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REFUSE DISPOSAL DEVICES

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This invention relates to new and useful improvements in refuse disposal devices.

An object of this invention is to provide a new and improved garbage disposal device which is particularly adapted to be mounted in the wall of a house or other building whereby garbage or other refuse can be disposed of from the interior of the house or other building and deposited in a refuse container exterior of the house or other building.

An important object of this invention is to provide a new and improved refuse disposal device which is particularly adapted to be mounted in the wall of a building for permitting the disposal of garbage or other refuse from the inside of the house or building and for directing same into a garbage or refuse container such as an incinerator, with means being provided to close the communication from the interior of building or house to the incinerator when garbage or other refuse is not being delivered to the incinerator.

Another object of this invention is to provide in a new and improved garbage disposal device which has a chute from the interior of a building to a refuse container, a means to prevent the accumulation of refuse odors within the chute, whereby such odors are prevented from returning to the interior of the building.

The construction designed to carry out the invention will be hereinafter described, together with other features thereof.

The invention will be more readily understood from a reading of the following specification and by reference to the accompanying drawings forming a part thereof, wherein an example of the invention is shown, and wherein:

Figure 1 is a vertical sectional view illustrating one form of the refuse disposal device of this invention as mounted in position for use.

Figure 2 is a sectional view taken on line 2—2 of Figure 1.

Figure 3 is a sectional view illustrating a modified form of the device of this invention.

In the drawings, the letter A designates one form of the refuse disposal device of this invention (Figure 1) which is adapted to be mounted in a wall W of a house or other building so that garbage and other refuse can be delivered from the interior of the house, preferably from the area in the vicinity of the kitchen sink K, to a refuse incinerator or other refuse container R. As will be explained, the device A is so constructed that communication between the interior of the house or the building and the refuse incinerator R is prevented except when the device A is opened for the depositing of refuse into the incinerator R. Also, an exhausting means E is preferably provided in order to prevent the accumulation of any disagreeable odors within the device A so that upon the depositing of garbage or other refuse into the device A, the odors are not permitted to pass into the interior of the building or house in which the device A is mounted.

Referring now to the details of the invention, and par-

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ticularly to the form of the device illustrated in Figures 1 and 2, the device A therein illustrated includes a substantially rectangular chute 10 which has a top 10a, sides 10b and 10c and a bottom 10d. The corners between the bottom 10d and the sides 10b and 10c are preferably rounded or curved as indicated in Figure 2 in order to prevent the accumulation of garbage or other refuse in such corners. The chute 10 is mounted in the wall W, and as indicated in Figure 1, such wall W has a suitable opening 10 provided in the inner wall section 12 and the outer wall section 14 so as to receive such chute 10. The chute 10 in the form of the invention shown in Figure 1 has a compartment 15 formed at the upper end thereof which is enclosed except for communication with the chute 10 through an opening 16 in the top surface 10a of the chute 10. The wall W, and particularly the outer section 14 thereof, is provided with a sufficient opening for receiving such compartment 15 along with the chute 10, and the purpose of such compartment 15 will become evident hereinafter. The chute 10 and the compartment 15 are preferably integral, but of course they may be separately mounted. In any event, the chute 10 and the compartment 15 are suitably secured to the wall W and for this purpose, a flange 10e is provided at the upper and inner end of the chute 10 for permitting the attachment of the chute 10 to the wall W with screws or nails (not shown) or any other suitable attaching means.

The form of the device A illustrated in Figure 1 includes a pair of doors 18 and 19, with the door 18 being the inner door and the door 19 being the outer door. The inner door 18 is exposed to the interior of the building or house in which the device is positioned for use. Such door 18 has a pivot 20 at its upper end so as to permit a swinging or rotational movement thereof outwardly from the position shown in Figure 1. The outer door 19 is likewise pivoted at pivot 21 for a pivotal movement similar to that of door 18. The doors 18 and 19 are connected together by a pivoted link 23 which has a pivotal connection 24 with the door 18 and a pivotal connection 25 with the door 19. Thus, as the door 18 is moved inwardly from its position shown in Figure 1, the link 23 transmits such inward movement to the door 19 so that the door 19 also moves inwardly a corresponding amount to the amount that the door 18 is moved. The door 19 carries therewith an arm 26 upon which is disposed a weight 27 which normally applies a downward force to the door 19 to urge same to a substantially vertical position (Figure 1). Preferably the inner wall 12 has a projection 12a which extends up sufficiently high to prevent the inward swinging of the door 18 into the interior of the house or building in which the unit or device A is mounted.

