May 21, 1968 J. DE YOUNG 3,383,715

SINK STRAINER ASSEMBLY

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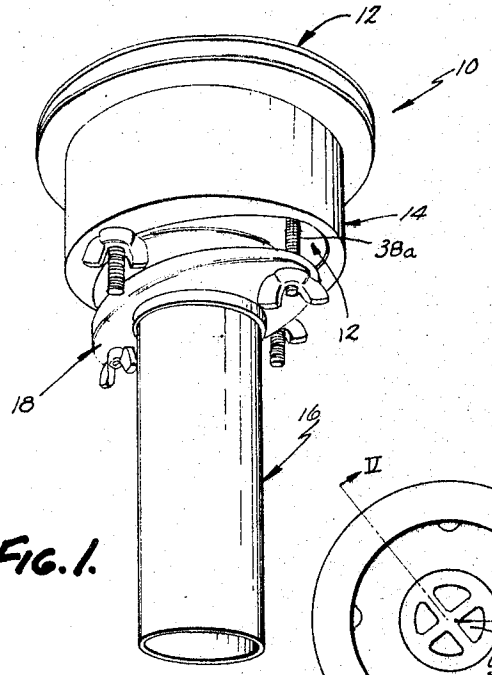


FIG. 1.

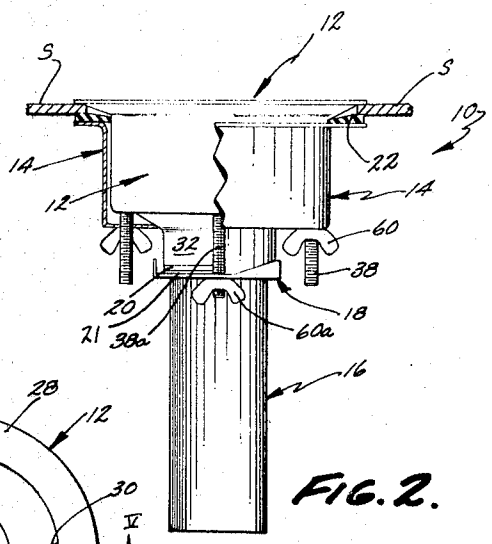


FIG. 2.

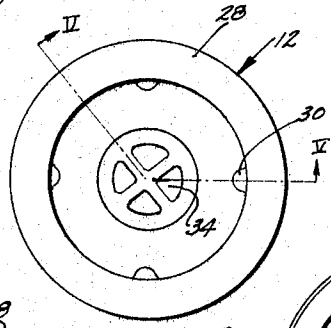


FIG. 4.

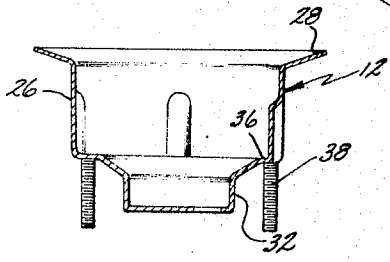


FIG. 5.

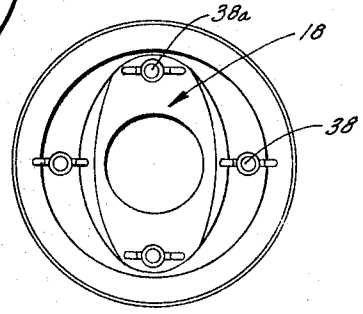


FIG. 3.

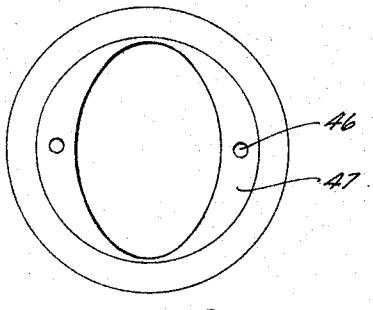


FIG. 7.

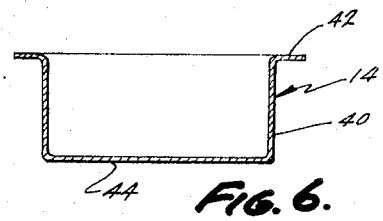


FIG. 6.

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SINK STRAINER ASSEMBLY

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ABSTRACT OF THE DISCLOSURE

A readily installed and removed sink strainer assembly having on the flanged strainer body a plurality of affixed threaded depending studs around the lower neck of the body, to which are secured by wing nuts both a flanged retainer cup fitting around the body and a tailpiece retainer plate.

BACKGROUND OF THE INVENTION

This invention relates to a sink strainer assembly.

Conventional sink strainer assemblies are difficult to install or remove, as is well-known by those in the field. They employ special fittings requiring spanner wrenches, pipe wrenches or other like tools. Usually, the plumber must reach up into the sink with one hand to hold the strainer body from rotating while tightening the assembly from below the sink with the necessary tool. Various attempts have been or are being made in the trade in efforts to overcome these disadvantages, but none is sufficiently satisfactory to date to cause those in the industry to make a major change in type of assembly employed. An important factor involved is relative cost in this highly competitive area.

SUMMARY OF THE INVENTION

It is an object of this invention to provide a special sink strainer assembly capable of being installed or removed with relative ease, without special tools, and normally even without any tools, capable of providing all of the operative features of conventional units, and capable of mass production at a competitive cost figure. The assembly employs simple wing nuts and studs in combination with interfitting retainer components in a manner that causes the assembly to be of greatly simplified construction.

