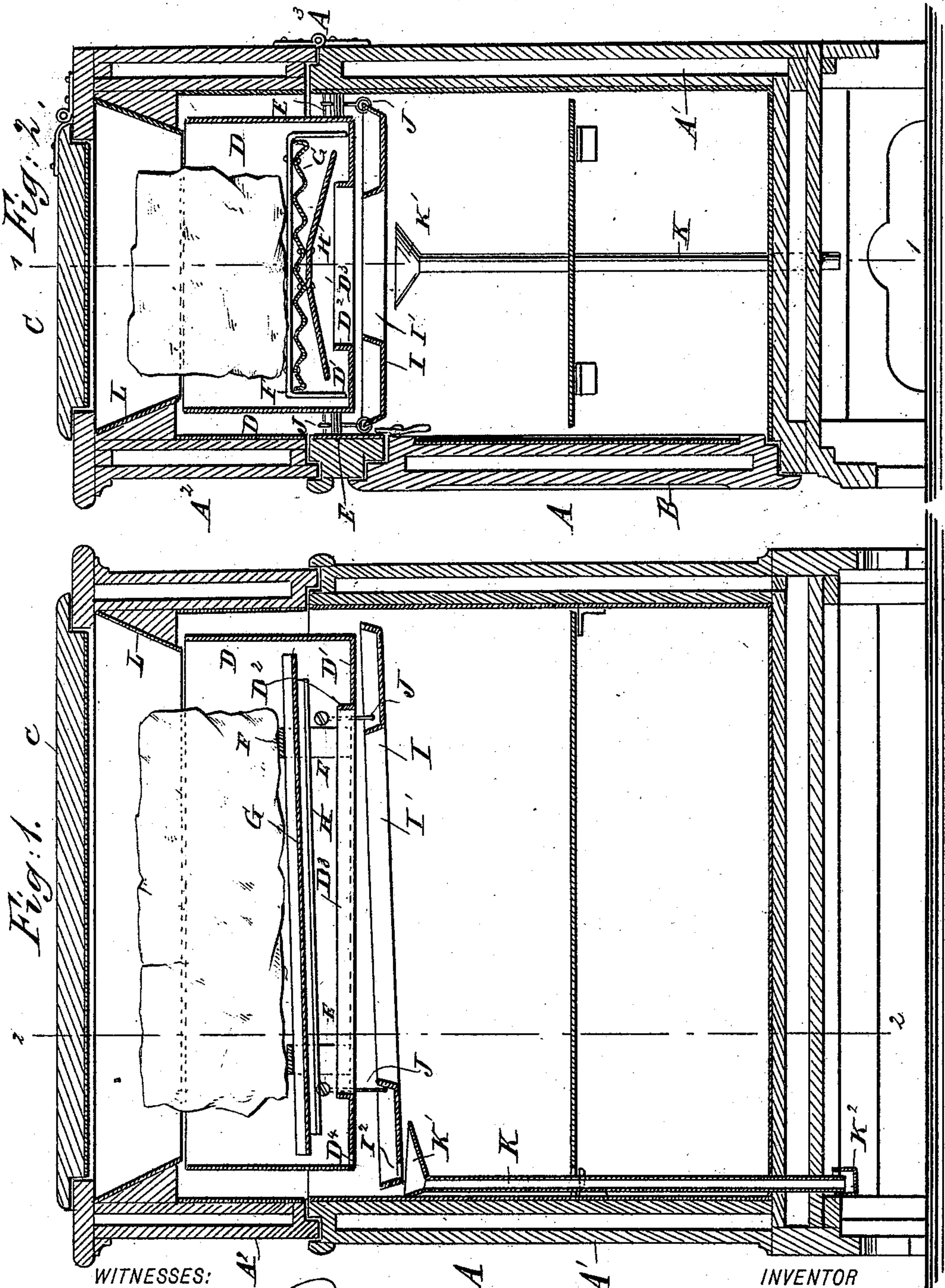


(No Model.)

G. A. BOWEN.
REFRIGERATOR.

No. 496,378.

Patented Apr. 25, 1893.



UNITED STATES PATENT OFFICE.

GEORGE A. BOWEN, OF FOND DU LAC, WISCONSIN.

REFRIGERATOR.

SPECIFICATION forming part of Letters Patent No. 496,378, dated April 25, 1893.

Application filed August 18, 1892. Serial No. 443,366. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. BOWEN, of Fond du Lac, in the county of Fond du Lac and State of Wisconsin, have invented a new and Improved Refrigerator, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved refrigerator, which is simple and durable in construction, and permits of conveniently removing the several parts of the ice receiver for thoroughly cleaning the interior of the refrigerator.

The invention consists of a box made in two sections hinged together, the upper section containing an ice receiver or support of special construction, and the lower section forming the provision chamber.

The invention also consists of certain parts and details and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar letters of reference indicate corresponding parts in both figures.

Figure 1 is a longitudinal section of the improvement on the line 1—1 Fig. 2; and Fig. 2 is a transverse section of the same on the line 2—2 of Fig. 1.

