

Jan. 25, 1944.

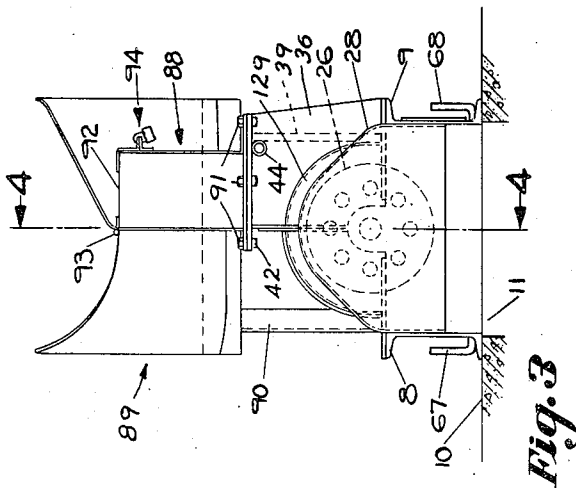
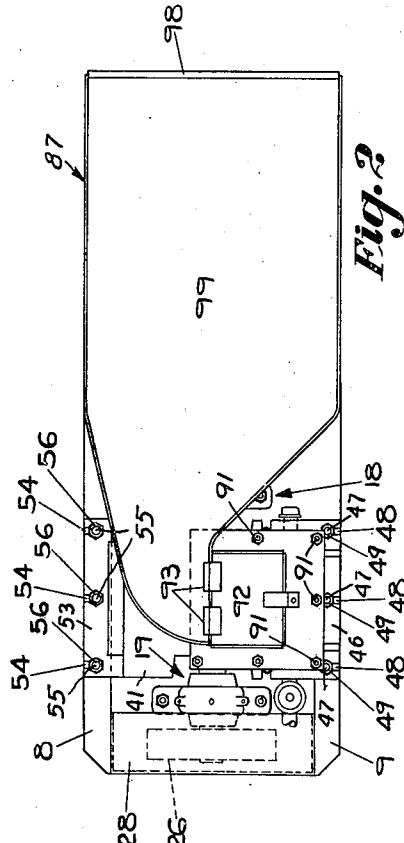
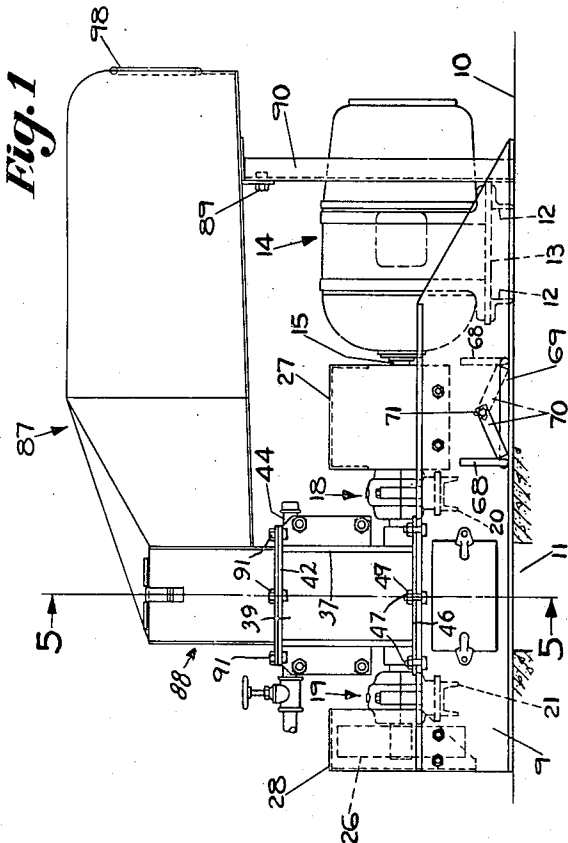
R. W. STEVENSON

