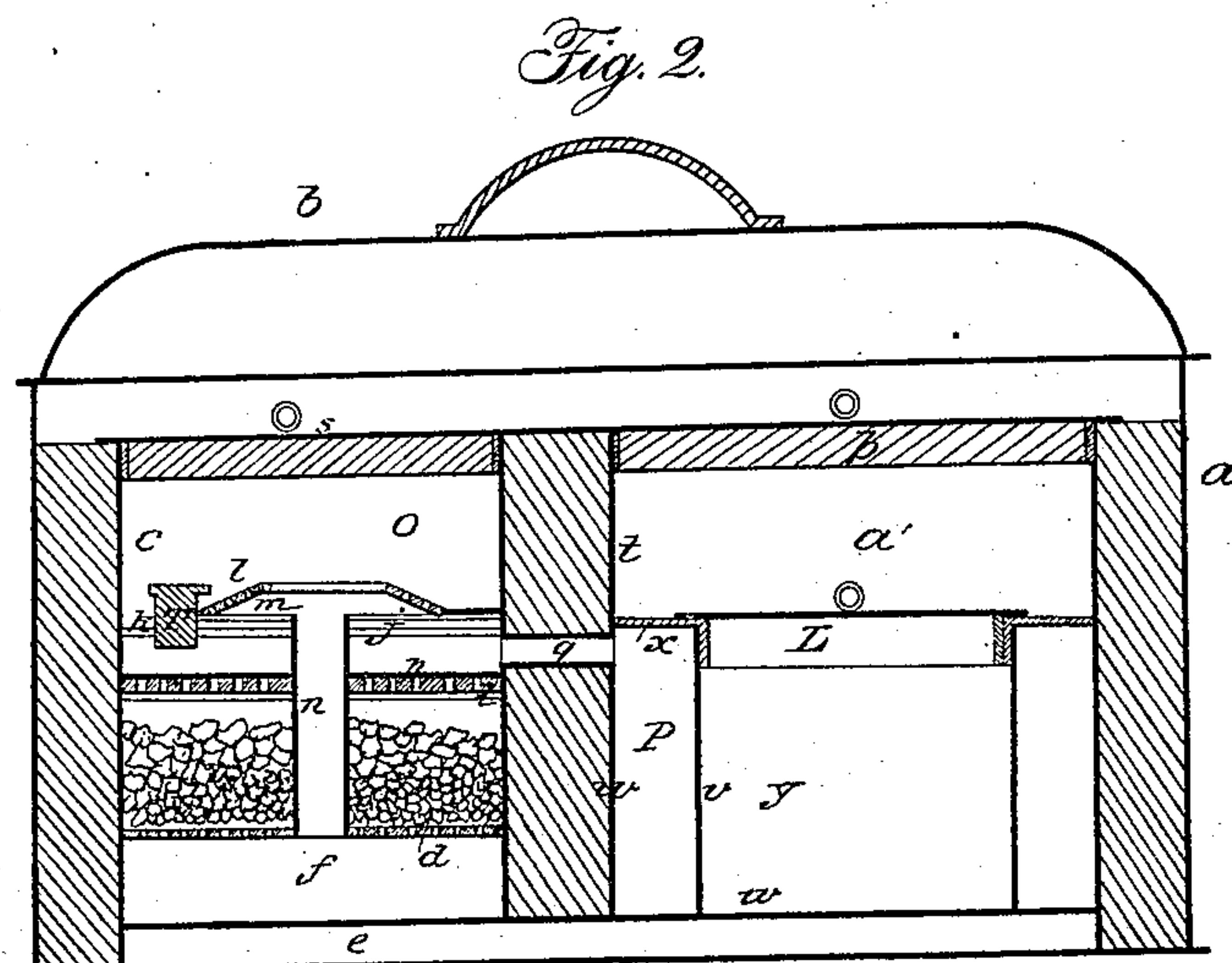
