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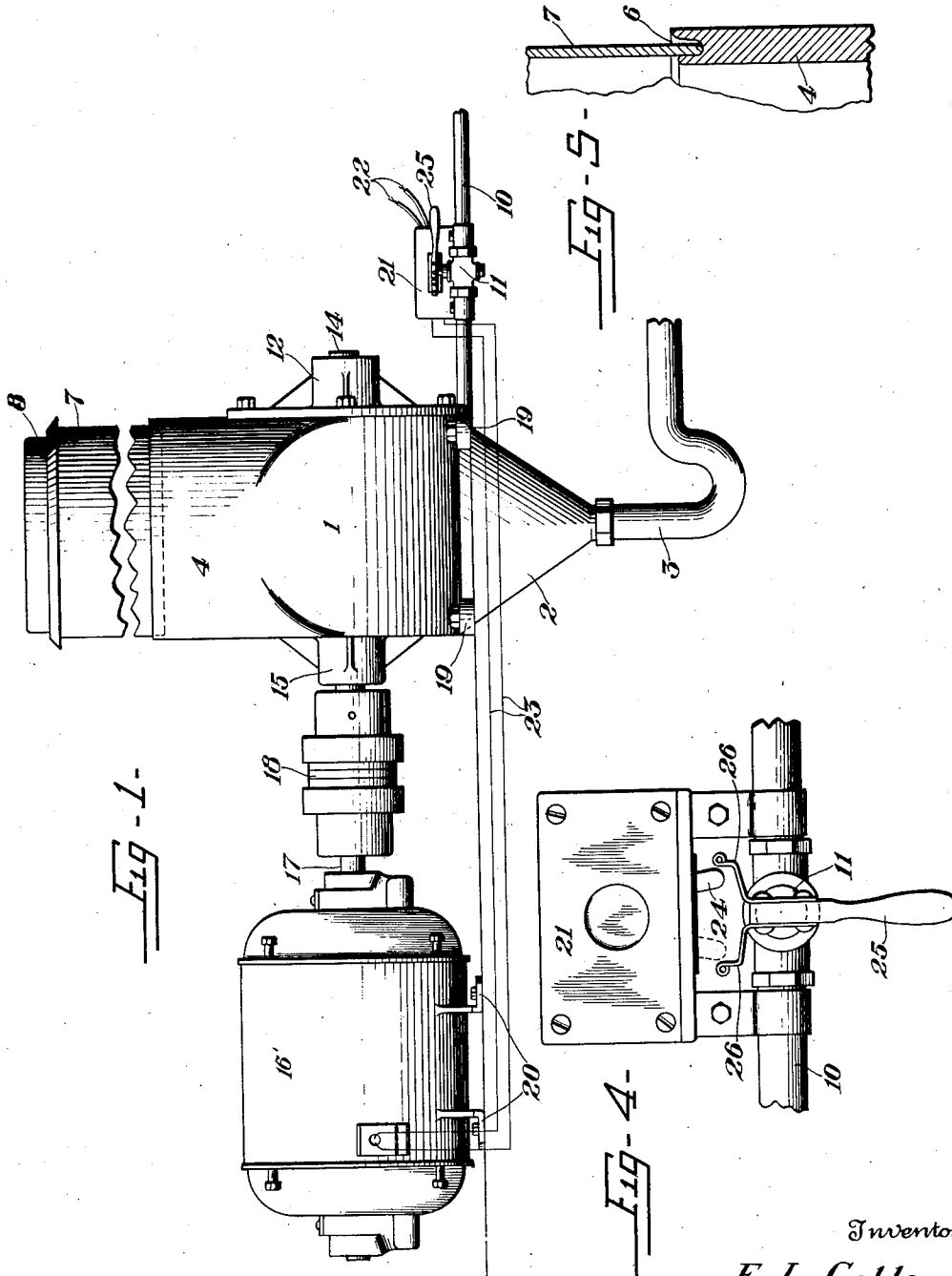
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MEANS FOR DISPOSING OF GARBAGE

