J. B. WEIS.

Beer-Cooler.

No. 160,291 Patented March 2, 1875.

Fig. 1.

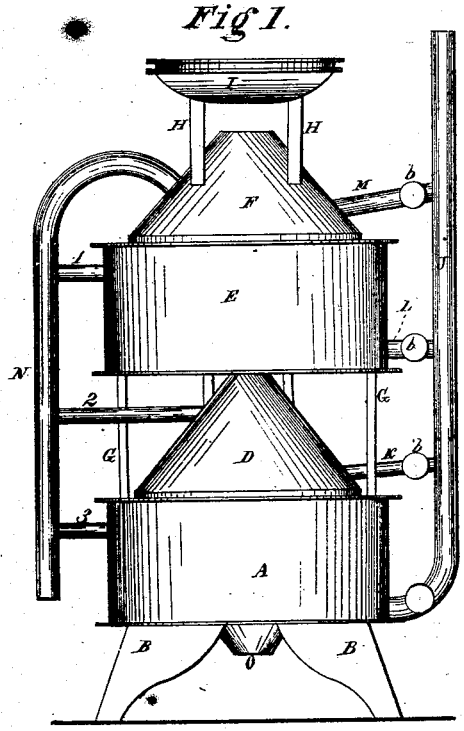


Fig. 2.

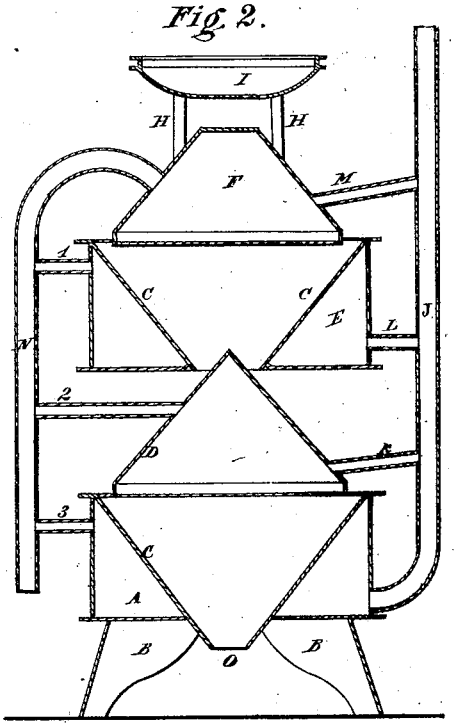
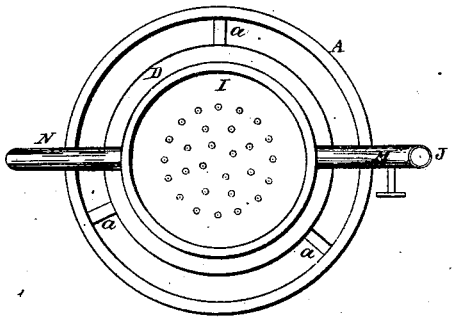


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN B. WEIS, OF SANDUSKY, OHIO.

IMPROVEMENT IN BEER-COOLERS.

Specification forming part of Letters Patent No. **160,291**, dated March 2, 1875; application filed December 14, 1874.

To all whom it may concern:

Be it known that I, JOHN B. WEIS, of Sandusky, in the county of Erie and State of Ohio, have invented new and useful Improvements in Beer-Coolers, of which the following is a description, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side elevation of the cooler. Fig. 2 is a transverse vertical section. Fig. 3 is a plan view.

Like letters of reference refer to like parts in the several views.

This invention is a device for cooling beer; and which consists of one or more hollow cones in connection with one or more hollow cylinders arranged one above the other, and which are put in communication with each other by an arrangement of pipes for the induction of water into the cones and cylinders, and for its eduction therefrom. A more full description of the invention is the following:

In the drawing, A represents a cylinder mounted upon the legs B. The outer sides of the cylinder are vertical, whereas the inner sides C are oblique, forming a funnel-shaped inner surface to the cylinder, as shown in Fig. 2. Immediately above the cylinder is arranged a hollow cone, D, supported in connection therewith by the arms *a*, Fig. 3. Above the apex of the cone D is arranged a cylinder, E, Fig. 1, a duplicate of the cylinder A. Directly above said cylinder E is a hollow cone, F, a duplicate of the cone D, and which is attached to its respective cylinder in like manner. The cylinder E and cone F are supported above the lower cylinder and cone by standards G. Above the upper cone F is supported on standards H a basin, I, having a perforated bottom, as shown in Fig. 3. Into the lower end of the cylinder A opens the induction-pipe J, and by the transverse pipe K it opens into the cone D. It also opens into the cylinder E by the pipe L, and into the cone F by the pipe M.

Each of the pipes referred to is provided with a stop-cock, *b*, whereby communication of the pipe J is shut off from the cylinders and cones. N is an eduction-pipe, the upper end of which opens into the cone F, and by side pipes 1, 2, and 3 it opens into the cylinders A E and cone D, respectively, as shown in the drawing.

The practical operation of the above-described device is as follows: The cylinders and cones are charged with ice-cold water by means of the pipe J and its respective side pipes. The reservoir from which the water is taken being situated above the cooler, the water will, in consequence, flow from the cones and cylinders through the eduction-pipe N and its side pipes. By this means a current of cold water is caused to flow through the cylinders and cones, thereby keeping their surfaces cold. Over said cold surfaces the warm beer is made to flow by pouring it into the basin I, from which it runs through the perforations in the bottom thereof (and whereby the beer is strained, and by which it is divided up into small streams) onto the cone F, down which it runs, and falls upon the inclined sides C of the cylinder E, over which it flows and falls upon the surface of the cone D, thence falling upon the inclined surface of the cylinder A and escapes therefrom through the outlet O to the barrel or vat.

By this means the warm beer is rapidly cooled down near to that of ice, first, by being divided up into small streams by passing through the basin. Then, by falling upon the cone F, one side of the flowing sheet of liquor is cooled, and the other side is cooled by falling upon and flowing over the inclined surfaces of the cylinder E. It is still further cooled by passing over the cone D, and furthermore by its passing over the inclined sides of the cylinder A.

It will be obvious that by this cooler the flowing liquor is alternately cooled, first on one side, then upon the other, as it falls from the cone into the cylinder, and from the cylinder to the cone. The amount of water flowing into the cylinders and cones from the pipe J is regulated by the stop-cocks *b*.

By the use of hot water the apparatus can be used for heating the beer or other liquors, by allowing them to flow over the cones and through the cylinders in the same way as for cooling of them.

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

1. The cylinder A, having oblique sides C, in combination with the hollow cone D, induction-pipe J, side pipe K, eduction-pipe N, and side pipes 2 3, substantially in the manner as described, and for the purpose set forth.

2. The cylinder A and cone D, in combination with the cylinder E, cone F, perforated basin I, induction-pipe J, side pipes M L K, stop-cocks *b*, and eduction-pipe N, having side pipes 1 2 3, substantially as described, and for the purpose specified.

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Witnesses:
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