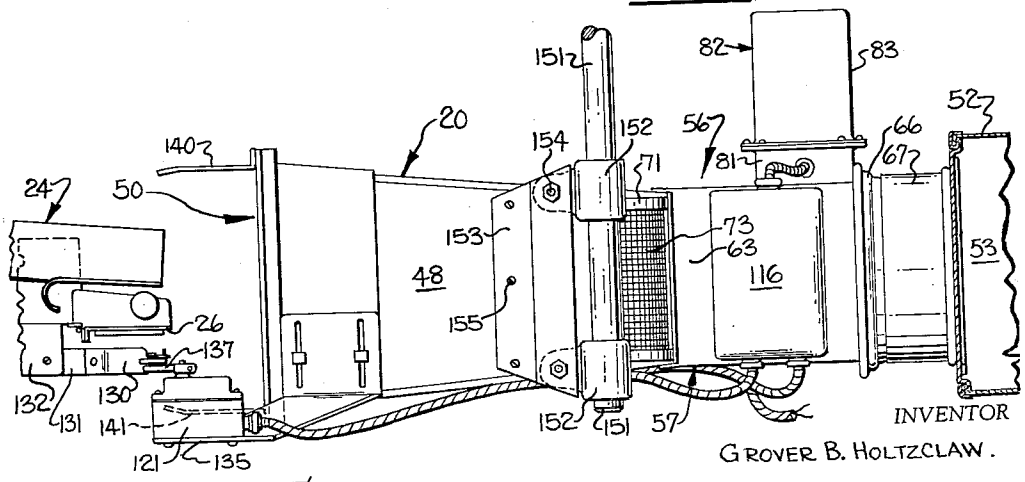


Fig-6

INVENTOR
GROVER B. HOLTZCLAW.