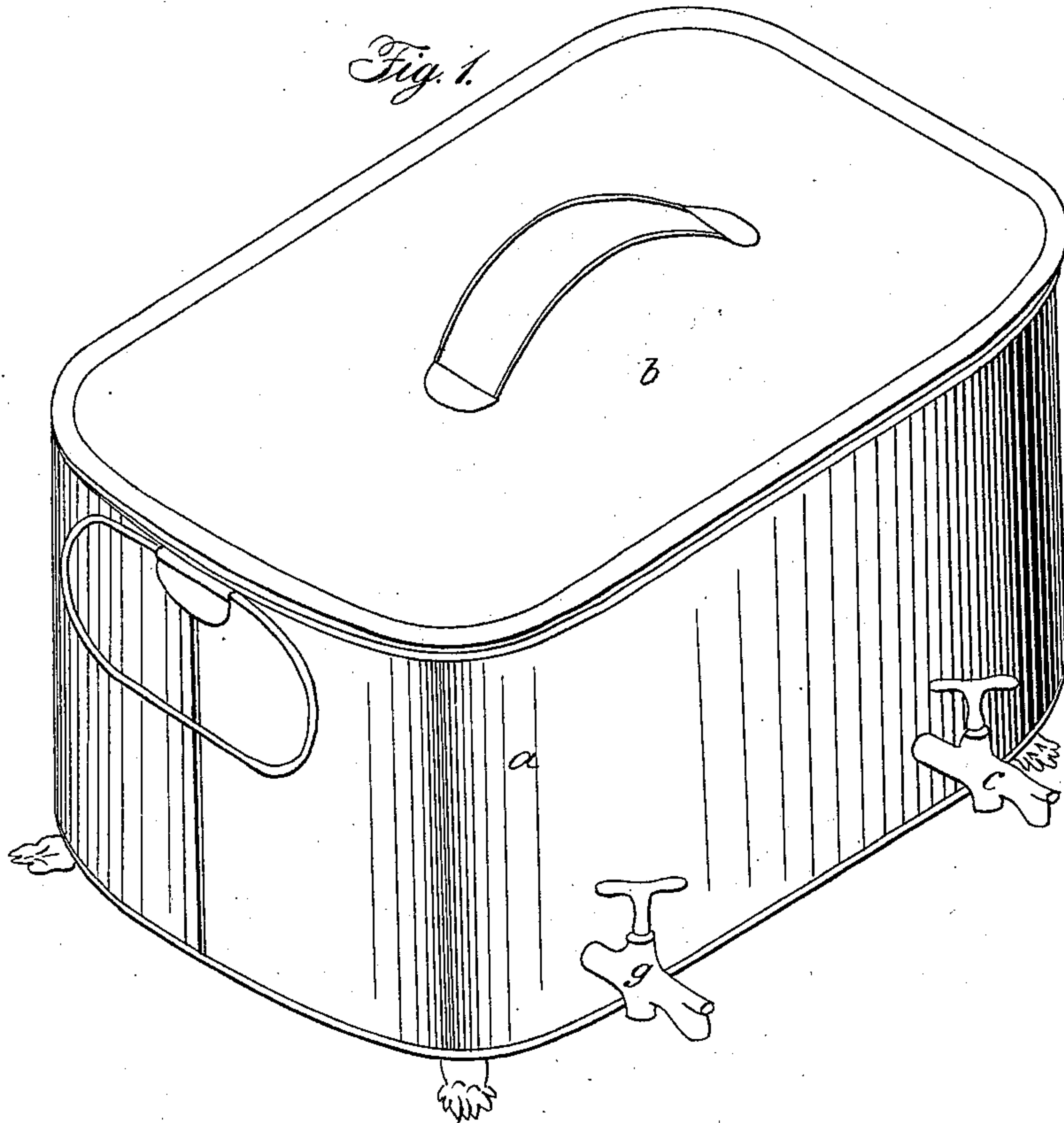


