Dec. 28, 1926. 1,612,588

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SINK STRAINER

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Fig. 1.

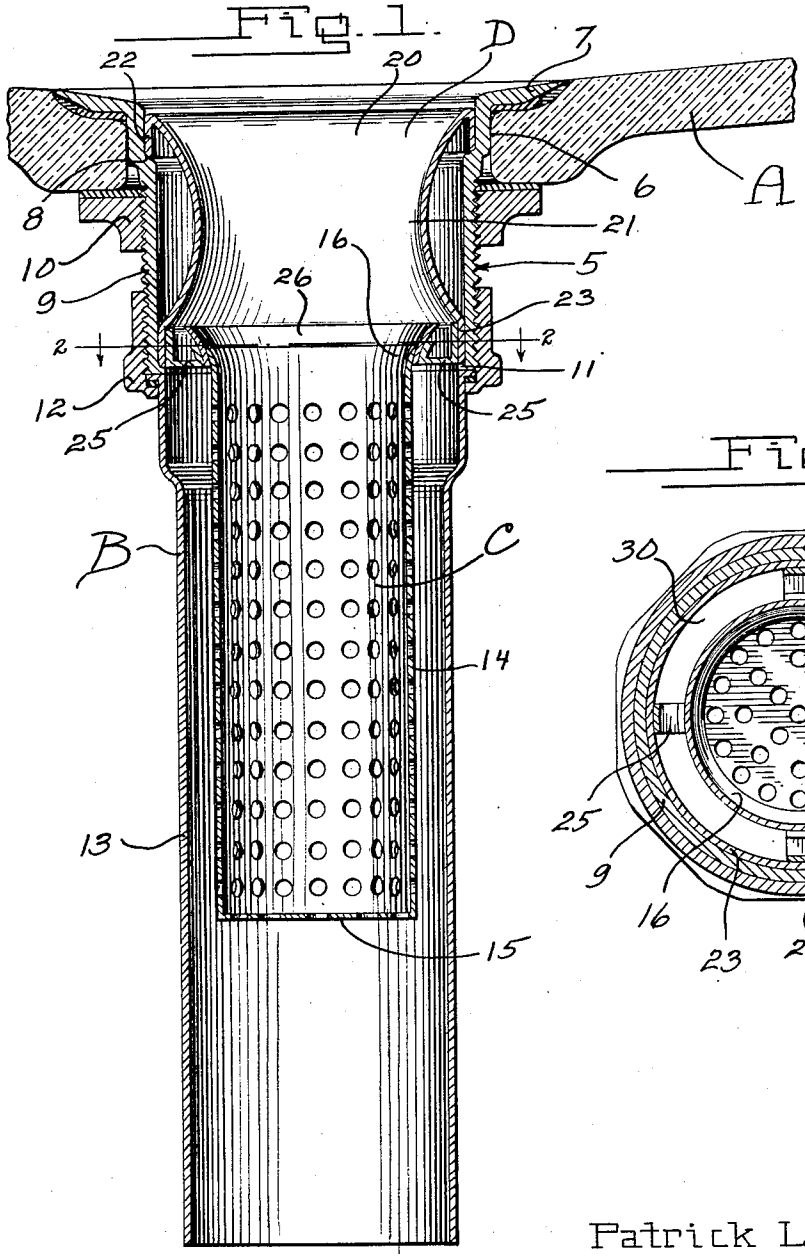

Fig. 2.

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SINK STRAINER.

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The present invention relates to attachments for drain outlet fixtures, such as employed on sinks, wash basins and the like, and is an improvement on Letters Patent No. 1,424,022, granted to me on July 25, 1922.

The primary object of the present invention is to provide an improved means for effectively preventing foreign matter such as food stuff, dirt and the like, from passing into the waste pipe and clogging the same; and which means in the present instance is in the form of a removable strainer attachment which is of such construction as to permit of the device being readily installed in existing types of standard drain outlet fixtures.

A further object of the invention is to provide an improved type of removable drain outlet strainer which will be simple, durable and efficient in use, and which may be readily associated with existing types of drain outlets by the removing of the usual cross bars forming the spider at the bottom of the coupling mouth piece of the drain pipe.

Other objects and advantages of the invention will be apparent during the course of the following detailed description, taken in connection with the accompanying drawing forming a part of this specification and in which drawing:

Figure 1 is a central vertical section through the improved attachment and showing the same in position in a standard drain outlet fixture.

Figure 2 is a transverse section taken on line 2—2 of Figure 1.

Referring to the drawing in detail, and wherein similar reference characters designate corresponding parts throughout the several views, the letter A may designate a fragmentary portion of the bottom of a sink, wash basin or the like, B a standard type of drain outlet fixture adapted for connection with the sink A, C a strainer adapted for positioning within the fixture B, and D a carrier or support for suspending the strainer C co-axially within the fixture B.