BY Eaton, Bell, Hunt & Deltzer
ATTORNEYS

Dec. 5, 1961 G. B. HOLTZCLAW 3,011,830

STATIONARY TEXTILE WASTE RECEPTACLE FOR TRAVELING SUCTION CLEANER

Filed Feb. 3, 1960 5 Sheets-Sheet 4

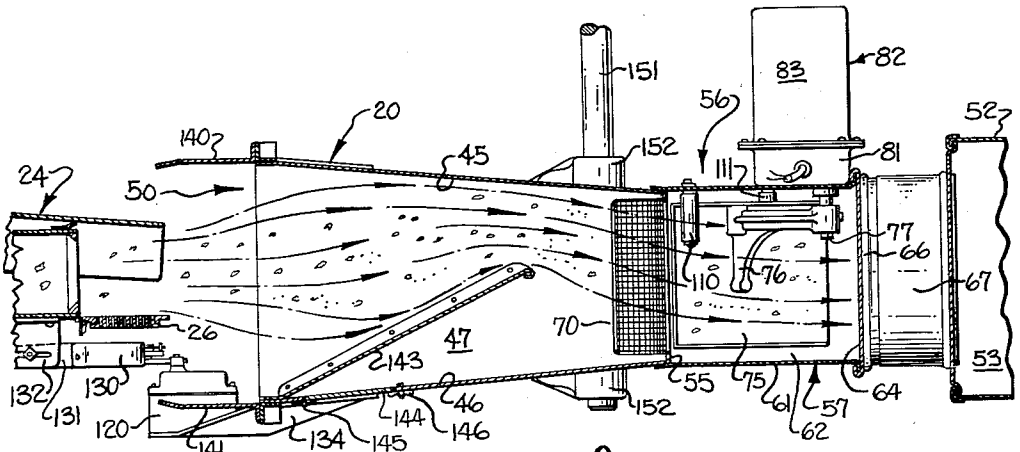


Fig-7

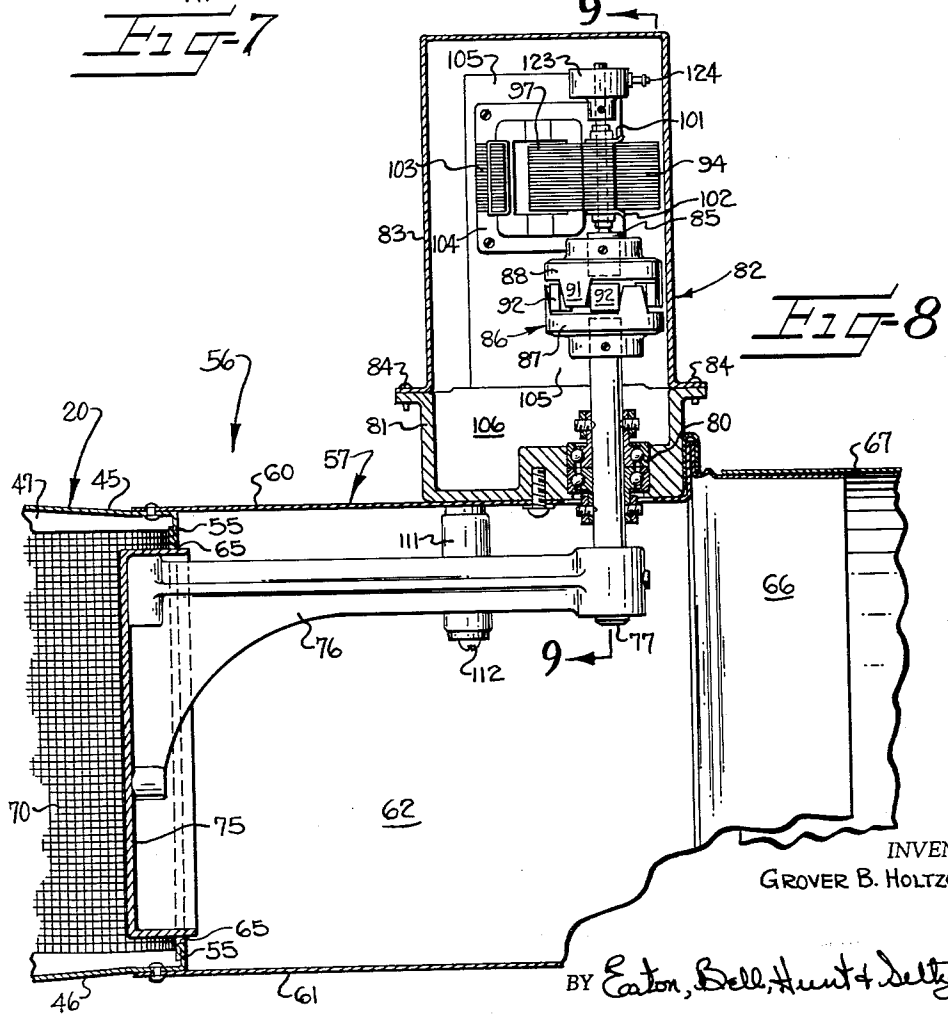


Fig-8

INVENTOR
GROVER B. HOLTZCLAW

BY Eaton, Bell, Hunt & Deltzer
ATTORNEYS

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STATIONARY TEXTILE WASTE RECEPTACLE FOR TRAVELING SUCTION CLEANER

Filed Feb. 3, 1960 5 Sheets-Sheet 5

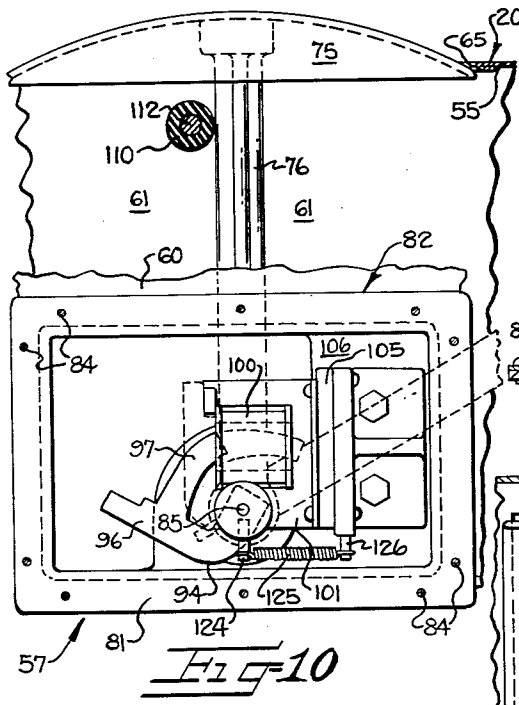


Fig-10

Fig-9

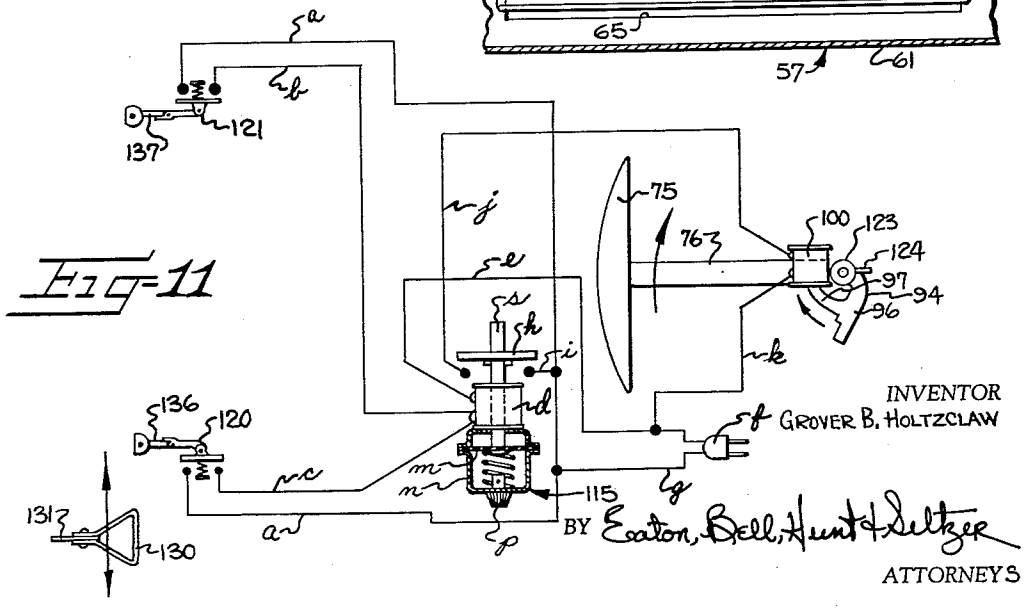


Fig-11

INVENTOR
GROVER B. HOLTZCLAW

BY Eaton, Bell, Hunt & Seltzer
ATTORNEYS

United States Patent Office 3,011,830 Patented Dec. 5, 1961

3,011,830

STATIONARY TEXTILE WASTE RECEPTACLE FOR TRAVELING SUCTION CLEANER

Grover B. Holtzclaw, Charlotte, N.C., assignor to Parks-Cramer Company, Fitchburg, Mass., a corporation of Massachusetts

Filed Feb. 3, 1960, Ser. No. 6,408
8 Claims. (Cl. 302—40)

This invention relates to the art of removing textile waste, such as lint, dust and other light material, from room and machine surfaces and adjacent areas in manufacturing plants; textile mills in particular. More particularly, this invention relates to an improved waste receptacle particularly devised for receiving waste from overhead traveling suction cleaners of a type such as is disclosed in my copending United States application, Serial No. 757,809, filed August 28, 1958, and entitled Method of Cleaning Floors in Textile Mills, of which this application is a continuation-in-part.

Said copending application discloses a traveling suction cleaner comprising a blower movable upon a track located above a row or rows of textile machines, with a tubular member connected to the air inlet of the blower at one or opposite sides of the textile machines. The tubular members are provided with suction nozzles arranged to be disposed in close proximity to the floor on which the textile machines are located, and in some cases, close to other room and/or machine surfaces past which the cleaner moves. The blower produces suction currents in the nozzles and the tubular members and also produces a continuous blast of air which, together with entrained waste, is directed into a communicating collection chamber movable with the blower and which is at least partially perforate and is provided with a normally closed discharge opening therein which may be momentarily opened for discharging the contents of the collection chamber therefrom.

