L. B. WOOLFOLK.

Water-Cooler.

No. 166,736. Patented Aug. 17, 1875.

Fig. 1.

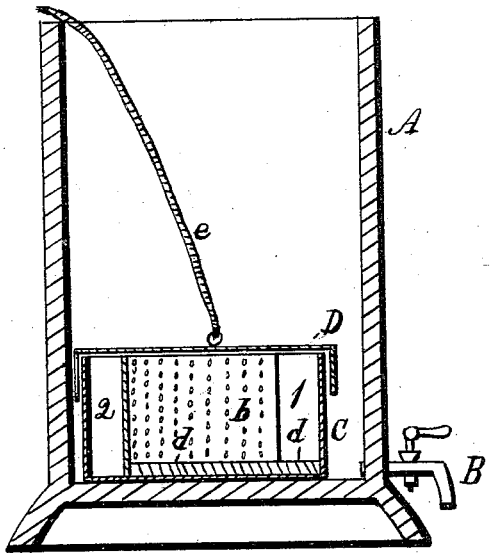


Fig. 2.

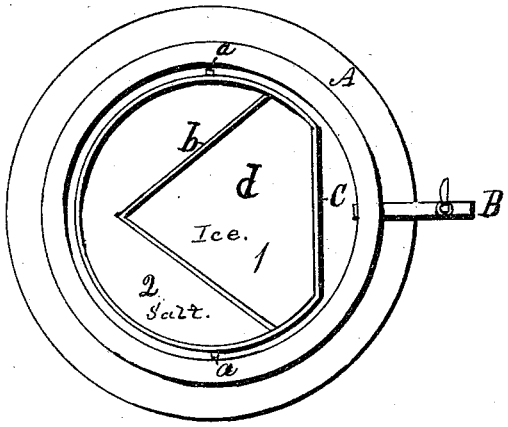
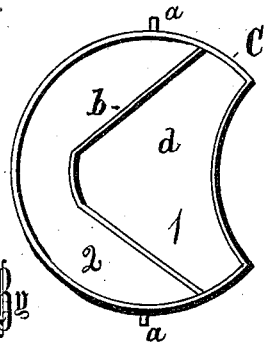


Fig. 3.



Witnesses

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LUCIEN B. WOOLFOLK, OF LEXINGTON, KENTUCKY.

IMPROVEMENT IN WATER-COOLERS.

Specification forming part of Letters Patent No. **166,736**, dated August 17, 1875; application filed July 16, 1875.

To all whom it may concern:

Be it known that I, LUCIEN B. WOOLFOLK, of Lexington, in the county of Fayette and State of Kentucky, have invented a new and useful Improvement in Water-Coolers, of which the following is a specification:

My invention consists in a vessel containing ice and salt in separate compartments for the purpose of cooling water or milk in water-coolers, buckets, or other suitable vessel, constructed with the following peculiarities, which fit it for the performance of its office: First, as the vessel is designed to rest upon the bottom of the vessel containing the liquid to be cooled, the side next the faucet is constructed flat or receding, to prevent the water from freezing over the faucet. Second, it is provided with a cover so constructed that it may be secured by means of a bayonet-joint, yet without obstructing the passage of the water down to the faucet; and, third, it is weighted with lead or other heavy substance for the purpose of sinking it beneath the liquid to the bottom of the vessel in such a manner as to keep it balanced in equilibrium when being lowered into or raised out of the vessel.

Figure 1 is a vertical section taken through the center of a water-cooler, showing my invention. Fig. 2 is a plan of same, with covers removed. Fig. 3 is a plan with cover removed, showing my invention under a modification.