J. T. CRADDOCK.

Refrigerator.

No. 4,344.

Patented Dec. 31, 1845.



UNITED STATES PATENT OFFICE.

JOSEPH T. CRADDOCK, OF BALTIMORE, MARYLAND.

FILTER AND REFRIGERATOR.

Specification of Letters Patent No. 4,344, dated December 31, 1845.

To all whom it may concern:

Be it known that I, JOSEPH T. CRADDOCK, of the city of Baltimore, in the State of Maryland, have invented new and useful
5 Improvements in Filters and Refrigerators for Filtering and Cooling Water, and that the following is a full, clear, and exact description of the principle or character thereof which distinguishes it from all other
10 things before known and of the manner of making, constructing, and using the same, reference being had to the accompanying drawings, making part of this specification, in which—

15 Figure 1 is a perspective view, and Fig. 2 a vertical longitudinal section of the apparatus.

The same letters are used to indicate like parts in all the figures.

20 The nature of my invention consists in so combining a filter, for filtering the water, with a refrigerator that the water when drawn off from the refrigerator shall be supplied from the filter, and consume no
25 more ice than is requisite to cool the quantity of water required for use; and also, in arranging the filter to cause the water to be filtered upward under the pressure of a column of water placed above it in combination with an arrangement of a valve or plug
30 by means of which the current of water is reversed to cleanse the filtering materials.

In the accompanying drawings (*a*) is the outer case of the apparatus with a cover
35 (*b*). The filtering vessel (*c*) is made of earthen ware and set in the outer case (*a*), (and surrounded by saw dust, or any other non-conductor of caloric, and secured in place by cement,) the bottom (*d*) of which
40 is perforated and placed at such distance from the bottom (*e*) of the case (*a*) as to form a chamber (*f*), provided with a cock (*g*) for the discharge of cleansing water and sediment when cleansing out; and on
45 this perforated bottom a layer of gravel is packed and then a layer of charcoal, extending up to another perforated plate (*h*), which rests on a flanch (*i*), projecting inward from the vessel (*c*); and some distance
50 above this an imperforated plate (*j*) is placed on another flanch (*k*). The top of this plate (*j*) is provided with a curved perforated flanch (*l*) to receive and hold a sponge (*m*), to catch some of the dirt; and a
55 tube (*n*) extends down from the top of this to and through the bottom (*d*) to conduct

the water from the main reservoir (*o*) above the sponge (*m*) and plate (*j*), to the lower reservoir or chamber (*f*), whence the water is forced up by the pressure of the head
60 through the gravel and coal to the chamber between the perforated plate *h*, and the imperforated plate (*j*), whence it passes to the water chamber (*p*) of the refrigerator through a horizontal pipe (*q*), made of
65 earthen ware, wood, metal or any other substance. The upper or imperforated plate (*j*) is provided with a hole and plug (*r*), so that when this hole is opened and the vertical tube (*n*) closed up by means of the
70 same plug, the water passes down through the coal and gravel in the reversed direction and thus carries all the dirt that may have accumulated in filtering, to the lower reservoir or chamber (*f*), whence it is drawn off
75 by the cock (*g*). The filtering vessel is provided with a cover (*s*) made double and filled with any non-conducting material.

The cooler or refrigerator (*t*) is also made of earthen ware, surrounded with non-conducting material, in like manner as the
80 filter, and the water or cooling chamber (*p*) is formed by the outer case (*u*), and inner case (*v*), the latter extending from the bottom (*w*) to an annular cap (*x*), within one-third of the top, the space within the inner
85 case forming a chamber (*y*) for containing ice, and provided with a cover (*z*) also made double and filled in with some non-conducting material, and the space above this forms
90 a chamber (*a'*), (also provided with a double cover (*b'*)), for containing provisions &c. The water chamber *p* is provided with a cock (*c'*) for drawing off cooled water. All the parts of the water cooler are made
95 in one piece as also the filter except the two plates (*h*) and (*j*). By this arrangement, it will be perceived that when the water chamber *p* is full, no more water can be filtered, but the moment any of it is drawn off, the
100 water begins to filter and to pass into the chamber (*p*); in this way the ice is only used to cool the quantity of water contained in the cooling chamber instead of all the water contained in the filter, for the chamber (*p*) is below the upper reservoir of unfiltered water, and the filter and chamber
105 (*p*) are connected with each by a horizontal pipe with the filtering material interposed between it and the upper head of unfiltered
110 water, and hence the heat of the water in the filter cannot be conveyed to the cold filtered

water by circulation; but still the chamber containing the cooled water is always replenished the moment any is drawn out for use.

5 What I claim as my invention and desire to secure by Letters Patent is—

The filter, arranged substantially as described in combination with the cooling

chamber surrounding the ice chamber, located and arranged substantially in the 10 manner and for the purpose specified.

JOSEPH T. CRADDOCK.

Witnesses:

ROBERT W. DRYDEN,
ROBERT W. K. DIXON.