

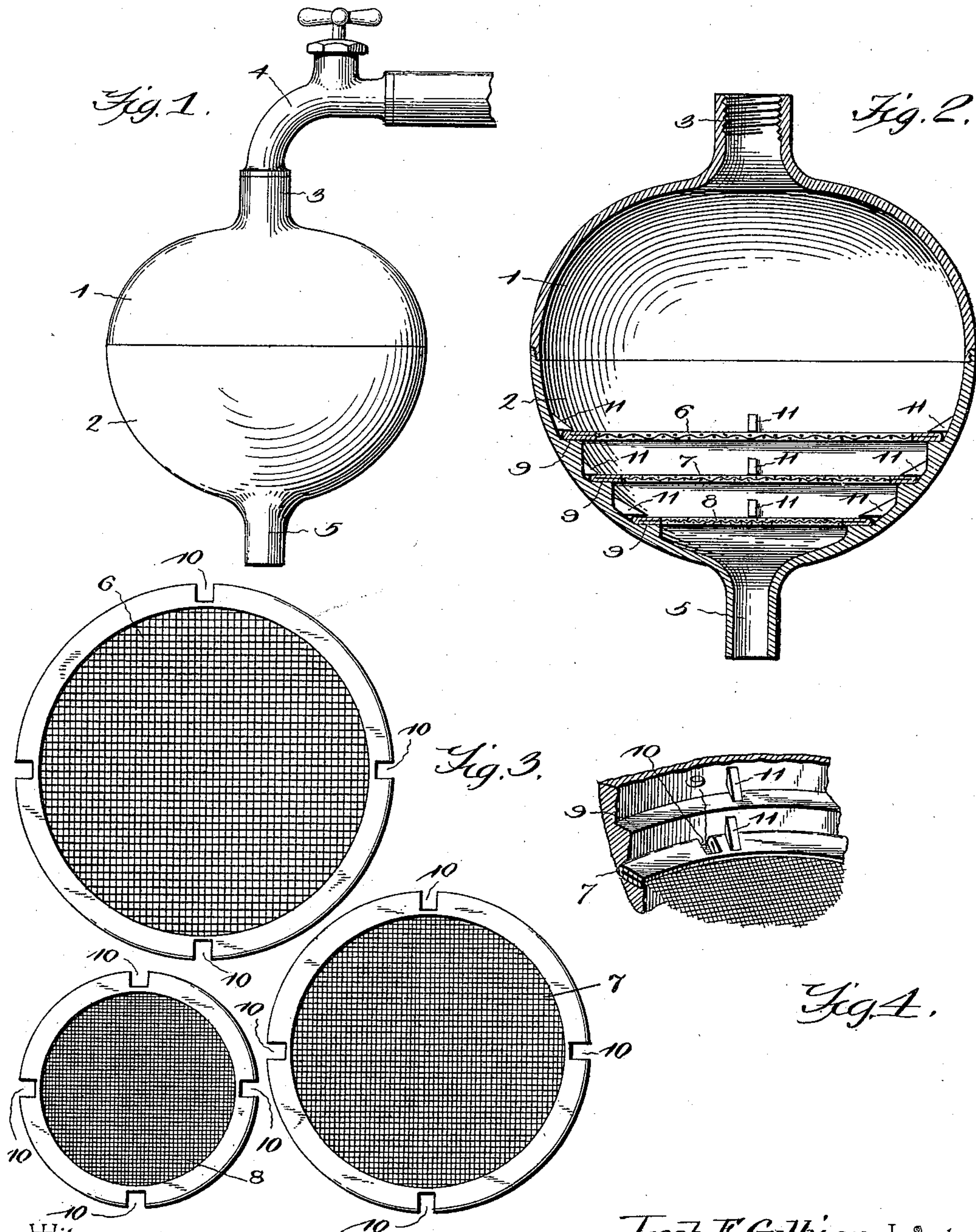
No. 616,224.

Patented Dec. 20, 1898.

J. E. CULLISON.  
FILTER.

(Application filed Apr. 22, 1898.)

(No Model.)



Witnesses

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By His Attorneys,

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# UNITED STATES PATENT OFFICE.

JACOB ELWOOD CULLISON, OF MILWAUKEE, WISCONSIN.

