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SINK MOUNT FOR WASTE DISPOSAL UNITS

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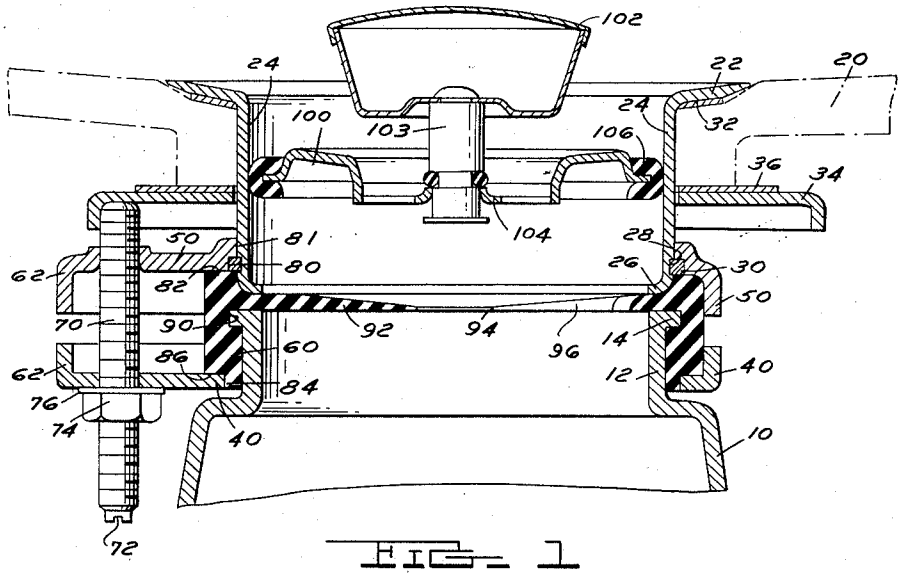

FIG. 1

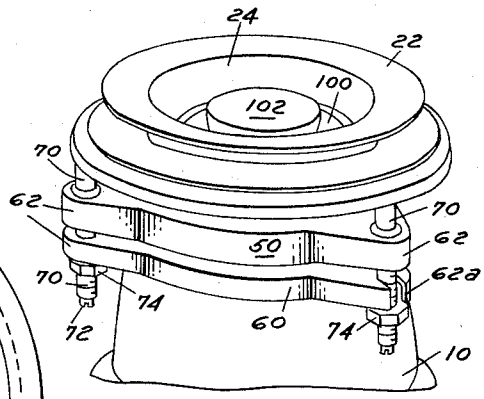

FIG. 2

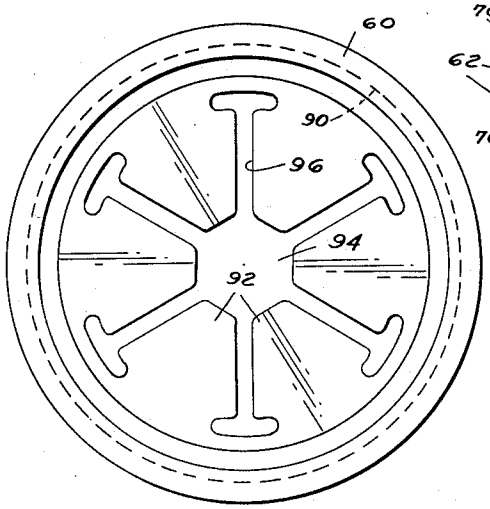

FIG. 3

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SINK MOUNT FOR WASTE DISPOSAL UNITS

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5 Claims. (Cl. 241—100.5)

This invention relates to a sink mount for waste disposal units.

It is an object of the invention to provide a mounting means for the waste disposal unit of the type which is suspended below the drain opening of a sink to serve as a combination drain and comminuting chamber, particularly for household installations.

It is one of the objects of the designers of this type of mechanism to reduce the noise and vibration of operation to a minimum. Still, it is necessary to maintain a good water seal between the parts and joints of sufficient strength that they will withstand the vibratory action which results from the inherent function. Regardless of how well balanced the unit may be before it is loaded there are times when food waste gets to moving eccentrically on the rotor to cause a vibration and noise. In previous installations this vibration and noise was carried to the sink bottom, which serves as a resonator to amplify the noise into the room in which the device is being operated.

