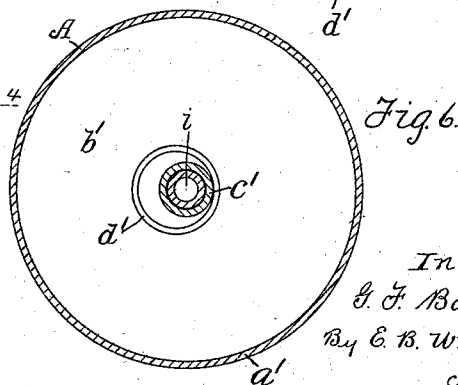
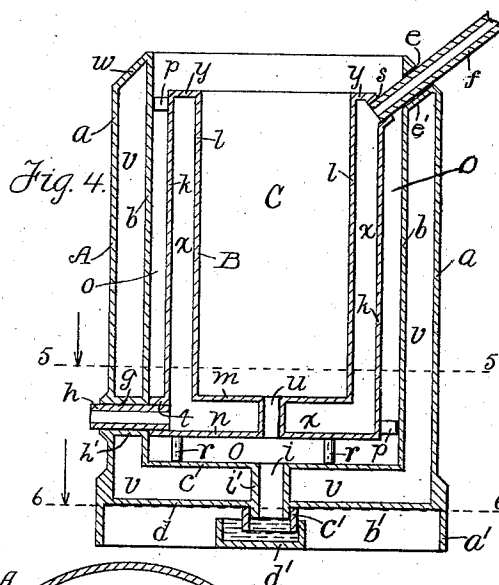
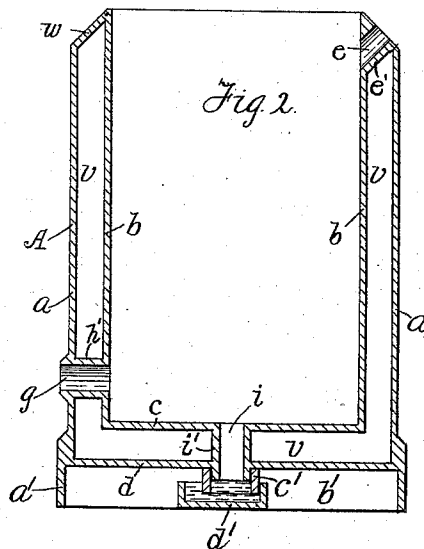


G. F. BARRON.
COOLER FOR WATER, &c.

Patented Mar. 12, 1895.



Inventor:
G. F. Barron,
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Atty.

UNITED STATES PATENT OFFICE.

GEORGE F. BARRON, OF PALMYRA, NEW YORK.

COOLER FOR WATER, &c.

SPECIFICATION forming part of Letters Patent No. 535,526, dated March 12, 1895.

Application filed July 10, 1894. Serial No. 517,128. (No model.)

To all whom it may concern:

Be it known that I, GEORGE F. BARRON, a citizen of the United States, residing at Palmyra, in the county of Wayne and State of New York, have invented a new and useful Cooler for Water and other Liquids, of which the following is a specification.

My invention relates to certain new and useful improvements in coolers for water and other liquids, and has for its object, to provide a cooler whereby water and other liquids may be easily and rapidly cooled without admixture or coming in contact with the ice or cooling medium; second, to provide a cooler readily attachable to the pipes of water works systems; third, to economize in the use of ice. I attain these objects by the mechanism illustrated by the accompanying drawings forming a part of this specification, in which similar letters of reference indicate the same or corresponding features.

Figure 1 is a side elevation of my improved cooler for liquids. Fig. 2 is an axial section of the outer part or case. Fig. 3 is a side elevation of the inner section. Fig. 4 is an axial section of the parts on the dotted line 4 4 in Fig. 5. Fig. 5 is a transverse section on the dotted line 5 5 in Fig. 4. Fig. 6 is a transverse section on the dotted line 6 6 in Fig. 4.

This device consists of an outer cylindrical case or body open at the top and formed with double walls and floors, and an inner cylindrical section also formed with double walls and floors, placed in the outer case through the open top there being provided suitable inlet and outlet passages, drip openings and other parts, all hereinafter fully described and particularly pointed out.

Referring to the drawings, A is the outer body or case of the device, having an outer vertical wall *a* and an inner vertical wall *b*, with upper and lower floors *c d*, as appears in Figs. 2 and 4. These walls and floors are imperforate save as to an opening *e* at the upper part to receive an inlet pipe *f*, an opening *g* to receive an outflow pipe *h*, and a central, vertical drip opening *i*. The inner section B is likewise cylindrical in form having outer and inner walls *k l*, and outer and inner or lower and upper floors, *m n*, Fig. 4. This section is shorter than the case A, and smaller in external diameter than the inter-

nal diameter of the case, leaving an annular space *o* between them when put together, as shown. External lugs or spacers *p* are provided for the section to center the latter within the case, and feet or spacers *r* are also secured to the section to hold it apart from the upper floor of the case.

