

No. 738,486.

PATENTED SEPT. 8, 1903.

L. E. ROGERS.
FILTER.

APPLICATION FILED JAN. 28, 1903.

NO MODEL.

Fig. I.

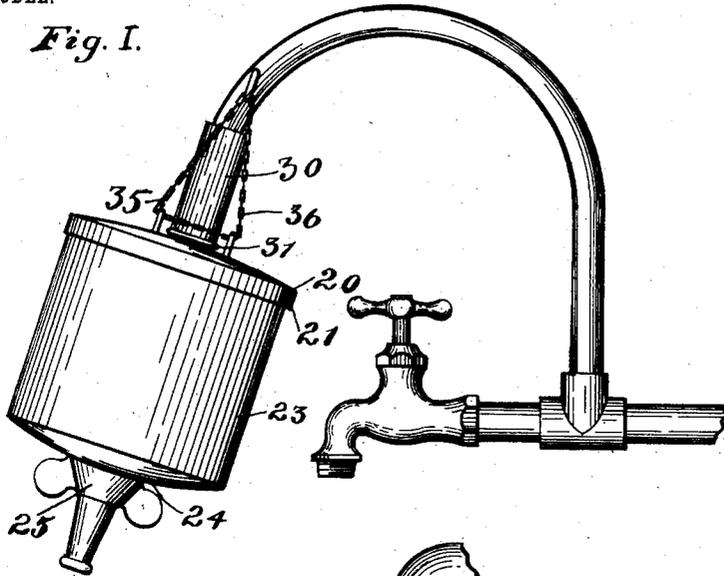


Fig. II.

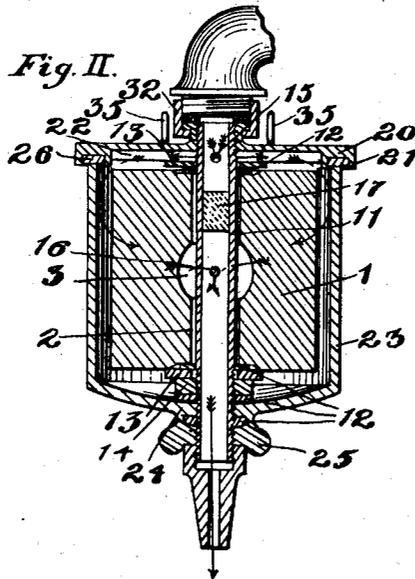
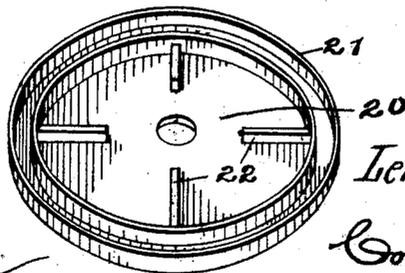


Fig. III.



Witnesses

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UNITED STATES PATENT OFFICE.

LEWIS E. ROGERS, OF LOGANSFORT, INDIANA.

FILTER.

SPECIFICATION forming part of Letters Patent No. 738,486, dated September 8, 1903.

Application filed January 28, 1903. Serial No. 140,924. (No model.)

To all whom it may concern:

Be it known that I, LEWIS E. ROGERS, a citizen of the United States, and a resident of Logansport, Cass county, State of Indiana, have invented certain new and useful Improvements in Filters; and my preferred manner of carrying out the invention is set forth in the following full, clear, and exact description, terminating with claims particularly specifying the novelty.

This invention relates to water-filters, more especially to that type which are intended to be applied to the spigot or attached to the pipe adjacent the spigot; and the object of the same is to produce improvements in devices of this character.

To this end the invention consists in the details of construction described below and illustrated in the drawings, wherein—

Figure I is a side elevation showing this device connected with the water-pipe adjacent the spigot. Fig. II is a central vertical longitudinal section of this filter connected by a coupling with the spigot. Fig. III is a perspective view of the under side of the cap-plate.

In the drawings the numeral 1 designates a "filtering-stone," by which term I intend to include any of those porous materials, either natural or artificial, through which water may be passed and by which passage the impurities are removed therefrom. This stone has a central bore 2, which is preferably enlarged at about the center of its length, as shown at 3, for a purpose to appear below. Through the bore passes a single tubular stem 11, which nearly or completely fills the bore and which is of greater length than that of the stone and is threaded at both ends or possibly throughout its entire length on the exterior. Surrounding this stem above and below the stone and next to it are rubber gaskets 12, which may set into countersinks in the ends of the stone, if desired. Next outside each gasket is a metal washer 13. The upper washer may rest against the cap or the ribs therein, (described below,) and next below the lower washer is a nut 14, screwed upon the threads of the stem to hold the stone in position. At a point above the upper washer is formed an inlet-opening 15, whereby water flowing down

the tubular stem may pass out through this opening, above the washer, over the upper end of the stone, and down upon the exterior of its side walls. Through the stem at about the center of its length is an outlet-opening 16, which stands within the enlargement 3 in the bore of the stone, whereby the water passing inwardly through the latter enters this opening and flows down and out the lower end of the stem. Between the inlet and outlet openings the stem is closed, as by a plug 17, which I preferably make of sealing-wax.