2,339,961

GRINDER

Filed Dec. 4, 1940

3 Sheets-Sheet 1



INVENTOR:
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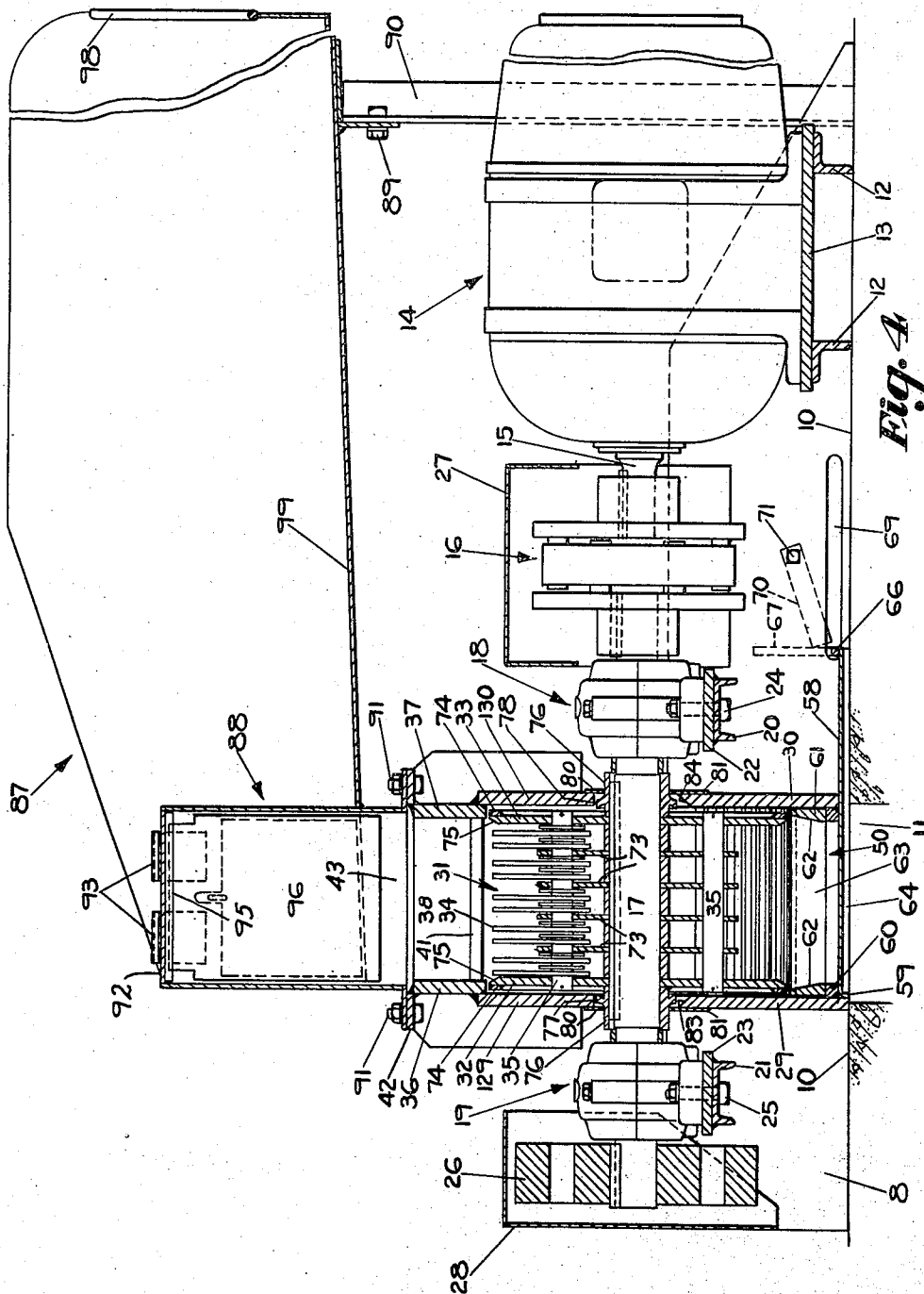
R. W. STEVENSON

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GRINDER

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3 Sheets-Sheet 2



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3 Sheets-Sheet 3

Fig. 5

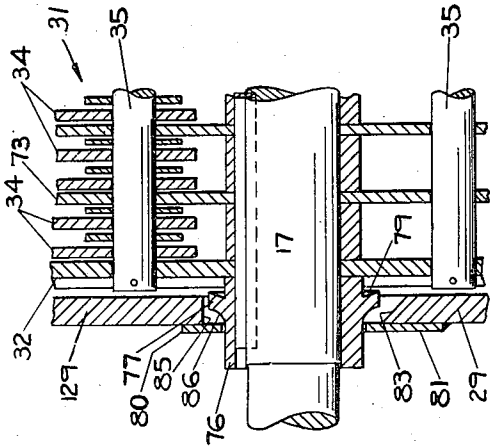
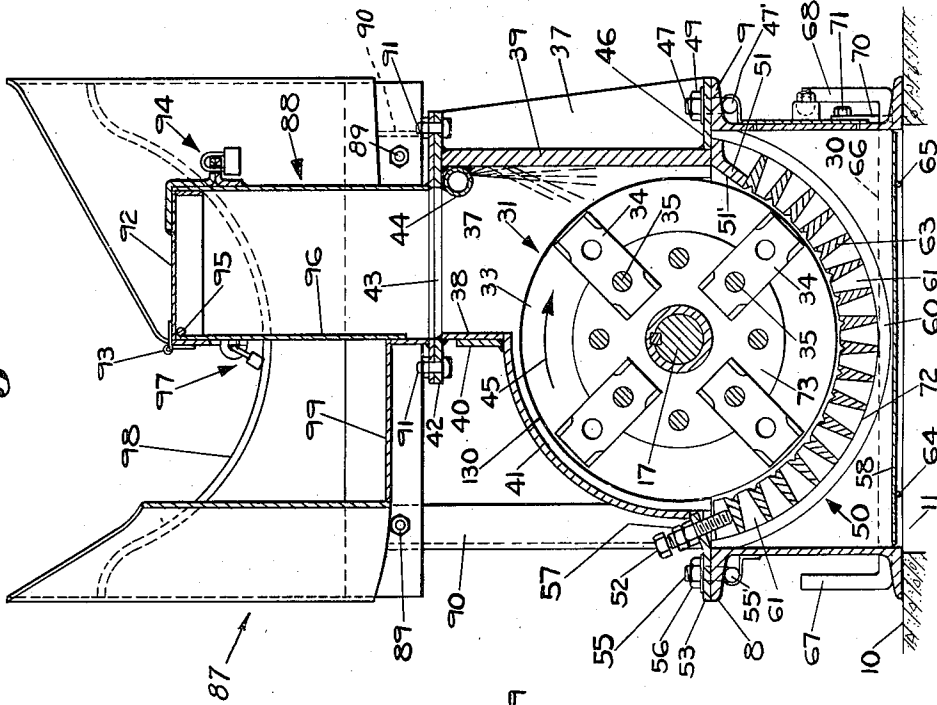


