J. F. SULLIVAN.

STRAINER FOR SINKS.

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929,727.

Patented Aug. 3, 1909.

Fig. 1.

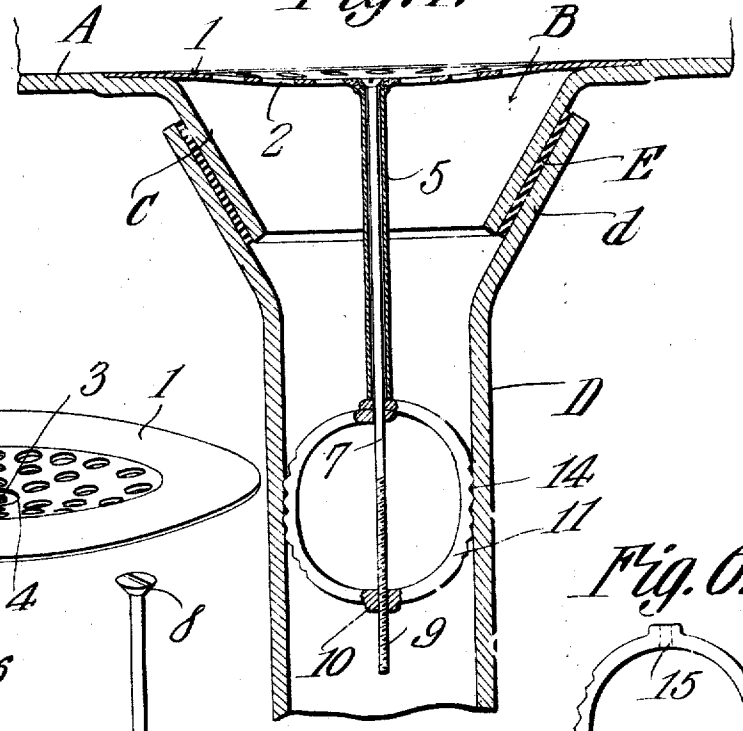


Fig. 2.

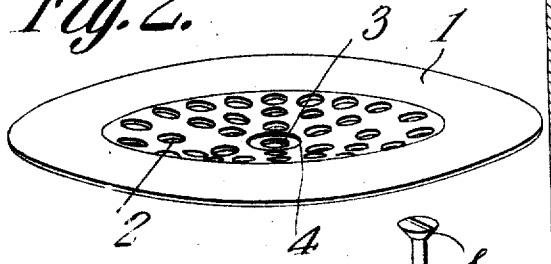


Fig. 3.

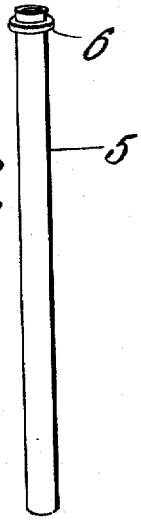
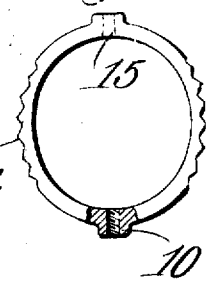


Fig. 4.

Fig. 6.



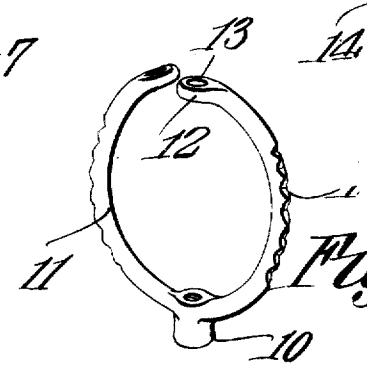


Fig. 5.

Witnesses

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UNITED STATES PATENT OFFICE.

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STRAINER FOR SINKS.

No. 929,727. Specification of Letters Patent. Patented Aug. 3, 1909.

Application filed September 4, 1908. Serial No. 451,668.

To all whom it may concern:

Be it known that I, JOHN F. SULLIVAN, a citizen of the United States, residing at Carbondale, in the county of Lackawanna and State of Pennsylvania, have invented a new and useful Strainer for Sinks, of which the following is a specification.

This invention relates to strainers for sinks, and more particularly to means for securing the same in position.

Heretofore it has been customary to employ one or more bolts or screws for fastening the strainer in position. Otherwise it has been necessary to utilize some special form of coupling between the sink and the pipe extending therefrom.

The object of the present invention is to provide simple and efficient means for securing a strainer in position, said means being designed to frictionally engage the drain pipe and being readily adjustable so as to properly engage pipes of different diameters.

With these and other objects in view the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings: Figure 1 is a section through a portion of a sink and drain pipe and through the strainer therein, said strainer being constructed in accordance with the present invention. Fig. 2 is a detail view of the top plate of the strainer. Fig. 3 is a detail view of the tubular hanger used in connection therewith. Fig. 4 is a perspective view of the adjusting screw. Fig. 5 is a perspective view of the expansible clamping member. Fig. 6 is a detail view of a modified form of clamping member.