When the door 18 is pushed outwardly by engaging the handle 18a or any other part of the door 18 from the interior of the house or building, the arm 26 and the weight 27 are moved inwardly toward the interior of the house or building so that ultimately such weight 27 assumes the dotted line position of Figure 1. In that dotted line position, the weight 27 actually counterbalances the weight of the doors 18 and 19 and also the connecting link 23 so that the doors are maintained in an open position during the insertion of the garbage or other refuse into the chute 10. After the garbage or other refuse has been inserted into the chute 10 and has passed the door 19, then the handle 18a is grasped by the person within the house or building and is pulled inwardly toward such interior of the house or building so as to move the doors 18 and 19 to their substantially vertical closed position. The weight 27 maintains the doors 19 and 18 in such closed position and therefore prevents the fumes from smoke and gases having disagreeable odors from passing into the house or building.

Although the disposal device A is adapted to be used in combination with many types of refuse incinerators or containers, it is preferred to mount the outer end of the chute 10 within a refuse incinerator such as designated by the letter R in Figure 1. Such incinerator R is located exteriorly of the wall W of the house or building in which the device A is mounted and may be disposed below the ground or thereabove, depending upon the particular location in which the device is used. The outer end of the chute 10 is inclined so that an overhang 30 is provided at the lower end of the chute 10 and within the incinerator R, such chute 10 being welded or otherwise secured to the incinerator R by any known method or means. With such overhang 30, as smoke and odors rise in the incinerator R, they are deflected so that they pass upwardly into the exhaust pipe 31 which is mounted at the upper end of the incinerator R in the usual case. The incinerator R may be of any standard construction and is provided with means for burning or otherwise disposing of the garbage or other refuse deposited therein. A door or other means of entry 33 is provided at the upper end of the incinerator R.

In order to assure the removal of any smoke or gases having a disagreeable odor from within the chute 10 so as to prevent such smoke or gases from passing into the interior of the building or house, the exhaust means E is mounted at the outer end of the chute 10 and at its upper portion thereof. Such exhaust means E includes a substantially vertical pipe 35 which extends upwardly into the pipe or stack 31 and which is open at its upper and lower ends. The lower end of the pipe 35 is connected to a nozzle 36 which is mounted in the upper portion of the chute 10 at its outer end by any suitable securing means such as welding or the like (Figure 2). With such exhaust means E in position at the upper portion of the chute 10, the rising hot gases from the incinerator R create a draft in the pipe 35 which in effect creates a partial vacuum to draw the gases from the interior of the chute 10 including the compartment 15 associated therewith.

The operation of the device illustrated in Figure 1 is believed to be evident from the foregoing description. Such operation or use includes the swinging of the doors 18 and 19 together from the substantially vertical closed position shown in Figure 1 to an open position (dotted lines) where the weight 27 is disposed inwardly of the pivot point 21 so as to maintain the doors 18 and 19 in the open position without holding same manually. Thus, the garbage and other refuse can be readily dropped through the chute 10 and into the incinerator or other container R. After the garbage or other refuse has been delivered from the chute 10 into the incinerator R, the handle 18a is grasped and the doors 18 and 19 are pulled downwardly so that the weight 27 then acts to swing same to the closed position. The weight 27 maintains the doors 18 and 19 in the closed position once the weight 27 has passed the midpoint at which it is in balance with the weight of the doors 18 and 19 and the connecting link 23. The incinerator R is preferably used in combination with the refuse device A so that the garbage is readily burned or otherwise destroyed and the smoke, fumes and disagreeable odors are allowed to pass upwardly through the stack 31. The exhaust means E effects the removal of disagreeable odors, smoke and the like from the interior of the chute 10 as the hot gases from the incinerator R are passed upwardly in the stack 31.

In the form of the invention illustrated, Figure 3, the disposal device A' is similar to the device A of Figure 1, but differs in several respects, as will be explained. Thus, the chute 110 is substantially the same as the chute 10 of Figure 1 and it has similar rounded corners at the lower portion thereof of the type illustrated in Figure 2. The chute 110 extends through an opening in the

wall W which is provided through the outer wall section 14 and the inner wall section 12 in substantially the same manner as described above in connection with Figure 1. Instead of the compartment 15, an elongate compartment 50 is provided above the chute 110 and there is no opening in the chute 110 which corresponds with the opening 16 in Figure 1. The chute 110 is preferably welded or otherwise secured in a refuse unit or incinerator R and in the usual case, the compartment 50 is likewise welded or otherwise connected to the unit or incinerator R.

The inner door 118 is pivoted at its lower end to the chute 110 by pivot 120 so that the door 118 is adapted to swing inwardly to the dotted line position. On the inside of the door 118, a pair of parallel sides 118b are mounted in substantial engagement with the inner surfaces of the side walls of the chute 110 so that as the door 118 is moved to its open position (dotted line position in Figure 3), the sides of 118b provide a convenient means for keeping the refuse or garbage within the limits of the chute 10 and for also facilitating the swinging movement of the door 118. A handle 118a is provided for grasping the door 118 to move same from its substantially vertical closed position to its substantially horizontal open position. The door 118 can be latched in its closed position by a bar 51 which is pivoted at 52 to the inner wall section 12 so as to normally be in a substantially vertical position and in engagement with the door 118, but being pivotable to a substantially horizontal position out of contact with the door 118 to thereby permit the swinging of the door 118 inwardly.

