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COMBINATION STRAINER AND STOPPER

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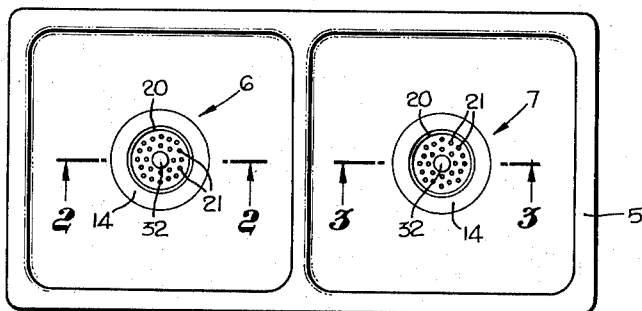


FIG. 1.

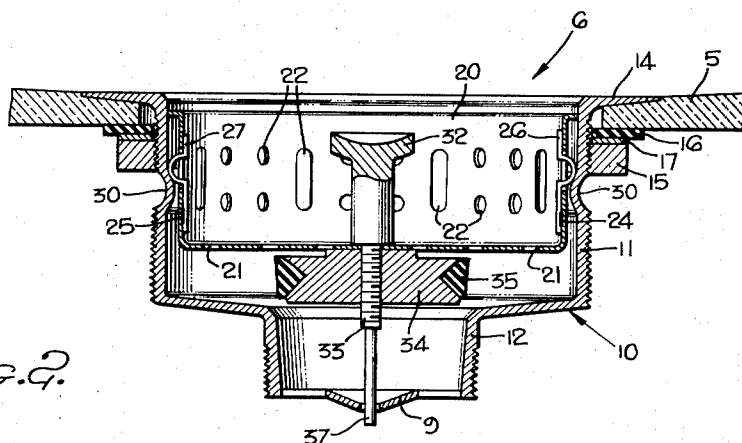


FIG. 2.

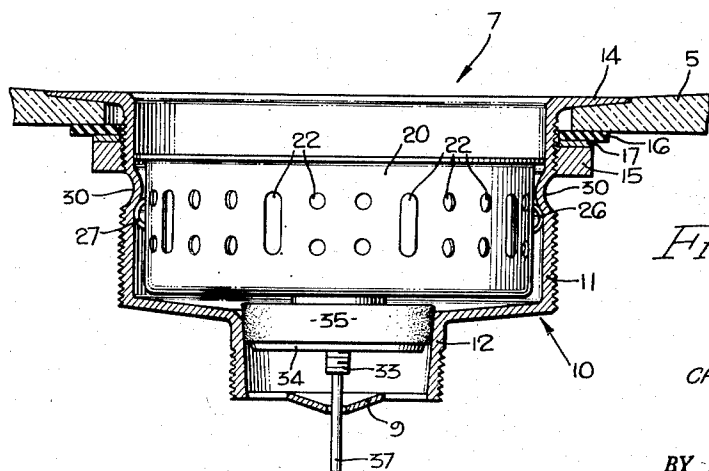


FIG. 3.

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COMBINATION STRAINER AND STOPPER

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2 Claims. (Cl. 4-287)

1 This invention relates to plumbing equipment, and particularly to a combination sink drain strainer and stopper.

The use of strainers in sink drains is well-known, some of which have various types of stoppers. The combination strainer and stopper to be described in detail hereinafter is easy to operate, simple, and economical to manufacture, easy to clean and install, and is particularly efficient in function. In one axial position, it functions as a strainer, and in another axial position, it functions as a stopper. Since the unit is locked in stopping position, it cannot be accidentally disturbed to release water in the sink.

The principal object of the invention, therefore, is to provide an improved combination sink drain strainer and stopper.

Another object of the invention is to provide an improved drain strainer which serves as a stopper when shifted to a different axial position.

A further object of the invention is to provide an improved combination drain strainer and stopper which is automatically locked in either position to which it is adjusted.

Although the novel features which are believed to be characteristic of this invention will be pointed out with particularity in the appended claims, the manner of its organization and the mode of its operation will be better understood by referring to the following description, read in conjunction with the accompanying drawings, forming a part hereof, in which:

Fig. 1 is a plan view showing a sink embodying two exact units of the invention.

Fig. 2 is a cross-sectional view of the invention taken along the line 2-2 of Fig. 1, and showing the position of the invention when functioning as a strainer, and

Fig. 3 is a view of the invention partially in cross-section taken along the line 3-3 of Fig. 1, and showing the position of the invention when functioning as a stopper.