Referring to the figures by characters of reference "A" designates a portion of a sink the outlet opening "B" of which is surrounded by a downwardly extending frusto-conical flange "C" designed to extend into the flared end "*d*" of a drain pipe "D". A washer "E" may if desired be interposed between the flange "C" and the flared end "*d*" of the pipe "D". The plate 1 of the strainer is provided with a number of openings 2 as ordinarily and this plate is designed to extend across the opening "B." An opening 3 is formed in the center of the plate and is countersunk as indicated at 4. This opening is designed to receive one end of a tubular hanger 5 having an annular shoulder 6 adjacent one end and against which the plate 1 is designed to bear. That end of the hanger 5 which extends through the openings 3 is flared as indicated especially in Fig. 1, said flared portion resting within the countersink 4 so as to lie substantially flush with the upper face of the plate 1.

Extending longitudinally through the hanger 5 is an elongated screw 7, the head 8 of which is designed to rest within the flared upper end of the hanger 5. The other end portion of the screw is threaded as indicated at 9 and extends through a nut 10 having oppositely extending bowed or arcuate arms 11 integral therewith. The free ends of these arms are enlarged as at 12 and lap, said enlargements being formed with registering openings 13 through which the screw 7 extends. The outer or convex faces of the arms or jaws 11 are roughened as shown at 14. It is to be understood of course that the arms or jaws 11 are preferably formed of spring metal. When it is desired to secure the strainer 1 across the opening "B" of a sink the screw 7 is inserted through the hanger 5 and through the openings 13 in the jaws 11, after which said screw is extended through, and in engagement with the nut 10. The normal diameter of the ellipse or circle formed by the jaws 11 is less than the internal diameter of the pipe "D". It will be apparent therefore that by rotating the screw 7 so as to draw the nut 10 toward the hanger 5 these jaws 11 can be bowed outwardly so that when they are forced into the pipe "D" they will frictionally engage it. After the jaws and the hanger have been inserted into the flange "C" and pipe "D" the screw 7 is rotated by placing a screw-driver or other tool in engagement with its head 8, and this rotation of the screw will cause the nut 10 to be still further drawn toward the hanger 5. This operation will result in the jaws 11 being pressed outwardly so as to firmly engage the pipe "D" and it will, obviously, be impossible to remove the plate 1 from across the opening "C" unless the screw 7 is unscrewed from engagement with the nut 10 to such an extent as to permit the arms 11 to spring inwardly out of engagement with the pipe "D".

Importance is attached to the fact that the device herein described is of such a construction that it will not retard the flow of water through the pipe "D" to an objectionable extent. It will also be noted that by utilizing the bendable jaws or arms 11 the device can be readily secured within pipes "D" of different diameters. It will be seen that only one screw is necessary and it does not require the use of a spider as formerly. The device is very simple, durable and efficient, and is advantageous because it can be readily placed in position without requiring the services of a skilled mechanic.

Although the clamping member has been described as provided with lapping ends, as shown in Fig. 5, it is to be understood that if preferred the upper ends of the arms may be formed integral as indicated at 15 and provided with an opening for the reception of the screw.

What is claimed is:

1. A strainer for sinks and the like comprising an apertured strainer plate having a countersunk opening therein, a tubular hanger extending through the opening, one end of said hanger being flared into the countersink, there being an annular collar upon the hanger and constituting a bearing for the plate, and means upon the hanger for securing the plate within a sink.

2. The combination with a strainer plate having a countersunk opening therein; of a tubular hanger extending into the opening, one end of said hanger being flared within the countersink, there being an annular shoulder upon the hanger and constituting a bearing for the plate, and oppositely extending elastic clamping members carried by the hanger.

3. The combination with a strainer plate having a countersunk opening therein; of a tubular hanger extending into the opening, one end of said hanger being flared within the countersink, there being an annular shoulder upon the hanger and constituting a bearing for the plate, members upon the hanger for securing the plate within the sink, and means extending through the hanger and said members for adjusting the members.

4. The combination with a strainer plate and a tubular hanger depending therefrom, of an adjusting screw extending through and beyond one end of the hanger, an interiorly screw-threaded member mounted upon the screw, and oppositely disposed smooth and elastic clamping members extending from the interiorly screw-threaded member, said clamping members having lapping and apertured ends engaged loosely by the screw.

5. The combination with a strainer-plate; of a tubular hanger engaging and extending from said plate, oppositely bowed clamping members bearing at one end against the hanger, and means adjustably engaging said members and extending through the hanger and engaging the strainer plate, for spreading said members.

6. The combination with a strainer-plate and a tubular hanger extending therefrom, of oppositely bowed clamping member bearing against the hanger, and means extending through the ends of the clamping members and through the hanger and strainer-plate for spreading the clamping members, there being an open space between said clamping members.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JOHN F. SULLIVAN.

Witnesses:
JAS. M. WALKER,
C. E. PREINKERT.