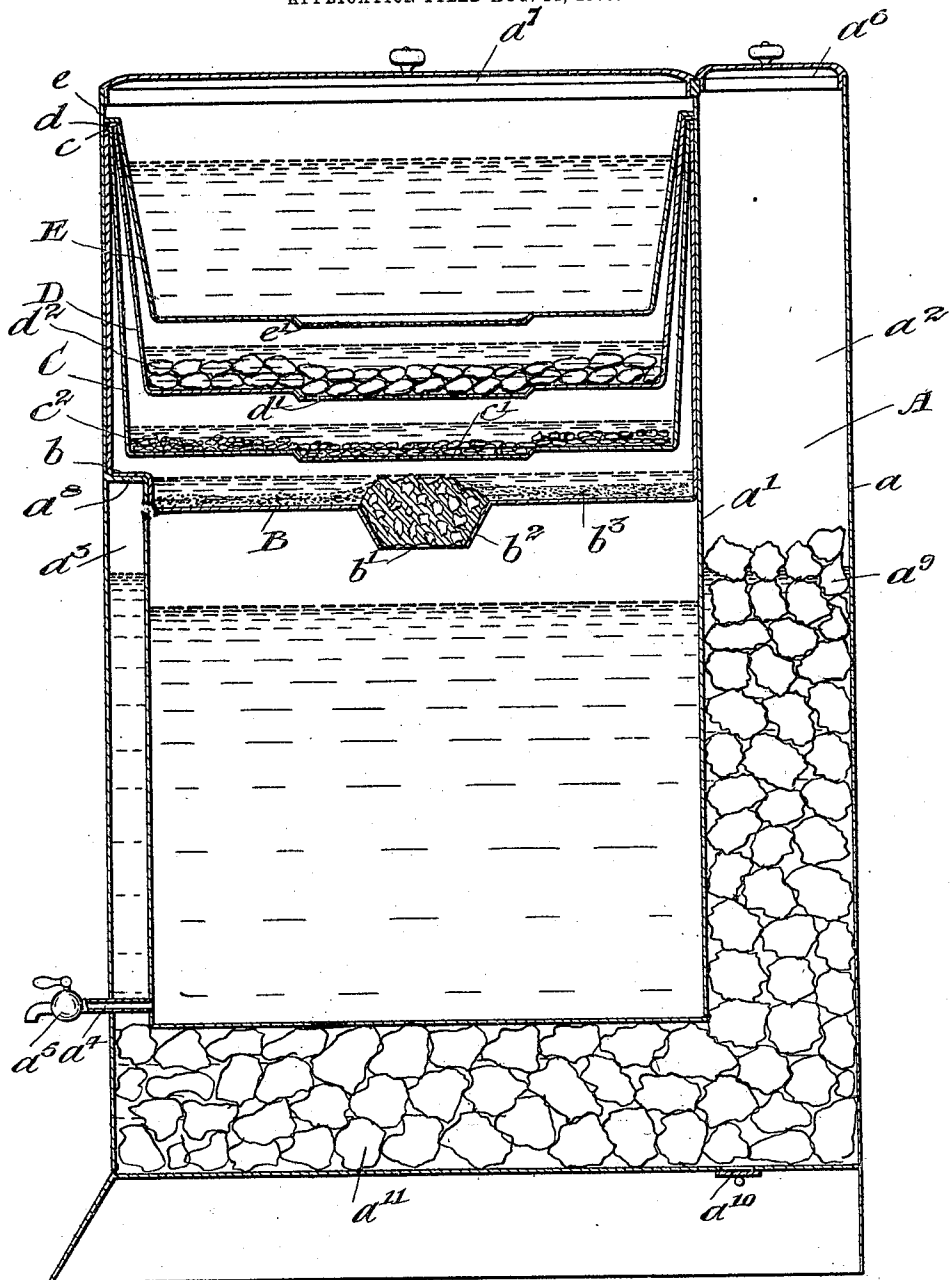


No. 819,958.

PATENTED MAY 8, 1906.

H. TYRELL.
FILTER.

APPLICATION FILED AUG. 14, 1905.



WITNESSES.

Russell B. Smart
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UNITED STATES PATENT OFFICE.

HENRY TYRELL, OF OTTAWA, CANADA.

FILTER.

No. 819,958.

Specification of Letters Patent.

Patented May 8, 1906.

