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WASTE DISPOSAL APPARATUS

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FIG. 1

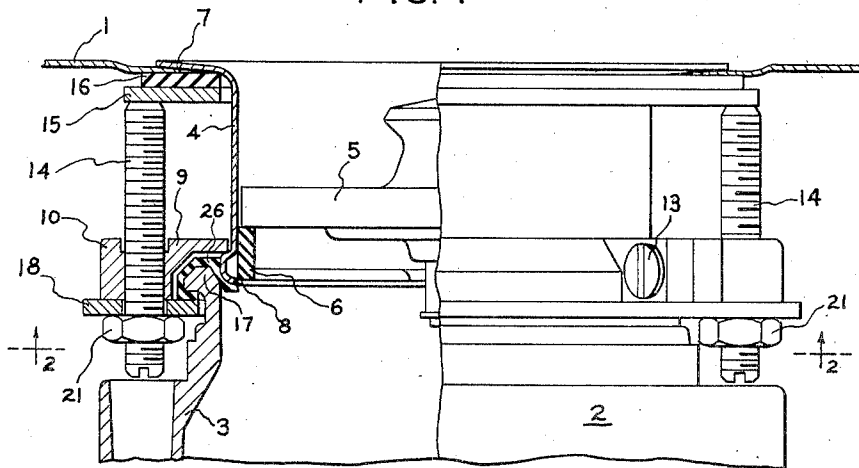
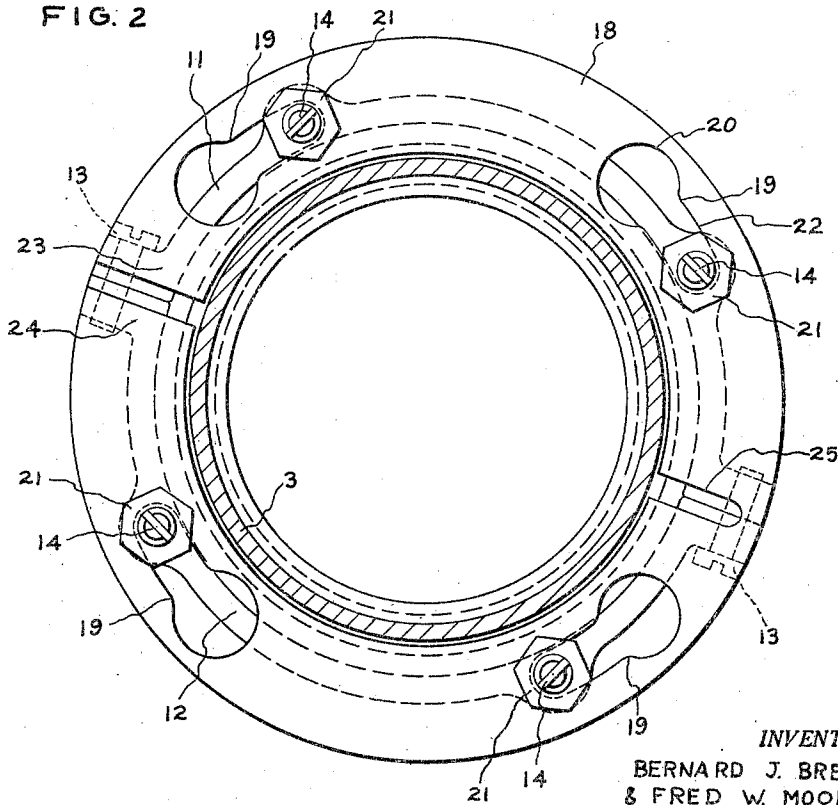


FIG. 2



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## WASTE DISPOSAL APPARATUS

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3 Claims. (Cl. 241—100.5)

This invention relates to waste disposal apparatus of the type having mechanism for grinding and discharging waste material into a plumbing system and adapted to be mounted below a sink drain opening, and has as its principal object the provision of an improved mounting arrangement for securing such apparatus to the sink.

Further objects and advantages of the invention will become apparent as the following description proceeds, and the features of novelty which characterize the invention will be pointed out with particularity in the claims annexed to and forming a part of this specification.