Fig. 6

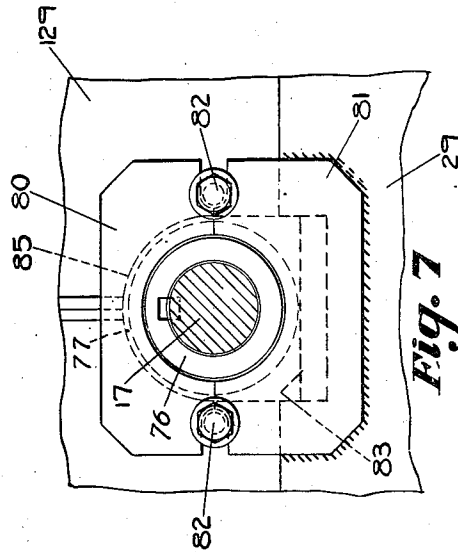


Fig. 7

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UNITED STATES PATENT OFFICE

2,339,961

GRINDER

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Application December 4, 1940, Serial No. 368,525

14 Claims. (Cl. 83—11)

My invention relates to grinders of a type particularly adapted to the reduction of green garbage, although it may have a general application, and one of the objects of the invention is the provision of improved and efficient mechanism for controlling the discharge of ground material from such grinder.

Another object of the invention is the provision of an improved and efficient closure for the discharge opening of a grinder, which closure may be opened during operation of the grinder and moved to closed position during repair or renewal of parts of the grinder.

A further object of the invention is the provision of a closure for the discharge opening of a grinder, which may be locked in closed position or locked in open position.

Another object of the invention is the provision of improved mechanism for directing material to a grinder to be ground thereby.

A further object of the invention is the provision of an improved chute for the intake of a grinder through which access to the grinder may be had for inspection or otherwise, combined with mechanism for locking the chute to render the same inaccessible either for inspection or for the direction of material thereinto.

Other objects of the invention will appear hereinafter, the novel features and combinations being set forth in the appended claims.

In the accompanying drawings,

Fig. 1 is an elevational view of the grinding apparatus embodying my improvements;

Fig. 2 is a plan view of the apparatus shown in Fig. 1;

Fig. 3 is an end elevation of the structure shown in Fig. 1 or Fig. 2 viewed from left toward the right;

Fig. 4 is a longitudinal sectional elevation taken on the line 4—4 of Fig. 3, looking in the direction of the arrows and enlarged;

Fig. 5 is a transverse sectional elevation taken on the line 5—5 of Fig. 1, looking in the direction of the arrows and enlarged;

Fig. 6 is a sectional elevation enlarged from the left-hand portion of Fig. 4; and

Fig. 7 is an end elevation of the structure shown in longitudinal sectional elevation in Fig. 6.

The supporting framework for the grinding apparatus shown in the accompanying drawings includes longitudinally extending spaced-apart base members in the form of steel or iron channels 8, 9 which rest on the floor surface 10 at the edges of the opening 11 therein for receiving the ground material from the discharge opening at the bottom of the grinding mechanism shown in transverse section in Fig. 5. The channels 8, 9 are elongated as shown in Figs. 1 and 4, with the left-hand ends vertical and the right-hand ends

inclined downwardly and toward the right, as viewed in Figs. 1 and 4.

