

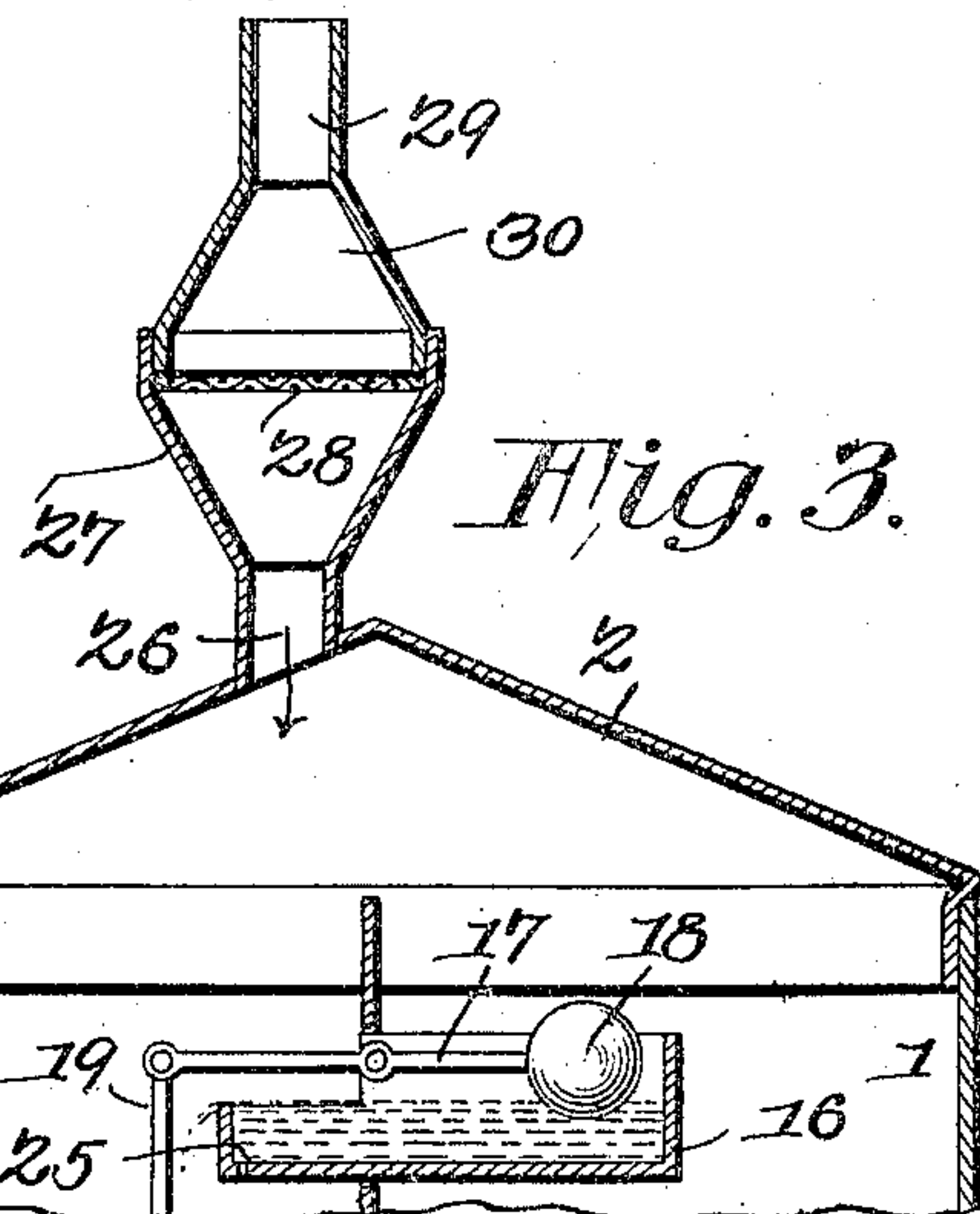
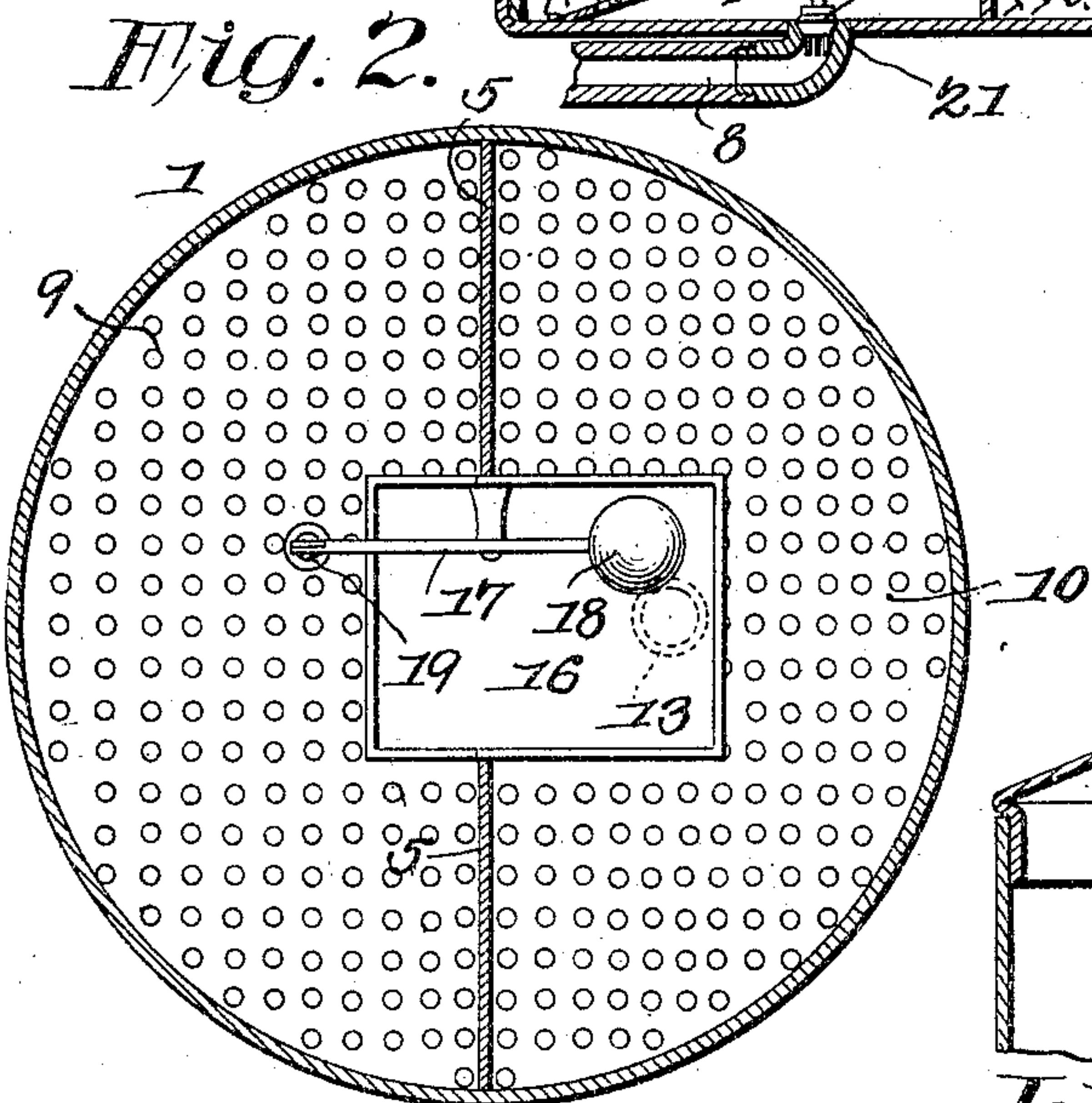