The improved refrigerator is provided with a box or casing A, made in two sections A' and A², hinged together at A³, as is plainly illustrated in the drawings. The lower section A' forms the provision chamber for storing the provisions to be kept cool, and in the upper section extends an ice receiver or support containing the ice for cooling the interior of the refrigerator. The upper section is hinged to the lower section to permit of tipping the upper section back to expose the fixed ice receiver or support so that the latter and the upper section can be conveniently cleaned. The lower section A' is provided on its front with the usual door or doors B, for inserting or removing the provisions, and the top section A² is preferably provided on its top with a hinged door C, through which the ice can be introduced, it being understood that the upper section A² can also be swung rearward on the hinge A³ for inserting the

ice, instead of inserting it through the door C, as previously described.

The casing D, containing the ice is open at the top, and is supported on its sides on screw rods or pins E attached to the walls of the lower section A', the said casing D being formed at its lower end with a bottom D', having an upwardly extending flange D², forming an opening D³, for the passage of the air, as hereinafter more fully described.

On the apertured bottom D' of the casing D are set U-shaped bars F, extending transversely and connected with each other at the under side of their middle parts by a corrugated plate G, slightly inclined, so that the water can run to one end of the casing D, as will be readily understood by reference to Fig. 1. The ice is placed on top of the middle portions of the bars F, so that the plate G is not strained by the weight of the ice and only serves to carry off the water of the melting ice, to one side of the casing D. On the under side of this plate G is riveted or otherwise secured a second plate H, curved downward at its sides, so as to form a deflector, as is plainly shown in Fig. 2, the sides discharging upon the bottom D' between the walls of the casing and the upwardly turned flange D² previously described.

Below the bottom of the casing D is suspended a pan I, formed in its middle with an opening I', and having inner and outer upwardly extending flanges all around, so that the water dripping from the casing D passes into the pan and to one end thereof, as the said pan is suspended by hooks J from the screws or pins E in an inclined position, the inclination running in the same direction as that of the plate G.

In the lower end of the bottom D' is formed an opening D⁴, through which the water from the casing can pass into the lower end of the pan I, and in the lower end of this pan is formed an opening I², which discharges the water into the spout K', formed on the upper end of a vertically extending outlet pipe K, passing downward through the bottom of the section A', the lower end of the pipe being provided with a suitable trap K², to permit the outflow of the water but prevent air

from passing from the outside through the said pipe to the inside of the refrigerator.

When the several parts are in the position shown in the drawings and block of ice is supported on the bars F then the hot air in the lower section A' will be displaced by the descending cold air coming down from the ice block, so that the hot air rises and passes upward on the outside of the casing D, sufficient space being left between the latter and the inner surface of the sections A' and A² to form a large enough passage for the ascending warm air. The latter passes at the upper end of the casing D into the latter and over and around the ice block to be cooled to finally again descend to displace the warm air in the section A' below so that a continuous circulation of the air takes place within the refrigerator.

In the upper end of the section A² is formed an inlet opening lined with a lining L, having diverging sides and ends, as is plainly shown in the drawings, the lower edges of the lining opening into the casing D, so that any water passing down the lining drips to the bottom of the casing D and to one end of the latter to be discharged as above described.

It will be seen that by opening the cover C ice can be conveniently introduced into the casing D to be supported on the bars F, or the section A² can be swung open for placing the ice in position, as described.

It will be understood that the water of the melting ice readily runs to the outlet pipe K, the said water first passing down the plate G to the bottom D' of the casing and then through the opening D⁴ to the pan I below the casing, the lower end of the said pan discharging into the outlet pipe K, as before described. It will further be understood that any water of condensation accumulating on the under side of the casing D or the plate H will readily run or drip into the pan I located below the casing D, to be finally run into the discharge pipe K, as described.

As sufficient openings are formed for the circulation of the air, the warm air will be readily cooled and the interior of the refrigerator kept at a uniform temperature.

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

1. A refrigerator provided with a box or casing made in two sections hinged together, the lower section forming a provision chamber and supporting an ice receiver which extends into the upper section, substantially as shown and described.

2. A refrigerator provided with an open top ice receiving casing having an opening in its bottom, inverted-U shaped bars resting on the bottom of the casing and adapted to support the ice, a corrugated plate secured between the vertical members of said bars and below their cross pieces, and the deflector beneath the said plate and extending at its edges beyond the edges of the opening in the casing bottom, substantially as set forth.

3. A refrigerator provided with a box or casing made in two sections hinged together, the lower section forming a provision chamber, an ice receiver having an open top, supported in the upper part of the lower section and extending into the upper section, the hinged upper section having an opening in its top registering with the open end of the ice receiver, and a closure for said opening, substantially as set forth.

4. A refrigerator, comprising the outer box or casing formed in two sections hinged together, the lower section forming a provision chamber, an ice receptacle supported in the upper end of the lower section and extending at its upper open end into the upper section and having an opening in its bottom surrounded by an upwardly extending flange, an outlet opening being also formed in the bottom of said ice receiver, a support for the ice in the receiver and having a deflector projecting beyond the said flange, an annular trough beneath the said receiver and receiving the drip therefrom, and an outlet pipe into which the said trough discharges, substantially as set forth.

GEORGE A. BOWEN.

Witnesses:

W. L. HIGBEE,
C. L. MUENTER.