E. FERRAN.

SINK STRAINER.

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1,161,766.

Patented Nov. 23, 1915.

Fig. 1.

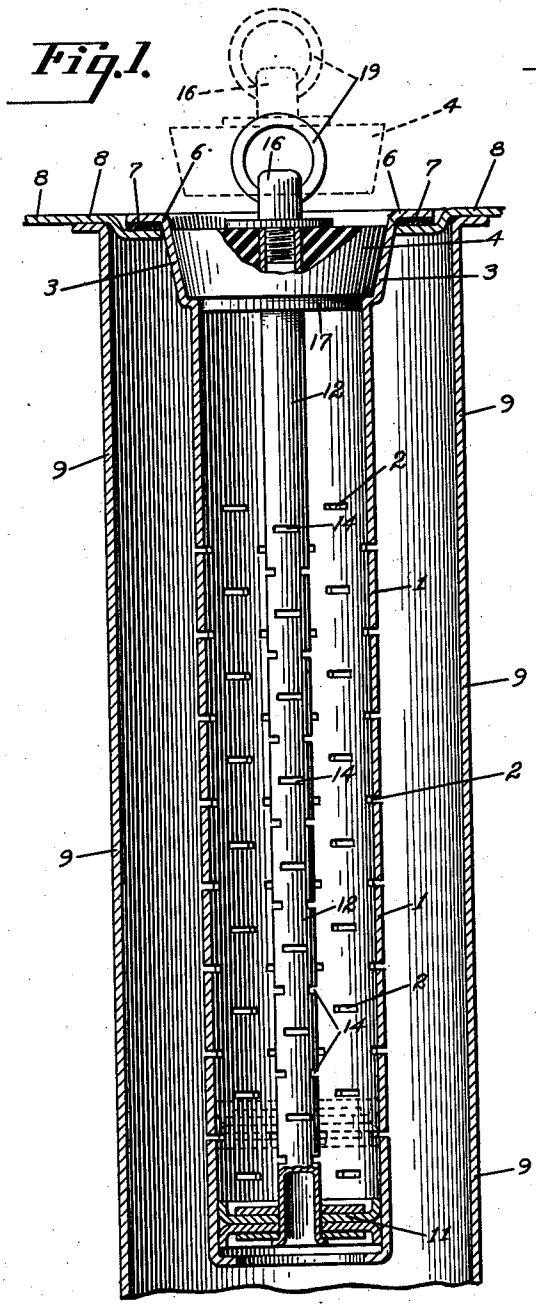
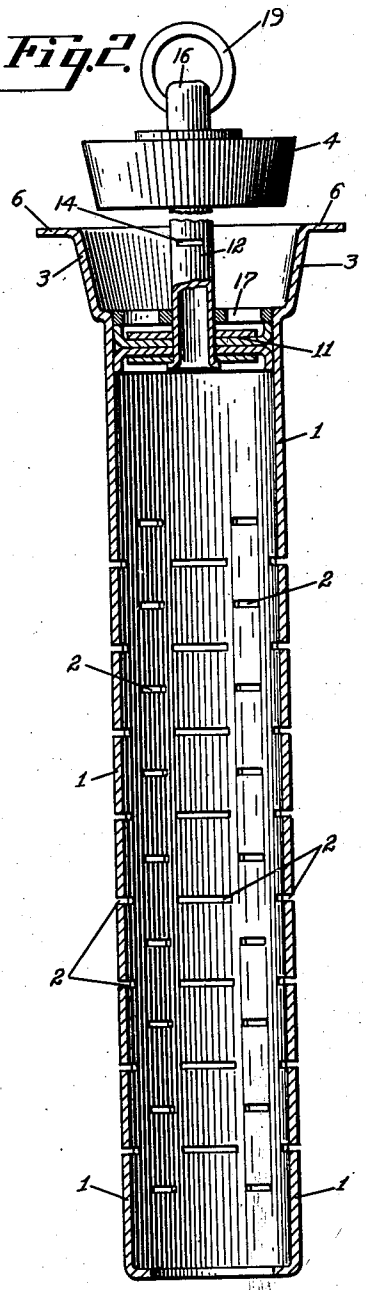


Fig. 2.



