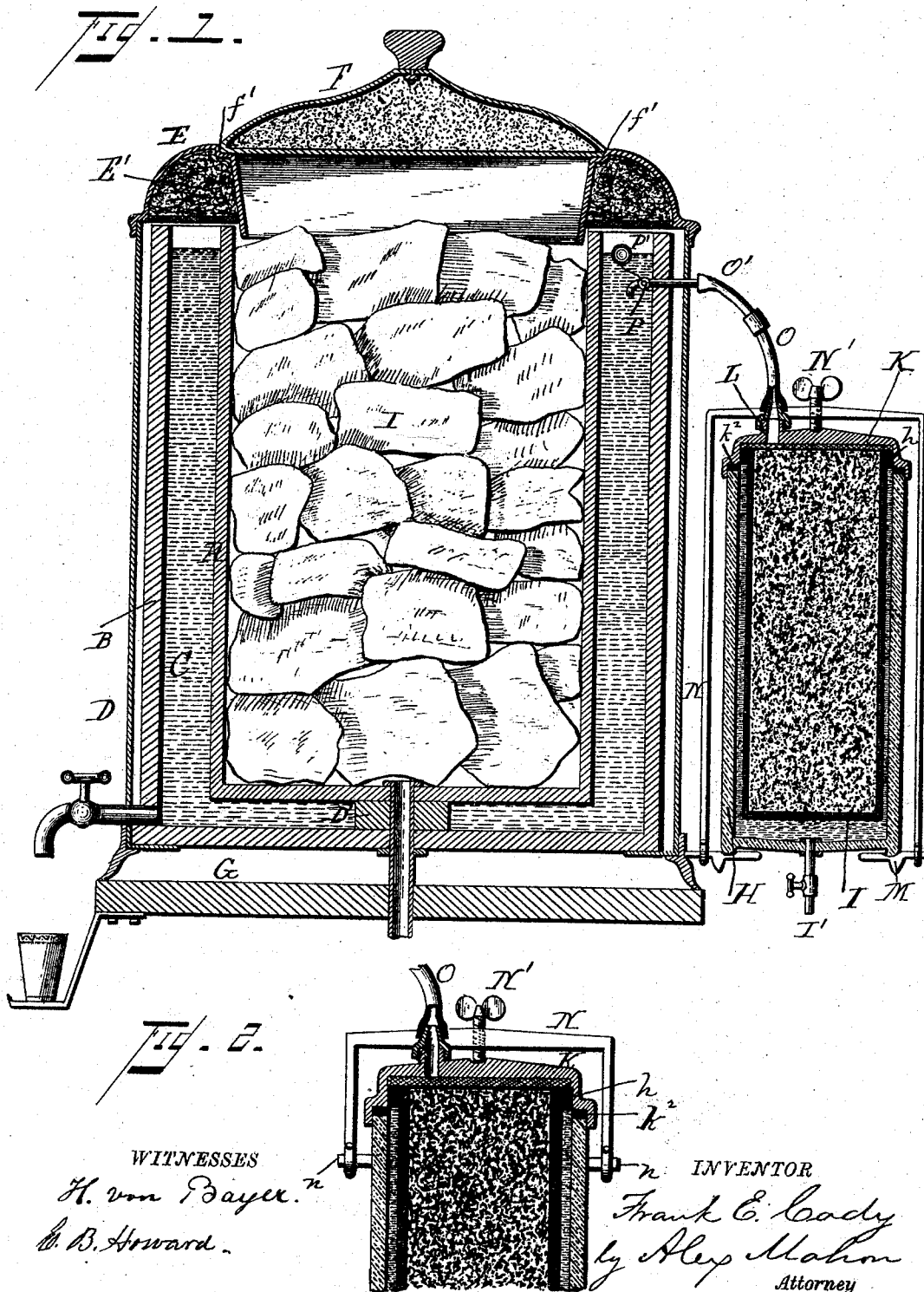


(No Model.)

F. E. CADY.
FILTER AND COOLER.

No. 500,737.

Patented July 4, 1893.



UNITED STATES PATENT OFFICE.

FRANK E. CADY, OF AUBURN, NEW YORK.

FILTER AND COOLER.

SPECIFICATION forming part of Letters Patent No. 500,737, dated July 4, 1893.

Application filed December 20, 1890. Serial No. 375,285. (No model.)

To all whom it may concern:

Be it known that I, FRANK E. CADY, of Auburn, county of Cayuga, State of New York, have invented new and useful Improvements in Filters and Coolers, of which the following is a full and exact description, reference being had to the accompanying drawings, making part of this specification.

My invention relates to that class of filters employing a porous filtering cup and my invention consists in the combination of a porous filtering cup suspended from a cap and rigidly secured thereto, an external case around the cup having lugs thereon with a clamp to engage the lugs, and a clamp screw to engage the cover, and to certain novel features in the construction and arrangement of parts all as hereinafter described.