Secured to and mounted between the tapering end portions of the spaced channel base members 8, 9 are spaced angle irons 12, 12 having a horizontal plate 13 on top of the same, as shown in Fig. 4, for the purpose of supporting the electric motor 14, the armature shaft 15 of which is connected by means of the coupling 16 to the shaft 17. The ends of the shaft 17 are journaled in the bearings 18 and 19. The journal bearings 18, 19 may be bolted to channels 20, 21 and plates 22, 23, as indicated at 24, 25 in Fig. 4. The ends of the channels 20 and 21 may be welded at their ends to the base channel members 8, 9, and the plates 22, 23 may be welded to the channels 20, 21.

The shaft 17 may be extended to the left of the journal bearing 19 and have keyed thereto a flywheel 26. The coupling 16 may be protected by a metal canopy or cover 27 secured at its ends to the spaced-apart channel base members 8, 9. A protecting cover 28 may likewise be mounted above the flywheel.

Mounted between the base channel members 8 and 9 so as to extend transversely thereof, are the spaced-apart vertical plates 29, 30. The ends of these plates may be welded to the opposite walls of the spaced-apart channel base members 8 and 9. As shown in Fig. 4, the transverse plates 29 and 30 extend nearly to the upper edges of the channels 8 and 9. Mounted on the top of the plate 29 is a vertical plate 129, and mounted on top of the plate 30 is a vertical plate 130, as shown in Figs. 4 and 7.

Keyed to the shaft 17 between the plates 29 and 30 is a grinding or shredding rotor unit 31 comprising said shaft 17, relatively large disc plates 32, 33 and relatively small intermediate discs 73, between which are mounted a plurality of swing hammers 34, 34 pivotally mounted on rods 35, 35 mounted between the large end discs 32, 33, with spacing discs on the rods in association with the hammers.

Welded to the upper ends of the plates 129 and 130 at the inner edges thereof are upper extension plates 36, 37, the lateral ends of which may be welded to the vertical plate 38 and to the breaker plate 39, as shown in Figs. 4 and 5. On the outer side of the vertical plate 38 is a reinforcing plate 40. To the lower ends of the plates 33 and 40 is secured the plate 41 which has the shape of a segment of a cylinder. While the plates 29 and 30 are rectangular in shape for location between the opposite walls of the channels 8 and 9, the upper plates 129 and 130 are shaped to conform with the vertical plate 38, the breaker plate 39 and the segmental plate 41.

Welded to the upper edges of the breaker plate 39 and of the vertical plate 38 is a horizon-

tal plate 42 having an opening 43 therein conforming with the upper edges of the plates 36, 37, 38, 39 and serving as the intake opening for the shredder or grinder comprising the grinding unit 31.

The breaker plate 39 is welded at its upper end to the horizontal plate 42, and at the upper end of the inner wall of the breaker plate 39 is located a spray pipe 44 for spraying water on the material being ground by the shredding or grinding unit 31 when rotated in the direction of the arrow 45, Fig. 5.

Welded to the lower end of the breaker plate 39 is a horizontal plate 46 which is adapted to be secured to the upper horizontal flange of the base channel 9 by means of swing bolts 47, 47, which are pivoted at 47', Fig. 5, and are adapted to swing into the slots 48, Fig. 2. The slots 48, 48 are located in the plate 46 and the upper flange of the channel 9, as shown in Figs. 1 and 2, and nuts 49 may be relied on to secure the plate 46 to the base member 9.

Between the opposite walls of the plates 29 and 30 and secured thereto so as to be supported thereby is a screen bar assembly 50 which as one rigid unit is held between the retaining plate 51 and the set screws 52. The plate 51 extends between the opposite walls of the plates 29 and 30 and has its upper surface 51' declined from the lower vertical inner face of the breaker plate 39 to the upper arcuate face of the bar screen assembly unit 50, as shown in Fig. 5. The set screws 52 extend through the plate 53 which is provided with a series of slots 54, 54, as shown in Fig. 2. Swing bolts 55 pivoted at 55', Fig. 5, extend upwardly through the horizontal upper flange of the base channel 8 and these bolts are adapted to extend through the slots 54 and receive the nuts 56. Lock nuts 57 are provided as shown in Fig. 5 to lock the set screws 52 in adjusted positions against the left-hand upper end of the bar screen assembly unit 50. Curved plate 41 has its ends secured to plates 129 and 130 and plate 53 has its inner edge secured to plate 41.

As shown in Fig. 4, the lower edge of the plate 30 is spaced above the floor level 10 a sufficient distance to form a slot to receive the closure or sealing plate 58, the left-hand end of which is provided with a vertical flange 59. The plate 58 spans the distance between the opposite inner walls of the base members 8 and 9. Above the semi-circular screen bar support 60 is located the screen bar assembly unit 50 comprising trapezoidal grooved bars 63 and spacers 61. The upper opposing surfaces of the spacers 61 are beveled at 62, 62 to form the periphery of the discharge opening between the plates 29, 30 of the shredding apparatus, the discharge opening being immediately above and registering with the receiving opening 11 in the floor 10.

