Sept 10, 1957 G. MUSACCHIA 2,805,425

DISPOSAL UNIT FOR CLOTH ARTICLES AND THE LIKE

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Fig. 1

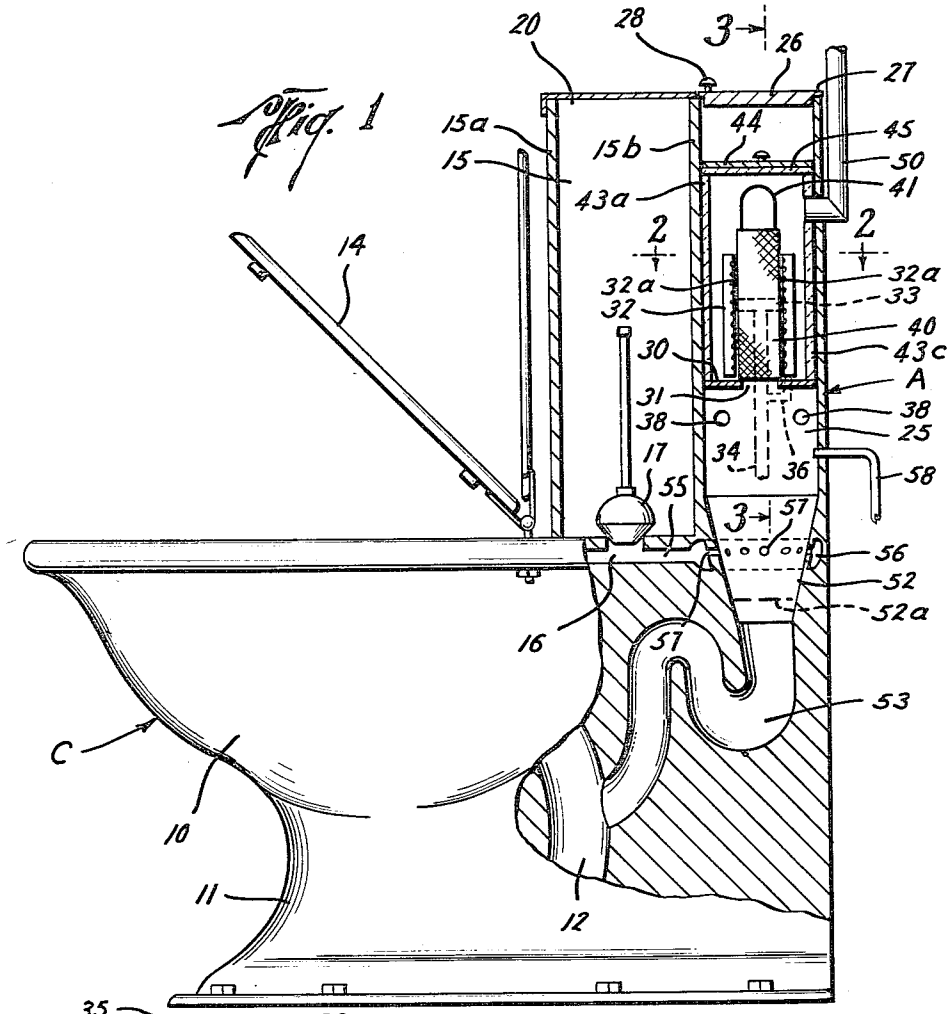
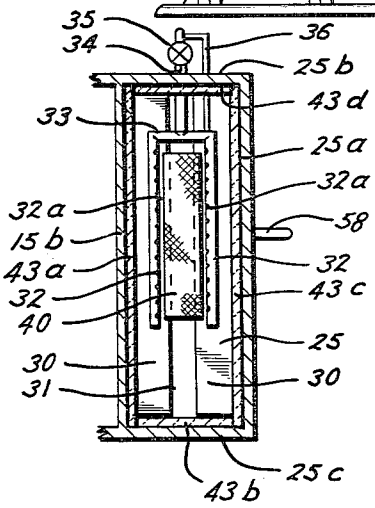