Briefly stated, in accordance with one aspect of this invention there is provided mounting structure for initially securing a support ring to the drain opening sleeve of a sink including vertical studs with nuts on their lower ends, and a mounting ring on the disposer housing provided with openings having one portion for receiving the nuts and another smaller portion for receiving only the studs when the housing is partially rotated.

For a better understanding of the invention, reference may be made to the following description and the accompanying drawing in which:

Fig. 1 is a fragmentary elevation view, partly in section illustrating waste disposal apparatus incorporating this invention; and

Fig. 2 is a sectional view taken along the line 2—2 of Fig. 1.

Referring to the drawing, the numeral 1 designates the bottom wall of a kitchen sink having a drain opening below which waste disposer 2 may be supported. Waste disposer 2 includes a housing 3 enclosing a comminuting chamber having an inlet opening for water and waste material at the upper end thereof, and a tubular sleeve 4 disposed in the sink drain opening so as to support housing 3 and provide a passage between the sink and the comminuting chamber enclosed by housing 3. Waste disposer 2 is provided with suitable comminuting or grinding means at the bottom of the comminuting chamber, but inasmuch as the details of the grinding mechanism do not form a part of the present invention, they are not described herein. The inlet opening defined by sleeve 4 may be closed by any suitable drain stopper, such as stopper 5 which is adapted to rest on the circumferential seat element 6 within sleeve 4.

It will be observed that housing 3 has a circular top inlet opening aligned with the sink drain opening and that sleeve 4 not only provides a passageway from the sink to the interior of the housing but also supports the housing, being provided with a flange 7 on the upper end thereof adapted to overlie the marginal edge of the drain opening. Sleeve 4 also includes a flange or beaded portion 8 on its lower end which cooperates with the overlying flange 9 of support ring 10 in securing sleeve 4 to sink wall 1. Support ring 10 is formed from two semi-circular segments 11 and 12 which may be secured together after they are assembled on sleeve 4 by suitable fastening means such as screws 13 threaded in radially

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projecting ear portions of the segments. Support ring 10 is clamped in position by means of a plurality of studs 14 (four being utilized in the present embodiment) which are vertically aligned in threaded holes in the support ring and may be tightened so as to bear against clamping ring 15 so as to compress gasket 16 and draw flange 7 of sleeve 4 tightly against bottom wall 1 of the sink. Thus a unitary structure is formed after segments 11 and 12 of support ring 10 have been fastened together so as to encircle sleeve 4, and studs 14 have been tightened so as to bear against clamping ring 15.

Formed on the upper end of housing 3 is an outwardly projecting flange 17 which cooperates with a mounting ring 18 encircling the housing immediately below the flange 17. An elongated aperture 19 is provided in mounting ring 18 for each stud 14, each aperture including an enlarged portion 20 sufficiently large to receive a clamping nut 21 threaded on the end of stud 14, and also a circumferentially extending slotted portion 22 adapted to receive only stud 14. Mounting ring 18 is split with the abutting ends 23 and 24 slightly separated, and also the diametrically opposite portion of the ring is reduced in cross section, by means of a U-shaped slot 25 radially extending across a portion of the ring, so that the mounting ring 14 may be twisted sufficiently to fit over flange 17 and frictionally engage housing 3. The opposing surfaces of mounting ring 18 and flange 17, and also the opposing surfaces of housing 3 and flange 8 on sleeve 4 may be sealed by a multiple surface circumferential gasket 26.

In assembling the structure described above, sleeve 4 is first positioned in the sink drain opening with gasket 16 and clamping ring 15 placed in position as shown in Fig. 1 and then the two semi-circular segments of supporting ring 10 are positioned in engagement with the beaded ridge or flange 8 on sleeve 4. The support ring screws 13 are then tightened so as to clamp the support ring on sleeve 4, and thereafter studs 14 carried by support ring 10 are tightened so as to bear against clamping ring 15 and secure sleeve 4 against the bottom wall 1 of the sink.