A normally closed, preferably stationary, collection device or receptacle is positioned closely adjacent the path of the traveling cleaner for receiving the lint and other foreign matter from the collection chamber carried by the traveling cleaner, and the stationary receptacle is communicatively connected with a duct and a suction means for carrying the waste directed thereinto away from the same to a collecting station.

In order that a relatively small motor may be used for driving the suction fan for producing suction in the duct connected to the stationary receptacle, it is necessary that the passageway between the stationary receptacle and the duct be closed by a gate at all times, excepting the intervals during which the traveling cleaner is in immediate alinement with the open end of the receptacle. The stationary receptacle of said copending application has operated satisfactory in many respects, but the gate thereof was opened by an abutment moving with the traveling cleaner, which abutment engaged a lever connected to a mechanism which was, in turn, connected to the gate. The gate was returned to closed position by a spring. The construction of this prior stationary waste receptacle and its door opening device did not provide the accurately timed alinement of open passageways needed for the proper transfer of waste from the traveling collection chamber to the stationary receptacle and into the duct leading to the central collecting station.

It is therefore an object of this invention to provide an improved, stationary, lint receiving receptacle having a wide mouth which is open at all times and having, in its wall opposite from said mouth, an egress opening communicating with a source of suction which is opened and closed by a movable gate, the intervals during which

the gate is opened being accurately controlled independently of the rate at which the traveling cleaner moves past the mouth of the receptacle, even though the initial opening of the gate, in each instance, is effected by the movement of the traveling cleaner into approaching relationship with said receptacle.

It is another object of this invention to provide a waste receiving receptacle of the character last described wherein opposed wall portions of the receptacle, adjacent opposite sides of the gate, are perforate or provided with screens, said screens or perforate portions serving to permit inward flow of air, induced by the suction at the egress opening, to enter said screens and thus draw any waste, which may have accumulated against said screens, away from said screens through the egress opening and into the duct, and when waste is being discharged into the receptacle from the collection chamber of the traveling cleaner, the perforate or screened surfaces permit some air from the collection chamber to blow outwardly through the screened surfaces and thus prevent undue turbulence and rebound of air currents and entrained waste.