Application filed August 14, 1905. Serial No. 274,141.

To all whom it may concern:

Be it known that I, HENRY TYRELL, musician, of the city of Ottawa, in the county of Carleton, Province of Ontario, Dominion of Canada, have invented certain new and useful Improvements in Filters; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to improvements in filters for water and like liquids; and the objects of my invention are to provide a filter of cheap and simple construction which at the same time as filtering the water will cool it without the filtered water coming in contact with the cooling-ice, further objects being to insure that the liquid going through the filter is perfectly filtered; and it consists, essentially, of an outer and inner vessel having an ice-containing chamber provided between them, a plurality of telescopic filtering-trays secured in the top of the inner vessel, and a faucet suitably connected to the inner vessel, the various parts of the device being constructed and arranged in detail as hereinafter more particularly described.

The drawing shows a sectional view through the filter.

In the construction of water-filters it has been common to place the cooling-ice directly in contact with the water to be filtered, and it is obvious that this introduces a number of impurities to the water which afterward must be removed. In my invention the ice is so applied that while cooling the water with equal ease it does not come in contact therewith at all.

Referring to the drawing, A is a filtering vessel comprising an outer vessel a and an inner vessel a' , set therein in such a manner that intercommunicating ice-containing chambers a^2 a^3 a^{11} are provided between the two vessels. It will of course be understood that the ice-containing chambers extend all around the inner vessel, so that the water contained therein will be perfectly cool. These vessels may be of any desired shape in cross-section. A discharge-pipe a^4 , provided with a faucet a^5 , is connected to the inner vessel, extending to the outside of the filter. Chamber-covers a^6 a^7 are provided for the outer and inner vessels, respectively. The chamber a^3 , provided at the front of the filter, extends only part way up the side of the outside vessel a , and the top a^8 thereof forms a shoulder, the purpose of which will herein-

after appear. The ice a^9 or other cooling medium is placed between the two vessels in the chambers a^2 and a^{11} , and the ice-water will extend up and nearly fill the chamber a^3 . An opening a^{10} , having a suitable cover, is provided at the bottom of the ice-containing chamber to permit of the withdrawal of the ice-water when necessary.

A filtering-tray B is placed in the top of the vessel a' , a shoulder b on the front thereof abutting the top a^8 of the chamber a^3 , so holding the tray in position. A central opening b' is provided in the tray, in which a filtering-sponge b^2 is secured. Charcoal b^3 or other suitable filtering or purifying agent is placed in the bottom of the tray. A second tray C, of slightly smaller size than the tray B, is provided at the top with an outwardly-extending flange c , which abuts the top of the tray B and supports the tray C in position with the bottom thereof a short distance above the bottom of the tray B. Perforations c' are provided near the center thereof, and a number of fine pebbles c^2 are placed in the bottom thereof. On top of the tray C a third tray D rests, having at the top a flange d , which rests on top of the tray C, and so supports the tray D in position. A plurality of perforations d' are provided in the bottom of the tray, and pebbles d^2 of a larger size than those contained in the tray C are placed in the bottom thereof. A fourth tray E is placed on top of the tray D, having a flange e resting on the top thereof. Perforations e' are provided in the bottom thereof, and the unfiltered liquid is poured into this tray.

In order to use my filter, the unfiltered water is poured into the top tray E, from whence it gradually trickles through the four trays into the lower compartment a' , being thoroughly filtered on its way by the passage through the fine stones, charcoal, and sponge. The ice nearly surrounding the bottom of this chamber quite effectually cools the water contained therein, and it will be seen that no contamination will be given to the water by the ice coming in contact therewith.

It will be understood that in carrying out the construction of my device certain changes may be made in the details thereof without materially departing from the spirit of my invention.

What I claim as my invention is—

In a filter the combination with the outer

and inner vessels of an ice-containing chamber extending between the two vessels at the back and bottom and partially up the front, the top thereof forming a shoulder and a perforated tray supported on the aforesaid shoulder and containing suitable filtering material, a perforated tray for unfiltered water resting on top of the aforesaid tray and a

faucet connected to the bottom of the inner vessel as and for the purpose specified. 10

Signed at the city of Ottawa, in the Province of Ontario, this 11th day of August, 1905.

HENRY TYRELL.

Witnesses:

RUSSEL S. SMART,

HOWARD J. GLEN.