

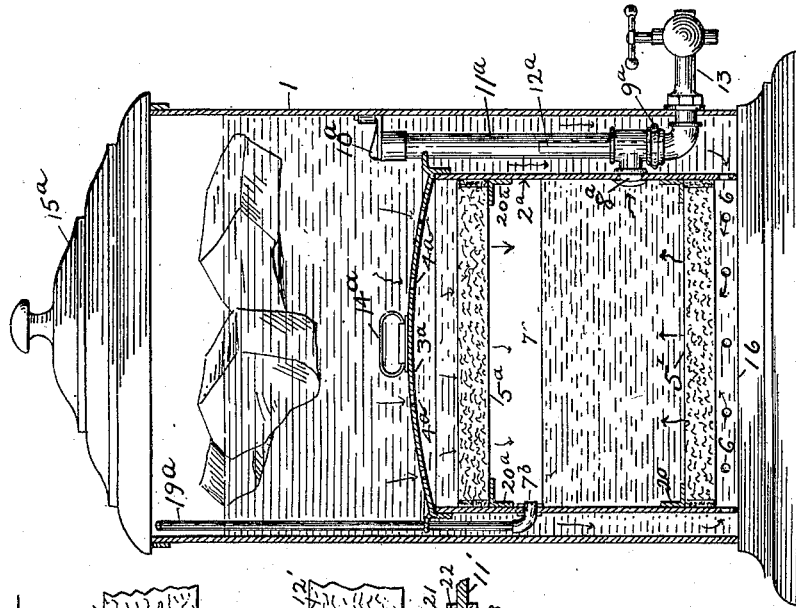
No. 676,755.

Patented June 18, 1901.

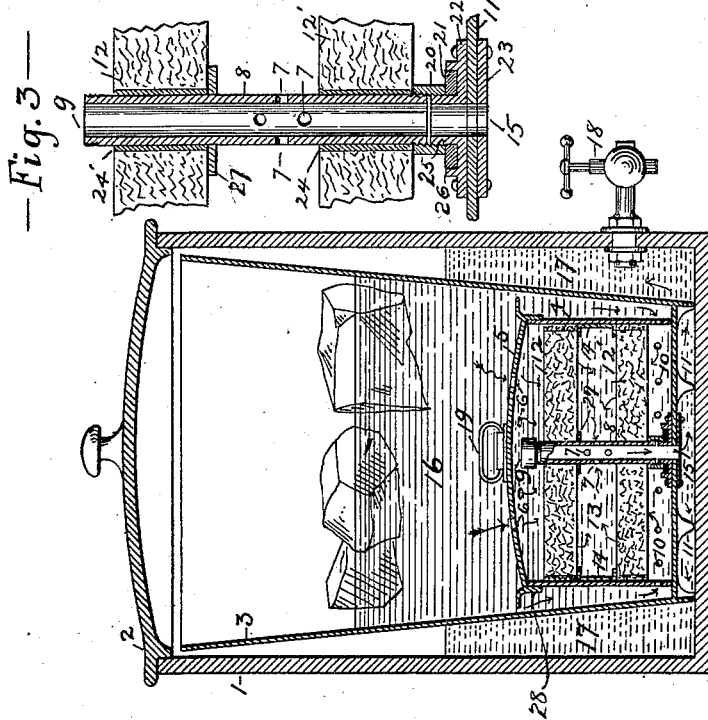
J. P. MELCHER.
WATER COOLER AND FILTER.

(Application filed Aug. 25, 1900.)

(No Model.)

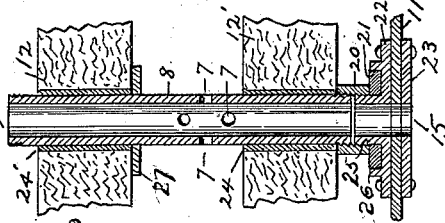


— Fig. 2 —

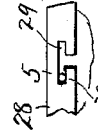


— Fig. 1 —

— Fig. 3 —



— Fig. 4 —



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UNITED STATES PATENT OFFICE.

JOSEPH P. MELCHER, OF BURLINGTON, IOWA.

WATER COOLER AND FILTER.

SPECIFICATION forming part of Letters Patent No. 676,755, dated June 18, 1901.

