

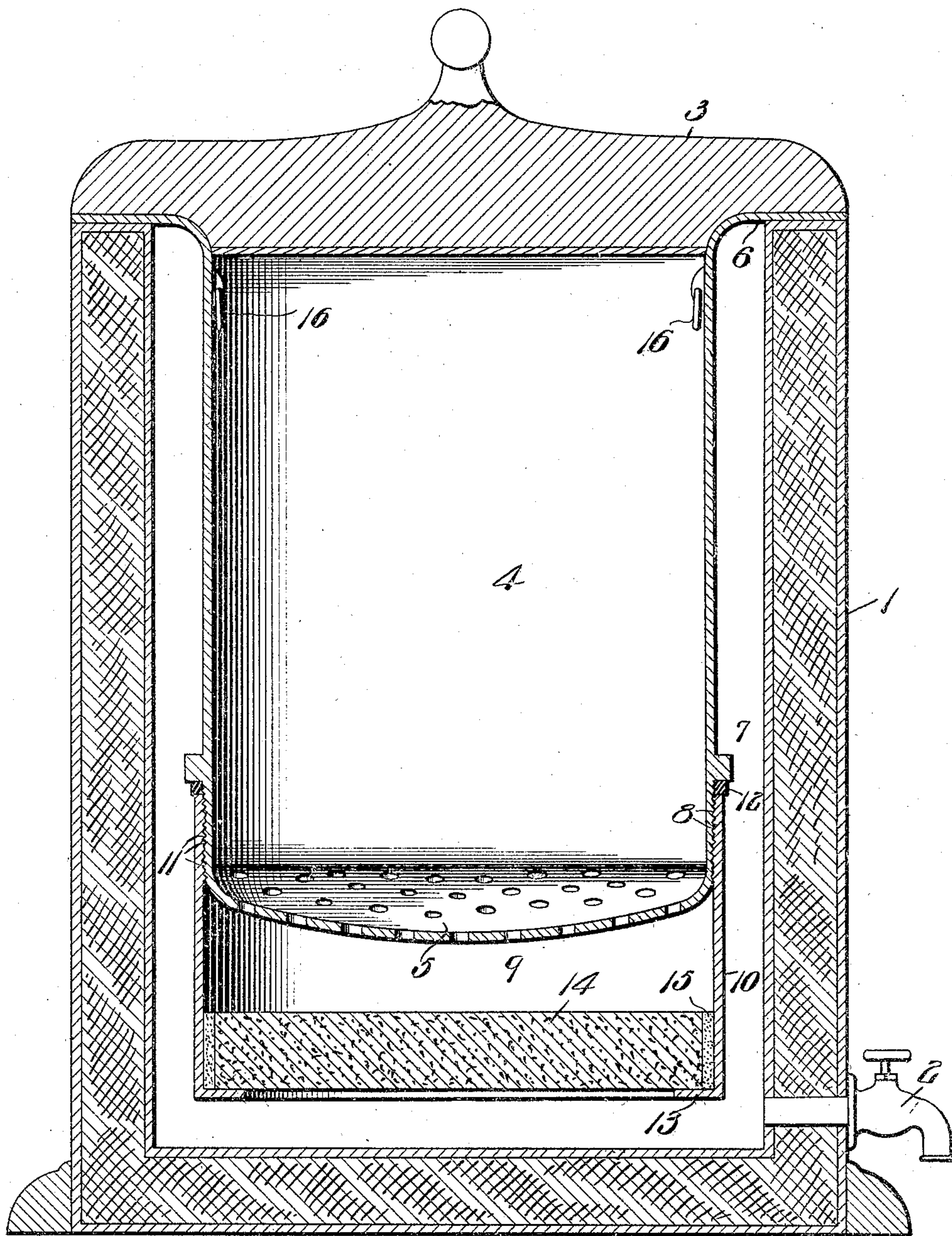
No. 891,337.

PATENTED JUNE 23, 1908.

J. G. & O. B. HEITZMAN.

FILTER.

APPLICATION FILED AUG. 3, 1905.



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UNITED STATES PATENT OFFICE.

JEROME G. HEITZMAN AND OTTO B. HEITZMAN, OF FORT MADISON, IOWA.

FILTER.

No. 891,337.

Specification of Letters Patent.

Patented June 23, 1908.

Application filed August 3, 1905. Serial No. 272,574.

To all whom it may concern:

Be it known that we, JEROME G. HEITZMAN and OTTO B. HEITZMAN, citizens of the United States, residing at Fort Madison, in the county of Lee and State of Iowa, have invented a new and useful Filter, of which the following is a specification.