Referring now to the drawings, in which the same elements are identified by like numerals, a double sink 5 has two units of the invention shown at 6 and 7. The units 6 and 7, unit 6 being shown adjusted to straining position, and unit 7 to stopping position, have outer cylindrical body shells 10 with large diameter portions 11 and smaller diameter portions 12, to which drain pipes are attached. Referring to a single unit, the section 12 may have its inner surface slightly tapered, while across the lower opening

2 of section 12, is a spider 9 with a central guide hole therein.

The upper edge of the shell has an annular flange 14, which rests on the bottom of a sink or other type of tub in which it is used. The shell is held in fixed position by a collar 15 threaded on the upper portion of section 11 and tightened against a rubber or cork gasket 16 bearing against the sink opening. An anti-friction ring 17 between the collar 15 and gasket 16 is provided.

Within the section 11 of shell 10 is a cylindrical basket type strainer 20 having bottom openings 21 and side openings 22 of different shapes. Diametrically attached to the inside of strainer 20 in any suitable manner, such as by welding at 24 and 25, are leaf spring latch members 26 and 27, respectively, portions of which extend through holes in the strainer 20. As shown in Fig. 2, these portions rest on the upper surface of an annular detent 30 in the section 11 of shell 10, thus holding the strainer locked in the position shown in Fig. 2. Fluid can now pass from the sink to the drain pipe.

In a center opening in the bottom of the strainer 20, is a handle 32 having a threaded portion 33, on which is threaded a disc 34 having an annular V groove therein in which is a washer 35, preferably of soft rubber, such as neoprene, and which may be slightly tapered. If the washer is not initially tapered, the shape of the V, which has an off center angle, provides the outer surface of the washer with the desired taper. Now, in the position shown in Fig. 2, the washer 35 is held out of contact with section 12 of shell 10. However, the washer may be lowered to contact section 12 and form a stopper for section 12 by pressing downwardly along the axis of handle 32. This pressure moves the springs 26 and 27 inwardly as they pass detent 30, the springs then moving outwardly to the positions shown in Fig. 3 to lock the washer firmly in water stopping contact with the upper portion of the inner surface of section 12. A stem 37 passing through the central hole in spider 9 guides the strainer and washer 35 as they are moved axially.

Thus, the unit functions as a strainer when in the position shown in Fig. 2, and as a stopper when in the position shown in Fig. 3. To clean the unit or change washer 35, the unit is simply lifted from the shell. A new washer is easily substituted for the old one when it is necessary. Because of their cam action on the detent surfaces the spring members 26 and 27 provide a

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positive means for locking the unit in both straining and stopping positions, and being particularly effective in providing a tight seal of the washer against section 12. The changeover from one function to another is quickly accomplished by the axial repositioning of the strainer and washer.

I claim:

1. A combination strainer stopper assembly comprising a cylindrical body shell having connected coaxial sections of larger and smaller diameters, fastening means to attach said shell to a sink, said large diameter section having an annular inwardly extending detent, said smaller diameter section having a downward and inward tapering wall, a cylindrical basket strainer having apertures therein and adapted to be positioned in said larger diameter section, leaf spring latch members having only the lower ends of the springs fastened to the lower parts of said strainer, said latch members having outwardly protruding cam portions extending through holes in the wall of said strainer, said protruding portions normally biased outwardly by the action of said springs whereby said latch members when acting on the upper side of said detent will hold the strainer in an up position and when acting on the under side of said detent will hold and force the strainer in a down position, a handle

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fastened to said strainer to facilitate moving said strainer to either position, a stopper comprising a disc having a circumferential groove axially fastened to said strainer and a resilient washer member positioned in said groove, said protruding portions of said latch members acting on the under side of said detent to force said resilient member into contact with the tapered wall of said smaller diameter section when said assembly is in said down position.

2. The invention according to claim 1, in which said resilient member has its outer edge tapered substantially the same as the taper of said smaller diameter section.

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References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
772,434	Schultz	Oct. 18, 1904
1,760,659	Pasman	May 27, 1930
1,937,609	Tompkins	Dec. 5, 1933
1,950,817	Rossmann	Mar. 13, 1934
2,225,693	Frances	Dec. 24, 1940
2,337,331	Kirschner	Dec. 21, 1943
2,569,615	Link	Oct. 2, 1951
2,617,997	Hiertz	Nov. 18, 1952