Filed July 7, 1930

2 Sheets-Sheet 1



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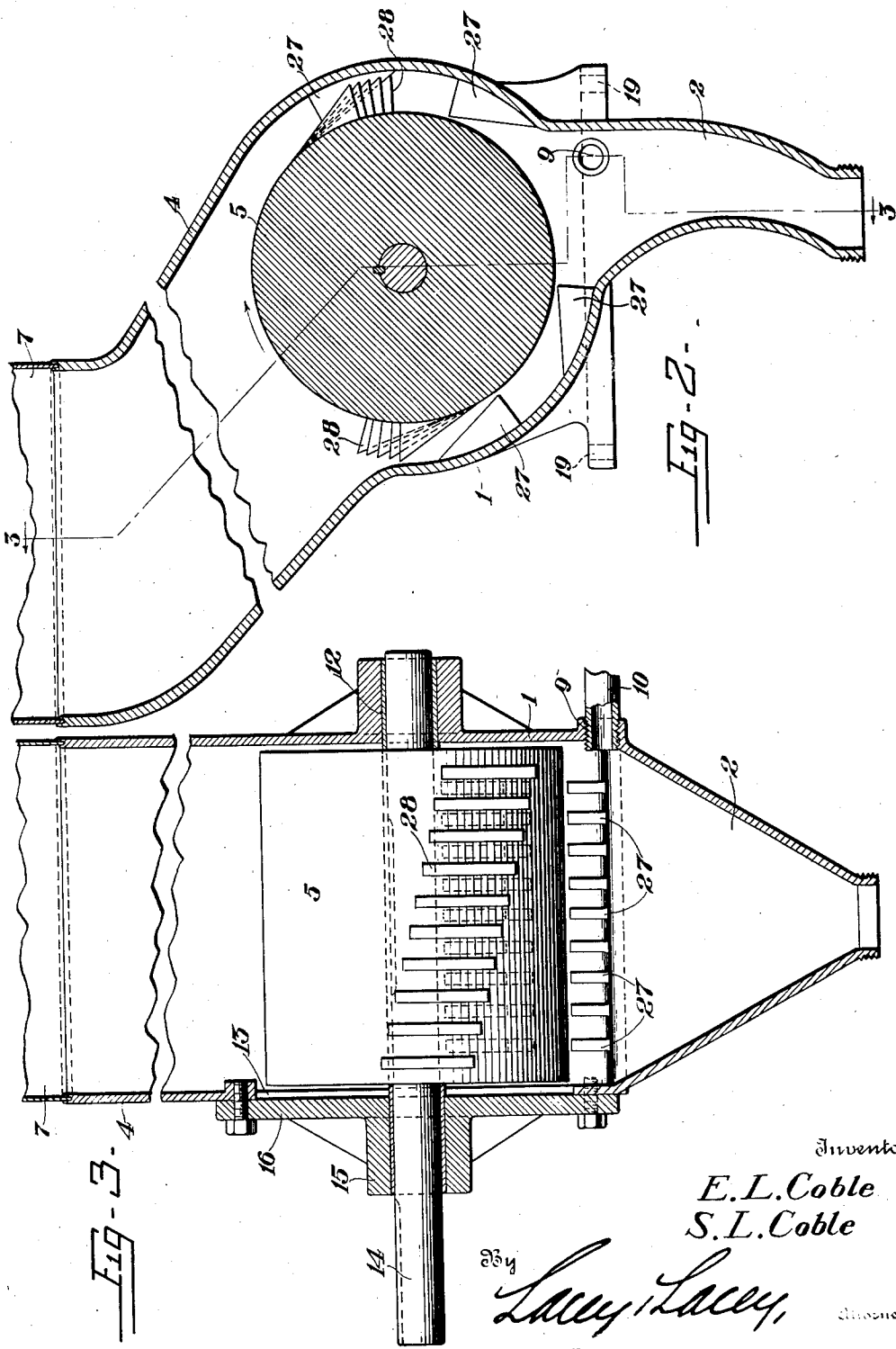
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MEANS FOR DISPOSING OF GARBAGE

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This invention has for its object the provision of an apparatus whereby garbage may be disposed of without requiring periodical collections and inconvenient and disagreeable storage between collection periods. The invention provides an apparatus whereby the garbage may be macerated and reduced to a fine pulpy condition and then at once carried off by a sewer to be washed away. The invention is illustrated in the accompanying drawings and will be hereinafter fully set forth.

In the accompanying drawings:

Figure 1 is an elevation of an apparatus embodying the present invention,

Fig. 2 is a transverse section through the casing and grinding apparatus,

Fig. 3 is a section on the line 3—3 of Fig. 2,

Fig. 4 is a detail plan view of a switch and valve controlling device, and

Fig. 5 is a detail enlarged section showing the joint between the casing and the hopper.