The lower side of the plate 58 is provided with reinforcing rods 64, 65 which are spaced apart as indicated in Fig. 5, and rest on the floor surface 10 at the right of the opening 11, as viewed in Fig. 4.

A transverse rod 66 is welded to the outer end of the sealing or closure plate 58 and is provided at its ends with vertical handles 67, 68, as shown in Fig. 5. By grasping either handle 67 or 68 the plate 58 may be moved to its closed position shown in Fig. 4, or either handle 67 or 68 may be used to move the plate 58 to its open position. When the plate 58 is moved either toward closed position or toward open position, the rods 64, 65

slide over the surface 10 of the floor on which the shredding apparatus is mounted.

The rod 66 projects through slots 69 in the channels 8 and 9. These slots are horizontal and co-operate with the end portions of the rod 66 to guide the plate 58 for movement in a horizontal plane toward open or closed positions.

While such a sealing or closure plate 58 is highly desirable for the discharge opening of green garbage grinders installed in municipal or commercial plants, it is essential for installations on board ship in the Navy and elsewhere because the receiving opening 11 leads directly to a sluice-way or discharge pipe which empties through the side of the battleship just above the water line. In making repairs or in renewing parts of the grinding apparatus, a tool or a part dropped would slide down the sluice-way and into the sea and become lost. It is therefore evident that when necessary to change parts in the machine, the opening to the sluice-way should be closed by the closure plate 58 to prevent loss of tools or such vital parts of the machine as would put the latter out of service. In municipal or commercial plants green garbage grinders are generally installed over a sewer and although parts dropped from the machine might not become completely lost they would be so buried as to make it difficult to effect recovery.

The plate 58 may easily be moved by means of one of the handles 67 or 68 from one side of the machine or the other to open or closed position. The slots 69 co-operate with the rod 66 and the slide bearing rods 64, 65 to guide the plate 58 horizontally. The rods 64, 65 slide over the floor surface as may be readily understood by referring to Figs. 4 and 5. When in the position shown in Fig. 4 the plate 58 completely closes the opening in the bottom of the casing comprising the plates 29, 30 and channels 8, 9.

It is to be noted that plate 58 is closely adjacent screen bars 63, consequently it does not act to form a ground material receiving receptacle or pocket for material ground in the grinder. In fact, when the grinder is in operation the plate 58 is necessarily moved to discharge opening position.

In order to lock the closure plate 58 in either open or closed position a locking bar 70 is pivoted at 71 to the outer side of the channel 9 so as to swing into position to act as an abutment against the back of the handle 68 or into position to act as an abutment against the front side of the handle 68. In Fig. 1 the locking bar 70 is located back of the handle 68 to hold the plate 58 in closed position. When the handle 68 is at the other end of the slot 69, as shown in dotted lines in Fig. 1, the locking bar 70 may be moved to its dotted line position in front of the handle 68 to hold the plate 58 in open position.

The locking bar 70 is held in its full line position or dotted line position, shown in Fig. 1, by gravity and therefore the closure plate 58 can not slide from either its closed position or its open position. In other words, the bar 70 will lock the closure plate 58 so that it will not slide out of place, particularly after it has once been closed and locked in closed position. When the closure plate 58 is in open position the locking mechanism will hold it there so that there can be no partial closing of the plate, during operation of the shredder or grinder. During operation the discharge opening and the receiving opening 11 should be in condition for the free

and unobstructed passage of the ground material from below the screen bar assembly 50.

The green garbage grinder illustrated in the accompanying drawings is particularly adapted for use on board ship because its weight has been reduced to a minimum and yet made strong and rigid. Furthermore, the distance from the intake opening 43 to the floor surface 10 has been materially reduced by placing the shredder unit 31 and the screen bar assembly 50 in a relatively low position because mounted directly on top of the channel base members 8 and 9. In other words, by using the arrangement shown in the accompanying drawings, the usual sub-base for supporting a complete shredder or grinder, has been eliminated, such sub-base requiring greater distance between the floor line and the feed opening of the machine. That is to say, such a sub-base increases the distance between the floor line and the feed opening by the depth of the sub-base, and furthermore the weight of the two units—the sub-base and the complete grinder, is increased by the additional material used in the sub-base below the machine. In the machine shown in the accompanying drawings, however, the screen bar assembly unit 50 is located with its under side closely adjacent to a horizontal plane extending through the floor surface 10.

The usual means for holding screen bars in grinders or shredders is to provide a ledge integral with the lower frame for supporting the screen bars, and side liners bolted to the side frames of the machine to hold the screen bars down in place. In order to still further reduce the weight of the grinding apparatus shown in the accompanying drawings, such side liners have been eliminated. In order to effect the elimination of the side liners, the screen bar assembly 50 has spacing lugs cast integral and of such taper that the bars can be fitted into the machine on the screen bar ledge 60 to form an inverted arch. The integral screen bar assembly unit 50 rests at one end on the ledge 60 of the plate 30 and on a similar ledge at its other end on the plate 29. The retaining plate bar 51 having an inclined surface 51', engages one end of the screen bar assembly unit, and the set screws 52 engage the other end of the screen bar assembly unit to clamp the same against the breaker bar 51, and the latter in turn against the lower end of the breaker plate 39.