It is a further object of the present invention to reduce this transmission of vibration and noise to the sink panels.

Other objects and features of the invention relating to details of construction and operation will be apparent in the following description and claims.

Drawings accompany the disclosure, and the various views thereof may be briefly described as:

Figure 1, a vertical section through the assembly showing the relationship of the parts.

Figure 2, a perspective view of the unit assembled in the absence of the sink panel.

Figure 3, a sectional view of the combination damper and guard, a part of the assembly.

Referring to the drawings, in Figure 1 a comminutor chamber **10**, the top portion of which is shown, is the suspending element of the device, which includes a comminutor ring, a rotor and an electric motor and housing. The housing **10** has a necked ring **12** with an outwardly extending annular flange **14**. The sink from which the device is to be suspended is shown at dotted lines at **20**, and the actual suspending ring has an upper flange **22**, a cylindrical throat portion **24**, and a lower inwardly extending flange **26**. A groove **28** is provided in the lower outer surface of the cylindrical portion **24** to receive a lock ring **30**. A washer **32** is usually interposed between the flange **22** and the margins of the sink opening. Surrounding the throat portion **24** of the sink ring is a clamp ring **34**. A fibrous gasket **36** is usually interposed between this ring and the bottom margin of the sink opening.

The junction between the housing **10** and the suspension ring **24** is accomplished by two sandwich plates **40** and **50** and a combination damper and guard ring **60**. The sandwich ring **50** has three integrally formed and circumferentially spaced lug portions **62** which are threaded to receive a headless screw **70** having at the lower end a screw driver slot **72**. Plate **40** has similar lug portions **62** which are not threaded. On each of these screws **70** is a nut **74** and a washer **76** bearing against the bottom plate **40**.

It will be seen that the upper plate **50** has an annular recess **80** around a central opening **81** which receives the outer portion of lock ring **30** and the top edge **82** of ring **60** bears against the inner margin of ring **50** and a portion of the lock ring **30**. The inner margin of the central opening **84** of the plate **40** enters an annular recess **86** in the bottom outer edge of ring **60**. On the inner surface of ring **60** an annular groove **90** is formed to receive the flange or lip **14** of the throat portion **12** of housing **10**. Between the top of the flange **14** and the bottom flange **26** of ring **24** the ring **60** has inwardly extending fingers **92** terminating at a central opening **94** and spaced from each other by radial openings **96**.

The damper ring **60** is preferably formed of rubber or neoprene or its equivalent, it being from a tough, resilient material of flexible nature having a Durometer hardness around 45 to 60 so that it is a cushioning device.

In assembly, ring **24** is dropped in place, ring **34** moved up on it along with sandwich member **50**, after which snap ring **30** is moved into groove **28**. In this position screws **70** can be tightened to effect a seal with the margins of the hole in the sink **20**. Since the remainder of the device is quite heavy, one of the lug projections **62A** on plate **40** is opened, see Figure 2; and when a nut **74** is placed thereon, this lug **62A** can be hooked onto that nut and the main weight of the bottom assembly supported while the other nuts are applied and tightened. Prior to this, the ring **40** is placed over neck **12** and the rubber collar **60** is snapped in place over lip flange **14**.

Tightening of nuts **74** forces a seal at the in-lip **26** on suspension ring **24** and also at the top of throat or neck **12**. All of the load of the device is still carried by the collar **60** and there is no metal-to-metal contact between housing **10** and the sink suspension parts. Thus, noise and vibration are absorbed in the rubber and the device operates much more quietly than devices mounted according to conventional methods. In addition, the fingers **92** serve as a guard for the fingers and also as a splash guard being clamped securely between parts **14** and **26**.

A drain stopper is also shown in collar **24** having a grommeted, open-center plate **100** and a stopper unit **102** having a stem **103** mounted for open and closed positions on a cross-spider **104** in plate **100**. The grommet **106** is preferably of rubber or neoprene to cooperate with the top surface of lip **26**.

A feature of the assembly is that until screws **70** and nuts **74** are finally tightened, the entire assembly can be swiveled to any desired position to allow registering of a drain spout or other attachment for the device.