Some of the objects of the invention having been stated, other objects will appear as the description proceeds when taken in connection with the accompanying drawings, in which—

FIGURE 1 is a top plan view of a traveling suction cleaner of the character disclosed in said copending application mounted on a curved portion of an overhead track and showing the improved waste receptacle adjacent the path of the collection chamber of the traveling cleaner;

FIGURE 2 is an elevation taken as though looking upwardly from the bottom of the drawing in FIGURE 1, with parts broken away;

FIGURE 3 is an enlarged top plan view of the waste-receiving receptacle in the left-hand portion of FIGURE 1 showing the gate in closed position in solid lines;

FIGURE 4 is a front elevation of the waste-receiving receptacle, on a reduced scale, looking at the mouth thereof or at the right-hand side thereof in FIGURE 3;

FIGURE 5 is an enlarged rear elevation of the improved waste-receiving receptacle, partially in section, taken substantially along line 5—5 in FIGURE 2;

FIGURE 6 is an enlarged side elevation of the improved waste-receiving receptacle, with parts broken away, looking at the right-hand side of FIGURE 4, and also showing a portion of the collection chamber of the traveling suction cleaner in association therewith (FIGURE 6 shows the opposite side of the waste-receiving receptacle from that shown in FIGURE 2);

FIGURE 7 is a longitudinal vertical sectional view through the waste-receiving receptacle and the portion of the traveling collection chamber shown in FIGURE 6, but being taken substantially along line 7—7 in FIGURE 5, but showing the gate of the receptacle in open position;

FIGURE 8 is a greatly enlarged view of the structure shown in the right-hand portion of FIGURE 7, and wherein the mechanism for operating the door or gate is shown in detail with the gate being shown in closed position;

FIGURE 9 is a vertical sectional view of the gate operating mechanism taken substantially along line 9—9 in FIGURE 8;

FIGURE 10 is a top plan view of the structure shown in FIGURE 9, with the cover for the operating mechanism being removed for purposes of clarity;

FIGURE 11 is a schematic diagram of an electrical circuit for the waste-receiving receptacle;

FIGURE 12 (Sheet 2) is a schematic plan view simi-

lar to FIGURE 2, on a reduced scale, showing a modified arrangement of the switches for energizing the gate-operating mechanism.

Referring more specifically to the drawings, the improved waste-receiving receptacle 20, which has a hood-like body with a wide open mouth, is shown in association with a traveling suction cleaner C, which may be of the type disclosed in my said copending application, Serial No. 757,809, to which reference is made for a detailed description. Generally, traveling cleaner C comprises an upper casing 21 having a fan or impeller 22 therein (FIGURE 1), which forces air to flow through an outlet portion 23 of casing 21, and into the inlet of a collection chamber 24 which may be of the type disclosed in said copending application or of a type such as is disclosed in my copending application Serial No. 825,824, filed July 8, 1959, and entitled Collection Chamber for Lint, Dust and the Like. Accordingly, a detailed description of the collection chamber 24 will not be given, it being deemed sufficient to state that the collection chamber is provided with a normally closed egress opening or door 26 (FIGURES 6 and 7) which is opened at predetermined intervals for periods of predetermined duration by a mechanism generally designated at 27. Mechanism 27 (FIGURE 2) is carried by the traveling cleaner and is actuated by spaced actuating elements 30, only one of which is shown in FIGURE 2, carried by and projecting outwardly from a trackway 31 which supports the traveling cleaner C. Actuating elements 30 are placed along trackway 31 in such a manner that door 26 is opened when traveling collection chamber 24 comes into alinement with stationary receptacle 20 and is closed when chamber 24 moves out of alinement with receptacle 20. A preferred mechanism for accomplishing this is disclosed in detail in my said copending application Serial No. 757,809 and need not be described herein.

Blower casing 21 rests upon a suction casing 32 (FIGURE 2), with which it communicates and which produces a suction current in casing 32. Branch ducts 33 extend from opposite sides of and communicate with suction casing 32. Each duct 33 has the upper end of a flexible tube or sleeve 35 connected to a downwardly projecting free end thereof.

The lower end of each sleeve 35 may be provided with a nozzle 36, of any desirable shape, which is positioned in close proximity to the floor F which supports the textile machines over which the traveling cleaner moves. Casings 21, 32 of traveling cleaner C are mounted on a motor-driven carriage 40 having rollers 41 thereon which ride upon trackway 31. Trackway 31 is supported on posts 43, only one of which is shown in FIGURE 2. Carriage 40 may be propelled along trackway 31 by means such as is disclosed in United States Patent No. 2,077,763, dated August 20, 1935.

As heretofore stated, the door 26, at the outer end of collection chamber 24 of traveling cleaner C, is opened momentarily so the blast of air from impeller 22 in blower 21 blows the waste textile material out of the traveling collection chamber 24 and into receptacle 20. Accordingly, the improved receptacle is in the form of a relatively broad substantially rectangular hollow body including top, bottom and opposed side walls 45—48 which define, at their front edges a relative large or broad mouth 50 of sufficient length, horizontally, to insure ample time for all the contents to be discharged from traveling collection chamber 24, although traveling cleaner C may move quite rapidly past the waste receiving receptacle 20.

As will be presently described, the egress, rear or inner end of receptacle 20 is communicatively connected to a duct 52 which may be closed at one end, as at 53, and whose other end is communicatively connected to a suitable waste collecting station 54 shown schematically as a suction collecting unit in FIGURE 1.

