

H. B. SCHARMANN.

APPARATUS FOR COOLING LIQUIDS.

No. 190,082.

Patented April 24, 1877.

Fig. 1.

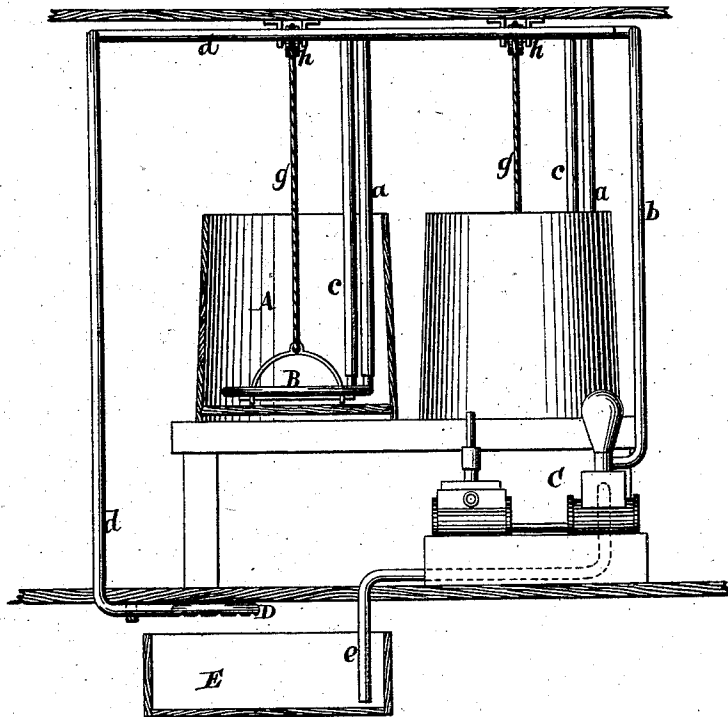
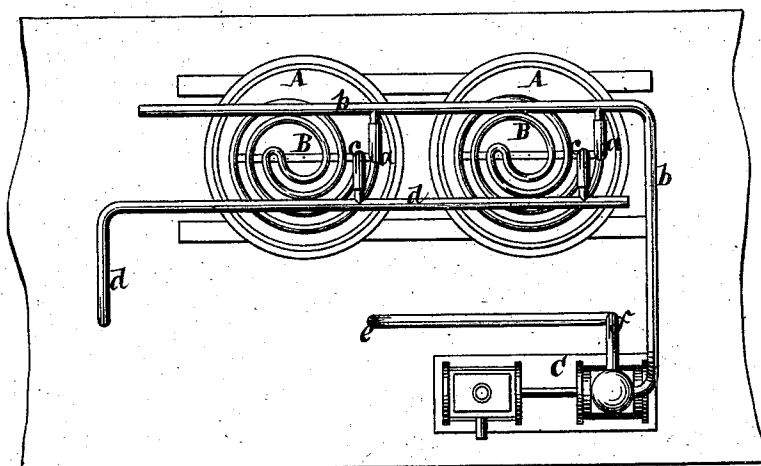


Fig. 2.



Witnesses.
Otto Hufeland.
Chas. Kahlers.

Inventor.
Herman B. Scharmann.
per
Haw. Gentry & Co. atty.

UNITED STATES PATENT OFFICE.

HERMAN B. SCHARMANN, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN APPARATUS FOR COOLING LIQUIDS.

Specification forming part of Letters Patent No. **190,082**, dated April 24, 1877; application filed April 4, 1877.

To all whom it may concern:

Be it known that I, HERMAN B. SCHARMANN, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Apparatus for Cooling Liquids, which invention is fully set forth in the following specification, reference being had to the accompanying drawing, in which—

Figure 1 represents a sectional side view. Fig. 2 is a plan or top view.

Similar letters indicate corresponding parts.

This invention consists in the combination, with a tank which contains the liquid to be cooled, of a double-acting pump, a coil, which is situated in the tank, and connects at one end with the discharge-pipe of the pump, while its other end connects with a rose-head or shower situated over a reservoir, which is filled with ice, and the bottom part of which connects with the suction-pipe of the pump, so that, by the action of said pump, cold water is drawn from this reservoir and forced through the coil, and the water discharging from said coil is again cooled, being brought in contact with the ice in the reservoir in the form of a fine spray, and thus the operation of cooling can be effected with great economy in water. The coil in the cooling-tank is suspended from a pulley, and the supply and discharge pipes leading to and from said coil are flexible, so that the coil can be raised and lowered in the liquid to be cooled.

In the drawing, the letter A designates a tank, which contains the liquid to be cooled. In this tank is situated a coil, B, one end of which connects, by means of a pipe, *a*, with the discharge-pipe *b* of a double-acting pump, C, while the other end of said coil connects, by a pipe, *c*, with a pipe, *d*, to the end of which is attached the rose head or shower D. This rose-head is situated in the top or above a reservoir, E, which is filled with ice, and from the bottom part of this reservoir extends a pipe, *e*, which connects with the suction-pipe *f* of the pump. The pipes *a* and *c*, which lead to and from the coil, are flexible, and the coil

is suspended from a rope or chain, *g*, which extends over a pulley, *h*, so that, by means of said rope or chain, the position of the coil in the tank can be adjusted.

When the pump is set in motion, the cold water drawn from the reservoir E is forced through the coil B, and, after having absorbed a portion of the heat of the liquid to be cooled, the water is returned, through the rose-head D, into the ice-reservoir E, so that it becomes immediately cooled, and in this state it is again and again forced through the coil B, until the liquid in the tank A has been brought down to the desired temperature.

By these means the operation of cooling beer or other liquids can be effected with great economy in water, the same quantity of water being used over and over again, as above stated.

In the example represented in the drawing I have shown two tanks, A A, each of which contains its own coil, and both these coils are connected to the pump and to the rose-head, so that the cold water drawn from the reservoir E can be forced alternately through one and then through the other coil, and the operation of cooling can go on in one tank while the other is being emptied and recharged. If desired, three or more tanks can be used in connection with one and the same pump and ice-reservoir.

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

The combination, with a tank which contains the liquid to be cooled, of a double-acting pump, a coil, which is situated in the tank, and a rose-head, which is situated in or over an ice-reservoir, all connected and operating substantially as and for the purpose herein shown and described.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 2d day of April, 1877.

HERMAN B. SCHARMANN. [L. s.]

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.