Fig. 2



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Fig. 4

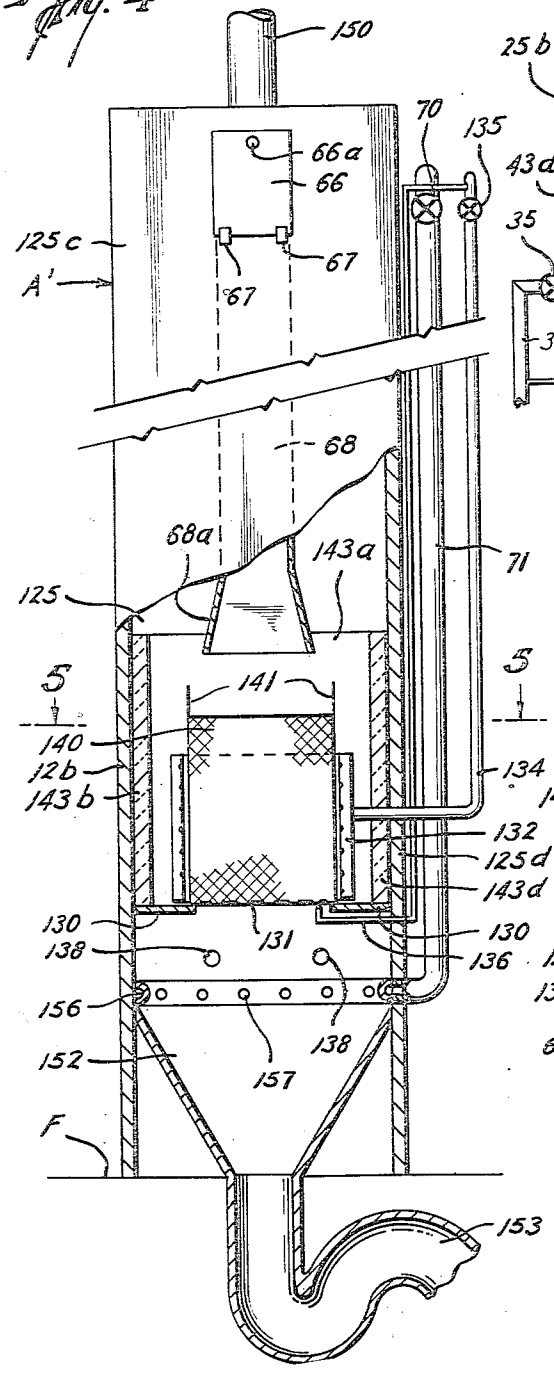


Fig. 3

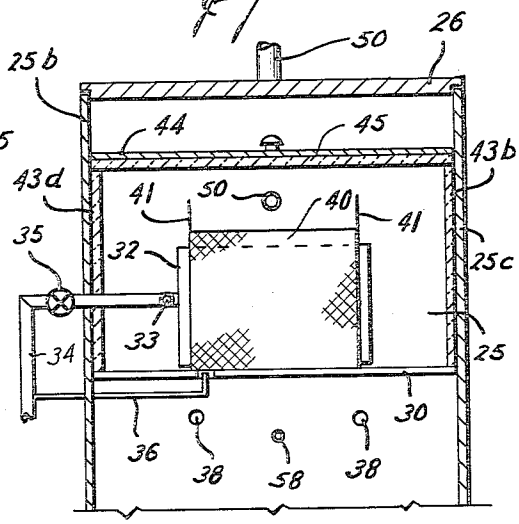
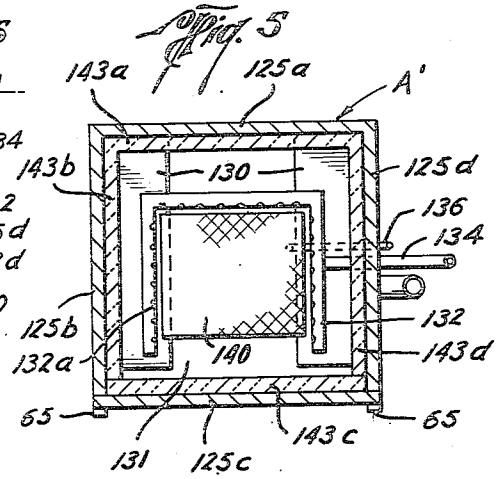


Fig. 5



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DISPOSAL UNIT FOR CLOTH ARTICLES AND THE LIKE

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3 Claims. (Cl. 4—10)

This invention relates to new and useful improvements in disposal units for cloth articles and the like.

An object of this invention is to provide a new and improved disposal unit for the destruction of cloth articles, paper articles, and the like.

An important object of this invention is to provide a new and improved disposal unit for cloth articles and the like, wherein the articles are adapted to be burned in the unit and then the remains washed into the usual sewer line.

Another object of this invention is to provide a new and improved disposal unit for cloth articles and the like which is adapted to be used in combination with the conventional home commodes or which can be used as a separate wall unit.

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 the 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 view, partly in elevation and partly in section, illustrating one embodiment of this invention.

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

Figure 3 is a sectional view taken on line 3—3 of Figure 1.

Figure 4 is a view, partly in elevation and partly in section, illustrating another modification of the disposal unit of this invention.

