No. 651,423. Patented June 12, 1900.

H. L. MINER.

FILTER.

(Application filed June 16, 1899.)

(No Model.)

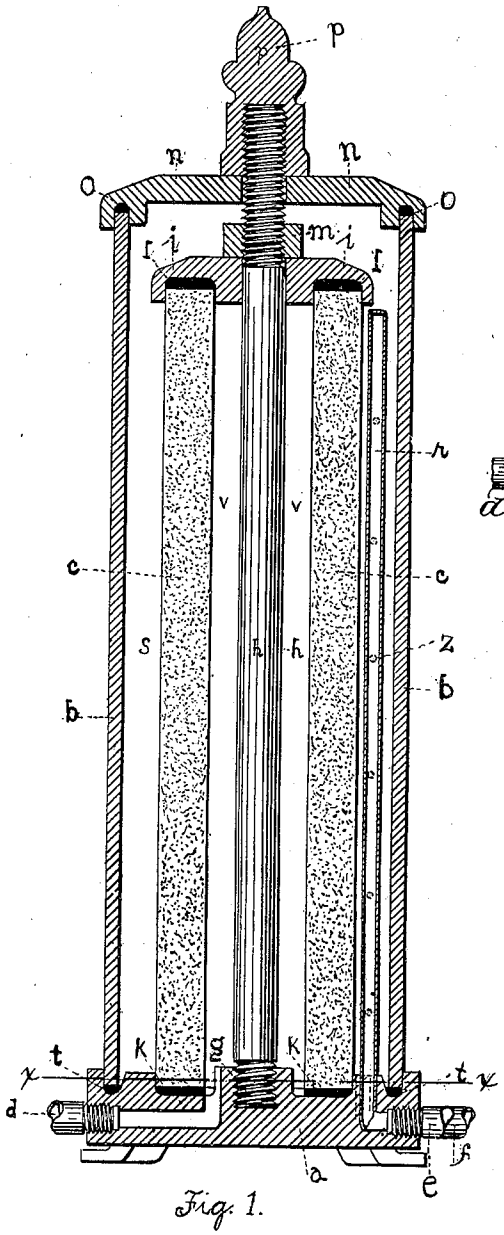
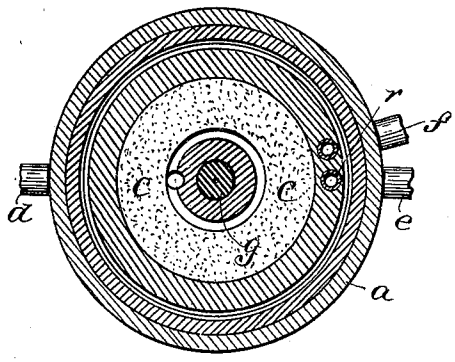


Fig. 1.

Fig. 2.



Witness
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HERKIMER L. MINER, OF ST. LOUIS, MISSOURI.

FILTER.

SPECIFICATION forming part of Letters Patent No. 651,423, dated June 12, 1900.

Application filed June 16, 1899. Serial No. 720,787. (No model.)

To all whom it may concern:

Be it known that I, HERKIMER L. MINER, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented a new and useful Water-Filter, of which the following is a specification.

My invention relates to an improvement in pressure water-filters in which filtering-stones are incased in a shell and the unfiltered water is introduced into the filter by means of a perforated pipe extending into the filter; and the object of my improvement is to provide an easy and expeditious means of removing the sediment from the filter-stones. I attain this object by the mechanism illustrated in the accompanying drawings, in which—

Figure I is a vertical section of the entire filter on the line *x y* of Fig. II. Fig. II is a cross-section of Fig. I.

Similar letters refer to similar parts throughout both views.

The circular plate or cap *a* forms the base of the filter and contains circular grooves or channels *t* and *k*, into the outer of which the annular shell *b* fits, and into the inner of which, *k*, the annular filter-stone *c* fits. The plate *a* also contains the annular passages *d e f*. The plate *a* also contains the threaded socket *g*, into which the rod *h* screws. On the upper end of the annular stone *c* is the cap *i*, which contains the circular groove or channel *l*, into which the filter-stone fits, and which said cap *i* is held in place by the nut *m*, which screws on the rod *h*. On the upper end of the annular shell *b* there is a circular cap or plate *n*, containing a circular groove or channel *o*. The said plate *n* is held in place by the ornamented nut *p*, which screws on the end of the rod *h*. In the circular grooves or channels *k*, *l*, *t*, and *o* appropriate material is used for packing between the plates or caps and the shell or stone, as the case may be, causing water-tight joints at these points. *r* is a pipe extending from and communicating with the annular passage *e* in the plate *a*, said pipe *r* containing perforations along one side. The said perforations are indicated on the drawings by the letter Z. They are so arranged that a straight line drawn from one end of pipe *r* to the other would intersect the centers of said perforations Z. The inlet-pipe *r* is so set with reference to locating these perforations Z that the same circle parallel to the shell *b* and stone *c* and that would intersect the center of any one of said perforations Z would also intersect the center of pipe *r*. The water from the water-main enters the filter at *e* and is introduced into the space between the shell and the filter-stones *c* by the pipe *r* and through the perforations in said pipe *r*. The water in space *s* being under the pressure from the main is caused to percolate through the filter-stone *c* and enters the space *v* and is drawn off through the annular passage *d*.

f is the wash-out vent. The perforations in the pipe *r* are so arranged that when the wash-out vent is open and the water in the space *s* is allowed to flow out the water entering through the perforations in *r* will cause the water in space *s* to so circulate around the filter-stones *c* as to remove all sediment from said filter-stones.

I am aware that prior to my invention water-filters have been made with filter-stones incased in shells. I therefore do not claim such a combination broadly; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

In a water-filter the combination of an outward case or shell, a hollow filtering-body preferably cylindrical inclosed in said case or shell in such a manner as to leave space between said filtering substance and shell, thus making two separate chambers or compartments within said shell, a stationary inlet-pipe with perforations therein along one side of said pipe extending into the space between the filtering-body and the casing, an outlet-pipe communicating with the chamber other than the one containing the perforated inlet-pipe, and a discharge-pipe leading from the chamber containing the perforated inlet-pipe with said inlet-pipe so situated, and the perforations therein so set that the inflowing water will circulate over the filtering-surface of the filtering substance when the discharge-pipe is open, in the manner described and for the purpose specified.

HERKIMER L. MINER.

Witnesses:
DAVID P. LEAHY,
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