Application filed August 25, 1900. Serial No. 28,013. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH P. MELCHER, a resident of Burlington, in the county of Des Moines and State of Iowa, have invented certain new and useful Improvements in a Combined Water Cooler and Filter; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in water-filters and combined water coolers and filters, one object of the invention being to provide a device of the above-mentioned character which will insure the perfect filtration of water and after it has been cooled by the ice to maintain the filtered water cool without bringing it in direct contact with the ice and to increase the capacity of water-filters and water filters and coolers combined to any desired capacity.

A further object is to provide filtering mechanism which can be readily removed from a cooler when desired to clean the filter. With these objects in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in section illustrating my improvements. Fig. 2 is a similar view of a modified form of my invention, and Figs. 3 and 4 are detail views of the construction shown in Fig. 1.

1 represents a container or receptacle or ordinary water-cooler of any approved material, preferably cylindrical in form and provided with a cover at the top and a spigot 18 in its wall, near the bottom. An inner receptacle 3, of porcelain-lined steel or other suitable material, is mounted in the receptacle 1 and is made widest at its top, where it is almost the diameter of the receptacle 1, and gradually tapers or inclines to its lower end, where it is provided with the bottom 11', supported on lugs or legs 11, resting on the bottom of receptacle 1.

The bottom 11' is provided centrally with a hole 15, and disks 22 and 23, having holes therein alining with hole 15, are secured to the upper and lower faces, respectively, of

bottom 11' by rivets, and the upper disk 22 is made centrally with an externally-screw-threaded collar 25 and a flange 26, surrounding the collar and inclosing a rubber ring or washer 21, and a metal internally-screw-threaded ring 20 is screwed onto collar 25 and jammed tight against washer 21 to make the joint water-tight. A vertical pipe 8, externally screw-threaded at its lower end, is screwed onto the ring 20 and is provided on its upper end with a cap or closure 9. A cylindrical filter-receptacle 4 is supported on the bottom 11' of receptacle 3 and surrounds pipe 8, and filtering-stones 12 and 12' which are mounted in the receptacle 4, provided centrally with holes to receive pipe 8 and spaced apart by ring or blocks 14 to form a chamber 13 between them. The pipe 8 is provided between its ends with a peripheral shoulder 27 to assist in supporting stone 12. Both stones 12 and 12' are preferably cemented to pipe 8 and the receptacle 4, or they may be made with metal sleeves 24 and 24', as shown in Fig. 3, to tightly engage pipe 8, or they may be secured in place by other means, so as to insure the passage of the water only through the filtering-stones.

The receptacle 4 is provided with a convex cover 5 to support the weight of the ice thereon, and said cover is made with a downwardly-projecting peripheral flange 28 to inclose the upper end of receptacle 4 and is also provided with a suitable handle 19. The flange 28 is made at diametrically-opposite points with T-shaped slots 29 for the reception of lugs 30 on the receptacle 4, and when the cover is turned slightly the lugs will lock the cover to the filter-receptacle 4, as seen in Fig. 4, and when the handle 19 is turned the pipe 8 can be screwed into position in ring 20 or removed therefrom to permit the cleaning of the filtering-stones.

In operation water and ice are placed in the receptacle 3, and water will pass down through perforations in cover 5 and through filtering-stone 12 into chamber 13 and will also pass through perforations 10 to the lower end of receptacle 4 beneath stone 12' and from thence up through stone 12' and into chamber 13, and the filtered water in chamber 13 will pass through perforations 7 into pipe 8 between the stones 12 and 12' and

down through said pipe into receptacle 1, as shown at 17, Fig. 1, which filtered water will be maintained cool by its contact with the outside of receptacle 3 until drawn from the spigot 18.

To increase the capacity of filtering device so constructed, it is only necessary to remove cap 9 on top pipe 8 and add any number of filtering-chambers desired, the space between the filtering disks or stones being left only large enough for circulation of water, thus making a compact filtering device where large capacity is required. The entire vessel-holding device can be made of any size wanted to fit the outside vessel holding filtered water.