Inasmuch as the side liners on the inner walls of the plates 29 and 30 have been eliminated to reduce the weight of the machine, the end discs 32, 33 have been enlarged to give some protection to the inner walls of the plates 129 and 130. The diameter of the end discs 32, 33 is much larger than the diameter of the intermediate discs 73, 73, but the diameter of the discs 32, 33 is only slightly larger than the diameter of the hammer circle when the hammers are in their extended working positions.

The diameter of the end discs 32, 33 is such that the outer peripheries of these end discs have a small clearance above the screen bar assembly unit 50. Rings 74, 74 are secured to the outer surfaces at the peripheries of the discs 32, 33.

With the arrangement of the discs 32, 33 the inner opposite side walls of the plates 29 and 30 are protected but the main purpose of the discs is to prevent the possibility of the hammers striking any of the screen bars. If any of the screen bars become loose so as to move toward the hammer circle, the peripheries of the discs 32, 33 and the rings 74, 74, will block such movement of the

screen bars toward the hammer circle. In fact, the peripheries of the discs 32 and 33 are so close to the screen bars that the possibility of the screen bars getting loose and getting into the path of the hammers is prevented. Such looseness may occur if the clamping screws 52 should become loosened. Should this happen and the screen bar unit 50 tend to move toward the hammer circle, the peripheries of the discs 32, 33 and the rings 74, 74 will slide along the ends of the screen bars and hold the screen bar unit approximately in its place or at least in such position as not to be struck by the rotating hammers.

It should also be noted that the circular discs 32, 33 are beveled at 75, 75, thereby preventing any tendency of the garbage being built up on the peripheries of the rings 74, 74 and working in between the discs 32, 33 and the inner opposite walls of the plates 129 and 130.

Since water is used to flush the garbage through the grinding mechanism, it is desirable to provide water sealing mechanism between the shaft 17 and the spaced-apart plates 29, 30, 129, and 130. Hubs 76, 76 are keyed to the shaft 17, and these hubs are provided with integral circular water fingers 77 and 78. These water fingers are so shaped as to throw by centrifugal force toward the discs 32 and 33 such water as may flow back of the discs. As shown in Fig. 6, the periphery of the water finger 77 is cylindrical but facing inwardly is a flaring face 79 which when rotated acts to direct the water from the surface of the hub 76 upwardly in a direction toward the adjacent surface of the disc 32. The water finger 78 at the other end of the shaft from that shown in Fig. 6, has the inner flaring face reversed relative to that shown in Fig. 6. It will thus be seen that the fingers 77 and 78 are arranged to have their inner annular faces direct by centrifugal force toward the adjacent surfaces of the discs 32 and 33, such water as may reach the outer surface of the hubs 76, 76.

In addition to the water fingers 77, 78, sealing plates 80 and 81 are held in place by means of the bolts 82, 82, as shown in Fig. 7, to surround the hubs 76, the plates 81 being welded to the outer surface of the plates 29 and 30. It should also be noted that the openings in the plates 29 and 30 for the fingers 77 and 78 have their lower edges beveled at 83, 84 so that water flowing by gravity will return to the space between the discs 32, 33 and the adjacent inner walls of the plates 29 and 30.

The openings in the plates 129 and 130 for the hubs 76, 76 are semi-circular at their upper portions and rectangular at their lower portions, as illustrated in Fig. 7. The edges 85 of the semi-circular portions are provided with square corners so that water running down the inside of the walls 29 and 30 in a vertical direction will drip on to the annular water fingers 77, 78. If any water should pass along the surface 85 to the left of the water fingers 77, as viewed in Fig. 6, the flaring surface 86 may be relied on to effect movement of the water inwardly and past the water finger to the space between the plate 129 and the disc 32. What water is carried around on the surface 86 will be thrown with the aid of gravity, on to the lower beveled surface 83 for flow into the space between the plate 29 and the adjacent disc 32.

In order to introduce the green garbage into the intake opening 43 of the grinder, a horizontal chute 87 may be connected to the vertical or upright chute 88. These chutes are composed of various plates rigidly connected together in one

rigid unit mounted at one end by means of the bolt 89, 89 on the vertical standards 90, 90 and mounted at its other end by means of the bolts 91, 91 on the horizontal plate 42.

The vertical chute 88 is shown in Fig. 5 as being provided with a cover 92 hinged at 93 and provided at 94 with padlocking mechanism for locking the cover 92 in closed position on the vertical chute 88.

