

Oct. 24, 1939.

L. D. PENDER

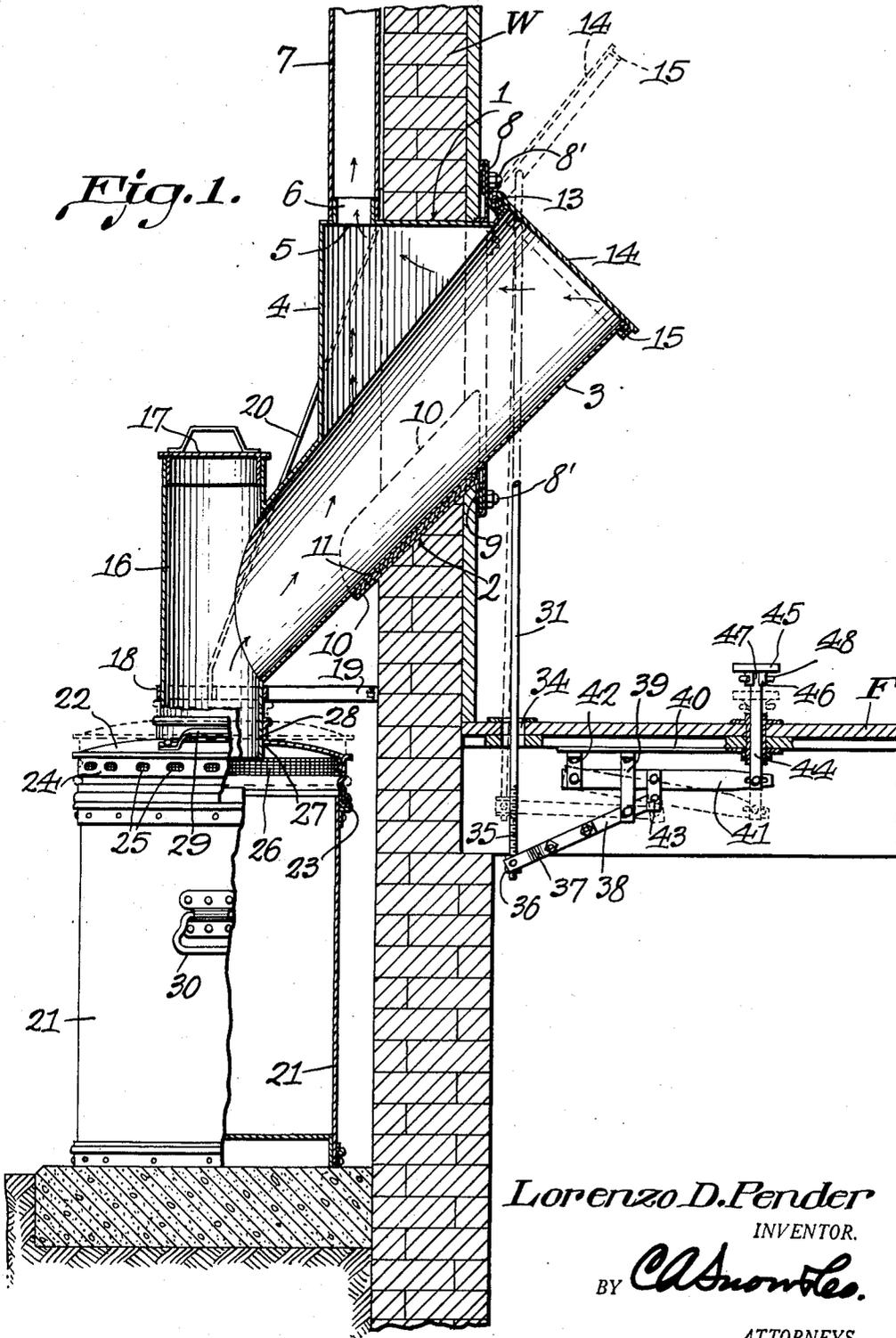
2,177,328

GARBAGE DISPOSAL DEVICE

Filed June 25, 1938

2 Sheets-Sheet 1

Fig. 1.



