Nov. 7, 1933. J. F. AUBERSCHEK 1,934,159

FILTER

Filed March 16, 1932

Fig. 1

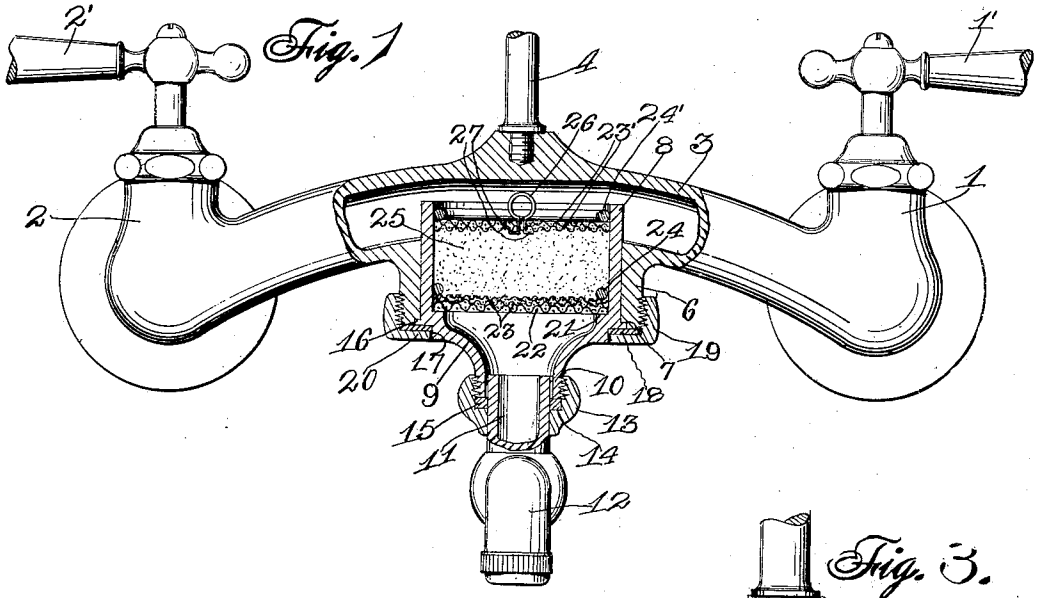


Fig. 2.

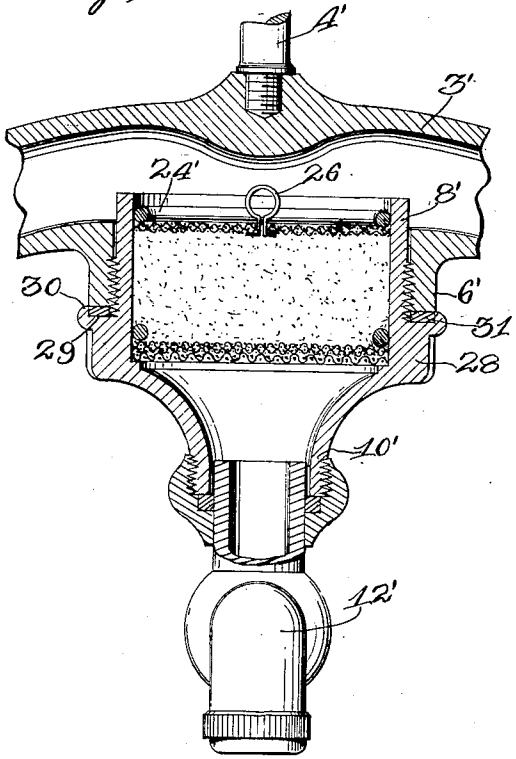
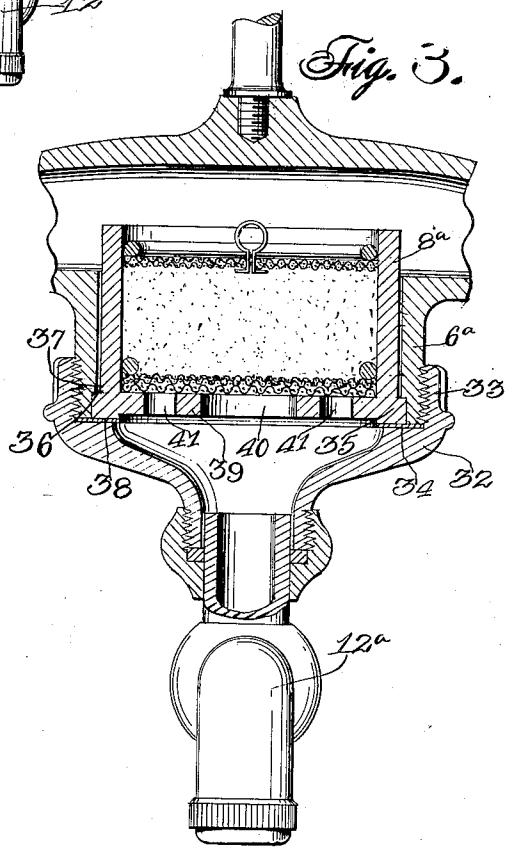


Fig. 3.



