

(No Model.)

E. L. PHIPPS. REFRIGERATOR.

No. 572,822.

Patented Dec. 8, 1896.

Fig. 1.

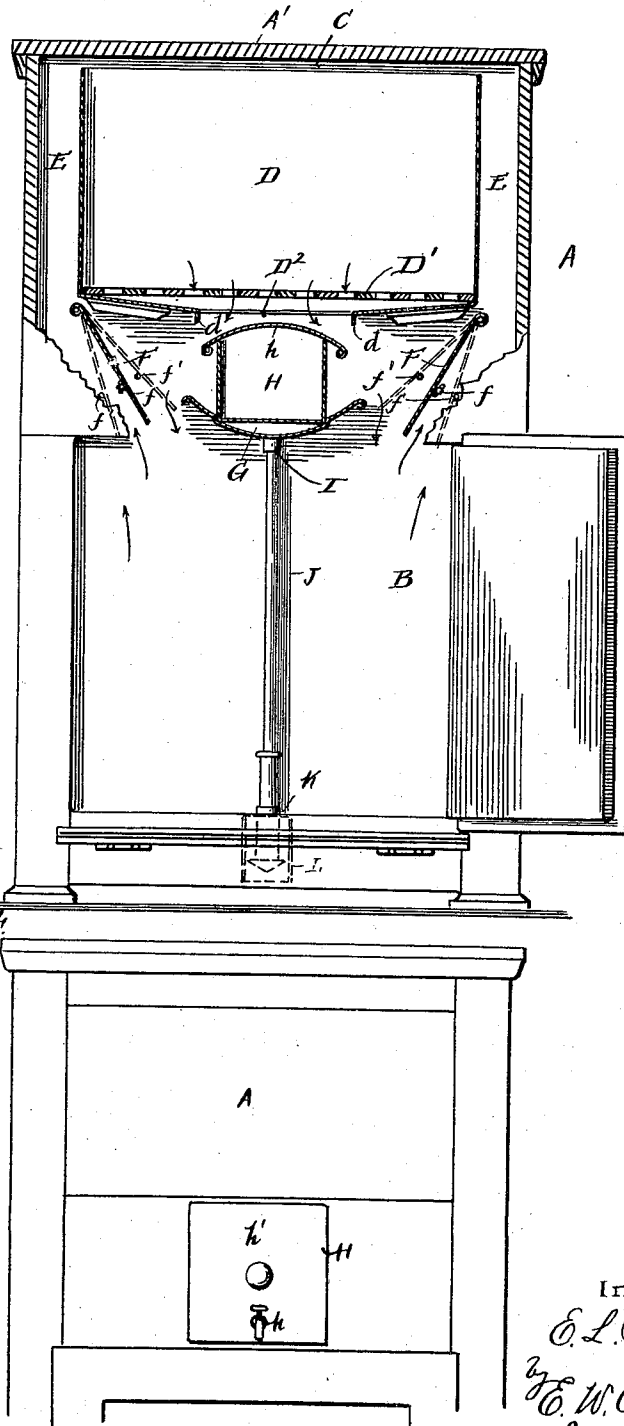


Fig. 2.

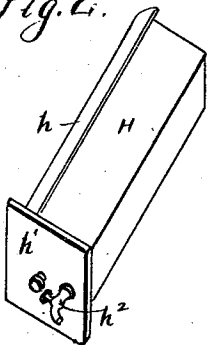


Fig. 3.

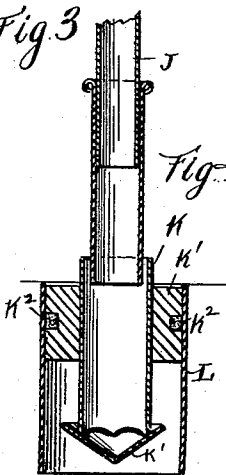
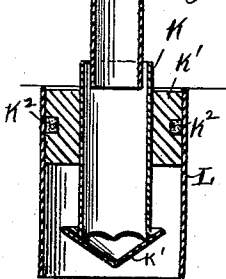


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

EDWARD L. PHIPPS, OF MILFORD, MICHIGAN.

REFRIGERATOR.

SPECIFICATION forming part of Letters Patent No. 572,822, dated December 8, 1896.

Application filed April 30, 1896. Serial No. 589,731. (No model.)

To all whom it may concern:

Be it known that I, EDWARD L. PHIPPS, a citizen of the United States, and a resident of Milford, in the county of Oakland and State of Michigan, have invented certain new and useful Improvements in Refrigerators; and I do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a representation of a front view of refrigerator, partly broken away. Fig. 2 is a perspective view of water-cooler. Fig. 3 is a sectional detail to show operation of trap. Fig. 4 is a front view of upper portion of refrigerator.

The object of this invention is to provide a refrigerator and water-cooler of improved character; and it consists in the novel construction and combination of parts, all as hereinafter described, and pointed out in the appended claims.

Referring to the accompanying drawings, the letter A designates the refrigerator box or case.

B is the provision-chamber which occupies the lower portion of the box, and C is the cooling-chamber in the upper portion thereof.