Referring first to the fixture B, and which is of standard construction, the same embodies the usual tubular mouth piece 5 which extends through the drain aperture 6 of the sink A. The mouth piece 5 is provided at its upper end with a flange 7 which seats upon the upper side of the body A about the aperture 6, and formed below the flange 7, is an internal annular shoulder or seat 8 which in the standard construction of the outlet fixture serves as a support for a perforated top plate which serves as a strainer for the sink.

The mouth piece 5 also embodies the depending tubular sleeve portion 9 which is provided with external screw threads for receiving the clamping nut 10, and which nut is to be turned into engagement with the underside of the sink for securing of the mouth piece. In the standard construction of this mouth piece 5, a spider is formed at the lower end of the sleeve portion 9 for catching exceptionally large particles which may have passed into the mouth, and with the present strainer attachment, this spider is removed for permitting of the strainer C to be supported within the outlet fixture. The arms of the spider which is ordinarily formed at the bottom of the sleeve portion 9, extend across the bottom of the sleeve from points at the slightly inturned annular flange 11 and which flange forms a part of the standard construction of the mouth piece. Connected with the lower end of the externally threaded sleeve portion 9, as by means of the usual flange coupling nut 12, is the usual drain or waste pipe 13 which extends co-axially of the mouth piece 5, and which drain or waste pipe section 13 may be suitably connected at its lower end to a suitable trap or the like. The sections 5 and 13, together with their coupling elements, are all of standard construction and form no part of this invention.

The strainer C includes a cylindrical perforated body 14 which is adapted for co-axial positioning within the drain outlet fixture B, the lower end of the body 14 being provided with a perforated bottom wall 15, while the upper open end of the body is provided with an outwardly flaring annular flange 16. This strainer C, if so desired, may be provided with the inwardly extending lug as shown in my issued Patent No. 1,424,022, for permitting of the strainer being removed from the outlet fixture when the strainer becomes filled with solid matter, or the strainer may be removed with one's fingers or by means of any suitable implement having an offset portion for engaging in one of the apertures of the perforated body. With the construction as shown, a person may readily grasp the car-

rier or support D for removal of the strainer C from the outlet fixture and need not attempt to merely remove the strainer of itself from the fixture when desiring to empty the strainer in a suitable receptacle.

Referring now to the carrier or support D, the same embodies a cylindrical section or body 20 which is of Venturi like formation, providing an inwardly arcuated constricted intermediate portion 21 and from which the cylindrical body flares outwardly both toward the top and toward the bottom of the body. The upper flaring end of the body 20 terminates in a depending ring like flange 22 which when the body is inserted into the mouth piece 5, will seat at its lower edge upon the internal annular shoulder 8 provided adjacent the upper end of the mouth piece. The lower flaring end of the body 20 is continued straight for a short distance for providing a rim 23 of an external diameter equal to the internal diameter of the sleeve portion 9 of the mouth piece. This rim 23 is adapted to rest at its lower edge upon the annular flange 11 formed at the lower end of the mouth piece 5, for further aiding in the supporting of the body 20 within the mouth piece. Suitably secured to the inner side of the rim 23, as by means of soldering or welding, are a number of substantially U-shaped bracket arms 25 which project inwardly toward the center of the body 20, and which arms serve for rigidly supporting an upwardly flaring annular guide ring 26 co-axially of the cylindrical body 20. The upper end of this outwardly flaring guide ring 26 extends beyond the inner surface of the inwardly arcuated intermediate portion 21 of the body 20 and in spaced relation at its upper end from the inner surface of the body so that an annular passageway 30 is formed about the guide ring. The lower end of the guide ring 26 is of an internal diameter such that when the strainer C is slipped downwardly through the guide ring, the outwardly flaring annular flange 16 at the upper end of the strainer will seat within the guide ring for supporting of the strainer concentrically within the drain pipe 13. The guide ring 26 is preferably secured to the inner end of the bracket arms 25 as by welding or soldering.

In use of the improved device, the water in the sink A will follow the curvature of the inwardly arcuated intermediate portion 21 and flow down through the annular passageway 30 along the inner side of the drain pipe 13, while any solid matter carried by the water will fall into the annular guide ring 26 when the matter reaches the constricted portion 21 and be directed into the strainer C. This directing of the water away from the guide ring 26, by means of the inwardly arcuated intermediate portion 21, eliminates the flowing of the water into the strainer C and thus prevents the matter from leaving the strainer which would be liable if the water was allowed to flow thru the strainer.

From the foregoing description it will be apparent that an improved type of strainer has been provided embodying novel features of construction whereby the same may be installed in existing types of standard drain outlet fixtures, and which strainer is of such specific construction as to allow for certain standard features of the drain outlet fixtures to serve as supports for suspending of the strainer concentrically within the fixture.

Changes in detail may be made to the specific form of the invention herein shown and described, without departing from the spirit of the invention or the scope of the following claims.

