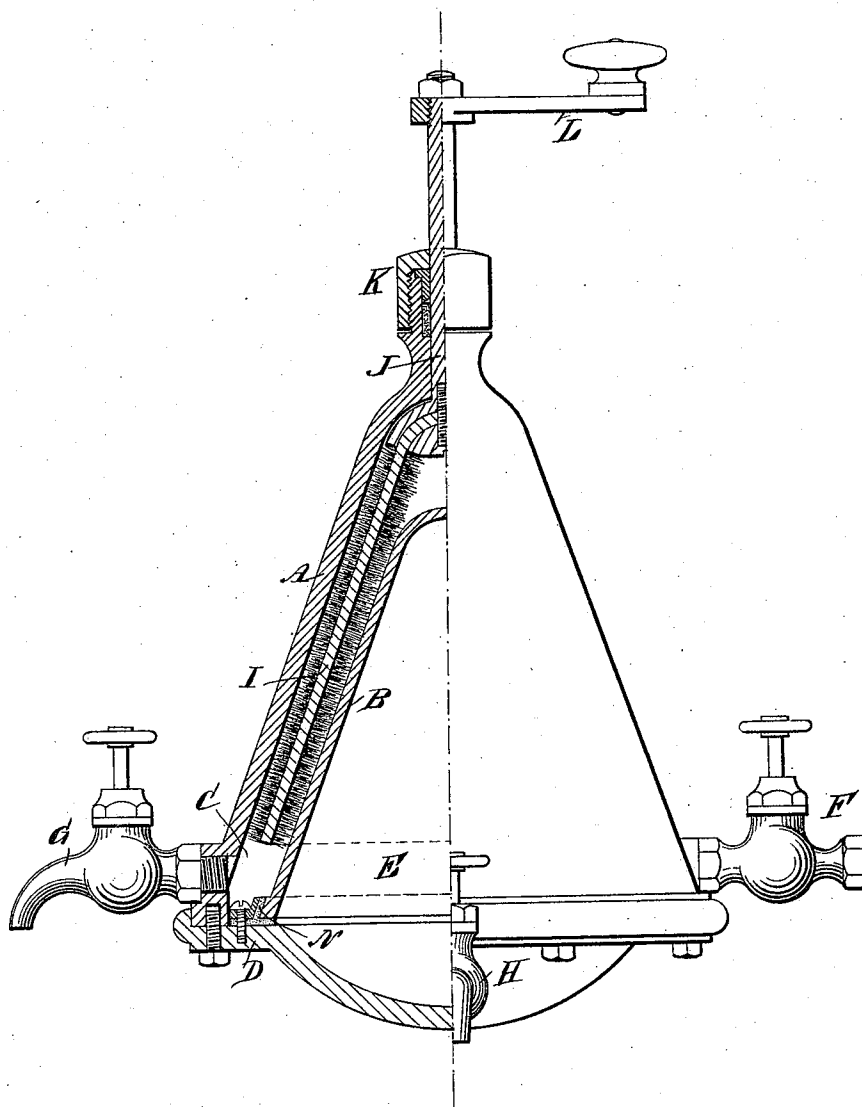


(No Model.)

E. WOLFORD.
FILTER.

No. 578,179.

Patented Mar. 2, 1897.



WITNESSES:

J.B. Walker.
R. G. Foster.

INVENTOR

E. Wolford
BY Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

EDWARD WOLFORD, OF ELLWOOD CITY, PENNSYLVANIA, ASSIGNOR OF
ONE-HALF TO LEMUEL I. MORRIS, OF SAME PLACE.

FILTER.

SPECIFICATION forming part of Letters Patent No. 578,179, dated March 2, 1897.

Application filed August 31, 1895. Serial No. 561,124. (No model.)

To all whom it may concern:

Be it known that I, EDWARD WOLFORD, of Ellwood City, in the county of Lawrence and State of Pennsylvania, have invented a new and Improved Filter, of which the following is a full, clear, and exact description.