D designates an open-top ice-box which is supported in the chamber C, and D' is a rack placed in the bottom of said ice-box and composed of strips of wood doweled or otherwise secured together. The bottom portion of the box D is made to converge from opposite sides toward a central transverse opening D², whose longitudinal edges are bent downward, as indicated at *d*. The box fits the chamber C quite snugly in so far as its front and rear sides are concerned, but it is sufficiently shorter than the length of such chamber to leave at each end an air flue or passage E, which communicates with the provision-chamber B.

F F designate oblique wings which extend transversely across the chamber C below the ice-box from the respective ends thereof toward the center. Said wings are preferably hinged or pivoted at their upper edges in order that they may be adjusted, as indicated

in dotted lines, Fig. 1, for the purpose of controlling or regulating the air-circulation. Said wings are each provided with a sliding pin *f*, which is designed to be engaged with any one of a series of perforations *f'* in the wall of the refrigerator-box for the purpose of supporting or securing the wings in the desired position. Other suitable fastening devices may, however, be employed. The pivoted points of these wings are adjacent to the lower corners of the ice-box and slightly outside the plane of the ends, whereby the said wings may be adjusted to control either the vertical openings at the ends of the box or the opening in the bottom portion thereof, or they may be given any desired intermediate adjustment. If preferred, the wings may be fixedly secured instead of being adjustable.

G designates a concave drip pan or trough which is placed transversely of the refrigerator between the wings F and underneath the opening D². This pan or trough is made of sufficient width to extend a short distance beyond the flanged edges of the said opening and to catch all drip therefrom.

H designates a water-cooler, which is supported in the said pan or trough, being inserted through an opening in the front wall of the refrigerator-box. This cooler consists of a narrow oblong receptacle, having a removable cover *h* and a flanged outer end portion *h'*, which seats against the outer face of the front wall of the refrigerator box or case. *h*² is a draw-off cock or faucet. The cover *h* is of convex form, and its lateral edges are extended beyond the side walls of the cooler for the purpose of carrying off into the pan or trough G all water which drips thereon from the ice-box.

The air-circulation within the refrigerator is indicated by arrows. It will be noted that the warmer air is always rising from the chamber B through the passages E and into the ice-box to take the place of the cold air, which descends through the opening D². It will also be noted that the wings F cause the cold air to be carried well down before it meets the rising warmer air. The water in the cooler is kept cold by means of the drip and the cold air.

The refrigerator has the usual hinged top

and cover A', and it may be constructed with double packed walls or in any other well-known and suitable manner. Its inner wall or lining is preferably of zinc.

5 I will now describe the means devised and which I prefer to employ for the purpose of carrying off the water from the pan or trough G. Said pan or trough is provided at its lower rear portion with a short depending discharge-
 10 pipe I, which is loosely engaged by the upper end portion of a vertical pipe J. Said pipe J is usually made in two telescoping sections, as indicated. The lower end of this pipe J enters a vertical cylinder K, which extends
 15 into a pipe L. The cylinder K is carried by a plug K', which fits the pipe L and has a packing K². The lower end of the cylinder K has an inverted cone k', which forms a water seal and which discharges into the pipe L.
 20 Said pipe L extends up through the bottom of the provision-chamber C and may be connected to a discharge-pipe (not shown) which will carry the water to any desired point; or a suitable pan or receptacle may be placed
 25 under said pipe L. It will be observed that the trap and seal above described prevent air from entering the refrigerator from the outside through the water-discharge. By raising the lower section of the pipe J said
 30 pipe may be removed.

The refrigerator above described is designed to maintain an even temperature of low degree in all parts of the provision-chamber with very little waste of ice.

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

1. In a refrigerator, the combination with the box or case, having the provision-chamber in its lower portion and the cooling-chamber in its upper portion, of the ice-box supported in said cooling-chamber, and having
 40 an opening in its bottom, and an air passage or flue at each end, the oblique, pivoted downwardly-extending wings to each side of the said opening, the pivoted points of said wings being adjacent to the lower corners of said box and slightly outside the vertical

plane of its ends, whereby they may be adjusted to control either the said end passages 50 or the bottom openings, and the drip pan or trough underneath the said opening, substantially as specified.

2. In a refrigerator, the combination with the refrigerator box or case, having the provision-chamber in its lower portion and the cooling-chamber in its upper portion, an open-top ice-box supported in said cooling-chamber, with an air flue or passage at each end, and a transverse opening in its bottom, a
 60 drip-trough supported underneath the said opening, the oblique wings upon each side of said trough, and the water-cooler supported in said trough, and extending through an opening in the front of the case, substantially 65 as specified.

3. In a refrigerator, the combination of the refrigerator box or case, the open-top ice-box supported within the upper portion thereof, its ice-rack and bottom opening, an air pas- 70 sage or flue at each end of the said box, the oblique adjustably-pivoted wings below the said box, the drip-trough underneath the bottom opening of the ice-box and between the said wings, its trapped discharge, and the 75 water-cooler removably supported in said trough, and having its end portion engaging an opening in the front wall of the same case, substantially as specified.

4. In a refrigerator, the combination with 80 an ice-box, having an opening in its bottom, of the trough or drip-pan supported underneath the said opening, and having its edge portions extended beyond the edges of said opening, of a water-cooler supported in said 85 trough, said cooler having its outer end portion seated in an opening in the front wall of the refrigerator box or case, and having also a convex, removable cover, substantially as specified. 90

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

EDWARD L. PHIPPS.

Witnesses:

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 N. B. BABCOCK.