In order to provide a maximum amount of pressure or suction within receptacle 20, duct 52 and suction collecting unit 54 without using an unnecessarily large and expensive motor and blower equipment for creating suction at suction station 54, the rear or inner wall 55 (FIGURE 5) of waste-receiving receptacle 20 is communicatively connected to duct 52 through the medium of a novel valve or gate mechanism broadly designated at 56. Valve mechanism 56 is in the form of a rectangular housing 57 attached to and projecting rearwardly from receptacle 20. Housing 57 includes top and bottom walls 60, 61, opposed side walls 62, 63 and a rear wall 64. The rear wall 55 of receptacle 20 serves as the front wall of the housing 57 of valve mechanism 56.

The central portion of rear wall 55 of receptacle 20 is provided with a substantially centrally located and substantially rectangular opening 65 which, when open, effects communication between the interior of waste-receiving receptacle 20 and housing 57 of valve mechanism 56. The rear wall 64 of housing 57 has a tubular fitting 66 (FIGURE 3) communicatively connected thereto which is connected to duct 52 by means of a tubular member or coupling 67 which fits about the tubular member 66.

The rear or innermost corners of the receptacle 20 are preferably curved; that is, the rear wall 55 is connected to side walls 47, 48 by respective curved wall portions 70, 71. Also, rear wall 55 and respective curved wall portions 70, 71 are provided with a pair of foraminated wall portions or screened openings 72, 73 which extend substantially around curved wall portions 70, 71.

Opening 65, in rear wall 55 of receptacle 20, is normally closed by a gate 75 which may also be termed as a door or valve. The outer surface of gate 75 is preferably curved as best shown in FIGURE 3 and is a part of valve mechanism 56. Door 75 has an arm 76 suitably connected thereto which is fixed on a substantially vertical shaft 77, as best shown in FIGURES 3, 7, 8 and 9.

Shaft 77 extends upwardly through top wall 60 of housing 57 and is journaled in suitable bearing means 80 embodied in anti-friction bearings in FIGURE 8. Bearings 80 are mounted in the bottom wall of a substantially cup-shaped base 81 of a drive housing 82. Drive housing 82 also includes a cover 83 which is removably secured, as by screws 84, to cup-shaped base 81.

The upper end of shaft 77 is coupled to an armature shaft 85 by means of a positive clutch or dog clutch 86 which includes a pair of clutch elements 87, 88 fixed to proximal ends of the respective shafts 77, 85. The clutch elements 87, 88 of dog clutch 86 include intermeshing teeth or dogs 91 between which yieldable or rubber blocks 92 are disposed so that, when armature 94 fixed on armature shaft 85 is initially actuated, the rubber blocks 92 cushion the shock of such initial movement as it is transmitted to shaft 77.

It will be observed in FIGURES 8, 9 and 10 that armature 94 is fixed on armature shaft 85 and is in the form of a bell crank whose free arm 96 is provided with an intermediate elongated and curved projection 97 thereon which is adapted to move into a hollow solenoid coil 100. Coil 100 is supported between the legs of a pair of vertically spaced solenoid supports 101, 102, corresponding legs of which have the armature shaft 85 journaled therein and the other legs of which support an electromagnet 103 therebetween which is in series with coil 100.

The supports 101, 102 are U-shaped in plan and corresponding edges thereof are suitably secured to or formed integral with a plate 104 which is, in turn, suitably secured to the vertical portion of a substantially L-shaped bracket 105. Bracket 105 is suitably secured to a boss 106 formed in the cup-shaped base 81 of drive housing 82.

When coil 100 and electromagnet 103 are energized, coil 100 attracts armature projection 97 into the same to move the armature 94 to the broken line position shown in FIGURE 10, whereupon the free end of arm 96 of armature 94 engages electromagnet 103 to assist in

maintaining armature 94 in the broken line or operative position of FIGURE 10 during energization of solenoid coil 100 and electromagnet 103. As armature 94 moves from the solid line to the broken line position shown in FIGURE 10, it is apparent that this causes shaft 77 to move therewith and move door or gate 75 from the solid line position substantially to the dotted line position shown in FIGURE 3.

Since armature projection 97 must move into solenoid coil 100 quite rapidly, it will be observed in FIGURES 3, 7, 8, 9 and 10 that the upper wall 60 of the housing 57 has a pair of spaced abutments or stop elements 110, 111 depending therefrom and straddling the gate arm 76. Stop elements 110, 111 are each preferably in the form of a resilient sleeve mounted on a screw 112 fastened to the top wall 50 of the housing 57 of valve mechanism 56.

Whenever solenoid coil 100 is energized to move gate 75 to open position, gate 75 is held in open position by a time-delay-relay mechanism 115 mounted in a suitable housing 116 suitably secured to the outer surface of side wall 63 (FIGURES 3 and 6) of housing 57, for example. Time-delay-relay 115 is energized by either of a pair of normally open switches 120, 121, either of which is closed by the traveling suction cleaner as will be later described.

