

(No Model.)

J. ELLIS.
LIQUID FILTER.

No. 507,893.

Patented Oct. 31, 1893.

Fig. 1.

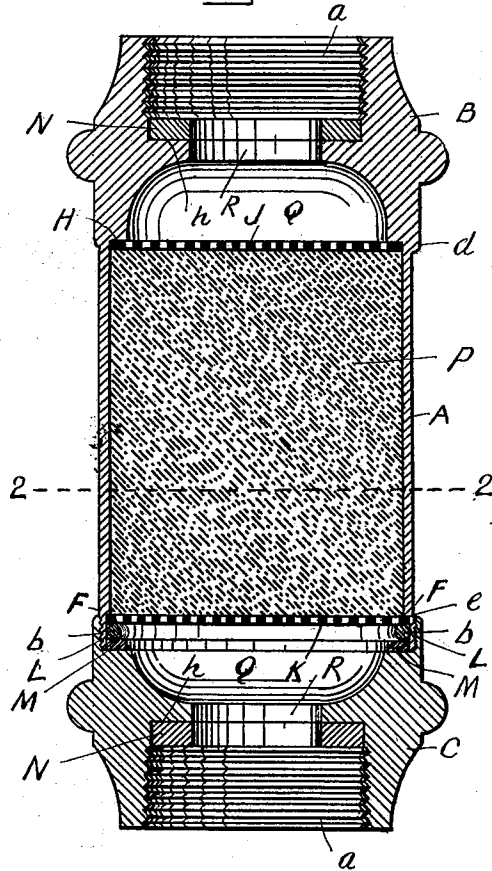
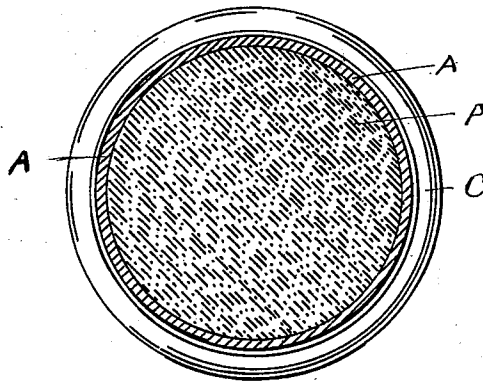


Fig. 2.



WITNESSES.

Leon C. Hines
Wm. W. Hines

INVENTOR

John Ellis.
Per Edwin W. Brown.
Attorney.

UNITED STATES PATENT OFFICE.

JOHN ELLIS, OF LYNN, MASSACHUSETTS.

LIQUID-FILTER.

SPECIFICATION forming part of Letters Patent No. 507,893, dated October 31, 1893.

Application filed November 26, 1892. Serial No. 453,211. (No model.)

To all whom it may concern:

Be it known that I, JOHN ELLIS, of Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Liquid-Filters, of which the following is a full, clear, and exact description.

This invention consists of a filter for filtering water or other liquid constructed and arranged for operation all substantially as hereinafter fully described reference being had to the accompanying sheet of drawings, in which is illustrated a filter constructed in accordance with this invention.

Figure 1 is a vertical central section; Fig. 2 a cross section on line 2—2 Fig. 1.

In the drawings A, represents the body of the filter, B, C, its two ends, each of which has an internal screw thread *a* by which it is adapted to screw at each end on to the water faucet. The body A and end B are cast in one piece integral with each other, but the end C has on its inner end an internal screw thread *b* by which it is screwed over the end F, of the body, and when screwed thereon the filter by either end can be screwed to the water faucet, so that the filter can be changed from end to end as desired, readily and conveniently. Bearing on a shoulder H in the body at the end *d* is a perforated plate J, and K is another perforated plate resting on a shoulder *e* in the other end F, of the body, which is held in place by a spring wire L bent in a circular form, having its two ends a short distance apart, it being in its normal condition of a little larger diameter than the internal diameter of the body at such place, so that when placed in position over the perforated plate K it is compressed more or less when by its spring pressure against the sides of the body it will hold the perforated plate K in its seat.

M is a leather washer, of ring shape, which lays against the wire spring, and when the end piece C is screwed down in place it presses by its shoulder such washer against the spring and makes a tight joint. There is also in each screw end a leather washer N of ring shape which rests against a shoulder *h* at such

end and makes a tight joint at such place against the water faucet when the filter is screwed to the faucet. Between the two perforated plates is placed the filtering material P which can be of charcoal, quartz or of any suitable material. The object of having one end screw onto the body, is for the purpose of filling the body with the filtering material and placing in position of the perforated plates, but in filters now in use for such purposes both ends are made separate and screw onto the body portion, whereas in this invention, one end being integral with the body and one only separate to be screwed on after the filter is prepared, as is obvious makes the cost of the filter much cheaper and therefore more desirable. There is a space Q between each perforated plate and the outlet opening R, of the filter which opening is contracted somewhat, such space serving as a chamber for the water, to prevent in some degree, too forcible and direct discharge of the water.

The washers can be made of any suitable material also the perforated plates can be of any suitable construction, wire gauze, &c., and they can be secured in place in any suitable manner.

Having thus described my invention, what I claim is—

In a reversible liquid filter, the combination with the body portion A, containing filtering material P, of the ends B, C, one of which is formed integral with, and the other, detachably connected to the body portion, an internal shoulder in each of said ends, a perforated plate J, resting upon one, a washer M, resting upon the other of said shoulders, a shoulder *e*, formed on the inner surface of the body A, and adapted to support a second perforated plate, as K, and a spring ring *b*, placed between the plate and washer, whereby said plate is retained in position, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOHN ELLIS.

Witnesses:

EDWIN W. BROWN,
CARRIE E. NICHOLS.