April 8, 1941. E. BUTT 2,237,546

INTERLOCKING SINK STOPPER

Filed Feb. 1, 1940

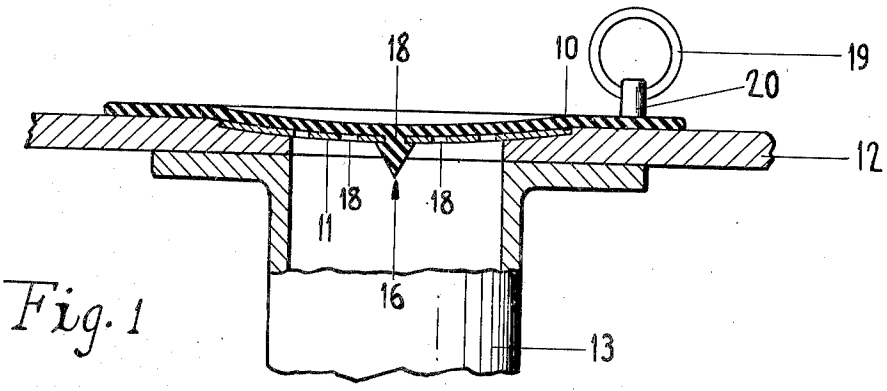


Fig. 1

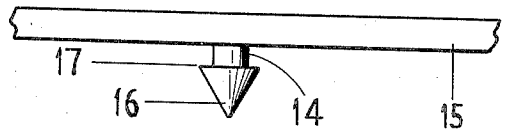


Fig. 2

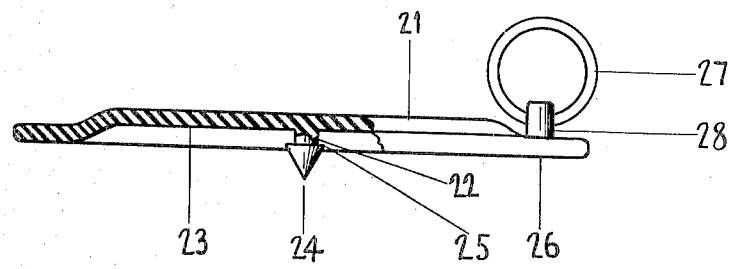


Fig. 3

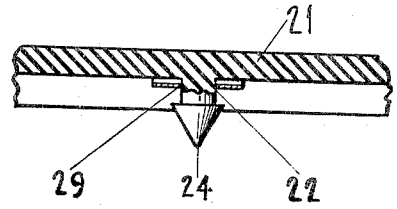


Fig. 4

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INTERLOCKING SINK STOPPER

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Application February 1, 1940, Serial No. 316,751

1 Claim. (Cl. 4—293)

This invention relates to sink stoppers for closing the drain pipe from kitchen sinks to enable the water to be held temporarily in the sink for washing purposes.

An object of this invention is to provide a stopper of simple construction which may be used on perforated drain plates of any ordinary drain pipe without requiring any special construction of drain pipe or sink.

Another object of this invention is to provide a rubber disk sink stopper having an inverted cone-shaped member projecting from and below one face thereof and being located at the central portion of said disk, the said cone-shaped member being molded integral with the disk and being adapted to be compressed into a smaller circumference and to expand to its original shape after insertion into one of the perforations of a sink drain plate and to interlock with said drain plate.

Another object of this invention is to provide a ring secured to the disk shaped member and being adapted to be engaged by a finger for removing the sink stopper, the said cone-shaped member on removal being also compressed into a smaller circumference and permitting disengagement of the stopper from the interlocking position.

With the above and other objects in view, the invention will be hereinafter more particularly described, and the combination and arrangement of parts will be shown in the accompanying drawing and pointed out in the claims which form part of this specification.

Reference will now be had to the drawing, wherein like numerals of reference designate corresponding parts throughout the several views, in which:

Figure 1 is a fragmentary central cross-sectional view of the interlocking sink stopper in operating position in a kitchen sink.

Figure 2 is a fragmentary view of the sink stopper shown in Figure 1, on an enlarged scale.