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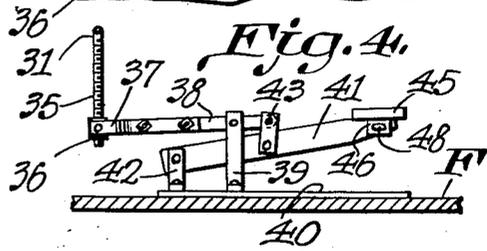
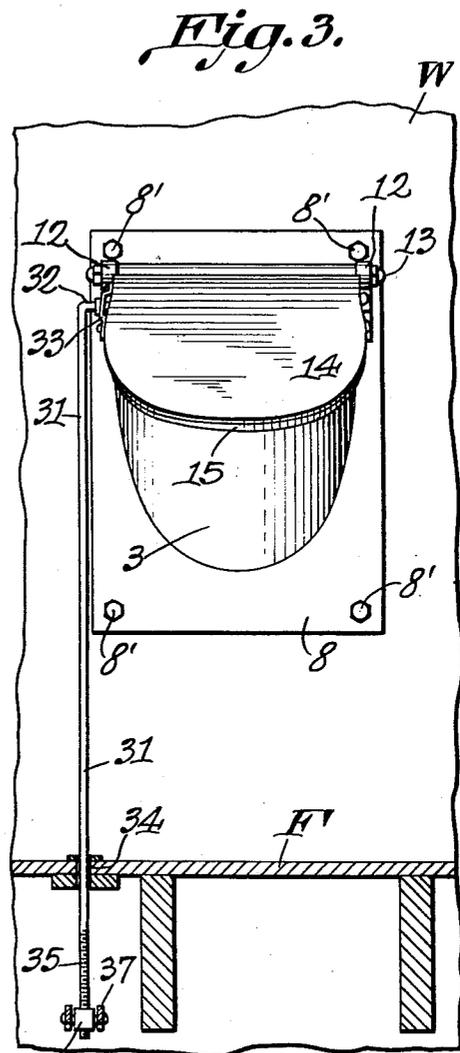
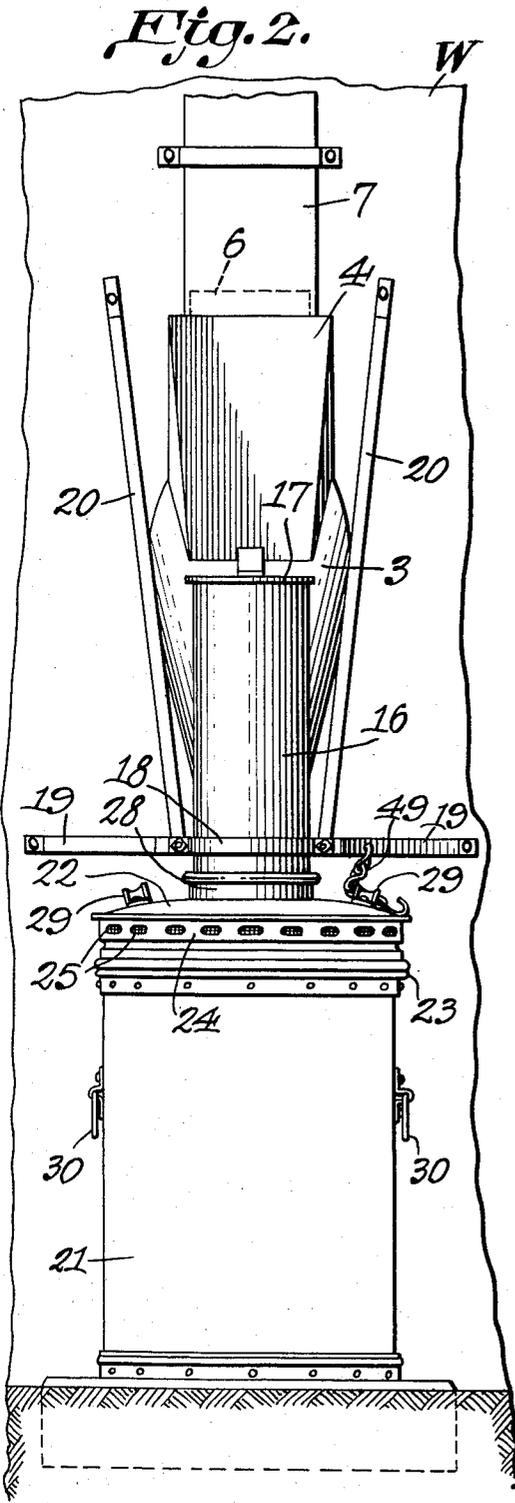
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GARBAGE DISPOSAL DEVICE