It is the purpose of the present invention to provide a mechanism which may be disposed adjacent to or set in the usual sink or otherwise conveniently located and connected directly to the sewer or drainage outlet of the building. To that end, we provide a casing 1 which is substantially cylindrical in its main portion and is provided with a depending outlet nozzle 2 which is tapered toward its lower end and at its lower end is connected to the usual drain pipe or sewer outlet 3. At its upper side, the casing is formed with an offset extension constituting the main hopper 4 which projects forwardly so that its rear wall overhangs the rotor 5 which is mounted within the casing for a purpose which will presently appear. The upper edge of the extension 4 is formed with a groove 6 extending throughout the same and adapted to receive the lower edge of a chute or auxiliary hopper 7 which may be constructed of sheet metal and provided with a lid 8 of any approved form hinged or otherwise attached to the upper end of the auxiliary hopper and, if desired, provided with a gasket or other packing whereby to effect a tight joint between the lid and the body of the chute or hopper extension so that obnoxious odors will not escape. At one side near its lower end

the casing 1 is tapped, as shown at 9, to receive the end of a water pipe 10 which may be connected with the street main or other source of supply, said pipe having a cut-off valve 11 therein at a point adjacent the casing, as shown in Figure 1. The casing is provided at one side with a bearing 12 and at its opposite side is formed with an opening 13 through which the rotor and grinder 5 may be inserted, said rotor being formed on or rigidly secured to a shaft 14 which has one end journaled in the bearing 12 and its opposite end portion fitted in a similar bearing 15 formed on a removable plate 16 which is adapted to be secured to the casing and extend over the opening 13, as clearly shown in Fig. 3. A motor, preferably an electric motor shown conventionally at 16', is disposed adjacent the casing and has its shaft 17 aligned with the shaft 14 so that it may be coupled thereto, a flexible coupling being indicated conventionally at 18, to connect the two shafts so that when the motor is energized the grinding rotor 5 will be rotated within the casing. The casing is provided with feet 19 of any convenient form through which fastening devices may be inserted into a convenient fixed support and the motor is likewise rigidly secured in place by fastening devices inserted through feet 20. A switch 21 is provided to control the motor and has one side connected to the lead-in wires 22 and its other side connected to the wires 23 which convey the current to and from the motor. This switch is provided with a lever handle 24 which projects through the side of the switch casing and the stem of the cut-off valve 11 is equipped with a lever handle 25 having fingers 26 secured at its inner end and adapted to impinge against the switch lever 24, as will be understood upon reference to Fig. 4. When the handle 25 is rocked to a position which will open the valve 11, one of the fingers 26 will impinge against the switch lever 24 so that the switch will be closed and the motor energized to operate the grinder and when the handle 25 is rocked in the opposite direction to close the valve the switch lever will be, of course, rocked in

the opposite direction to open the switch and stop the motor.

Secured upon or formed upon the inner wall of the casing 1 are series of ribs or breaker teeth 27, said teeth being arranged in series extending longitudinally of the casing with the teeth in each series spaced apart and the teeth are preferably triangular in form with one side extending abruptly from the wall of the casing to cooperate with similar teeth 28 which are formed upon the grinding rotor 5, as shown in Figs. 2 and 3. The teeth 28 are so located as to alternate with the teeth 27 whereby in the rotation of the grinder a tooth 28 will pass between two adjacent teeth 27 and matter caught between the teeth will be pulverized and reduced to a fine pulpy condition. The teeth upon the rotor are arranged spirally, as shown clearly in Fig. 3, so that the engagement of said teeth with the stationary teeth 27 will be a gradual and successive action extending from one side of a series of stationary teeth to the opposite side of the same and the garbage or other matter acted upon will, consequently, be so engaged that it cannot clog the action of the machine but will be rolled from one side to the opposite side of the casing and successively acted upon by the several teeth upon the rotor. If a bone, for instance, should be caught between opposed teeth, it will not be held in the caught position so as to break the teeth or otherwise damage the machine or clog the action but will be partly cracked and partly turned aside and eventually will be thoroughly pulverized so that it may pass through the sewer without clogging the same. It will be noted that the interior walls of the main hopper are substantially parallel to each other while the outlet end or throat of the main hopper where it merges into the walls of the cylindrical casing is of substantially the same width as the diameter of the grinding rotor so as to afford ample clearance and prevent clogging or obstruction of the garbage as it is delivered directly onto the grinding rotor. The width of the outlet or throat of the main hopper not only permits the garbage or other refuse to be fed freely and in large quantities directly onto the grinding rotor but owing to the inclination of the overhanging rear wall of said hopper, any refuse thrown off by the centrifugal action of the rotor will strike the inclined rear wall of the hopper and be deflected downwardly directly onto the rotor to be again acted upon by the teeth of the rotor.