When solenoid coil 100 and electromagnet 103 are de-energized, as will be later described, it is apparent that armature 94 is released. Accordingly, in order to return gate 75 to the closed position shown in solid lines in FIGURE 3, suitable yieldable means are provided for returning gate 75 to the closed position shown in solid lines in FIGURE 3.

To this end, it will be observed in FIGURES 8, 9 and 10 that the upper end of armature shaft 85 has a collar 123 fixed thereon from which projects a spring anchor 124. One end of a tension spring 125 is connected to spring anchor 124, the other end of tension spring 125 being connected to a spring anchor 126 carried by the vertical or upright portion of L-shaped bracket 105.

Although a tension spring is used for returning gate 75 to closed position, it should be noted that rotation is imparted to the shaft 77, which supports arm 76 and gate 75, through the medium of positive clutch 86 and, accordingly, through the medium of the rubber cushion elements 92. Further, arm 76 is moved against yieldable or rubber-covered abutment 110 (FIGURES 3 and 7) when gate 75 is moved to closed position. Accordingly, relatively little shock effect is produced when gate 75 is moved from either position to the other and the movement of gate 75 is practically noiseless.

In order that the operation of gate 75 may be clearly understood, a suitable electrical circuit therefor will now be described. As heretofore stated, gate 75 may be opened by the closing of either of the two switches 120, 121. Accordingly, opposed ends of an electrical conductor *a* are connected to corresponding sides of switches 120, 121 while the other sides of switches 120, 121 have respective conductors *c*, *b* leading therefrom to a common end of a solenoid coil *d* which is a part of time-delay-relay 115. The other side of said coil *d* has a lead conductor *e* leading therefrom to one side of a suitable source of electrical energy embodied in a plug *f*. A lead conductor *g* leads from the other side of plug *f* to a medial portion of conductor *a*.

Time-delay-relay 115 includes a bus bar or switch bar *h* which normally occupies open position and which, when closed, causes current to flow between conductors *i*, *j*. Conductor *i* leads to conductor *a* and conductor *j* leads to one end of solenoid coil 100 heretofore described. The other side of solenoid coil 100 has a conductor *k* leading therefrom to lead conductor *e*.

Time-delay-relay 115 may be of any desired or conventional construction and may be a type substantially as is disclosed in United States Patent No. 2,751,621 granted to George W. Mitchell on June 26, 1956. The usual type of time-delay-relay 115 includes a diaphragm *m* fixed in a housing *n* on which solenoid coil *d* is mounted. Housing *n* has an air valve *p* which, when turned in one direction, reduces the rate at which air may pass into or out of chamber or housing *n* and, conversely, when valve *p* is turned in the opposite direction, this increases the rate at which air may flow into or be exhausted from housing *n*.

It is apparent that, upon either switch 120, or 121 being closed, relay coil *d* is energized and causes a solenoid plunger *s*, to which switch bar *h* may be insulatably secured, to move downwardly in FIGURE 11. The lower end of plunger *s* is attached to diaphragm *m* and it follows that, when plunger *s* moves downwardly, air is compressed in chamber *n* and discharged through valve *p* as diaphragm *m* is moved downwardly at its central portion.

This moves switch bar *h* to complete the circuit to solenoid coil 100 associated with drive mechanism within housing 82, thus opening gate 75 in the manner heretofore described. Upon the corresponding switch 120 or 121 being subsequently permitted to open, due to movement of the traveling cleaner away from or past the same, air then flows relatively slowly through the valve member *p* and into housing *n* so that switch bar *h* remains in closed position for a predetermined interval.

It will be noted that a switch actuating element 130 is carried by the traveling cleaner. In this instance, switch actuating element 130 is in the form of a delta-shaped wire or bar attached to an arm 131 suitably secured to the bottom wall of traveling collection chamber 24, as by means of an angle clip 132 (FIGURES 1 and 2). Switches 120, 121 are adjustable on respective brackets 134, 135 which extend inwardly and are suitably secured, for vertical adjustment, to the respective side walls 47, 48 (FIGURES 2, 3, 4, 5 and 6) so the pivoted switch arms 136, 137 thereof are disposed in the path of travel of the switch actuating element 130 as the traveling suction cleaner C moves toward and past receptacle 20.

It should be noted that, although both of the switch arms 136, 137 are pivoted and are engageable by the switch actuating element 130, when the switch actuating element 130 moves toward the top of the drawing in FIGURE 11, it engages switch arm 136 and closes switch 120 and, although it will subsequently engage switch arm 137, switch 121 will merely be further opened or will remain open. Conversely, when switch actuating element 130 moves downwardly toward the bottom of the drawing in FIGURE 11, it will initially close switch 121 as it moves into engagement with switch arm 137, but when it moves switch arm 136, switch 120 will remain open.

In order to assist in preventing the waste material from flowing over the top wall 45 and beneath the the bottom wall 46 of receptacle 20 as the waste is discharged from traveling collection chamber 24, the front edges of top and bottom walls 45, 46 are provided with respective elongate extension plates 140, 141 between which move the corresponding end of traveling collection chamber 24, and its door 26, as the waste is blown from collection chamber 24 into receptacle 20.