The walls and floors of the section are imperforate save as to an opening *s* near the top to receive the inflow pipe *f*, an opening *t* near the bottom to receive the outflow pipe *h*, and a drip opening *u* over the drip opening *i* in the case A.

The annular space *v* between the walls and the floors of the case is completely surrounded and inclosed, it being closed at the top by the inclined ornamental part *w* of the outer wall *a*. Each of the openings *e* and *g* of the casing is provided with a short sleeve or thimble *e'* and *h'* respectively which is secured at its ends to the respective walls of the casing so as to be air tight. The use of the thimbles will prevent the filling between the walls from closing the passage when the pipes *f* and *h* are removed for the purpose of removing the inner casing. A thimble *u'* connects the bottoms of the inner casing and a short pipe *i'* passes through the openings in the bottoms of the outer casing. Likewise, the annular space *x* between the walls and the floors of the section B is completely inclosed save as to the outlet and the inlet openings above mentioned, this space being closed at the top by the annular horizontal wall *y*.

The water or other liquid to be cooled flows into the space *x* through the pipe *f*, and out through the pipe *h*, which latter is usually provided with an ordinary faucet *z*. The pipe *f* is connected with any convenient water pipe when the device is used for a water cooler, or with the supply pipe from other liquid when a liquid other than water is to be cooled. A cooling substance, as ice, is placed in the central space C of the inner section and, if need be, in the annular space *o* around and beneath the section so that both walls *k l* and floors *m n* of the space *x* will be subjected to its action, resulting in quickly cooling the liquid. Where used in the space *o* the ice is crushed or comminuted for the purpose. The drip from the melting ice in the space C passes downward through the opening *u* into the

space *o* and thence out at the bottom through the opening *i*, out through which latter opening also the drip from the melting ice in the space *o* passes.

5 The annular space *v* in the outer case may be left vacant, that is to say, filled with air, or it may be filled with some common and well-known non-heat-conducting substance.

10 The annular space *x* being completely inclosed by imperforate walls save as to the inlet and outlet openings above mentioned is rendered free from the accumulation of dust or other extraneous matter.

15 The opening at the top of the case A is closed by an ordinary cover D which fits tightly over the opening.

The body A is formed with a flange or foot *a'* extending downward and inclosing a circular space *b'* beneath the body, as shown. 20 The walls of the opening *i* extend below the lower floor *d* into the space *b'*, an extension pipe *c'* being secured thereto. Beneath the pipe *c'* is placed a drip pan *d'*, into the space within which and near the bottom the lower 25 end of the pipe projects. This pan is secured by some simple means to the pipe *c'* so that it remains with the body of the device as a part thereof. The drip water filling this pan and covering the lower end of the pipe *c'* constitutes a trap which prevents air from passing upward through the openings *i* and *u* to 30 the inclosed ice, the air being practically excluded at the top by the close-fitting cover D. The pan is eccentric with the pipe the overflow being at one side of the latter. 35

The parts are all preferably made of metal and the case A may be externally ornamented to suit taste.

40 The space *o* for receiving the comminuted ice may be made broad or narrow, as may be

found desirable, by varying the relative sizes of the case and the section.

It will be seen from this construction that the liquid to be cooled is completely separated 45 from the cooling substance; and that to readily separate the parts for cleaning it is only necessary to disconnect the inlet and outlet pipes *f* and *h*, when the inner section may be lifted out of the case A.

What I claim as my invention is— 50

A cooler for liquids comprising two double walled casings fitting one within the other, each of the walls of the outer casing being provided with an opening or perforation near 55 the top and the bottom thereof, and an opening in each bottom, and the outer wall of the inner section being provided at the top and the bottom with an opening or perforation to register with the openings in the outer casing, 60 and each of the bottoms of the inner casing being provided with an opening to register with the openings in the outer casing, a thimble in the openings of the bottoms of the inner casing and a short pipe through the 65 bottoms of the outer casing, a short thimble or sleeve for connecting the upper openings and lower openings respectively of the outer casing, an inlet and an outlet pipe through the thimbles of the walls of the outer casing 70 and into the openings of the outer wall of the inner casing, means for spacing the inner casing within the outer casing, a cover for the outer casing, and a trap under the outer end of the pipe through the bottom of the outer casing, substantially as set forth.

GEORGE F. BARRON.

Witnesses:

FREDERICK E. CONVERSE,
ADDISON L. ROOT.