Inventor
Josephh. F. Auberschek
By Thomas & Thomas
Attorneys

Patented Nov. 7, 1933 1,934,159

UNITED STATES PATENT OFFICE

1,934,159

FILTER

Joseph F. Auberschek, Milwaukee, Wis.

Application March 16, 1932. Serial No. 599,134

2 Claims. (Cl. 210—77)

This invention relates to improvements in filters and more particularly to a detachable filter for faucets.

One of the objects of the present invention is the provision of an improved type of detachable filter for faucets, wherein the filter bowl which contains the filter material can be quickly and easily applied to faucets for filtering the water drawn therethrough.

Another object of the present invention is the provision of an improved construction in faucets of the double type, wherein hot and cold water can be drawn from the same faucet and includes in its construction, an improved type of filtering bowl removably retained in position for filtering the water which passes out through the outlet and wherein the material within the filtering bowl can be readily removed for cleansing the same.

Another object of the present invention resides in novel features of attaching the filtering bowl to the outlets of faucets, whereby the water discharged through the outlet will pass through fine filtering material to remove dirt and sediment from the water and also resides in improved means for attaching a movable outlet faucet in close proximity to the filtering bowl.

With the above and other objects in view, the invention consists in the novel features of construction, the combination and arrangement of parts hereinafter more fully set forth, pointed out in the claims and shown in the accompanying drawing wherein:

Figure 1 is a front elevation of a double faucet illustrating the application of my improved filtering device;

Figure 2 is a vertical section illustrating another form of the invention with parts thereof in elevation; and,

Figure 3 is a vertical section illustrating another form of the invention with parts thereof illustrated in elevation.

Referring to the drawing, it will be noted that 1 indicates a cold water outlet and 2 a hot water outlet, said outlets being controlled by means of suitable valves actuated through the medium of the handle members 1′ and 2′. The outlets 1 and 2 are connected by means of a cross pipe 3, whereby either cold or hot water may be drawn out independently or the two mixed together as the occasion requires. The cross pipe 3 has detachably connected to the central portion, at the top thereof, a supporting element 4 which may be connected to any suitable type of stationary support, or a glass holder or the like can be arranged on the top thereof.

The cross pipe 3 is provided intermediate its ends with a downwardly extending sleeve or collar 6 having an annular cutout 7 forming two shoulders disposed at right angles to each other. Arranged within the sleeve 6 and extending upwardly into the pipe 3 is a filter bowl 8. The lower end of this filter bowl projects inwardly, as shown at 9 and terminates at its lower end into an exteriorly threaded neck 10.

Extending upwardly into the interior of the neck 10 is the neck 11 of the outlet faucet 12, and loosely mounted upon this neck 11 is a clamping sleeve 13 having detachable connection with the screw threads on the lower end of neck 10. Positioned between the lower end of the neck 10 and the annular shoulder 14, is a washer 15, providing a water-tight connection between the lower end of the filter bowl and the faucet 12, and frictionally engaging neck 11.

It will be noted from the showing in Figure 1, that the filter bowl is provided with an annular flange 16 which fits within the annular cutout portion 7. The exterior of the filter bowl is provided with an annular cutout portion 17 and arranged therein is a washer 18 which extends out over the lower end of the sleeve 6 and an annular clamping sleeve 19 has threaded engagement with the exterior of the sleeve 6 and is provided with an inwardly directed flange 20, bearing against the lower face of the washer 18 for retaining the filter bowl 8 in position relative to the sleeve 6.

From the above description, it will be apparent that by unscrewing the clamping sleeve 19, the filter bowl 8 can be quickly and readily removed from the sleeve 6. It will also be noted that the faucet can be quickly and readily detached from the neck 10 of the filter bowl.

Within the bottom of the filter bowl there s provided an annular flange 21 and resting thereon is a comparatively coarse screen disc 22, with two or more screen discs 23 of a very fine mesh arranged above the disc 22. The screen discs 22 and 23 are arranged in position on the shoulder 21 by means of a yieldable split ring 24.

