

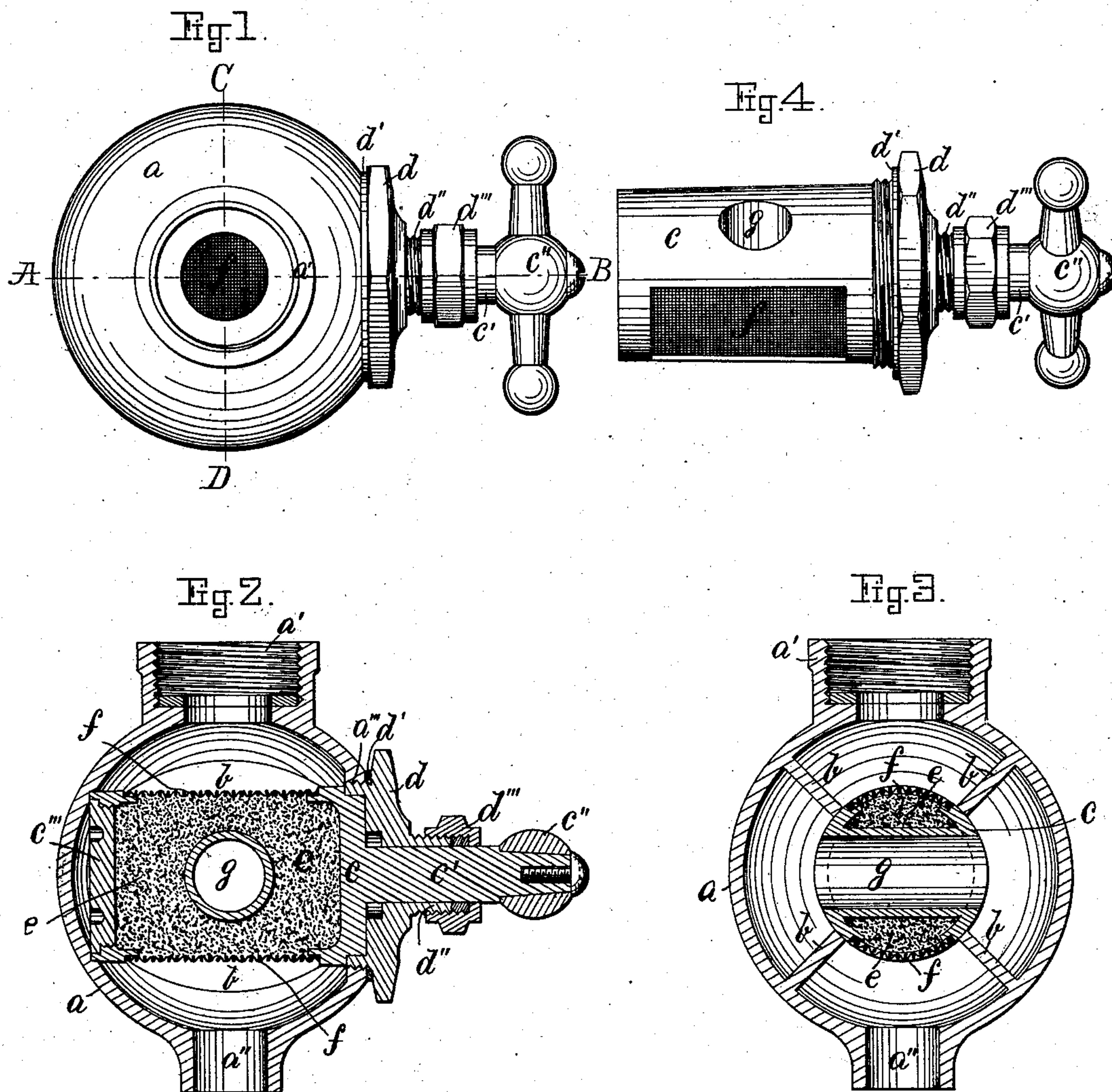
(No Model.)

J. S. SMART.

FILTER.

No. 259,725.

Patented June 20, 1882.



Witnesses.

Henry Chadbourn.  
John H. Foster

Inventor.

James S. Smart.  
by *Abraham Gudrien*  
his atty.



# UNITED STATES PATENT OFFICE.

JAMES S. SMART, OF SALEM, MASSACHUSETTS.

## FILTER.

SPECIFICATION forming part of Letters Patent No. 259,725, dated June 20, 1882.

Application filed February 8, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES S. SMART, a citizen of the United States, residing at Salem, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Water-Filters; and I do hereby declare that the same are fully described in the following specification and illustrated in the accompanying drawings.

10 This invention relates to improvements in water-filters, and it is carried out as follows, reference being had to the accompanying drawings, on which—

Figure 1 represents a plan view. Fig. 2 represents a longitudinal section on the line A B shown in Fig. 1. Fig. 3 represents a cross-section on the line C D shown in Fig. 1; and Fig. 4 represents a side elevation of the plug-filter as detached from the spherical outer shell.

20 Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

*a* is the outer shell or spherical chamber, having screw-threaded collar *a'* in its upper end for attaching it to the screw-threaded end of a faucet, as usual.

*a''* is the nozzle or outlet for the water in the under side of the shell *a*, as shown in Fig. 2. In one piece with the shell *a* are cast the four division-walls and bearing-surfaces, *b b b b*, as shown in Fig. 3.

*c* is the filter-plug inserted through the screw-threaded opening *a'''* into the shell *a* in such a manner that its slightly-tapering outer surface bears water-tight against the bored-out inner ends of the walls *b b b b*, as shown in Fig. 3. The plug *c* is held against its bearing-surfaces *b b b b* by means of the screw-threaded cap *d*, screwed into the screw-threaded side opening, *a'''*, and provided with a packing-ring, *d'*, between it and the shell *a*, and a stuffing-box, *d'' d'''*, on its outside, through which the spindle *e'* of the plug *c* projects, said spindle being provided with a suitable handle, *e''*, in 45 its outer end, as usual, by means of which the

plug *c* can be turned around its axis. The plug *c* is made hollow for the reception of filtering material *e*, and is provided on two opposite sides with netting *f f*, covering openings in said plug *c*, as shown in Figs. 3 and 4. Between the netting *f f* the plug *c* has a straight and direct channel, *g*, which permits of the water passing through the filtering-plug without being filtered when the plug is moved at a right angle to the position, as shown in Fig. 3.

*c'''* is a detachable screw-threaded cover in the inner end of the plug *c*, which, when removed, allows for filling the hollow plug *c* with the desired filtering material.

The filter is reversible—that is, it may be turned around its axis so as to allow the water to enter the plug from either of the nettings *f f*.

This improved filter is very simple in its construction. Its shell *a* is cast in one single piece with the divisions and bearings *b b b b*, and the tapering or cylindrical plug *c* being fitted water-tight against such bearing-surfaces, the use of diaphragm or ring packings is entirely dispensed with, and I am thus enabled to construct a water-filter of very few parts, all very durable and not liable to get out of order.

This improved filter may be used as a cut-off by filling up the straight passage *g*, if so desired.

What I wish to secure by Letters Patent, and claim, is—

The herein-described water-filter, consisting of the shell or case *a*, with internal divisions and bearing-surfaces *b b b b* for the cylindrical or slightly-tapering hollow plug *c*, with its strainers *f f*, filtering material *e*, and direct channel *g*, as and for the purpose set forth.

In testimony whereof I have affixed my signature in presence of two witnesses.

JAMES S. SMART.

Witnesses:

ALBAN ANDRÉN,  
CARRIE D. SMART.