Witnesses

George Kenney.

Earl F. Richards

Inventor

Ernest Ferran

By Arthur L. Slee.

His Atty.

UNITED STATES PATENT OFFICE.

ERNEST FERRAN, OF SAN FRANCISCO, CALIFORNIA.

SINK-STRAINER.

1,161,766. Specification of Letters Patent. Patented Nov. 23, 1915.

Application filed April 3, 1915. Serial No. 19,394.

To all whom it may concern:

Be it known that I, ERNEST FERRAN, a citizen of the United States, residing in the city and county of San Francisco and State of California, have invented a new and useful Improvement in Sink-Strainers, of which the following is a specification.

My invention relates to sink strainers wherein an apertured tube operates in conjunction with a piston slidably mounted therein whereby debris is prevented from clogging the waste pipe and may be removed by means of the piston; and the objects of my invention are first, to provide improved means adapted to prevent debris from clogging the waste pipe; second, to provide improved means adapted to remove the accummulated debris from the strainer; and third, to provide improved means adapted to prevent the flow of water into the waste pipe and whereby the piston may be operated for the purpose of removing the accumulated debris from the strainer. I accomplish these several features by means of the device disclosed in the drawings forming a part of the present specification wherein like characters of reference are used to designate similar parts throughout the said specification and drawings and in which—

Figure 1 is a vertical sectional view of the strainer disclosing the same within a waste pipe with the several parts shown in a closed position in full lines, the dotted lines indicating the normal position of the piston and stopper. Fig. 2 is a broken vertical sectional view of the strainer removed from the waste pipe with the piston in the position for removing the accumulated debris.

Referring to the drawings the numeral 1 is used to designate a tube having horizontally disposed slots or apertures 2 therein. A conical seat 3, arranged to receive a suitable stopper 4, and an annular flange 6 are formed integral with the top of the apertured tube 1, said annular flange 6 being provided with a suitable gasket 7 and adapted to rest on the bottom of a sink 8 around an opening leading to the waste pipe 9 thereby retaining the said apertured tube 1 concentric with the said waste pipe 9. A piston 11 is slidably mounted within the apertured tube 1 and is rigidly connected, by means of a second tube 12 having horizontally disposed slots or apertures 14 therein, to the stopper 4, said tube 12 being of smaller diameter than the tube 1. The upper end of the second apertured tube 12 is closed by means of a suitable threaded plug 16 which also serves as a means whereby the stopper 4 is rigidly secured to the upper end of the tube 12. A suitable spider 17 is secured within the tube 1 and just below the seat 3 therein and slidably engages the tube 12 in order to preserve the alinement of the piston 11 and of the tube 12.

The operation is as follows: Normally the piston 11 and the stopper 4 are positioned as disclosed by the dotted lines in Fig. 1 of the drawings. By referring to Fig. 1 it will be observed that there is a slight space or opening between the bottom of the stopper 4 and the top of the annular flange 6 of the tube 1. When the stopper 4 is in this position water from the sink may easily enter the strainer or tube 1 through the conical seat 3 and the spider 17. While in this position large pieces of debris, such as potato peelings and the like, that are too large to enter the space between the bottom of the stopper 4 and the top of the annular flange 6 of the tube 1, will be prevented from entering the said tube 1, while smaller particles, such as tea and coffee grounds, will easily flow into the apertured tube 1 and be retained therein while the water will easily flow through the horizontally disposed apertures or slots 2 and 14 of the tubes 1 and 12, respectively, and into the waste pipe 9 from whence it is carried off in the usual manner. The apertures 2 and 14 are horizontally disposed so as to provide the largest possible area of opening with the smallest possible height. As the level of the accumulated debris will naturally be substantially horizontal it is obvious that horizontally disposed slots or apertures will be best adapted to drain the water from the said debris level. When the accumulated debris has reached or is near the top most slots or apertures 2 and 14 the entire contents of the tube 1 may be removed by first removing the tube 1 from the waste pipe 9 by means of the ring 19 attached to the threaded plug 16 secured to the top of the tube 12. This will cause the piston 11 to move toward the upper end of the tube 1 and thereby remove the contents of the said tube 1, as disclosed in Fig. 2 of the drawings. After properly washing the tube 1 the same may be replaced within the waste pipe 9 and positioned as disclosed in dotted lines in Fig. 1 of the drawings, the friction