Arranged within the filter bowl and resting upon the screen discs 23, is the filtering material 25, preferably of extra fine silica sand and on the top of the filter material are the two fine wire mesh discs 23′, retained in position within the filter bowl by means of the yieldable split ring 24′. In order to remove the upper discs 23′, I provide a clip member 26, the ends of which ex-

tend down through the screen and are bent over at right angles, as shown at 27 for engaging the under face of the lowermost disc 23'.

It will be apparent from the foregoing that when it is desired to remove the filter material 25 for cleansing purposes, the sleeve 19 is first removed for removing the bowl 8 from the sleeve 6. The ring 24' is then removed and the fine screen discs 23 removed from the bowl 8 by pulling upwardly on the finger loop of the clip 26. The filtering material can then be removed from the bowl 8 and deposited within a tumbler or other similar receptacle for washing purposes. After washing, the filter material can be quickly and readily replaced by reversing the above operation.

In Figure 2, I have illustrated another form of the invention, wherein the sleeve 6' is internally threaded and the filtering bowl 8' is provided with a series of external screw threads, cooperating with the threads in the sleeve. However, in this form of the invention, the filter bowl is provided with an annular enlarged portion 28, providing an annular shoulder 29 with an upstanding annular flange 30, at the outer edge of the shoulder.

When the bowl 8' is threaded into the sleeve 6', the shoulder 29 is arranged in opposed relation with the lower end of the sleeve 6' and in order to provide a water-tight connection at this point, a packing washer 31 is arranged between the shoulder 29 and the sleeve 6', the flange 30 retaining the washer against lateral movement. In this form of the invention, the lower end of the bowl 8 is provided with a downwardly projecting threaded neck 10' adapted to be connected to the faucet 12' in the same manner as previously described.

In the form of the invention shown in Figure 2, the support 4' is also connected to a cross pipe 3', and the construction of the parts upon the interior of the filter bowl are the same as in the preferred form of the invention, shown in Figure 1.

In Figure 3, I have illustrated still another form of the invention, wherein the filter bowl 8*a* is removably positioned within the sleeve 6*a* in a somewhat different manner than in the other forms of the invention. In this form, I provide a clamping member 32 having an annular upstanding internally threaded flange 33 adapted to engage the external screw threads on the lower end of sleeve 6*a*. The clamping member 32 is provided with a comparatively wide annular shoulder 34 arranged upon the interior thereof and adapted for abutting engagement with the lower end of sleeve 6*a*. The shoulder 34 is sufficiently wide to be engaged by the base portion 35 of the bowl 8*a*.

It will be noted from the showing in Figure 3, that the base portion 35 of the bowl 8*a* is somewhat larger than the exterior of the bowl providing an annular shoulder 36 adapted to engage an annular shoulder 37 upon the interior of the sleeve 6*a* adjacent the lower end thereof. From this, it will be apparent that the annular base flange 35 is retained between the shoulder 37 and the shoulder 34. A packing washer 38 is positioned between the shoulder 34, the lower end of sleeve 6*a* and the base flange 35, to provide a water-tight joint.

In the form of the invention shown in Figure 3, the filter bowl 8*a* is provided with a bottom member 39, having a comparatively large central opening 40 and a plurality of small openings arranged annularly around the opening 40 through which the water passes after having passed through the lower screen members in the bowl.

In this form of the invention, the parts upon the interior of the bowl 8*a*, are the same as in the preferred form of the invention and the faucet 12 is connected to the member 32 in the same manner as in the other forms of the invention. It will be apparent from the foregoing that I have provided a comparatively simple and inexpensive filtering device which can be incorporated in the construction of a single faucet outlet, where hot and cold water can be independently discharged through a single faucet, or simultaneously discharged through the same faucet, and any water drawn from the outlets of either the hot or cold water outlets will pass through the filtering material in the filtering bowl so that all impurities will be removed before the water is placed in use.

This device while described and illustrated as used with a particular type of faucet, can, with slight changes, be used with the ordinary type of faucet.

While I have shown and described the preferred embodiment of my invention, it will be apparent from the foregoing that slight changes may be made in the construction when putting the invention into practice without departing from the spirit of the same or the scope of the appended claims.

I claim:

1. In a fitting for sinks and the like, a transversely extending cross pipe having water inlets at its opposite ends, a depending collar formed on the central portion of said pipe constituting an outlet therefor, a filter fitted into the collar, and means detachably holding the filter in said collar.

2. In a fitting for sinks and the like, a transversely extending cross pipe having water inlets at its opposite ends, a depending collar formed on the central portion of said pipe constituting an outlet therefor, a filter fitted into the collar and partially extending into the cross pipe, means detachably securing the filter within the collar, and a faucet detachably connected to the lower end of the filter.

JOSEPH F. AUBERSCHEK.