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

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GARBAGE DISPOSAL DEVICE

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Application June 25, 1938, Serial No. 215,949

6 Claims. (Cl. 193—34)

This invention relates to a garbage disposal device and is designed primarily as an improvement upon the structure disclosed in Patent 1,482,144 issued to me on January 29, 1924.

It is an object of the invention to provide a device of this character which can be installed readily in the wall of a building and has improved means whereby efficient ventilation is set up therethrough so that none of the objectionable fumes given up by waste within any part of the apparatus will be delivered into the room from which the garbage is delivered.

A further object is to provide a container for receiving the garbage, the same being so constructed as to be readily coupled to or uncoupled from the feeding portion of the device, thereby to permit convenient removal and replacement of the container by a person located outside of the building.

Another object is to provide a container into which material can be placed readily by a person located adjacent thereto.

A still further object is to provide an improved means for operating the closure of the device, said means being foot actuated and readily reversible for use either above or below the floor level.

Another object is to equip the device with a means for indicating the presence of a leak in the disposal device so as to forestall the seepage of objectionable liquids into the wall in which the device is installed.

With the foregoing and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein described, may be made within the scope of what is claimed, without departing from the spirit of the invention.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings:

Figure 1 is a central vertical section through the complete device, a portion of the container being shown in elevation.

Figure 2 is an elevation of that portion of the device located outside of the wall of the structure with which it is associated.

Figure 3 is an elevation of that portion of the device located inside of the structure, the adjacent part of the floor being shown in section.

Figure 4 is an elevation of the lid-operating mechanism inverted from the position shown in Figure 1 for use on top of a floor adjacent to the device.

Referring to the figures by characters of reference W designates a portion of the wall of a structure and the floor has been indicated at F. The

wall is provided with an opening 1 the bottom of which is inclined downwardly and outwardly, as shown at 2 and fitted snugly within this opening is a downwardly and outwardly inclined chute 3 open at its lower end and formed with a box-like extension 4 along the top thereof. The top wall of this extension is preferably substantially horizontal and terminates at one end close to the upper end of the chute 3. The remaining walls of the extension merge into the wall of the chute so that the extension thus opens into the chute along the top thereof. Extension 4 is of such size as to extend entirely through the wall W if the installation is made following the erection of the wall, and that portion of the extension located outside of the wall is provided at the top, with an outlet 5 surrounded by a sleeve 6 opening into a vent pipe 7 which is extended upwardly along the wall W to a point above the top of the roof.

Chute 3 has an attaching plate 8 extending therearound and connected thereto and this plate is adapted to be bolted or otherwise fastened, as at 8', to the inner surface of the wall W. If desired the lower portion of the plate can also be employed to clamp against the wall a depending apron 9 located at the inner end of a plate 10 constituting a shield. This shield is curved transversely so as to straddle the bottom portion of the chute where it is located in the wall W and a suitable indicating material, indicated generally at 11, can be located between this shield and the adjacent portion of the chute. This material, which can be of slaked lime or the like, is designed normally to be concealed. However should the bottom of the chute become worn or perforated at any point adjacent to the inclined bottom 2 of opening 1, liquid seeping therethrough would enter the indicating material and carry off a portion thereof so that it would leak from the lower end of the shield, thereby indicating to the user that replacement of the chute 3 or repair thereof is necessary to prevent seepage of this objectionable liquid into the wall.