Hinged at 95 to the upper end of the chute 88 is an inwardly swinging door 96 for an opening in one side of the vertical chute 88. This inwardly swinging door 96 may be locked in closed position by the padlocking mechanism 97.

When the green garbage is introduced over the entry edge 98 of the chute 87, it may be pushed manually over the bottom plate 99 against the swinging door 96 when the padlocking mechanism 97 is released. When the padlocking mechanism 94 is released, the cover 92 may be opened for the purpose of inspecting the grinder unit 31 and the condition of the garbage in the casing in which the grinding unit is enclosed. When the grinding mechanism is not operating it is desirable to lock the cover 92 closed, and lock the swinging suspended door 96 closed. When repairs are being made it is desirable to lock the bottom sealing plate 58 closed.

It is to be noted that the frame 8, 9, 12, etc., is elongated and the grinder is mounted adjacent one end thereof, with the axis of rotation of the rotor 31 parallel with the longitudinal axis of said frame. The driving motor 14 is at the other end of said frame 8, 9, 12, etc. The garbage receiving chute 87 is also elongated and is substantially horizontal though the bottom 99 preferably has a slight slope leading to a reduced or converging neck adjacent the upright feed chute 88. This provides for a crowding of the garbage into said neck from which it is fed through the opening controlled by door 96. It is to be noted that door 96 controls the feed opening in an upright wall common with chutes 87 and 88, and further, that this common wall lies in a plane parallel with the axes of frame 8, 9, 12, etc., chute 87 and the rotor 31. As a consequence, the garbage fed through said opening and chute 88 will have a direction of movement consistent with the direction of rotation of rotor 31 and also will be spread over the width thereof with a fair degree of uniformity, thus utilizing the full capacity of said grinder.

Obviously those skilled in the art may make various changes in the details and arrangement of parts without departing from the spirit and scope of the invention as defined by the claims hereto appended, and I therefore wish not to be restricted to the precise construction herein disclosed.

Having thus described and shown an embodiment of my invention, what I desire to secure by Letters Patent of the United States is:

1. In a garbage grinder, the combination with a casing having an intake opening, of garbage grinding mechanism within said casing below such opening, a canopy having a cover movable to open position thereby providing for inspection of said garbage grinding mechanism, means for locking said cover in closed position, said canopy also having an inwardly swinging door, a horizontally extending chute for directing material to said door to swing the same inwardly to open position to permit the material to pass to said grinding mechanism, and means for locking said door in closed position.

2. In a material grinder, the combination with

a casing having an intake opening in its upper side, of garbage grinding mechanism in said casing, a vertical chute mounted on said casing in communication with said intake opening, a hinged cover for the top of said chute operable to a position to provide for inspection of said garbage grinding mechanism, mechanism affording the padlocking of said cover in closed position, a suspended door hinged at its top to the top of said chute and adapted to swing into the chute, and a receiving chute communicating with said vertical chute and adapted to supply material thereto when said door is swung inwardly, and means affording the padlocking of said suspended door in closed position.

3. In a material grinder, the combination with a casing having an intake opening, of garbage grinding mechanism within said casing, of a delivery chute having a bottom opening above said intake opening, a substantially horizontal receiving chute in communication with said delivery chute and adapted to supply material thereto through a side opening in the latter, a door for closing said side opening, a cover for the top of said delivery chute which when opened provides for inspection of said garbage grinding mechanism, means for locking said door in closed position, and means for locking the said cover on top of said delivery chute, there being no access to said delivery chute when said door and said cover are locked.

4. In a material grinder, the combination with a casing having an upper intake opening, of a delivery chute for directing material into said intake opening, a receiving chute having upright spaced walls converging toward a side opening in said delivery chute and adapted to supply material thereto, a suspended hinged inwardly swinging door for said side opening, a cover hinged to the top of said delivery chute, means for locking the door in closed position, and mechanism for locking the cover in closed position, there being no access to the delivery chute and said intake opening when said door and cover are locked in closed positions.

5. In a grinder, the combination with a stationary frame forming a housing having a normally open bottom, of a screen bar assembly mounted in said housing and through which reduced material passes, a rotor mounted to rotate in said housing and cooperating with said screen bar assembly to reduce material, said housing being so constructed below said screen bar assembly that during normal operation reduced material may pass freely through said screen bar assembly and out of said housing through its normally open bottom, and a closure positioned below said screen bar assembly and positioned closely adjacent thereto thereby precluding the formation of a ground material receptacle below said screen bar assembly and constructed and arranged to be in a bottom closing position when said grinder is not in operation and is being cleaned or repaired and thereby prevent passage of material or parts therethrough.

6. A grinder having an open bottom housing within which is a screen bar assembly and a cooperating material reducing rotor, characterized by the fact that there is a closure plate for the housing opening comprising a slide plate adapted to be slid into said housing directly below said screen bar assembly to close said opening and precluding the formation of a ground material receptacle below said bar screen assembly, and

mechanism for locking said plate in both closure opening and closing positions.