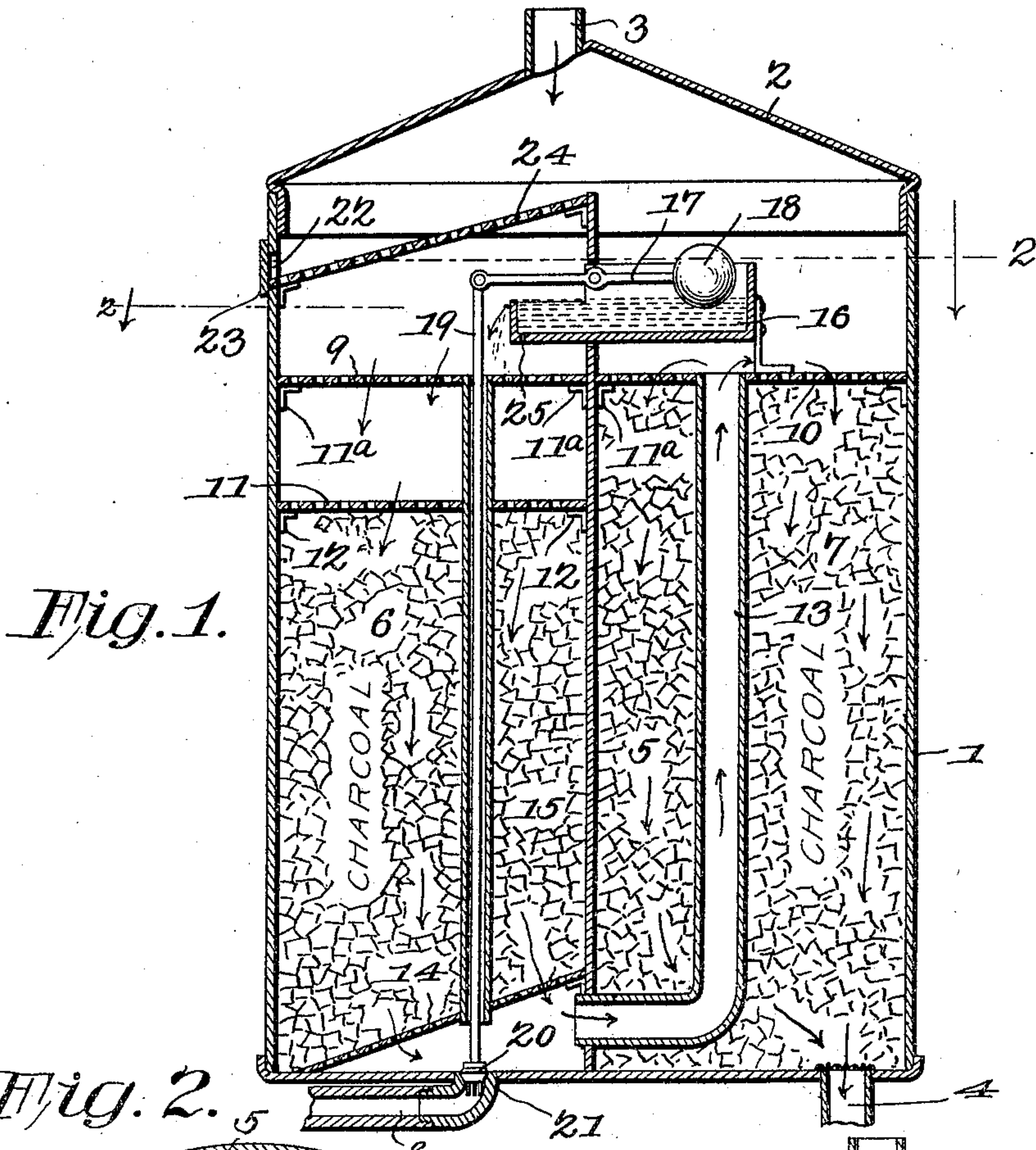
No. 789,942.