The upper or inlet end of chute 3 is inclined downwardly away from the wall W as shown and secured to plate 8 adjacent to opposite sides of the upper portion of this chute are brackets 12 carrying a pin 13 providing a hinge connection for a lid 14 which normally rests by gravity on the inclined end of the chute so as to close it. This lid can be formed with a depending flange 15 for extending around or lapping the adjacent portion of the chute, thereby increasing the effectiveness of the lid as a closure and seal.

The outer or small end of chute 3 is joined to and adapted to discharge into a delivery pipe 16 which is open at the bottom and has the removable cover 17 normally closed. This pipe is held rigidly to the wall in any suitable manner. For example a band 18 can be secured about the

same near its lower end and joined to the wall by means of arms 19. Braces 20 can also be extended from opposed portions of the band upwardly to the wall for the purpose of supporting and reinforcing arms 19 and the parts to be carried thereby.

The container for receiving garbage has been indicated at 21 and is in the form of a can of any desired capacity having a lid 22 which, when in closed position, rests on an annular bead 23 or the like so that the upper portion of the flange 24 of the lid will be located above the top of the container 21. This flange is provided with an annular series of openings 25 and a screen 26 is preferably extended across the openings so as to prevent flies from entering the container.

In the center of the lid 22 is provided an opening 27 for the reception of the lower end of the pipe 16 and the lid has a sleeve 28 extending around the opening which surrounds and is slidably mounted on the pipe. Handles 29 are carried by the lid and it is of course to be understood that the container 21 is likewise provided with handles 30.

Lid 14 at the upper end of the chute is adapted to be actuated by pressure on a foot-operated mechanism. This includes a rod 31 the upper end of which is offset laterally as at 32 so as to extend into a bracket 33 fastened to one side of lid 14, the rod being held to the bracket in any suitable manner. The lower portion of the rod is extended through an opening 34 in the floor F and has its lower end screw-threaded as at 35 for engagement by a nut 36. To this nut is pivotally connected the forked end 37 of a lever 38 which is fulcrumed in a bracket 39 extending from a base 40. Another lever 41 is movably mounted within bracket 39 and is pivotally connected at one end to a bracket 42 secured to base 40. Lever 38 has a long arm, which is the one connected to nut 36, and a short arm, the latter being pivotally connected at 43 to an intermediate portion of lever 41.

The free end of lever 41 has a push device attached to it. This can be in the form of a rod 44 pivotally attached to the lever and slidable in the floor F, this rod having a foot plate 45 detachably secured thereto. The plate is formed with a socket 46 which is slotted as shown at 47 and the upper end of the rod is adapted to extend into said socket so as to be engaged by a coupling pin 48.

When the installation is made as shown in Figures 1, 2 and 3, the foot plate 45 will be supported a short distance above the level of the floor and will be held in this position by the weight of the lid 14 thrusting downwardly through rod 31 against lever 38, it being understood that the lid is normally closed. When it is desired to dispose of garbage or the like, the plate 45 is pressed downwardly. A thrust is immediately transmitted through the levers and through rod 31 to bracket 33 with the result that the lid 14 will be swung upwardly to open position as indicated by broken lines in Figure 1. As soon as the lid is raised a draft will be set up towards the flue 7 as indicated by the arrow in Figure 1 and the flue 7 is of such capacity that the draft thus created will be sufficient to sweep upwardly into the flue 7 all noxious gases arising within the lower portion of chute 3 as well as those which otherwise might escape upwardly from the open end of the chute. As soon as pressure is removed from plate 45, the cover 14 will gravitate to its closed position and thereafter any objectionable

gases or fumes arising from container 21 and escaping into pipe 16 and chute 3 will be carried upwardly through vent 7 by the intruding air entering the openings 25, it being understood that the combined capacities of these openings 25 is far less than the capacity of the outlet 5.