20 designates the cap, which is a flat metal plate, either screwed upon the stem or held fast thereon in any suitable manner. It is preferably formed with a depending flange 21 around its edge, and, as seen in Fig. III, it preferably has ribs 22 at its under side, whose function is to hold the upper washer 13 remote from the lower face of the cap at a point where the water enters through the inlets 15.

23 is a shell, which is preferably a metal cylinder having an open upper end fitting within the flange 21 and having its lower end 24 closed except for an aperture where it loosely surrounds the stem below the nut 14, and 25 is means, such as a thumb-nut, screwed upon the stem, for pressing this shell upward against the cap-plate. In order to make a water-tight joint between the two the cap-plate preferably has a gasket 26 just inside its flange and outside its ribs, against which gasket the upper end of the shell is pressed tightly.

While any suitable means may be employed for attaching this device to the faucet or pipe from which is to be drawn the water to be filtered, I have illustrated but two. In Fig. I a flexible coupling 30, such as a short piece of rubber hose, is secured around the upper end of the stem, as by wire 31, and the upper end of this hose may be slipped over and wired upon the inlet-pipe. In Fig. II a metal coupling consisting of a swivel-nut 32 is employed, whereby the upper end of the stem may be connected with the outlet end of a spigot, which is suitably threaded. In either case or in any case I may employ eyelets in the cap-plate, to which are attached chains or strings 36, by means of which the entire

filter can be fastened in position, although these devices are most useful when the rubber coupling is employed.

5 All parts are of the desired sizes, shapes, proportions, and materials, although I prefer metal throughout, except the stone, the string, and the gaskets and coupling, which latter may be of rubber.

10 Considerable additions to and changes in the details of construction may be made without departing from the principle of my invention. I consider the important features to be the use of but a single tube or pipe, which by means of the plug serves both as
15 the inlet and outlet, and also the enlargement of the bore of the stone at a point surrounding the outlet, whereby the water flowing inward in all directions through the stone may readily escape, and also the use of the eyelets
20 and the chain or other fastening means by which the device can be attached to a pipe or spigot, so as to positively prevent the coupling from becoming removed therefrom.

What I claim as new is—

25 1. In a filter, the combination with a single tubular stem having inlet and outlet openings, and a plug between them; of a filtering-stone surrounding the stem, a casing surrounding the stone, and means for holding the parts
30 in position so that the inflowing water shall pass into the casing above the stone and so that the outlet-opening shall stand at about the center of the length of the bore in the stone.

35 2. In a filter, the combination with a single tubular stem having inlet and outlet openings, a plug between them, and a casing carried by said stem; of a filtering-stone contained within the casing and having a bore surrounding
40 the stem, the bore having an enlargement

around the outlet-opening, and means for holding the stone in such position that the inlet-opening shall permit the inflow of water above the stone.

45 3. In a filter, the combination with a single tubular stem having inlet and outlet openings and closed between them, a shell having a closed bottom surrounding and held upon said stem, a cap-plate surrounding the stem and having a marginal flange contacting
50 with the upper end of the shell, ribs at the lower face of the cap-plate, and means for holding the plate in such position that the inlet-openings shall be opposite said ribs; of
55 a filtering-stone contained within the shell and having a bore surrounding the stem, the bore having an enlargement around the outlet-opening, and washers above and below the stone, for the purpose set forth.

60 4. In a filter, the combination with a single tubular stem having inlet and outlet openings and closed between them, a filtering-stone surrounding the stem, means for holding it in position so that the inflowing water will
65 pass over the upper end of the stone, and a casing consisting of a shell and a cap-plate surrounding the stem and stone and spaced above the latter to permit the inflowing water to pass over it; of a coupling attached to the
70 upper end of the stem, eyelets rising from the cap-plate, and chains or the like leading from the eyelets, for the purpose set forth.

In testimony whereof I have hereunto subscribed my signature this the 22d day of January, A. D. 1902.

LEWIS E. ROGERS.

Witnesses:

N. L. COLLAMER,
J. F. BRANDENBURG.