Instead of constructing my improvements as above described I might make them as shown in Fig. 2. In this form of invention I employ an ordinary water-cooler having top 15^a and a spigot 13^a, which latter has an upwardly-projecting extension 12^a thereon at its inner end to receive a vertical pipe 11^a, having communication with a filtering-receptacle 2^a by means of a coupling 8^a, and a swinging arm 10^a is pivoted to the inner face of cooler 1 and adapted to hold pipe 11^a on extension 12^a and onto a water-tight packing 9^a, as shown, but permit the ready removal of said pipe 11^a and filtering-receptacle when desired. The receptacle 2^a is provided near its upper and lower ends, above and below couplings 8^a, with brackets 20^a, to which are secured filtering-stones 5 and 5', forming between them a chamber 7^a for filtered water, with which pipe 11^a communicates, the extensions 12^a in said pipe being provided with perforations to receive the water therefrom and permit its escape through spigot 13^a. A suitable covering 3^a, having handle 14^a thereon, is mounted on receptacle 2^a and is perforated, as shown at 4^a. The lower end of receptacle 2^a below the lower stone 5' is also perforated, as shown at 6^a, and a pipe 19^a communicates with the interior of receptacle 2^a between stones 5 and 5', as shown at 7^b, and projects up nearly to the top of receptacle 1 to permit the escape of air to make room for filtered water and to admit air for the free flow of water through the spigot. The operation of this form of my invention is as follows: Water and ice are placed in receptacle 1, and the water will pass down through perforations 4^a in cover 3^a and through the upper stone 5^a and be filtered thereby and fall into chamber 7^a. Water will also pass through perforations 6^a below the lower stone 5^a and thence up through stone 5' into chamber 7^a, from which the filtered water can be readily drawn through spigot 13^a, heretofore described.

I use Tripoli stone; but I would have it understood that the filtering-stones may be made of composition of matter, manufactured, or natural stone and that the shapes of the various receptacles may be changed without departing from my invention, and various other slight changes and alterations might be

resorted to in the general form and arrangements of the several parts described without departing from my invention, and hence I do not wish to be limited to the precise details set forth, but consider myself at liberty to make such slight changes and alterations as fall fairly within the spirit and scope of my invention.

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

1. In a combined water cooler and filter, the combination with a receptacle for unfiltered water and a spigot, of a filter-receptacle located within the first-mentioned receptacle and communicating at both ends therewith, filtering-stones disposed within the filter-receptacle and spaced apart to form an intermediate chamber, and means for conducting filtered water from said intermediate chamber to the spigot.

2. In a combined water filter and cooler, the combination with a receptacle for water and ice, of a filter located within and spaced from the walls of said receptacle so as to be fully immersed in the water in the latter, said filter communicating at both ends with the receptacle, filtering-stones in said filter spaced apart forming a chamber between for filtered water and means for drawing off the filtered water from between the stones.

3. In a combined water cooler and filter, the combination with a receptacle for water and ice, of a filter-receptacle located in said first-mentioned receptacle so as to be immersed in the water therein and having perforations in its lower end to receive water from the first-mentioned receptacle, a perforated cover for the filter-receptacle and filtering-stones in the latter, spaced apart to form a chamber for filtered water.

4. In a combined water cooler and filter the combination with a receptacle for unfiltered water and a receptacle for filtered water inclosing the same, of a filter-receptacle in said first-mentioned receptacle communicating at both ends with said receptacle, filtering-stones in said filter-receptacle spaced apart to form a chamber between them for filtered water and a pipe connecting said chamber between the filtering-stones with the receptacle for filtered water.

5. In a filter, the combination of the cylindrical receptacle having perforations near its bottom, a perforated cover for said receptacle, filtering-stones in said receptacle spaced apart to form a chamber between them for filtered water and a pipe passing through said stones closed at one end and having perforations therein communicating with said chamber between the stones.

6. In a combined water cooler and filter, the combination with a receptacle for filtered water and a receptacle for unfiltered water disposed therein of a removable filter mounted in the said last-mentioned receptacle and communicating with the same at both ends, filter-

ing-stones in said filter spaced apart to form a chamber between them and a pipe connecting the receptacle for filtered water with the chamber between the stones.

5 7. In a filtering device, the combination of a filter-receptacle having an inclosed chamber therein for filtered water, a filtering-stone in said receptacle adapted to supply filtered water to said chamber, a receptacle for unfiltered water, in which said filter-receptacle is
10 located, and a pipe for withdrawing filtered water from said inclosed chamber.

8. In a filtering device, the combination with a receptacle for unfiltered water and a

filter-receptacle located therein, of a series of 15 filtering-stones located within said filter-receptacle and adapted to filter water flowing therethrough from said first-named receptacle, and a pipe for discharging water filtered by said stones. 20

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JOSEPH P. MELCHER.

Witnesses:

JNO. J. SEERLEY,
F. A. CRANE.