Importance is attached to the fact that there is no way in which fumes can be trapped within this apparatus at points where they might be released ultimately into the room where the lid 14 is located. By providing the extension 4 ascending fumes can be swept straight to the flue 7 and, when lid 14 is opened, these fumes will be carried to the flue by the air rushing towards the flue by way of the upper end of the chute.

Should it be desired to remove the container 21, it would be necessary merely to slide the lid 22 upwardly until its flange 24 has cleared the upper edge of the container. When the lid is thus raised it can be supported by a suitable means, such as a hooked chain 49 engaging one of the arms 19. While the lid is thus supported, the container can be pulled from under it, emptied, and replaced after which the lid can be slid downwardly thereonto.

Under some conditions it might be desirable to mount the foot operated mechanism on the upper surface of the floor F instead of beneath the floor. The mechanism shown in Figure 1 can be used in this way simply by inverting it as shown in Figure 4 and eliminating the rod 44. Plate 45 is placed astride the end of the lever 41 so that said lever will extend into slot 47 where it can be secured by means of the pin 48.

Although this device has been shown installed in a wall with the flue 7 located along the outer surface thereof, it is to be understood that when the installation is made at the time the wall is erected, it would be possible to so locate the outlet 5 and flue 7 that they could be concealed within the wall. This arrangement is so obvious that the illustration thereof is not deemed necessary.

By providing the pipe 16 with the removable lid or cover 17, it is possible when desired, to remove the lid and drop material directly into the container 21 from a point outside of the building.

It sometimes happens that, through careless handling, such as the use of pointed instruments or the like for pushing garbage downwardly in chute 3, the bottom of the chute will become punctured or will be worn through. Should this happen any liquid seeping through the aperture will commingle with the indicating material 11 contained between shield 10 and the bottom of the chute with the result that this material will be carried downwardly to a point where it will be visible at the outside of the wall and the user will thus have ample notice of the leakage which can be corrected before the seeping liquid has an opportunity to enter the wall structure and contaminate it.

Obviously the operating mechanism can be adjusted relative to the lid simply by disconnecting the upper end of the rod from its bracket 33, rotating the rod so as to feed it in either direction within nut 36, and then reconnecting the upper end of the rod to the bracket 33.

It is to be understood that the vent pipe is to be extended well above the roof or other covering above the wall so as to insure a strong updraft through the pipe and also cause the objectionable odors to be dispersed well above said roof or covering.

Under some conditions it might be advisable to use a vertical series of these garbage disposal

devices on different floors of buildings, such as hospitals, apartment houses, etc. Under these conditions all of the devices would be connected to the same vent pipe and all of them would be connected to the same outlet pipe 16 which would be of sufficient length to permit the various devices to open thereinto.

Instead of using this device for disposal of garbage, it could be used for the disposal of trash and, under some conditions the hopper could be divided by a partition and one part open into one container and the other part into another container so that both garbage and trash could be disposed of into separate containers. These changes are all well within the scope of the present invention as claimed.

Although this device has been referred to as a garbage disposal device, it is to be understood that it can also be used for the disposal of trash, etc.

What is claimed is:

1. A garbage disposal device including a chute for installation in an inclined position within the wall of a structure, a top extension on the chute for installation in said wall and having a top outlet, an outlet flue leading from the outlet, a gravity seated closure at the upper end of the chute, an outlet pipe at the lower end of and adapted to receive material from the chute, a container below said pipe for receiving material therefrom, a container lid slidably mounted on the pipe, said lid having air inlets, the capacity of the flue being such as to permit free flow of air thereto from the apertured lid and from the upper end of the chute when its closure is open.