PATENTED MAY 16, 1905.

J. E. SKELTON.

FILTER.

APPLICATION FILED FEB. 18, 1905.



Witnesses

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FILTER.

SPECIFICATION forming part of Letters Patent No. 789,942, dated May 16, 1905.

Application filed February 18, 1905. Serial No. 246,265.

To all whom it may concern:

Be it known that I, JOHN E. SKELTON, a citizen of the United States, residing at Shelbyville, in the county of Shelby and State of Kentucky, have invented a new and useful Filter, of which the following is a specification.

This invention relates to filters, and it has special reference to that class of filters which are connected with rain-water conduits for the purpose of filtering the rain-water prior to its passage to the cistern.

The invention has for its object to simplify and improve the construction and operation of this class of devices; and with these and other ends in view, which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claim.

In the accompanying drawings has been illustrated a simple and preferred form of embodiment of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that the right is reserved to any changes, alterations, and modifications to which recourse may be had within the scope of the invention and without departing from the spirit or sacrificing the efficiency of the same.

In said drawings, Figure 1 is a vertical sectional view showing a filter constructed in accordance with the principles of the invention. Fig. 2 is a horizontal sectional view taken on the line 2 2 in Fig. 1. Fig. 3 is a sectional detail view illustrating a modification.

Corresponding parts in the several figures are indicated throughout by similar characters of reference.

The improved filter has been shown as comprising a casing 1 of cylindrical shape and provided with a detachable cover 2. Said cover has an inlet 3, adapted to be connected with a water spout or conduit, and the bottom of the casing has an outlet 4, adapted to be connected with the outlet leading to the cistern.

The body of the casing has a transverse par-

tion 5, whereby it is divided into two separate chambers or compartments 6 and 7. The compartment 6 is provided at the bottom thereof with a waste-pipe 8. The outlet 4 is connected with the bottom of the compartment 7.