In the accompanying drawings:—Figure 1, is a transverse vertical section of an ice cooler, showing my improved filter arranged in a receptacle or case adjacent thereto. Fig. 2, is a transverse section of the upper portion of the filter showing a modification in the manner of connecting the clamp to the filter case.

The cooler may be of any usual or preferred construction, but preferably consists of an inner jar, A, forming the ice receptacle, an outer jar, B, of such size as to leave a space between it and the inner jar to form the water receptacle, C, and which jars are surrounded by a suitable casing, D, adapted to be ornamented in any preferred way. A space is left between the outer jar, B, and the casing, which space is filled with asbestos or suitable non-conducting material. The base of the inner jar rests or is supported upon a support, D', which is shown in this case as consisting of a washer surrounding the waste pipe leading from the ice-receptacle.

E, represents a hollow cover to extend from the outer casing, D, over the water space, and which cover is filled in with a suitable non-conducting material, as shown at, E', and which is held in place by plaster of paris or other suitable material.

F, is a hollow cover for the ice receptacle having its upper portion also filled with suitable non-conducting material and fitting in an annular groove or depression, f', formed in the hollow cover, E.

G, represents a suitable base on which the cooler rests.

The filter consists of an outer jar or cup, H, preferably composed of glass, in which is placed a cup, I, of porous material and of such diameter as to leave a space between the wall thereof, and the cup, H, into which the water is admitted through a suitable pipe, I', connecting with said case and communicating with the water main or supply.

K, is a cover having annular groove on its inner face of a diameter to embrace the outer case or cup of the filter, and between the engaging face of said parts is arranged a gasket, L, to form a tight joint between them.

The cup, I, is secured to the cover or suspended therefrom, being secured in proper relation thereto by means of a suitable cement, as shown at, h, and the porous cup is filled with charcoal or other suitable filtering material when it is deemed expedient or essential in order to remove any offensive odor, taste or discoloration that may still remain in water after it passes through the porous cup. A bushing, L, is placed in the cover having a fine wire strainer or bottom to prevent the filtering material from washing through. This is adapted to be removed when desired, and to be of sufficient size where it enters the cover so that upon removing it the hole in the cover is large enough to render it convenient to place filtering material in the cup through the hole in said cover. This enables charcoal or other filtering material to be used in connection with the porous cup, where very foul or poisonous water is sought to be purified.

M, is a base or support for the filter, and which may be connected to the cooler base or secured thereto in any preferred way.

N, is a clamp connected to the base and extending over or across the top of the cover and provided centrally with a suitable clamping screw, N', by which to clamp the cover on the jar. The clamp as above stated is secured to the base upon which the jar rests, allowing a bearing against the bottom of the jar at the edge so that any desired pressure may be obtained without danger of breaking the jar. This manner of connecting the clamp when glass is used for the outer casing is adopted, but where iron is used the manner of connect-

ing the clamp is different, as shown in Fig. 2, in which case lugs, *n*, extend out from the case and the clamp is provided with eyes in its ends to engage with said lugs, whereby the clamp can be swung over out of the way when the set screw is loosened when it is desired to remove the filter for cleaning, or for any purpose.

Connected to the bushing is a pipe, *O*; and, *O'*, is a pipe communicating with the water space of the cooler, the two pipes being connected by a suitable union for allowing the filter to be disconnected from the cooler for any purpose.

P, is a valve located in the pipe, *O'*, within the water space, controlled by a float, *P'*, acting automatically to close the valve as the water is at the desired height and to open the valve as the water is drawn off. This is very desirable as stone ware, while the most desirable for holding drinking water will not stand the pressure of ordinary city water works, but by means of the automatic valve I am enabled to use the best material for the cooler while avoiding the liability of breakage.

The filter instead of being connected with a cooler may be connected with a tank as shall be found most desirable.

The operation of the device is as follows: The water enters through the supply pipe and fills the space between the porous cup and shell, and percolates through the cup causing the heavy impurities or deleterious matter to be removed from said water, and then to pass through the filtering material in the cup, from whence it passes out through the pipe to the cooler. By this construction of filter

it will be seen that the same can be easily cleansed, as by simply loosening the set screw the clamp may be removed or swung around, and the cap which is made of iron or suitable metal is removed, allowing the filter tube to be drawn out of the case.

Any number of filters may be joined in a cluster, each communicating through a pipe from one leader, or in any other preferred way.

Having now described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a filter, a porous filtering cup suspended from a cap and rigidly secured thereto, an external case around the cup having lugs thereon, in combination with a clamp to engage the lugs, and a clamp-screw to engage the cover, substantially as described.

2. In a filter, a porous filtering cup suspended from a cap and rigidly secured thereto, an external case surrounding the same forming a chamber between the cup and case, an annular groove in the cap to receive a packing, and a clamp for securing the cap to the case by pressure on the cap to form a water-tight joint, a delivery pipe leading to the filter case, and a union in the pipe leading from the interior of the filter cup, substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand this 18th day of December, A. D. 1890.

FRANK E. CADY.

Witnesses:

RICHARD A. WALLACE,
D. N. MCNAUGHTAN.