7. A grinder having a frame forming a stationary housing having a normally open bottom and a screen bar assembly mounted in said housing and through which reduced material passes and having a rotor mounted to rotate in said housing and cooperating with said screen bar assembly to reduce material, said housing being so constructed below said screen bar assembly that during normal operation reduced material may pass freely through said screen bar assembly and out of said housing through its normally open bottom, characterized by the fact that there is a closure positioned below said screen bar assembly and closely adjacent thereto thereby precluding the formation of a ground material receptacle below said screen bar assembly and constructed and arranged to be in a bottom closing position when said grinder is not in operation and is being cleaned or repaired and thereby prevent passage of material or parts therethrough, and means for locking said closure in its open position.

8. A grinder having a frame forming a stationary housing having a normally open bottom and a screen bar assembly mounted in said housing and through which reduced material passes and having a rotor mounted to rotate in said housing and cooperating with said screen bar assembly to reduce material, said housing being so constructed below said screen bar assembly that during normal operation reduced material may pass freely through said screen bar assembly and out of said housing through its normally open bottom, characterized by the fact that there is a closure positioned below said screen bar assembly and closely adjacent thereto thereby precluding the formation of a ground material receptacle below said screen bar assembly and constructed and arranged to be in a bottom closing position when said grinder is not in operation and is being cleaned or repaired and thereby prevent passage of material or parts therethrough, and means for locking said closure in its closed position.

9. A grinder having a frame forming a stationary housing having a normally open bottom and a screen bar assembly mounted in said housing and through which reduced material passes and having a rotor mounted to rotate in said housing and cooperating with said screen bar assembly to reduce material, said housing being so constructed below said screen bar assembly that during normal operation reduced material may pass freely through said screen bar assembly and out of said housing through its normally open bottom, characterized by the fact that there is a closure positioned below said screen bar assembly and closely adjacent thereto thereby precluding the formation of a ground material receptacle below said screen bar assembly and constructed and arranged to be in a bottom closing position when said grinder is not in operation and is being cleaned or repaired and thereby prevent passage of material or parts therethrough, and means for locking said closure in both its open and closed positions.

10. A grinder having a frame forming a stationary housing having a normally open bottom and a screen bar assembly mounted in said hous-

ing and through which reduced material passes and having a rotor mounted to rotate in said housing and cooperating with said screen bar assembly to reduce material, said housing being so constructed below said screen bar assembly that during normal operation reduced material may pass freely through said screen bar assembly and out of said housing through its normally open bottom, characterized by the fact that there is a closure positioned below said screen bar assembly and closely adjacent thereto thereby precluding the formation of a ground material receptacle below said screen bar assembly and constructed and arranged to be in a bottom closing position when said grinder is not in operation and is being cleaned or repaired and thereby prevent passage of material or parts therethrough.

11. A unit grinder including a frame, a garbage grinding mechanism mounted on said frame and having an intake opening, an upwardly extending feed chute mounted above said intake opening for feeding garbage thereto, said feed chute having a pivoted top closure operable to provide for inspection of said garbage grinding mechanism through said feed chute and intake opening, a substantially horizontal chute mounted on said frame and positioned to deliver garbage to said feed chute by way of an opening in an upright wall of the latter, and a swinging door for controlling the closure of said last mentioned opening.

12. A unit grinder including a frame, a garbage grinding mechanism mounted on said frame and having an intake opening, an upwardly extending feed chute mounted above said intake opening for feeding garbage thereto, said feed chute having a pivoted top closure operable to provide for inspection of said garbage grinding mechanism through said feed chute and intake opening, and a substantially horizontal chute mounted on said frame and positioned to deliver garbage to said feed chute by way of an opening in an upright wall of the latter.

13. Feeding mechanism for a garbage grinder including an elongated substantially horizontal garbage receiving chute having a converging neck at one end, an upright feed chute adjacent said neck having an opening in an upright wall through which garbage is fed thereto from said receiving chute, said opening being in a wall which is in a plane parallel with the longitudinal axis of said receiving chute.

14. In combination, a garbage grinding unit including an elongated frame, a garbage grinder mounted on said frame and having a rotor the axis of rotation of which is parallel with the axis of said elongated frame, an elongated generally horizontal garbage receiving chute mounted on said frame with its longitudinal axis also parallel with the two aforementioned axes, an upright feed chute leading to said grinder and having a wall common with said receiving chute which wall is substantially parallel with the aforesaid three axes, said wall having a feed opening through which garbage is fed from said receiving chute to said feed chute and by it delivered to said grinder, the aforesaid arrangement of parts providing for the feeding of the garbage into said grinder along a path consistent with the direction of rotation of said rotor.

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