(No Model.)

I. M. VAN WAGNER.

WATER COOLER.

No. 266,561. Patented Oct. 24, 1882.

Fig. 1.

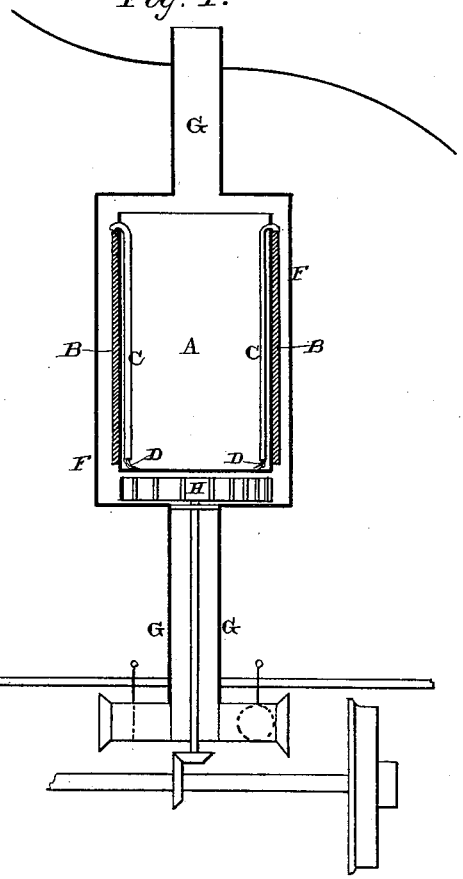


Fig. 2.

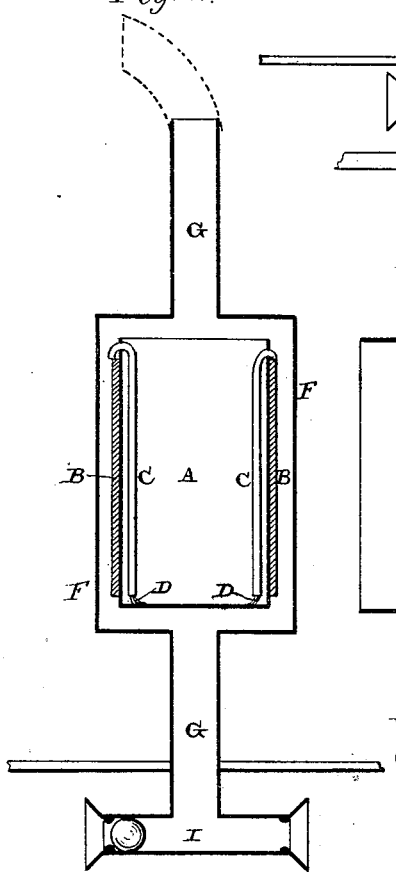
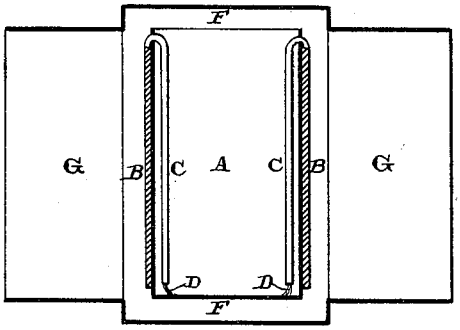


Fig. 3.



Witnesses.
Geo. D. Wilson
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UNITED STATES PATENT OFFICE.

ISAAC M. VAN WAGNER, OF NYACK, NEW YORK.

WATER-COOLER.

SPECIFICATION forming part of Letters Patent No. 266,561, dated October 24, 1882.

Application filed June 7, 1882. (No model.)

To all whom it may concern:

Be it known that I, ISAAC M. VAN WAGNER, of Nyack, in the county of Rockland and State of New York, have invented certain new and useful Improvements in Water-Coolers; 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in water-coolers; and it consists in the combination, with the cooler, of a suitable absorbent material which will hold enough water to keep a constant evaporation going on, and which is supplied with water by a suitable wick or wicks which extend through the side of the cooler, as will be more fully described hereinafter.

The object of my invention is to provide ships and cars with coolers in which the water or other article is cooled by the circulation of the air, so as to dispense with ice.

Figure 1 is a vertical section of a cooler, showing the air supplied by a fan operated by the axle of a car. Fig. 2 is a similar view, showing the air supplied by the movement of the car alone. Fig. 3 is a vertical section of a cooler having flues extending out through the side of the car or ship.

A represents a cooler of any desired shape, size, or construction, and which has applied to its outer side any suitable absorbent material, B, which will hold water for the purpose of being evaporated by the passage of air around it. This absorbent material may be made of clay, woven or knit fabric, felt, or any other material. Inside of the cooler are placed a suitable number of pipes, C, which extend from near the bottom up to the top of the cooler, and through which are passed suitable wicks, D. These wicks absorb the water and by capillary attraction carry it up through the sides of the cooler near the top and drop it upon the absorbent material.

The cooler is supported in any suitable manner inside of the outer inclosing case or jacket, F, which is connected with air-flues at top and bottom, or upon opposite sides, so that the air will be kept moving around the cooler, and thus evaporate the water in the absorbent material, and by evaporation absorb the heat or warmth in the water in the cooler, and thus keep it always cool without the use of ice. In some cases these air-flues G will be made to extend up through the floor of the car and up through the roof, as shown in Figs. 1 and 2, and the air will then be caused to circulate by means of a fan, H, which is driven by suitable gearing from the axle of the car; or the lower end of the flue will be shaped as shown, so that the forward movement of the car alone will keep a rapid draft of air playing around the cooler during the whole of the time the car is in motion. When the forward movement of the car is to supply the necessary air a suitable ball-valve will be placed in the horizontal portion I of the flue, and then the forward movement of the car will cause the air to drive the ball back into the rear end of the horizontal part, and thus prevent the air from passing directly through. As the air cannot pass directly through, the forward movement of the car forces it upward around the cooler and out through the top of the car. Should it be found inconvenient to make the flues as shown in Figs. 1 and 2, they may be attached to opposite sides of the jacket, as shown in Fig. 3, and then connected in any suitable manner with the sides of the car or with pipes through which air is made to pass.

This cooler is adapted for use upon shipboard and in houses; but in that case the current of air must be supplied by a wind-wheel or some similar means. The manner of supplying the air of course may be varied in a great many different ways, as this will be a matter of choice, and I do not therefore limit myself to any particular one.

I am aware that refrigerators have been cooled by having a fibrous material applied to their outer sides and moistened with water.

Having thus described my invention, I claim—

In combination, the refrigerator A, the pipes C, having wicks D passing through them, and the absorbent material B, which is applied to the refrigerator, substantially as shown.

In testimony whereof I affix my signature in presence of two witnesses.

ISAAC M. VAN WAGNER.

Witnesses:

WM. J. GREEN,

EDWARD C. GREEN.