My invention relates to that form of filter in which brushes are incorporated in the structure for cleansing the filtering medium; and it consists in improved means for cleansing said medium, whereby the brushes will always conform to the contour of the same, even after they become worn by use, thus avoiding the necessity of replacing said brushes or opening the filter to readjust the same.

It consists, further, in the detail construction and arrangement of parts, as will be hereinafter more fully set forth, and particularly pointed out in the claims.

Reference is to be had to the accompanying drawing, forming a part of this specification, in which the figure is a side elevation of the improvement with part in section.

The improved filter is provided with a casing having an exterior shell A, made conical and of a suitable material. In this shell A is placed a filter-wall B, made of suitable filtering material and forming with the shell a water-receiving compartment C, closed at its lower end by a cap D, which is preferably of cup shape near its middle and forms with the said wall B a filtered-water-receiving chamber E. Into the compartment C leads a supply-pipe F, provided with a suitable valve and connected with a suitable source of water-supply, and from the said compartment leads a faucet G for carrying off impurities, as hereinafter more fully described.

From the chamber E leads a faucet H for drawing off the filtered water in quantities as needed. Into the compartment C extends a scrubbing device I, in contact with the opposite faces of the shell A and wall B, so that when the said scrubbing device I is moved around in the compartment it readily loosens the impurities settled on the inner face of the said shell A and wall B. This scrubbing device I is made to conform to the shape of the compartment C and can be made of metal, metal wire, fiber, animal or cellulose sub-

stance, rubber or rubber incorporated with various substances, or any other suitable abrasive material.

The scrubbing device may be made from either rigid or flexible material and of such shape as to apply or adapt itself easily to the filter-surfaces, so as to clean the same when moved in the compartment C.

As illustrated in the drawing, the scrubbing device is made in the shape of a brush secured at its upper end on a shaft J, mounted to turn in suitable bearings in the upper end of the shell A, the shaft passing through a suitable stuffing-box K to the outside of the shell. On the outer end of the shaft J is secured a crank-arm L for conveniently turning the said shaft so as to revolve the brush in the compartment C, to clean the inner and outer face, respectively, of the shell A and the filtering-wall B. It is understood, however, that other suitable power may be employed for turning the shaft J.

When it is desired to clean the filter, the faucet G is opened, so that the loosened impurities readily flow out of the said faucet. When the filter is in use, the faucet G is closed and the scrubbing device is at a standstill, so that the water passing into the compartment C readily filters through the wall B and accumulates in the chamber E, from which it can be withdrawn from time to time in desired quantities or continuously, as the case may be.

In order to prevent leakage between the compartment C and the chamber E, I prefer to use a packing N between the lower edge of the wall and the cap D.

The advantages of my invention are as follows: It will be observed that I have provided a cleansing device for filters wherein the brush as it wears away will advance to hug the sides of the filtering medium and avoid the necessity of taking the filter apart in order to adjust the same.

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

1. In a filter, the combination with an exterior conical shell, an inner correspondingly-shaped filtering medium, and a lower cap closing the bottom of said shell, of a shaft having

sliding and rotary movement in said casing,
a brush secured on said shaft, and formed
with depending arms adapted to contact with
the inner face of said shell and with said fil-
5 tering medium and means for imparting mo-
tion thereto, as and for the purpose set forth.

2. In a filter, the combination with an ex-
terior conical shell, an inner conical filtering
medium, and a lower cap closing the bottom
10 of said filter, of a shaft mounted to turn in
bearings in the upper end of said exterior

shell and passing through a stuffing-box on
the outside thereof, a U-shaped scrubbing
device formed of depending arms arranged
to contact with the opposite faces of said 15
shell and said filtering medium, and operat-
ing means for said shaft, substantially as set
forth.

EDWARD WOLFORD.

Witnesses:

LEMUEL I. MORRIS,
ALEXANDER MAIN.