An inner door 119 similar to the door 19 of Figure 1 is provided, but such door 119 operates independently of the door 118 and is preferably disposed at approximately the outer end of the chute 110 with the pivot 121 being provided at its upper end so that the door 119 is adapted to swing from its substantially vertical closed position (solid lines in Figure 3) to its open position (dotted lines in Figure 3). The door 119 has an extension 119a thereabove which carries a weight 127 which normally applies a force tending to swing the door 119 to its closed position. A flexible rod 60, which is preferably formed of steel, is connected to the extension 119a of the outer door 119 and it extends upwardly through the compartment 50 and through the inner wall section 12, with a handle 61 being provided for manipulating such rod 60 to thereby manipulate the outer door 119 to change its position. The flexible rod 60 is guided in its longitudinal movement by a coil 61 which is preferably welded at 61a to the wall of the compartment 50 and at 61b to the upper wall of the compartment 50, or such coil 61 may be otherwise suitably attached so as to prevent its normal movement during the relative movement of the rod 60. As the rod 60 is moved inwardly to its dotted line position, the rod is permitted to bend sufficiently to raise the door 119 to its dotted line position (Figure 3). The weight 127 moves past the pivot point 121 and thereby reaches a point at which it is of sufficient weight to hold the outer door 119 in the raised or open position. However, upon a forcing of the handle 61 inwardly from its dotted line position, the door 119 can be pivoted to its substantially vertical position. Although the exhaust means E is not illustrated in Figure 3, it will be evident that such exhaust means could be utilized in the device of Figure 3 if desired.

The operation or use of the device of Figure 3 is substantially the same as that described above in connection with Figure 1, but it will be evident that the doors 118 and 119 operate separately from each other instead of operating together as the doors 18 and 19 in Figure 1 do. Thus, the door 118 is opened and the garbage or other refuse is dropped to the chute 110. Then the door 118 is closed and the handle 61 is pulled inwardly to pull the rod 60, door extension 119a and the door 119 so as to swing the door 119 to its open position to thereby permit

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the garbage or other refuse to fall from the chute 110 into the incinerator or other refuse container R. With such arrangement, there is no opportunity for the odors, or disagreeable fumes from smoke or gases, to pass into the interior of the building when the garbage or other refuse is dumped or deposited into the incinerator or container R. When the garbage or refuse has been deposited in the incinerator R, the button 61 is moved to the dotted line position to swing the outer door 119 to its closed position. The deflection portion 130 of the chute 110 deflects smoke, or gases and disagreeable odors upwardly through the stack 31 in a manner similar to the deflection portion 30 of the chute 10. It will also be evident that the door 119 can be disposed midway or upwardly from the outer end of the chute 110 if desired. In such case, the exhaust means E can be readily positioned in the upper portion at the outer end of the chute 110 in the manner illustrated in Figure 1. In such case, the exhaust means E would assist in the removal of gases and smoke having disagreeable odors from within the chute 110 as the hot gases pass upwardly around the exhaust means E in the stack 31.

It is believed evident from the foregoing description that a new and improved refuse disposal device has been provided which is particularly adapted to be used in combination with an incinerator. The devices A and A' can each be readily mounted in a wall W of a house or other building so that the devices of this invention are very practical and convenient.

The foregoing disclosure and description of the invention is illustrative and explanatory thereof and various changes in the size, shape and materials, as well as in the details of the illustrated construction, may be made within the scope of the appended claims without departing from the spirit of the invention.

What is claimed is:

1. A refuse device adapted to be mounted in a wall of a building, including a chute adapted to extend through said wall, an inner door disposed in said chute at the inner end thereof, an outer door disposed in said chute outwardly from said inner door, means pivotally connecting each of said doors to said chute at their upper ends so that said doors are adapted to be pivoted to open and close said chute, means pivotally connecting said

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doors together whereby said doors pivot simultaneously relative to said chute and open and close simultaneously, and weight means connected with said outer door for normally maintaining same in a closed position for preventing smoke and gases having disagreeable odors from passing into said building through said chute and for swinging into a compartment above the chute when the outer door is open and counterbalancing both the inner and outer doors when the doors are in open position.

2. In combination with an incinerator for destroying refuse, a refuse disposal device having a chute adapted to extend through a wall of a building, means connecting said chute to said incinerator to establish communication by said chute from the interior of said building to said incinerator, a deflecting means on said chute and within said incinerator for deflecting gases upwardly and away from said chute, means operable manually from the interior of said building for opening and closing said chute, said last mentioned means including an inner door and an outer door operable simultaneously for opening and closing said chute, and weight means on the outer door for normally maintaining both the inner door and the outer door in a closed position and for swinging into a compartment above the chute when the outer door is open and counterbalancing both the inner and the outer doors when in open position.

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