between the piston 11 and the internal surface of the tube 1 being sufficient to retain the said piston 11 and the stopper 4 in that position. In order to fill the sink with water for any purpose the stopper 4 is seated within the seat 3 of the tube 1 as disclosed in Fig. 1 of the drawings, in full lines, which will prevent the water in the sink 8 from flowing through the spider 17 and into the tube 1 and waste pipe 9 until the said stopper 4 is removed from the seat 3.

It is obvious from the foregoing that I have provided improved means whereby debris is prevented from flowing into and clogging or stopping up waste pipes and also improved means whereby the accumulated debris may be removed from the strainer.

The details of construction are so susceptible to variation that I do not wish to confine myself to the precise construction shown herein, but rather to avail myself of any modifications that may properly fall within the scope of my invention.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is—

1. A sink strainer comprising an apertured tube adapted to seat within a waste pipe; an annular flange formed integral with the top of the apertured tube and adapted to retain the same concentric with the waste pipe; and means slidably mounted within the apertured tube and adapted to normally close the top thereof and to remove the accumulated contents therefrom.

2. A sink strainer comprising an apertured tube adapted to seat within a waste pipe; an annular flange formed integral with the top of the apertured tube and adapted to retain the same concentric with the waste pipe; a piston slidably mounted within the apertured tube; and a suitable stopper operatively connected to the piston and adapted to normally close the top of the apertured tube.

3. A sink strainer comprising an apertured tube having a conical seat arranged to receive a suitable stopper and an annular flange formed integral with the top thereof and adapted to retain the apertured tube concentric with the waste pipe and to normally close the top of the said pipe; a piston slidably mounted within the apertured tube; and a suitable stopper adapted to seat within the conical seat in the top of the apertured tube; and means operatively connected to the stopper and the piston whereby the latter may be moved upward and thereby remove the accumulated contents of the apertured tube.

4. A sink strainer comprising an apertured tube having a conical seat arranged to receive a suitable stopper, and an annular flange formed integral with the top of the said tube and adapted to retain the same concentric with a waste pipe and to normally close the top of the said pipe; a piston slidably mounted within the apertured tube; a suitable stopper adapted to engage the conical seat within the top of the apertured tube; and a second apertured tube closed at the top and secured to the stopper and the piston whereby the said piston may be withdrawn and the accumulated contents of the first mentioned tube be removed.

5. A sink strainer comprising a tube having horizontally disposed staggered slots therein, a conical seat arranged to receive a suitable stopper, and an annular flange formed integral with the top thereof and adapted to retain the same concentric within a waste pipe and to normally close the top of the said pipe; a suitable stopper adapted to engage the conical seat; a piston slidably mounted within the apertured tube; and a second tube having horizontally disposed slots therein closed at the top and having the lower end secured to the piston and the upper closed end thereof secured to the stopper whereby the piston may be operated and the accumulated contents of the first mentioned tube removed.

In witness whereof I have hereunto set my signature in the presence of two subscribing witnesses.

ERNEST FERRAN.

Witnesses:
KARL F. SCHULTZ,
JAMES T. MCCUE.