The novel assembly has a flanged retainer cup positioned around and secured to the strainer body by studs affixed to and depending from the strainer body and through the cup for attachment of wing nuts, and with a tailpiece retainer plate secured by additional such studs.

Additional advantages and objects will become apparent from the following detailed description, with the invention being defined by the attached claims.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of the novel assembly;

FIG. 2 is a side elevational, partially sectioned view of the novel assembly shown installed;

FIG. 3 is a bottom end view of the assembly;

FIG. 4 is a top view of the assembly;

FIG. 5 is a sectional, side elevational view of the strainer body of the assembly;

FIG. 6 is a side elevational sectional view of the retainer cup of the assembly; and

FIG. 7 is a bottom view of the retainer cup in FIG. 6.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now specifically to the drawings, the complete sink strainer assembly **10** includes a strainer body **12**, a retainer cup **14**, a tailpiece **16**, a tailpiece retainer

plate **18**, a tailpiece gasket **20**, and a strainer body gasket **22**, all shown mounted on a typical sink S.

Strainer body **12** basically has a cylindrical peripheral wall **26** with an outwardly flared, upper annular end flange **28** surrounding an open top. Wall **26** normally includes a plurality of vertically elongated indentations **30** for alignment of a removable strainer member (not shown) which may be inserted into the strainer body in the sink.

The lower end of strainer body **12** is necked down to a throat or neck portion **32** which has a plurality of bottom orifices **34** therein.

Protruding downwardly, i.e., depending from the annular outer bottom portion **36** of the body is a plurality of four threaded studs **38** and **38***a* preferably spaced at equal 90° intervals around the body, and extending beneath neck **32**. These studs are affixed at their upper ends to the bottom of the body as by welding.

Two opposite ones of these threaded studs **38** secure retaining cup **14** to body **12**, to force the elements together for securement thereof to the orificed bottom of a sink S. The cup element **14** basically has a cup shaped configuration, with a cylindrical peripheral wall **40** slightly larger in diameter than wall **26** of body **12**, having an open top with an outwardly extending peripheral flange **42**, and having an open bottom **44**. The opening in the bottom is preferably ovular in shape, being straddled by a pair of bottom flange members **47** which have orifices **46** therein for receiving two of the studs **38**. Retainer cup **14** secures body member **12** to the sink S around the sink opening by tightening of wing nuts **60** on studs **38** to force the bottom of cup **14** upwardly, squeezing gasket **22** against the sink bottom, and pulling the upper peripheral flange of body **12** down against the sink top.

Abutted against the bottom of neck **32**, and specifically against annular gasket **20** is the upper end flange of conventional elongated tailpiece **16** secured in position by retaining plate member **18** having orifices on opposite ends to receive the alternate studs **38***a*. A second pair of wing nuts **60***a* is suitably attached to these alternate studs to bind the upper flange **21** of tailpiece **16** against gasket **20** and against neck **32** of the sink strainer body.

Preferably, member **18** is formed in an ovular shape and is formed from an ovular element die cut out of the bottom of cup **14** for economizing of material.

The operation of the novel assembly is readily apparent from the above description. When the assembly is to be mounted to a sink S, strainer body **12** is dropped down into the opening in the sink, cup **14** is positioned up beneath the sink bottom and around the body, with gasket **22** being positioned between the upper surface of the flange of the cup and the lower surface of the sink, and a pair of wing nuts **60** is then turned into place on studs **38** with one's fingers to tighten the unit. Next, tailpiece **16** is positioned through the opening in retainer plate **18**, gasket **20** is positioned and these units are pressed against the lower end neck **32** by hand tightening of wing nuts **60***a* on studs **38***a*.

Those having ordinary skill in the art will readily appreciate the unique simplicity of this apparatus, as well as specific advantages not necessarily spelled out above. It is also conceivable that minor structural variations might be made in the device without departing from the inventive concept which is intended to be limited only by the claims attached.

I claim:

1. A sink strainer assembly for a sink and tailpiece comprising: a strainer body having an open upper end with an annular flange, and a protruding orifice lower neck, said body having a plurality of parallel threaded studs

affixed to and depending therefrom and positioned around and spaced from said neck; a retainer cup for said body having a diameter and length greater than the diameter and length of said body to generally fit thereover, and having an upper end with a peripheral flange to cooperate with said body flange for receiving a sink portion and a gasket therebetween; said cup having a lower end opening to fit around said body neck and having bolt receiving orifices astraddle said opening and receiving at least two of said studs; removable fastening means mounted on the studs received in the orifices for biasing the cup upward and for securing the sink portion and gasket between the cup flange and body flange; a tailpiece retainer member for receiving a tailpiece, the retainer member having orifices receiving at least two of said studs; and removable fastening means mounted on the studs received in the orifices of the retainer member for securing the retainer member and tailpiece against the protruding

neck of the strainer body to effect a seal therebetween.

2. The sink strainer assembly in claim 1 wherein: said tailpiece retainer member is a plate having a central opening to receive a tailpiece therethrough, surrounded by a shoulder to retain the tailpiece against said orificed neck.

3. The sink strainer in claim 2 including wing nuts on said studs securing said cup and said plate to said body.

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