Figure 5 is a horizontal sectional view taken on line 5—5 of Figure 4.

In the drawings, the letter A designates generally the preferred disposal unit of this invention in combination with the usual fixed home commode C (Figures 1–3). The usual home commode C has, of course, a toilet bowl 10 mounted on a base 11 which is supported on the floor in the usual manner and a discharge opening 12 is formed in the base 11 for discharge of the water and waste from the toilet bowl to the drain or sewer line (not shown). Behind the conventional toilet seat 14, the flushing water tank 15 is provided in the usual manner for discharging flushing water therefrom through a flushing passage 16 to the toilet bowl 10. Such flushing is effected upon the raising of the conventional valve 17 within the flushing water compartment 15 and such opening or raising of the valve 17 is effected by the usual toilet handle (not shown) on the outside of the tank 15. The tank 15 has four sides which include the front side 15*a* and the rear side 15*b* which support a removable cover 20.

The rear wall 15*b* forms the forward wall of the disposal unit tank 25 which is positioned behind the flushing water tank 15 and is of substantially the same size. The wall 15*b* and the other walls 25*a*, 25*b* and 25*c* form the complete sides of the disposal unit tank 25. The top of the tank 25 is covered by a cover plate 26 which is

hinged at 27 by any suitable hinge means, so that by lifting up on the knob or handle 28, the cover 26 is pivoted upwardly and rearwardly to expose the upper end of the tank 25. In some instances, the hinge 27 may include a spring (not shown) which serves to urge the cover 26 upwardly and rearwardly and in such case a latch (not shown) would be provided to prevent the upward swinging of the cover 26 until such time as it is desired to open such cover 26.

Within the tank 25, there are disposed support members 30 which extend longitudinally of the tank 25 and which are spaced from each other to provide a longitudinal opening 31 therebetween which extends the complete distance between the ends 25*b* and 25*c* of the tank 25 (Figure 2). Gas burners 32 are positioned above the support members or plates 30 and are preferably positioned thereon so that such burners 32 are supported within the tank 25. Each of the burners 32 is essentially a hollow gas chamber having small openings 32*a* along the surfaces of the burners 32 which face each other so that the gas flame from the burners is directed into the space between the two burners 32. The connection of the gas burners 32 can be made in many ways, but, as shown in the drawings, the burners 32 are connected by a common manifold 33 which is fed gas from an inlet pipe 34 having a control valve 35 thereon. Such control valve 35 is positioned outside of the tank 25 so that it may be operated for controlling the flow of gas to the burners 32 conveniently. A pilot line 36 is connected to the gas lines 34, and such pilot line 36 extends beneath the rear burner 32 and a flame is constantly burning there so that when the valve 35 is open the burners 32 are automatically ignited to create an area of flame between the burners 32. Air holes 38 are provided in the walls 25*a*, 25*b* and 25*c* of the tank 25 to supply the necessary air for the burning of the gas from the burners 32.

A wire basket 40 is positioned between the burners 32 and is removably positioned on the support plates 31 at their inner edges so that substantially the entire lower portion or bottom of the wire basket 40 is completely free of any support and is open so that any particles which are small enough to pass through the openings in the wire mesh of the basket 40 drop through the space 31 between the support members 30. The wire basket 40 preferably has heat-insulated handles 41 at each end for the removal of the basket from the tank 25. It will be appreciated, of course, that the material of the basket 40 much be fire-resistant and preferably is of a metal such as stainless steel.

The area around the burners 32 is insulated against heat by layers of heat insulation 43*a*, 43*b*, 43*c* and 43*d* which may be glass fiber, asbestos and the like. A removable top member 44 is provided with a layer of heat insulation 45 attached thereto so that, after the cover 26 has been pivoted to an open position, such member 44 is removable, and thereafter the wire basket 40 is also readily removable from its position between the burners 32. It will be appreciated, of course, that, since the layer of insulation 45 is secured to the top member 44, both are removable together. The heat fumes, smoke and other gaseous matter are exhausted through a vent pipe 50 which extends from the upper portion of the tank 25 below the top section 44 and, preferably, such vent pipe 50 extends upwardly above the roof of the building or house in which the unit A is located, so as to vent the gaseous matter to the atmosphere. In some cases it may be desirable to provide a conventional exhaust fan (not shown) in conjunction with the vent 50 to facilitate the exhaust of smoke and other gases from the tank 25.