## FILTER.

SPECIFICATION forming part of Letters Patent No. 616,224, dated December 20, 1898.

Application filed April 22, 1898. Serial No. 678,524. (No model.)

*To all whom it may concern:*

Be it known that I, JACOB ELWOOD CULLISON, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a new and useful Filter, of which the following is a specification.

This invention relates to means for purifying water for culinary and domestic purposes, and relates to that class of devices which are constructed so as to be detachably fitted to the spigot of the supply-pipe.

The purpose of the invention is to devise an article of the character and for the purpose aforesaid which will be of simple construction, capable of being readily cleaned, and effective for the purpose designed.

Other objects and advantages will appear in the course of the subjoined description, in connection with the accompanying drawings, in which—

Figure 1 is a detail view in elevation, showing the filter as it will appear when in operation. Fig. 2 is a vertical central section thereof. Fig. 3 is a detail view of the several screens or sieves in plan elevation. Fig. 4 is a detail view showing the manner of holding the several sieves upon their seats.

Corresponding and like parts are referred to in the following description and indicated in the views of the drawings by the same reference characters.

The body of the filter is a shell of substantially spherical or globular form and composed of hemispherical parts 1 and 2, detachably connected by a screw-thread joint. The upper half or part 1 is formed centrally with an internally-threaded collar 3 to make screw-thread connection with the spigot 4 of the service-pipe. The lower half is formed centrally with a nipple or nozzle 5 for the escape of the filtered water.

The filtering or purifying means consists of a series of sieves or screens 6, 7, and 8 of different mesh and diameters. The sieves are arranged in progressive order and the one above the other, the topmost screen 6 being the largest and of greatest mesh and the next screen 7 in order being of small mesh and less diameter and the third screen 8 of smallest mesh and diameter. By having the screens arranged in the manner set forth the

water is purified by successive steps, large particles of matter being separated by the topmost screen and the matter next in size being removed by the screen 7 and the minute particles being eliminated by the screen 8. The several screens are comparatively of fine mesh and are composed of a ring and a meshed fabric of either wire or textile. A series of annular shoulders or seats 9 are formed upon the inner sides of the lower half or section 2 and receive and support the bank of screens. Notches 10 are formed in the edges of the screens at diametrically opposite points and provide clearance for inner projections 11 at opposite sides of the section 2 and located above the respective annular seats or shoulders 9. These inner projections 11 overhang the shoulders or seats 9 and are intended to extend over the screens and hold them upon their seats.

The shell may be cast, stamped, or pressed and may be constructed of any suitable material, either metal or plastic composition. When placing the screens in position, the smallest screen is first introduced into the section 2, after which the other screens are placed in position in the order of their diameter. It is essential that the screens be arranged with their notches 10 in register with the inner projections 11, so as to clear the latter, after which the screens are turned to bring the notches 10 out of register with the projections 11, the latter extending over the screens and holding them firmly upon their seats and preventing their displacement by the water or by handling. The notches and projections may be provided in any desired number, four being shown, but they should be arranged equidistant to facilitate the insertion and the removal of the screens when placing them in position or removing them from the lower part of the shell.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. In a filter, the combination with a shell having inner supports and corresponding inner projections with their lower ends in slightly-higher planes than the proximal supports, of a series of screens having notches in their edges corresponding with the aforesaid inner projections to clear them, said screens

being retained in place by being turned to bring their notches out of register with the projections whereby the latter extend over the screens and act jointly with the supports  
5 to hold them in place, substantially as set forth.

2. A filter comprising a shell of approximately globular form and separable horizontally upon a medial line, the upper section  
10 having a collar to make detachable connection with the water-fixture and the lower section having a discharge-nozzle and formed with a series of shoulders or supports at different levels and corresponding inner projec-  
15 tions, and a series of screens of different diameters and mesh and arranged one above

another in progressive order and resting upon the inner shoulders or stops, and having notches in their edges to clear the aforesaid inner projections of the lower part of the shell  
20 and adapted to be turned to bring the notches out of register with the projections whereby the latter hold the screens upon their seats, substantially as set forth.

In testimony that I claim the foregoing as  
25 my own I have hereto affixed my signature in the presence of two witnesses.

JACOB ELWOOD CULLISON.

Witnesses:

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