Figure 3 is a cross-sectional view of a modified interlocking sink stopper of inverted dish form and of resilient rubber.

Figure 4 is a fragmentary view of the stopper shown in Figure 3, on an enlarged scale, and showing a resilient means mounted on the cylindrical projection extending from the lower face of the stopper.

In the illustrated embodiment of the invention, the numeral 10 indicates a flat flexible soft rubber disk of a size adapted to cover a perforated drain plate 11 of a sink 12 superposed over a drain pipe 13.

The rubber disk 10 has a centrally positioned cylindrical projection 14 extending from and below its lower face 15. The projection 14 has an integral and inverted cone-shaped end portion 16.

The base 17 of the cone-shaped end portion 16 has been positioned in spaced relation from the lower face 15 a distance slightly more than the thickness of the drain plate 11.

The diameter of the cylindrical projection 14 has been made substantially the same as the diameter of the central aperture 18 of the drain plate 11. The circumference of the base 17 of the cone-shaped end portion 16 has been made larger than the circumference of the aperture 18.

It is to be noted that the cone base 17 is of a size to permit forcible entry into the central perforation 18 of a plurality of perforations in the drain plate.

A ring 19 of a size adapted for engagement with a finger has been secured by means of a boss 20 to the disk 10 and serves for disengaging an end portion of the disk from the sink, whereby the suction developed in the operation of such devices may be conveniently broken for removal of the stopper from the sink.

In operation, the user places the stopper 10 over the drain plate 11 with the inverted cone-shaped member 16 over the central aperture 18 of the drain plate and presses down the central portion of the rubber disk until the member 16 is driven below the lower face of the drain plate. On releasing the stopper, the member 16 remains interlocked with the drain plate and the disk 10 remains in contacting relation with the upper surface of the drain plate.

As shown in Figure 3, there has been provided a modified sink stopper 21 made of elastic resilient rubber and in the form of an inverted dish.

The dish-shaped stopper 21 has an integrally molded centrally positioned cylindrical projection 22 extending from its inner face 23. The projection 22 has an integral and inverted cone-shaped end portion 24. The base 25 of the cone shaped end portion 24 has been made of a size to permit forcible entry into the central perforation of the drain plate and in spaced relation from the inner face 23 a distance slightly more than the thickness of the drain plate.

When using the stopper 21, its central portion is pushed down until the base 25 of the member 24 is below the lower face of the drain plate.

On removal of pressure, the stopper 21, due to its inherent resiliency, rebounds and the member 24 remains interlocked and the annular flange of the stopper 21 remains in tight sealing relation with the upper surface of the drain plate.

A ring 27 mounted in an aperture in a boss 28 of the stopper 21 may be used for releasing the stopper from engagement with the sink.

As shown in Figure 4, there has been provided a modified engaging device comprising a compression spring 29, preferably of the flat corrugated type, well known in the machinery art, and mounted by means of a central aperture on the cylindrical projection 22. The spring 29 serves to hold the stopper 21 in more positive engagement with both the upper and lower faces of the drain plate.

In accordance with the patent statutes I have described and illustrated the preferred embodiment of my invention, but it will be understood that various changes and modifications can be made therein without departing from the spirit of the invention as defined by the appended claim.

I claim:

In an interlocking stopper for sealing the drain holes in a sink drain plate having a central drain hole, comprising a one-piece inverted dish-shaped rubber body having an annular normally flat sealing flange and an interlocking extension made of rubber, said extension being positioned centrally of said flange, said extension comprising an enlarged conical end portion having a base larger than said central drain hole, said conical end portion extending sufficiently below said sealing flange to extend into said central drain hole, the base of said conical end portion being in spaced relation below the inner face of said dish-shaped rubber body a distance greater than the thickness of said drain plate, said conical end portion after insertion into said central drain hole being movable downwardly to bring its base below the lower surface of said drain plate, the upper portion of said dish-shaped rubber body being flexible and adapted to react in an upward direction after said downward movement, said upward reaction causing said stopper and drain plate to come into unitary relation by positive interlocking engagement between said extension base and the lower face of said drain plate.

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