The casing is provided near its upper end with a diaphragm composed of two separate members 9 and 10, which are fitted, respectively, to the compartments 6 and 7 and which are removably supported upon brackets 11^a near the upper ends of the walls of said compartments. The compartment 6 contains an additional diaphragm 11, detachably supported upon brackets 12. The diaphragms 9, 10, and 11 are constructed of reticulated or foraminous material, such as perforated sheet metal, wire-gauze, and the like. The diaphragm member 10 at the upper end of the compartment 7 is connected by a bent or L-shaped pipe 13 with the lower end of the compartment 6 beneath a perforated partition 14, which is supported near the lower end of said compartment.

A pipe 15 extends through the perforated partition 14 and the diaphragms 11 and 9, and said pipe may, if desired, be rigidly connected with the partition 14, so that the latter may be lifted out thereby.

The partition 5 is provided above the diaphragm composed of the members 9 10 with a transverse opening, in which is detachably seated a box or tank 16, one end of which is cut away to form an overflow within the compartment 6. Pivotaly supported in said tank is a lever 17, provided at the end which extends within the compartment 7 with a float 18 and connected at its other end, which extends within the compartment 6, with a stem 19, carrying a valve 20, having a seat 21 at the inner end of the waste-pipe 8.

The side of the casing 1 is provided near its upper end with an opening 22, for which a closure 23 is provided. A strainer 24 extends from the lower edge of the opening 22 to the upper edge of the partition 5, and said strainer, as will be observed, is disposed beneath the inlet 3, which latter is located at one side of the axis of the casing. The compartment 6 between the partitions 14 and 11 is

packed with charcoal or other suitable filtering material. The compartment 7 between the bottom of the casing and the perforated diaphragm member 10 is likewise packed with
 5 filtering material of any suitable description. The pipe 13, extending through the compartment 7, may be removable, if desired. The tank 16 is provided at or near the overflow end of said tank and within the compartment
 10 6 with a drain-opening 25.

From the foregoing description, taken in connection with the drawings hereto annexed, the operation and advantages of this invention will be readily understood.

15 The water entering at the inlet 3 will pass through the strainer 24, where leaves and other trash will be separated, to be subsequently removed through the opening 22. A portion of the water percolating through the strainer
 20 24 will pass into the tank 16, thus raising the float 18, depressing the valve-stem 19, and seating the valve 20, thus closing the waste-outlet 8. As the water rises to the level of the cut-away end of the tank 16 it overflows
 25 and together with a portion of the water passing through the strainer 24 percolates through the diaphragm member 9, the partition 11, and the bottom member 14, as well as through the filtering material contained between said bot-
 30 tom member and the partition 11. Finding no outlet through the waste-pipe 8; on account of the valve 20 being closed, the water will rise through the pipe 13, overflow at the upper end of the latter, and pass through the
 35 diaphragm member 10 and percolate through the filtering material contained between said member and the bottom of the compartment 7, finally escaping through the exit 4. When the supply of water through the inlet 3
 40 ceases, the contents of the tank 16 will escape through the drain-opening 25, causing the float 18 to descend, thereby unseating the valve 20 and permitting the water contained in the compartments 6 and 7 and in the pipe 13 to
 45 escape through the waste-pipe 8, thus pre-

venting water from becoming stagnant in the filter-casing in hot weather and preventing it from freezing during the cold season.

In Fig. 3 of the drawings has been illustrated a slight modification under which the strainer 50 24 is dispensed with, the inlet-pipe (here designated 26) being widened to form a funnel 27, in the wide part of which a strainer 28 is disposed. The water-conduit 29 has been shown as provided with a widened or invert- 55 ed-funnel shaped portion 30, suitably connected with the funnel 27. This and other modifications of a like nature may be resorted to within the scope of the invention.

Having thus described the invention, what 60 is claimed is—

A filter-casing having a transverse partition, filtering-compartments at each side of said partition, means for conveying water from be- 65 neath the filtering device in one compartment through the filtering material in the other or refiltering-compartment to an outlet at the bottom of said refiltering-compartment, a waste-pipe at the bottom of the space beneath the primary filter, a pipe extending through 70 the primary filtering device, a tank supported detachably in the partition above the filtering devices in the two compartments, said tank having a cut-away portion above the pri- 75 mary filter and a small drain-opening, an inlet above said tank, a lever fulcrumed in the latter and having a float at the end extending above the refiltering-compartment, a valve-stem connected with the opposite end of said lever and extending through the guide-tube 80 in the primary filter, and a valve at the lower end of said stem seated in the inner end of the waste-pipe.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in 85 the presence of two witnesses.

JOHN E. SKELTON.

Witnesses:

BUCK FUMKES,
 NICK LOGAN.