The grinder rotates in the direction indicated by the arrow in Fig. 2 and any water which might be thrown directly upward by centrifugal action will be directed toward the upper rear wall of the main hopper 4 and will thereby be deflected back into the casing to pass out of the same instead of being

thrown out through the top of the casing to spread over adjacent objects or upon the operator or other persons who may be near the apparatus. The groove 6 in the upper edge of the hopper 4 receives the lower edge of the chute or auxiliary hopper and permits the chute to seat deeply in the main hopper so that any water which may find its way up into the chute or extension cannot overflow but will find its way back to the casing. The material to be acted upon is placed in the chute 7 and gravitates into the casing and will rest upon the rotating grinder. The rotation of the grinder will carry the teeth thereon through the matter and will thereby feed it around to and against the stationary teeth on the casing and a macerating action will occur as the teeth are successively engaged. The pulverized garbage will be fed around by the action of the teeth until it reaches the outlet 2, whereupon it will descend through said outlet into the drainage pipe as is obvious. Water admitted through the pipe 10 into the casing will flush the same and cause the macerated matter to pass easily into the drain pipe and be carried through the same as the water escapes. It will be noted that the pipe 10 discharges into the casing at the top of the tapered outlet nozzle 2 and immediately under the crushing rotor, so that the full force of the stream of water is exerted directly upon the body of pulverized matter to drive it into the sewer. It will also be noted that some of the breaker teeth 27 are located immediately adjacent the outlet and the crushed matter will drop at once into the nozzle instead of being carried through a tortuous path or through a series of passages which would provide many opportunities for clogging the machine. When all the matter on hand has been disposed of, the chute or auxiliary hopper 7 may be removed so that it will not be in the way of persons desiring to make other use of the room, and any convenient cover may then be placed over the open end of the main hopper 4 so as to prevent any matter being dropped thereinto and also prevent children or other persons carelessly placing their hands within the hopper where they would be liable to be injured through accidental rotation of the grinder.

The apparatus is exceedingly simple and compact and it may be installed at a low cost and in use will effectually dispose of garbage and other waste matters.

Having thus described the invention, we claim:

1. An apparatus for disposing of garbage and similar refuse comprising a horizontally disposed casing having a depending discharge nozzle for connection with a sewer and provided at its upper portion with an integral tubular extension projecting upwardly and laterally therefrom and constituting a hopper the interior walls of which

are arranged at an angle to the vertical axis of the casing and disposed substantially parallel with each other, a cylindrical grinding rotor mounted for rotation within the casing, the throat of the hopper at its junction with the walls of the casing being of substantially the same width as the diameter of the rotor whereby refuse thrown outwardly by the centrifugal action of the rotor will impinge against the adjacent wall of the hopper and be deflected thereby onto said rotor, and a water inlet communicating with the interior of the discharge nozzle for flushing said discharge nozzle.

2. An apparatus for disposing of garbage and similar refuse comprising a horizontally disposed cylindrical casing having an integral tubular extension projecting upwardly and laterally therefrom and constituting a main hopper the interior walls of which are arranged at an angle to the vertical axis of the casing and disposed substantially parallel with each other, the lower end of the casing being reduced in width transversely to form a downwardly tapered depending discharge nozzle for connection with a sewer, an auxiliary hopper fitted on the upper portion of the main hopper, a cylindrical grinding rotor mounted for rotation within the casing, teeth on the inner wall of the casing coacting with the grinding rotor, the throat of the main hopper at its junction with the walls of the casing being of substantially the same width as the diameter of the rotor whereby refuse thrown outwardly by the centrifugal action of the rotor will impinge against the adjacent inclined wall of the main hopper and be deflected thereby onto said rotor, and a water inlet communicating with the interior of the discharge nozzle beneath the rotor for flushing said discharge nozzle.

In testimony whereof we affix our signatures.

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