2. A garbage disposal device for installation in the wall of a building, including a downwardly and outwardly inclined chute open at its ends, a hinged closure normally seated by gravity on the upper end of the chute, an extension projecting upwardly from the chute and having a top outlet, the top of said extension and the outlet therein being at a level adjacent to the top of the upper end of the chute, said extension having a bottom inlet opening into the chute along the top of the chute from a point close to the upper end of said chute and downwardly along the chute for the greater portion of the length of said chute, a flue leading upwardly from the outlet in the extension, an outlet pipe connected to and adapted to receive material from the lower end of the chute, a removable closure for the upper end of the pipe, a container beneath said pipe, and a container closure slidably on the pipe into and out of engagement with the container, said closure having ventilating openings for the inflow of air over the container and through the outlet pipe to the chute and its extension.

3. A garbage disposal device including a chute for installation in a downwardly and outwardly inclined position in the wall of a structure, a box-like extension projecting upwardly from and opening downwardly into the chute, there being an outlet in the top of the extension, said outlet and top being in a substantially horizontal plane located adjacent the upper portion of the upper end of the chute for the unobstructed sweep of air through the said upper end and through the extension to the outlet, a closure for the upper end of the chute normally seated thereon by gravity, an outlet pipe for receiving material from and supported by the lower end of the chute, said

pipe being open at its ends, a closure at one end of the pipe, a container beneath the other end of the pipe, and a container lid slidably on the pipe and into and out of engagement with the container, said lid having apertures for the admission of air, the pipe, lower portion of the chute and extension, constituting means for permitting direct unobstructed flow of said air to the flue, the outlet being of a capacity sufficient to permit free escape of air flowing thereto from the apertures in the lid and from the upper end of the chute when the chute closure is open.

4. A garbage disposal device including a chute for installation in an inclined position within the wall of a structure, a top extension on the chute for installation in said wall and having a top outlet, an outlet flue leading from the outlet, a gravity seated closure at the upper end of the chute, an outlet pipe at the lower end of and adapted to receive material from the chute, a container below said pipe for receiving material therefrom, said container having an air inlet, the capacity of the flue being such as to permit free flow of air thereto from the apertured container and from the upper end of the chute when its closure is open.

5. A garbage disposal device for installation in the wall of a building, including a downwardly and outwardly inclined chute open at its ends, a hinged closure normally seated by gravity on the upper end of the chute, an extension projecting upwardly from the chute and having a top outlet, the top of said extension and the outlet therein being at a level adjacent to the top of the upper end of the chute, said extension having a bottom inlet opening into the chute along the top of the chute from a point close to the upper end of said chute and downwardly along the chute for the greater portion of the length of said chute, a flue leading upwardly from the outlet in the extension, an outlet pipe connected to and adapted to receive material from the lower end of the chute, a container beneath and in snug engagement with the pipe, said container having an air inlet opening for the inflow of air over the contents of the container and through the outlet pipe to the chute and its extension.

6. A garbage disposal device including a chute for installation in a downwardly and outwardly inclined position in the wall of a structure, a box-like extension projecting upwardly from and opening downwardly into the chute, there being an outlet in the top of the extension, said outlet and top being in a substantially horizontal plane located adjacent the upper portion of the upper end of the chute for the unobstructed sweep of air through the said upper end and through the extension to the outlet, a closure for the upper end of the chute normally seated thereon by gravity, an outlet pipe for receiving material from and supported by the lower end of the chute, said pipe being open at its ends, a closure at one end of the pipe, and a container beneath the other end of the pipe, said container having apertures for the admission of air, the pipe, lower portion of the chute and extension, constituting means for permitting direct unobstructed flow of said air to the flue, the outlet being of a capacity sufficient to permit free escape of air flowing thereto from the apertures in the container and from the upper end of the chute when the chute closure is open.

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