Below the tank 25 a waste receiving chamber 52 is

formed which is adapted to receive the burned or waste matter which falls from the wire basket **40**. The waste receiving chamber **52** is in fluid communication with the discharge line **12** from the toilet bowl **10** by means of a liquid odor trap **53** which extends from the lower end of the chamber **52** to the pipe **12**. The flushing line **16** has an auxiliary flushing line **55** formed therewith which connects with an annular fluid distribution chamber **56** having ports **57** which discharge the flushing fluid into the waste receiving chamber **52**. Thus, each time that the commode C is flushed with the flushing water in the flushing water tank **15**, the waste receiving chamber **52** of the disposal unit A is also flushed, and the contents thereof are washed into the discharge line **12** to the drain or sewer line. The normal water level in the chamber **52** is the same as in the commode C and is indicated in the drawings by the dotted line **52***a*. However, should the water level rise due to defective draining or flow into the sewer line, an overflow pipe **58** is provided in the tank **25** so that the water will not pass upwardly into the burners section of the disposal unit. It will be noted that the air holes **38** are above the overflow pipe **58** so that overflowing water will not flow into the room, but, of course, the location of the air holes **38** may be varied for different burner conditions.

In the use or operation of the disposal unit described above and illustrated in Figures 1–3, the gas valve **35** is normally turned off so that the burners **32** are not operating, but the pilot burner line **36** is always burning so that the burners **32** can be automatically ignited by the turning on of the valve **35**. In some instances, where the unit is in constant use, the valve **35** can be left open continuously and the burners **32** are therefore continuously burning. Whether the burners are operating or not, the cover **26** is opened by lifting upwardly on the knob **28**, or by releasing the latch if a spring is provided at the hinge **27**, and then the top member **44** is removed from the tank **25**. The wire basket **40** is then exposed and the cloth articles to be disposed of, such as cloth bandages, sanitary napkins and other items of cloth or a similar material such as paper are then dropped into the wire basket **40**. The top member **44** is then placed back in position, and the cover **26** is closed so that during the burning of the cloth articles, the smoke and other disagreeable odors which might occur because of the organic material present on the cloth articles are prevented from escaping into the room and are directed upwardly through the vent pipe **50**. The ashes from the burned material fall through the openings or spaces between the wires making up the wire basket **40** and therefore drop through the space **31** and then downwardly into the waste receiving chamber **52**. The heat developed by the burners **32** is so intense and so concentrated with respect to the articles being burned that it takes only a very short time to completely dispose of such articles. When the cloth articles have been completely burned and the waste such as ashes has dropped into the chamber **52**, the flushing water tank **15** is operated to open the valve **17** to direct flushing water from the tank **15** through the passage **55** to thereby flush the waste material from the chamber **52** through the odor trap **53** and into the discharge line **12**. Such flushing of the chamber **52** can be coincident with the flushing of the commode C, if desired.

In Figures 4 and 5, a modification of the disposal unit illustrated in Figures 1–3 is shown, and such modified unit is designated generally by the letter A'. The modified disposal unit A' has a tank **125** which is formed by four sides or plates, **125***a*, **125***b*, **125***c* and **125***d*, with the front plate **125***c* being flush with the wall of a house or other building, whereby the entire unit is substantially enclosed within the wall of the building. The front plate **125***c*, or a portion thereof, is removable and bolts **65** are employed to retain the front plate **125***c* in its normal position (Figure 5). Of course, other securing means could be used and in some cases the front plate **125***c*, or a portion thereof, could be pivotally mounted in any known manner to serve as a door.

Two support members or plates **130** are disposed inside the unit A' with a space **131** therebetween. A burner assembly **132**, which is of substantially U-shape, is supported by the support members **130** and is positioned with the gas openings **132***a* directed inwardly toward the longitudinal opening **131** between the support members **130**. A wire basket **140** rests upon the inner edges of the support members **130**, but substantially all of the bottom or lower portion of the basket **140** is disposed over the longitudinal space **131** so that ashes and other material of sufficiently small size may fall through the bottom openings in the basket **140**. Handles **141** of insulated material are positioned at the top of the basket **140** for removing the basket from its support on the support members **130**, which can be effected after the front plate **125***c* is removed from its normal bolted position (Figure 5). The gas is fed to the burners **132** from the gas line **134**, which has a valve **135** therewith to control the gas flow. A pilot line **136** is provided so that the pilot gas line can be constantly burning, and, therefore, the burners **132** can be automatically ignited when it is desired to do so by simply opening the valve **135**. Air holes **138** are provided for the admission of air into the unit for the burning of the gas from the burners **132**. The area around the burners **132** is insulated with any desired type of heat insulating layers **143***a*, **143***b*, **143***c* and **143***d* formed of glass fiber, asbestos and the like. The insulating layers **143** are, of course, removable with the removable front plate **125***c*.