A is a water-cooler of any ordinary construction. B is the faucet for drawing off the water. C is the refrigerating-vessel. D is the cover of same attached by the bayonet-joint *a*. The perforated partition *b* divides the refrigerating-vessel into two compartments, 1 and 2, of which 1 is the ice-compartment and 2 is the salt-compartment. *d* is the metal balance-weight in the bottom of the ice-compartment which weights down the refrigerating-vessel and causes it to sink until it rests upon the bottom of the water-cooler. The metal balance-weight *d* is so shaped and adjusted that it holds the vessel C in equilibrium when being raised or lowered. The refrigerating-vessel C is raised and lowered by means of the cord *e* attached to the cover D. It is very desirable to have the refrigerating-vessel containing ice and salt to rest upon the bottom of the water-cooler. The arrangement presents two advantages. It economizes the refrigerating materials, inasmuch as the chill will not pass upward except by the very slow process of conduction through the water; and it makes the water drawn from the faucet ice cold, whereas when the refrigerating force is applied at the surface of the water in the water-cooler, the water at the bottom stands at about 39°. But the refrigerating-vessel C cannot be placed at the bottom of the water-cooler unless we arrange a space between it and the faucet, for if the refrigerating-vessel C were of the ordinary round shape fitting the water-cooler A, the extreme cold of the ice and salt would freeze the water between the refrigerating-vessel and the faucet into solid ice, thus closing up the faucet. I prevent this by constructing the refrigerating-vessel C with the side next the faucet flat, as in Figs. 1 and 2, or receding, as in Fig. 3, by which construction a space is left between the refrigerating-vessel and the faucet sufficient to prevent the water between them from freezing into solid ice. The space necessary might be obtained by making the refrigerating-vessel smaller than the water-cooler, or by constructing the water-cooler with a bulge at the faucet; but the former would diminish the efficiency of the refrigerating-vessel, and the latter would be more expensive. By flattening the side of the refrigerating-vessel C I obtain the end sought with little loss of space and at slight expense, and the refrigerating-vessel is adapted to all water-coolers of ordinary construction and to common water-buckets.

In consequence of the flattened side of the refrigerating-vessel C the cover D needs to be of peculiar construction. It must be securely fastened upon the refrigerating-vessel, since the vessel is raised and lowered by a cord attached to the cover. I fasten it by means of the bayonet-joint *a*. In order to fasten this joint it is necessary for the cover D to turn slightly upon the refrigerating-vessel. If the cover D were made entirely round it would turn without difficulty, so as to attach the bayonet-joint; but this construction would intercept the water-currents between the body of water in the water-cooler above the refrigerating-vessel and the water in the space around the faucet. I therefore construct the cover D to fit the round surface of the refrigerating-ves-

sel C, but make it somewhat larger than the flat surface, so as to turn sufficiently to adjust the bayonet-joint.

In consequence of one side of the refrigerating-vessel C being flattened, the refrigerating-vessel will, when loaded, be out of equilibrium. To remedy this I place the metal balance-weight used to sink the refrigerating-vessel in the ice-compartment 1, and the partition between the ice and salt-compartments is so placed that the metal balance-weight *d*, when of suitable shape and thickness, will adjust the equilibrium of the refrigerating-vessel at the same time that it sinks it to the bottom of the water-cooler.

Having thus described my invention, what I claim as new, and wish to secure by Letters Patent, is—

1. The combination of the water-cooler A, faucet B, refrigerating-vessel C, ice-compartment 1, salt-compartment 2, metal weight-balance *d*, cover D, bayonet-joint *a*, and cord *e*, substantially as described.

2. In a refrigerating-vessel containing ice and salt in separate compartments, the refrigerating-vessel C having one side flattened, in combination with the water-cooler A and faucet B, in the manner and for the purpose set forth.

3. The combination, with the refrigerating-vessel C, ice-compartment 1, salt-compartment 2, and bayonet-joint *a*, of the cover D, made larger at the flat side of the refrigerating-vessel C, so as to admit of the working of the bayonet-joint, substantially as described.

4. The combination, with the water-cooler A, faucet B, refrigerating-vessel C, ice-compartment 1, and salt-compartment 2, of the balance-weight *d*, for the purpose of maintaining the equilibrium of the refrigerating-vessel C, and sinking it to the bottom of the water-cooler, in the manner set forth.

LUCIEN B. WOOLFOLK.

Witnesses:

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