As heretofore stated, some of the waste transferred from collection chamber 24 into receptacle 20 may become deposited in the rear corners of receptacle 20 adjacent the screened openings 72, 73. In order to insure that such deposits of waste are subsequently attracted into egress opening 65 in the rear wall 55 of receptacle 20, and to also prevent particles of waste from passing out of the mouth 50 of receptacle 20 when gate 75 is closed, an upwardly and rearwardly inclined platform or baffle 143 extends between and is suitably secured to side walls 47, 48.

The lower edge of baffle 143 is positioned adjacent the free or front edges of said side walls 47, 48 and engages the upper surface of bottom wall 46. The upper, rear edge of baffle 143 is spaced substantially forwardly of rear wall 55 and its opening 65 so that the waste may readily pass over the upper rear edge of baffle 143 and then pass downwardly through egress opening 65 or onto the bottom wall 46 of receptacle 20. Since the lower front edge of baffle 143 is positioned against bottom wall

46, the space between the proximal surfaces of baffle 143 and bottom wall 46 serves as a waste retainer. A door 144 may be built into bottom wall 46 for the periodic removal of any entrapped waste. Door 144 fits in an opening in bottom wall 46 and is pivotally connected to bottom wall 46, as at 145. A turn key 146 or other suitable means may be provided for releasably locking door 144 in closed position.

In practice, it has been found that very little, if any, waste will remain deposited upon or under baffle 143 after the traveling collection chamber 24 has moved beyond the same. It is to be understood that the horizontal length of mouth 50 must be sufficient to insure that the contents of collection chamber 24 will be completely discharged therefrom before collection chamber 24 has traversed the full extent of mouth 50. Of course, the time-delay-relay mechanism 115 (FIGURE 11) may be adjusted so as to maintain effective suction in the receptacle 20 both before and after traveling collection chamber 24 has moved into registration therewith.

There may be instances in which the switch 120 or 121, as the case may be, cannot be satisfactorily located on mouth 50 to insure that the suction in receptacle 20 will become sufficiently effective, within the interval permitted, to draw the lint and other waste material into the receptacle 20. In such instances, switches 120, 121 may be positioned adjacent or on the trackway 31 a substantial distance from the receptacle 20, so as to be actuated by some part of the traveling cleaner C at an instant substantially in advance of the instant at which the traveling collection chamber 24 moves into registration with mouth 50 of receptacle 20, thus providing ample time during which suction may build up and reach the desired effectiveness within receptacle 20.

By way of example, it will be noted in FIGURE 12 that a traveling suction cleaner C' is movable, upon a trackway 31', past a waste receiving receptacle 20', the cleaner C', trackway 31' and receptacle 20' being the equivalent of respective elements C, 31 and 20. Switches 120', 121', which may be substituted for switches 120, 121, are located on trackway 31' substantially in advance of receptacle 20', depending upon the direction of movement of traveling suction cleaner C'. Switches 120', 121' may be closed by any desired part of the traveling cleaner C', such as the door-operating mechanism 27 of FIGURE 2.

Receptacle 20 may be supported in any desired manner. In this instance, receptacle 20 is shown suspended from the ceiling 150 (FIGURE 2) above the textile machines, not shown, by means of a pair of substantially vertical bars or columns 151. Columns 151 are suitably secured to ceiling 150, and the lower portion of each column 151 has a pair of collars 152 fixed thereto. Collars 152 on each column 151 are suitably secured to a corresponding bracket 153 as by bolts 154. Brackets 153 are secured to the corresponding side walls 47, 48, as at 155.

It is thus seen that I have provided an improved waste receiving receptacle for use with a traveling suction cleaner, and embodying means under control of the suction cleaner for establishing negative pressure or suction within the receptacle at a predetermined instant and for a predetermined interval, to thereby insure the presence of adequate suction within the receptacle for receiving waste from the collection chamber moving with the traveling cleaner, and for transferring such waste to a suction collecting unit. It is seen further that I have provided a novel receptacle which is so constructed that it may be provided with a relatively broad or elongate mouth so as to insure that all the lint and other waste material in the traveling collection chamber may be transferred into the waste receiving receptacle.

In the drawings and specification, there have been set forth preferred embodiments of the invention and, although specific terms are employed, they are used in a generic and descriptive sense only and not for purposes of limitation, the scope of the invention being defined in the claims.

I claim:

1. A waste receiving receptacle for use with a traveling suction cleaner for textile machines, wherein said cleaner is equipped with a normally closed waste collection chamber movable above said machines and means for momentarily opening said chamber at predetermined intervals of predetermined duration; said receptacle comprising, a hollow body having an elongate open mouth at one side thereof for receiving textile waste material from said chamber when said chamber is open and adjacent said body, normally closed valve means communicating with said body at a point remote from said mouth, a suction collecting unit, communicative means between said unit and said valve means, electrically operable means for actuating said valve means, and switch means interposed in an electrical circuit to said electrically operable means and being engageable by said traveling cleaner as it approaches said mouth for maintaining open said valve means for a predetermined interval.