At the upper end of the disposal unit A', a door **66** is mounted by hinges **67** to the front plate **125***c*. The door **66** preferably has a handle or knob **66***a* thereon whereby the door **66** may be pulled outwardly and thus swung downwardly about its hinges **67** to provide an opening into the inside of the unit A'. Such opening communicates with a downwardly extending chute **68** which has a flared open lower end **68***a* disposed directly above the basket **140**. Thus, the cloth articles which are to be disposed of in the unit A' are dropped into the basket by opening the door **66** and dropping such articles into the chute **68**. A vent **150** for the heat fumes, smoke and other gaseous matter is provided at the top or rear of the unit A'; such vent ordinarily extends upwardly through the roof of a house or other building.

At the lower end of the unit A', a waste receiving chamber **152** is provided into which fall the ashes and other solid particles from the burning of the cloth articles in the basket **140**. Such ashes and other material are washed into a drain or sewer line (not shown) which is connected to the odor trap **153**. By opening the valve **70** on a water inlet line **71**, water or other flushing fluid is directed to an annular fluid distribution chamber **156** for discharge therefrom through ports or openings **157** into the waste chamber **152**, whereby the chamber **152** is thoroughly flushed and the waste is discharged through the odor trap **153** into the drain or sewer line. It will be noted that the lower ends of the walls of the unit A' are actually supported on the floor F, but the odor trap **153** is positioned below the floor for connection with the usual sewer line in a house or building.

In the operation or use of the modified disposal unit A' which is particularly suited for positioning in a wall of a building, the pilot light **136** is constantly burning and the articles of cloth or any similar material are dropped into the chute **68** when the door **66** is opened. The article or articles are guided by the chute **68** into the wire basket **140** and then the gas is turned on by opening the valve **135** so that the flame is automatically ignited by reason of the pilot **136** to effect a rapid burning of the cloth articles and the like. As the articles burn, the fumes, smoke, and other gaseous matter pass upwardly

through the vent pipe **150**. The ashes and other waste material from the burning of the articles and other material in the basket **140**, fall into the waste receiving chamber **152** and are flushed from same by opening the valve **70**, whereby the water is sprayed from the ports or openings **157** into the chamber **152**. The washing or flushing action of the water from the spray ports **157** washes the waste and the flushing water through the odor trap **153** into the sewer line or drain (not shown). After the burning of the particular material has been effected, the valves **135** and **70** can be then turned off, although it will be evident that in instances where such a unit is in constant use, the valves **135** and **70** may remain on at all times.

When it is desired to remove the basket **140** for any reason, the front wall **125***c*, or a portion thereof, is removed by releasing or removing the bolts **65** so that the basket **140** can then be pulled outwardly from the burners **132**.

It is believed evident from the foregoing that a new and improved disposal unit for cloth articles and the like has been provided which is adapted to be used in combination with the usual home commode (Figures 1–3) or as a separate wall unit (Figures 4 and 5) wherein the cloth articles and the like which are destroyed are also removed by a fluid action to a drain or a sewer line. Although the invention has been illustrated with a gas burner, it will be evident that other types of burners or destroying devices could be utilized instead. It is also believed apparent that although the baskets **40** and **140** have been described as being formed of wire, they could be formed of sheet material having openings or perforations, so long as the flame or other destruction medium can contact the articles to be destroyed and the ashes or other waste can drop therefrom after the destruction.

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

What is claimed is:

1. In combination with a commode having a toilet bowl, a flushing liquid tank for supplying flushing liquid to said bowl, and a discharge line from said toilet bowl, a disposal unit including a destruction chamber disposed adjacent to the flushing liquid tank, a holder means for retaining cloth articles and the like in said chamber, destruction means in said chamber comprising a gas burner adapted to burn said cloth articles within said holder means, a waste receiving chamber below said holder means for receiving from said holder means the remains of said cloth articles after destruction, means connecting said waste receiving chamber to said discharge line, and means connecting said waste receiving chamber and said flushing liquid tank for directing a flushing fluid into the waste receiving chamber to wash the waste from said waste receiving chamber into said discharge line.

2. The structure set forth in claim 1, wherein said destruction means include a pair of burners disposed substantially parallel to each other, and wherein said holder means is a basket having an open top and disposed between said pair of parallel burners, said burners extending for substantially the full height of said basket whereby the gas flame from said burners is directed into said basket from both sides thereof to rapidly burn the cloth articles in the basket.

3. The structure set forth in claim 1, including a screen in said waste receiving chamber for receiving all of the waste falling from the destruction chamber, and an annular spray means in said waste receiving chamber disposed above said screen and connected with said flushing liquid tank for washing all of the waste on the screen into said discharge line.

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