I claim:

1. The combination with a drain outlet fixture embodying a tubular mouth piece having an internal annular shoulder, of an attachment therefor embodying a carrier removably fitting in the mouth piece and supported upon said annular shoulder, and a strainer supported at the lower end of the carrier with its upper end spaced from the inner wall of the carrier.

2. The combination with a drain outlet fixture embodying a tubular mouth piece having an internal annular shoulder, of an attachment therefor embodying a carrier removably fitting in the mouth piece and supported upon said annular shoulder, and a strainer supported at the lower end of the carrier and having its upper end of less diameter than the inner diameter of the lower portion of the carrier for providing an annular passageway encircling the upper portion of the strainer and communicating with the drain outlet below the carrier.

3. The combination with a drain outlet fixture embodying a tubular mouth piece having an internal annular shoulder, of an attachment therefor embodying a carrier removably fitting in the mouth piece and supported upon said annular shoulder, and a strainer removably supported in suspended relation at the lower end of the carrier with its upper end spaced from the inner wall of the carrier and providing an annular passageway encircling the upper portion of the strainer.

4. The combination with a drain outlet fixture embodying a tubular mouth piece having an internal annular shoulder provided adjacent its upper end, of an attachment therefor embodying a cylindrical body having a constricted intermediate portion and provided at its upper end with a flange for seating upon the annular shoulder of the mouth piece, an annular guide ring supported by and at the lower end of the cylindrical body, co-axially of the body and pro-

viding an annular passageway between the guide ring and lower end of the cylindrical body, and a strainer supported at its upper end in the guide ring and depending in axial alignment with the cylindrical body portion.

5. The combination with a drain outlet fixture embodying a tubular mouth piece, of an attachment therefor comprising a carrier removably supported in the mouth piece and embodying a cylindrical body formed with a constricted intermediate portion and an annular guide ring of less diameter than the lower end of the cylindrical body supported by and at the lower end of the body for providing an annular passageway, and a strainer embodying a perforated cylindrical body removably supported at its upper end in said guide ring co-axially of said cylindrical body.

6. The combination with a drain outlet fixture embodying a tubular mouth piece having an internal annular shoulder provided adjacent its upper end, of an attachment therefor comprising a cylindrical body having a constricted intermediate portion and provided at its upper end with a ring flange for seating upon the shoulder of said mouth piece, an upwardly flaring annular guide ring supported by the lower end of the body concentric therewith, and forming an annular passageway inwardly of the lower end of the cylindrical body, and a strainer having an outwardly flaring annular flange at its upper end engaging in the annular guide ring for supporting of the strainer coaxial within the cylindrical body.

7. The combination with a drain outlet fixture embodying a tubular mouth piece having an internal annular shoulder formed adjacent its upper end, of an attachment therefor comprising a cylindrical body having a constricted intermediate portion from which the cylindrical body flares outwardly both toward the top and toward the bottom of the body, said body having an annular depending ring formed at its upper end for seating upon the annular shoulder of the mouth piece for supporting of the body concentric within the mouth piece, inwardly extending spaced apart bracket arms carried by the lower end of the cylindrical body, an upwardly flaring annular guide ring of greater diameter than the constricted intermediate portion of the cylindrical body, supported concentric with the body below the contricted portion by said bracket arms, and a cylindrical shaped perforated body supported at its upper end by the guide ring.

8. The combination with a drain outlet fixture embodying a tubular mouth piece having an internal annular shoulder at its upper end, and a drain pipe connected with the lower end of the mouth piece co-axial therewith, of an attachment therefor comprising a cylinderical body fitting in the mouth piece, said body being formed with a constricted intermediate portion and having its upper end terminating in an annular depending ring for seating at its lower edge upon the annular shoulder of the mouth piece, an upwardly flaring annular guide ring of greater diameter than the constricted portion of the cylindrical body, supported by and concentric with the lower end of the cylindrical body, and a cylindrical strainer supported at its upper end by the annular guide ring and extending downwardly into said drain pipe in spaced relation to the inner surface of the pipe.

9. A sink strainer comprising a cylindrical body having an inwardly arcuated intermediate portion and provided at it upper edge with a flange for supporting of the body within a drain outlet fixture, bracket arms carried in spaced relation by the lower end of the cylindrical body and extending inwardly thereof, an upwardly flaring annular guide ring supported by the inner end of the bracket arms concentric with the cylindrical body, said guide ring being of greater diameter at its upper end than the diameter of the intermediate portion of the cylindrical body but of less diameter than the lower portion of the cylindrical body for providing an annular passageway between the guide ring and lower portion of the cylindrical body, and a strainer embodying a perforated cylindrical body having an outwardly flaring annular flange at its upper end for engaging the inner surface of the annular guide ring for supporting of the strainer co-axially beneath the cylindrical body.

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