2. A structure according to claim 1 wherein said valve means comprises a movable gate, said body having an opening therein normally closed by said gate, an arm on said gate, a shaft to which said gate arm is fixedly connected, means supporting said shaft for rotation therein, said electrically operable means including an armature fixed on said shaft, a solenoid coil associated with said armature and interposed in said electrical circuit, and said switch means being normally open whereby closing of said switch means energizes said coil to impart a partial revolution to said shaft and said gate for opening the same.

3. A structure according to claim 2 wherein said means for maintaining open said valve means comprises a time-delay-relay interposed in the electrical circuit between said coil and said switch means, and said time-delay-relay being operable to maintain the flow of current to said coil for an interval of predetermined duration upon said switch means being released by the traveling cleaner.

4. In a traveling suction cleaning apparatus for textile machines, said apparatus including a collection chamber movable with said apparatus above a row of said machines, a normally closed door on said chamber, means to open said door at predetermined intervals, and the opening of said door causing collected waste to be discharged from said chamber; the combination therewith of, an open-mouthed waste receiving receptacle disposed adjacent the path of travel of said chamber and comprising top, bottom, side and rear walls, normally closed valve means in said rear wall for establishing communication between said receptacle and a source of suction, means operable automatically for opening said valve means in timed relation to the approach of the chamber adjacent said receptacle, and time delay means connected with the said automatically operable means to maintain open said valve means for an interval of predetermined duration, said means to open said door being operable to maintain open said door during movement of said collection chamber past the mouth of the receptacle whereby the suction created within said receptacle draws waste thereinto as it is discharged from said chamber.

5. A waste receiving receptacle for use with a traveling suction cleaner for textile machines wherein said cleaner is equipped with a normally closed waste collection chamber movable above said machines and means for momentarily opening said chamber at predetermined intervals of predetermined duration; said receptacle comprising a hollow body having an elongate open mouth at one side thereof for receiving textile waste material from said chamber when said chamber is open, said body comprising top, bottom, side and rear walls, valve means communicating with said body at said rear wall, a suction collecting unit, communicative means between said

unit and said valve means, an upwardly and rearwardly inclined baffle in said body, the lower front end of said baffle being disposed in close proximity to the front edge of said bottom wall, and the upper rear end of said baffle being spaced from said top and rear walls thus forming a waste retainer to prevent waste transferred from the chamber into the receptacle from falling out the mouth of the receptacle, electrically operable means for actuating said valve means, switch means engageable by said traveling cleaner as it approaches said mouth for energizing said electrically operable means, and means for maintaining open said valve means for a predetermined interval following energization of said electrically operable means.

6. A waste receiving receptacle for use with a traveling suction cleaner for textile machines arranged in rows and wherein said cleaner is equipped with a normally closed waste collection chamber movable above said machines and means for momentarily opening said chamber at predetermined intervals of predetermined duration; said receptacle comprising a substantially rectangular hollow body having an elongate open mouth at one side thereof for periodically receiving textile waste material from said chamber, said body comprising top, bottom, side and rear walls, valve means communicating with said body at said rear wall, a suction collecting unit, communicative means between said unit and said valve means, electrically operable means for actuating said valve means, switch means engageable by said traveling cleaner as it approaches said mouth for energizing said electrically operable means, means for maintaining open said valve means for a predetermined interval following energization of said electrically operable means, said rear wall being foraminate adjacent the juncture of at least one side wall and said rear wall so that air may pass inwardly through the rear wall to the valve means to assist in carrying waste from the rear wall into the valve means.

7. A structure according to claim 6 including an upwardly and rearwardly inclined baffle in said body, the lower front end of said baffle being disposed in close proximity to the front edge of said bottom wall, and the upper rear end of said baffle being spaced from said top and rear walls thus forming a waste retainer to prevent waste transferred from the chamber into the receptacle from being blown out the mouth of the receptacle.

8. A waste receiving receptacle for use with a traveling suction cleaner for textile machines arranged in rows and wherein said cleaner is equipped with a normally closed waste collection chamber movable above said machines and means for momentarily opening said chamber at predetermined intervals of predetermined duration for removal of waste therefrom; said receptacle comprising a substantially rectangular body having an elongate open mouth at one side thereof for periodically receiving textile waste material from said chamber, said body comprising top, bottom, side and rear walls, normally closed valve means communicating with said body at said rear wall, a suction collecting unit, communicative means between said unit and said valve means, operating means engageable by said traveling cleaner as it approaches said mouth for opening said valve means, means for maintaining open said valve means for a predetermined interval following engagement of said operating means by said cleaner, said rear wall being at least partially foraminate adjacent the juncture of at least one side wall and said rear wall so that air may pass inwardly through the rear wall to the valve means to assist in carrying waste from the rear wall to the valve means.

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