It will be noted that the damper member **60** though made of rubber is solidly clamped at two points on either side radially of the suspension point at flange **14**. Between the neck portion **12** and the lip **26** the inside of the rubber directly above the flange **14** is clamped securely, and between the sandwich plates **40** and **50** the outside of the cylindrical portion of the member **60** is securely clamped. The suspension forces are, therefore, safely transferred through the rubber to the bottom plate **40** with a wide distribution of the shear forces. The ring **30** is confined in groove **28** after assembly by the presence of ring **50** which receives ring **30** in a groove **80**.

I claim:

1. A supporting assembly for a waste disposal unit of the type having a comminuting chamber and a driving motor supported thereon to be suspended below a drain opening of a sink, which comprises, a collar flanged

over the upper margins of said sink opening and passing downwardly therethrough, a first plate co-axial of said collar and suspended thereon against downward movement and having an axial flange spaced from said collar extending downward, a second plate co-axial with said collar and suspended on said first plate below said collar with an axial flange extending upward, bolt means passing through said plates and threaded in said first plate to exert a clomping force between the flange of said collar and a sink, a nut means on said bolt means to move said second plate toward said first plate, and a resilient suspension ring for the upper end of said comminuting chamber having a substantially cylindrical portion clamped between the inner margins of said first and second plates and confined radially within said flanges, interengaging means on the top of said comminuting chamber and the interior of said suspension ring intermediate said plates to support said comminuting chamber in said ring.

2. A device as defined in claim 1 in which said suspension ring has radially inward extending portions passing between a lower radial surface on said collar and an upper radial surface on said comminuting chamber, said inward radial portions being axially clamped between said radial surfaces.

3. A supporting assembly for waste disposal units for suspending the comminuting chamber and drive motor on a drain collar positioned in a sink opening, which comprises, an annular outwardly extending shoulder on said drain collar adjacent the bottom thereof, an annular plate around said collar above and supported by said shoulder, a second annular plate below said first plate and below said collar, a resilient sound and vibration cushion between said plates and supported on said lower plate, means acting on said plates to exert axial pressure on said cushion, said cushion having an annular opening grooved at the top to receive the throat of a comminuting chamber and an outwardly extending annular flange thereon, said comminuting chamber receiving its entire support from said resilient member.

4. A supporting assembly for waste disposal units for suspending the comminuting chamber and drive motor on a drain collar positioned in a sink opening, which comprises, an annular, outwardly extending shoulder on said drain collar adjacent the bottom thereof, an annular, inwardly extending flange at the bottom of said collar

having a predetermined inner diameter, an annular plate around said collar above and supported by said shoulder, a second annular plate below said first plate and below said collar, a resilient sound and vibration cushion between said plates and supported on and in contact with said lower plate, means acting on said plates to draw the two toward each other, said cushion having an annular opening grooved at the top to receive the throat of a comminuting chamber and an outwardly extending annular flange thereon, the throat of said chamber and the inner diameter of the flange being about equal to that of the collar flange, said comminuting chamber receiving its entire support from said resilient member, and a series of splash guard fingers on said resilient member extending into the opening below said collar, the base of said fingers being clamped between said flanges in a horizontal direction.

5. A supporting assembly for waste disposal units for suspending the comminuting chamber and drive motor adjacent a sink opening, which comprises, a suspension collar supported on the sink, a pair of plates mounted on said collar coaxial therewith, a resilient intermediate member having a substantially cylindrical shape interposed between said plates in a manner that the external walls of said member are axially and radially confined between said plates, and means on the top of the comminuting chamber extending radially outwardly into said resilient member between said plates to support said comminuting chamber on said member completely out of contact with said plates, said resilient member having portions extending horizontally inward radially below said collar, said portions being axially clamped between a horizontal radial surface at the bottom of said collar and a horizontal radial surface at the top of said comminuting chamber.

References Cited in the file of this patent

UNITED STATES PATENTS

1,477,686	Coss	Aug. 2, 1949
2,574,191	Platzer	Nov. 6, 1951
2,670,143	Jordan	Feb. 23, 1954
2,724,560	Tull	Nov. 22, 1955
2,761,626	Gustaveson	Sept. 4, 1956

FOREIGN PATENTS

506,225	Belgium	Oct. 31, 1951