Nuts 21 are then threaded on the lower ends of studs 14, and the waste disposer 2, is raised into position so that nuts 21 pass through the large openings 20 of aperture 19 in the mounting ring 18. The waste disposer 2 and mounting ring 18 are then rotated to the position shown in Fig. 2 in which studs 14 pass into the slotted portion 22 of apertures 19 and the mounting ring is supported on the nuts 21. Thus the waste disposer 2 is hung in position and the nuts 21 may then be tightened against support ring 10 to complete the assembly.

While in the illustrated embodiment of this invention mounting ring 18 and flange 17 are separate members, these parts may be formed as a single integral member if desired. Other modifications within the true spirit and scope of this invention may occur to those skilled in the art, and I intend by the appended claims to cover all such modifications.

What we claim as new and desire to secure by Letters Patent of the United States is:

1. Waste disposal apparatus for use with a sink having a drain opening comprising a housing enclosing a grinding chamber having an inlet opening for water and waste material at the upper end thereof, a sleeve adapted to be disposed in said drain opening, a first flange on the upper end of said sleeve adapted to overlie the marginal edge of said drain opening, a second flange projecting outwardly from the lower end of said sleeve, a third flange located on said housing adjacent said inlet opening and projecting outwardly therefrom, a support ring en-

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circling the upper end of said housing, a fourth flange on said support ring inwardly projecting therefrom and overlying said second flange, said support ring including a pair of semi-circular segments and fastening means for securing said segments together with said fourth flange in overlying engagement with said second flange, a plurality of vertically disposed studs carried in threaded holes in said support ring and adapted to clamp said sleeve in said drain opening, each of said studs being provided with a nut on the lower end thereof, and a mounting ring encircling said housing below said third flange, said mounting ring being frictionally supported on a portion of said housing below said third flange and including a plurality of elongated apertures each having an enlarged portion adapted to receive one of said nuts and a circumferentially extending slotted portion adapted to receive only the studs supporting said nuts, whereby said sleeve and support ring may be clamped to said sink and thereafter said housing and said mounting ring supported on said nut before said housing is clamped to said support ring.

2. Waste disposal apparatus for use with a sink having a drain opening comprising a housing enclosing a grinding chamber having an inlet opening for water and waste material at the upper end thereof, a sleeve adapted to be disposed in said drain opening, a first flange on the upper end of said sleeve adapted to overlie the marginal edge of said drain opening, a second flange projecting outwardly from the lower end of said sleeve, a support ring encircling the upper end of said housing, a third flange on said support ring inwardly projecting therefrom and overlying said second flange, said support ring including a pair of semi-circular segments and fastening means for securing said segments together with said third flange in overlying engagement with said second flange, a plurality of vertically disposed studs carried in threaded holes in said support ring and adapted to clamp said sleeve in said drain opening, each of said studs being provided with a nut on the lower end thereof, and a mounting ring on said housing encircling said inlet opening, said mounting ring including a plurality of elongated

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apertures each having an enlarged portion adapted to receive one of said nuts and a circumferentially extending slotted portion adapted to receive only the stud supporting said nut, whereby said sleeve and support ring may be clamped to said sink and thereafter said housing supported on said nuts before said housing is clamped to said support ring.

3. Waste disposal apparatus for use with a sink having a drain opening comprising a housing enclosing a grinding chamber having an inlet opening for water and waste material at the upper end thereof, a sleeve adapted to be disposed in said drain opening, a first flange on the upper end of said sleeve adapted to overlie the marginal edge of said drain opening, a second flange projecting outwardly from the lower end of said sleeve, a support ring encircling the upper end of said housing, a third flange on said support ring inwardly projecting therefrom and overlying said second flange, a fourth flange on said housing projecting outwardly therefrom adjacent said inlet opening, a plurality of vertically disposed studs carried in threaded holes in said support ring and adapted to clamp said sleeve in said drain opening, each of said studs being provided with a nut on the lower end thereof, and a split mounting ring on said housing encircling said inlet opening, said mounting ring being positioned below said fourth flange in supporting relation therewith, said mounting ring including a plurality of elongated apertures each having an enlarged portion adapted to receive one of said nuts and a circumferentially extending slotted portion adapted to receive only the stud supporting said nut, whereby said sleeve and support ring may be clamped to said sink and thereafter said housing supported on said nuts before said housing is clamped to said support ring.

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