This invention has relation to filters and it consists in the novel construction and arrangement of its parts as hereinafter shown and described.

The object of the invention is to provide a filter adapted to be used in receptacles such as water coolers, etc.

The filter comprises but few parts and the said parts are so formed and arranged as to lend strength and durability to the structure and at the same time subject the contents of the filter to rapid and ready presentation to the surface of the filtering agent.

With the above objects in view the filter consists primarily of a tank having at its upper end an exterior flange which is adapted to rest upon the upper edge of a water cooler or similar receptacle while the body portion of the tank is located in the interior thereof. The bottom of the tank is concaved and is provided with a number of perforations. Otherwise the tank is imperforated. The said tank is provided near its lower end with an exterior annular flange upon the under side of which is seated a flexible gasket. The tank is provided with an exterior thread located below said flange. A cylinder receives the lower end of the tank and is provided with a thread which engages the exterior thread thereof. A cribriform disk is seated in the lower end of the cylinder and is spaced from the foraminous concaved bottom of the tank, said space forming a chamber in which may be placed sand, charcoal or other granular filtering material.

The figure in the drawing is a vertical sectional view of the filter applied to a water cooler of usual construction.

The cooler or receptacle 1 is provided with the usual faucet 2 and cover 3. The tank 4 is provided with a concaved bottom 5 which is provided with a number of perforations. Other than the perforations provided in the said concaved bottom 5 the tank 4 is imperforated. The upper edge of the tank is formed into an annular flange 6 which rests upon the upper end of the cooler 1. The tank 4 is provided upon its exterior and near its lower end with an annular flange and the

screw thread 8 extends over the surface of the lower portion of the tank 4 below the flange 7 and the bottom of the tank. The cylinder 10 is provided with an internal thread 11 which engages the thread 8. The upper end of the said cylinder comes in contact with the gasket 12 which is seated against the under surface of the flange 7. The lower end of the cylinder 10 is provided with an inwardly extending annular flange 13 upon which is seated a cribriform disk 14 which is held in place by cement 15 or other plastic material interposed between the edge of the disk 14 and the inner surface of the cylinder 10. The disk 14 is spaced from the perforated bottom 5 of the tank 4 and such space constitutes a chamber 9 in which may be placed sand, gravel, charcoal or other granular filtering agent.

From the foregoing description it is obvious that when blocks of ice are placed in the tank 4 as they melt the liquid will pass through the perforated bottom 5 and the filtering disk 14 into the bottom of the receptacle 1 and the water thus filtered may be drawn off through the faucet 2. The object of making the bottom 5 concaved is that the ice will, by gravity, center itself upon the said bottom and consequently there will always be some uncovered perforations through which the water may percolate into the chamber 9. Also, the concaved formation of the bottom of the tank 4 adds rigidity to the bottom and prevents any tendency of the sides of the tank 4 to spring so that the threads 8 and 11 may not properly engage. Also, the concavity of the said bottom retains the contents of the chamber 9 with a concaved upper surface so that a maximum filtering surface is presented to the liquid. The gasket 12 completely closes the space between the upper end of the cylinder 10 and the flange 7. Consequently, there can be no tendency for the liquid to flow up through the threads 8 and 11 instead of down through the disk 14. Consequently, the said thread will be kept free of grit and will not be subjected to the wear incidental to the presence of such foreign matter.

Having described the invention what is claimed is:—

A filter for use in connection with a water cooler and comprising a cylindrical water receptacle of uniform diameter and having an integral downwardly dished foraminous bottom, an outwardly flanged upper portion integral with said receptacle for bearing upon

the walls of the cooler, the lower portion of
said receptacle being exteriorly screw thread-
ed, a collar integral with the receptacle and
outstanding therefrom at the upper end of
5 the threaded portion thereof, a cylinder of
uniform diameter and interiorly screw thread-
ed to receive and engage the bottom portion
of the water receptacle, the movement of
said cylinder upon the receptacle being lim-
10 ited by the collar, said cylinder having an in-
turned flange at its lower end, and a one piece
filtering disk insertible into the cylinder and

seated upon the flange, the entire upper sur-
face and that portion of the lower surface
within the wall of the flange being freely ex- 15
posed for filtering purposes.

In testimony that we claim the foregoing
as our own, we have hereto affixed our signa-
tures in the presence of two witnesses.

JEROME G. HEITZMAN.

OTTO B. HEITZMAN.

Witnesses:

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