(No Model.)

C. CAVANAGH

REFRIGERATOR.

No. 301,674. Patented July 8, 1884.

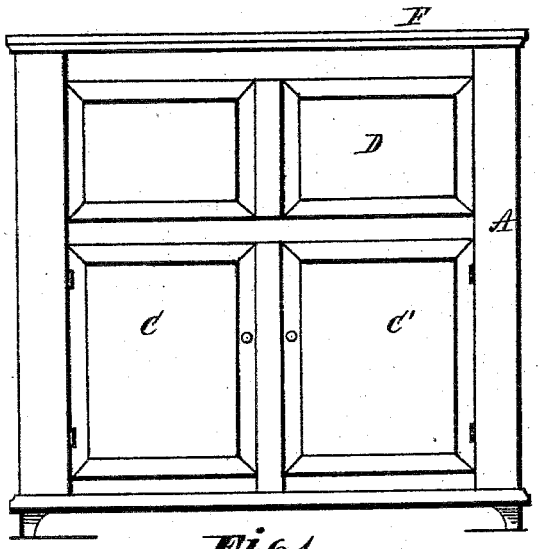

Fig. 1.

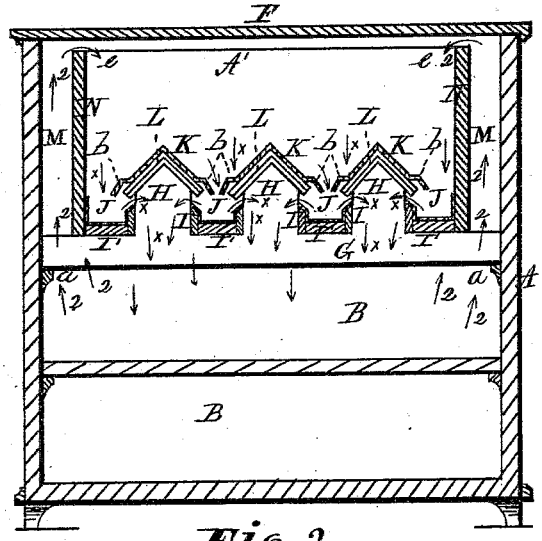

Fig. 2.

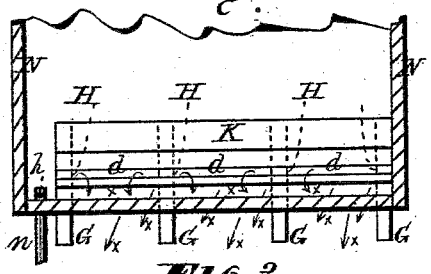

Fig. 3.

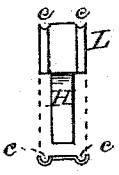

Fig. 5.

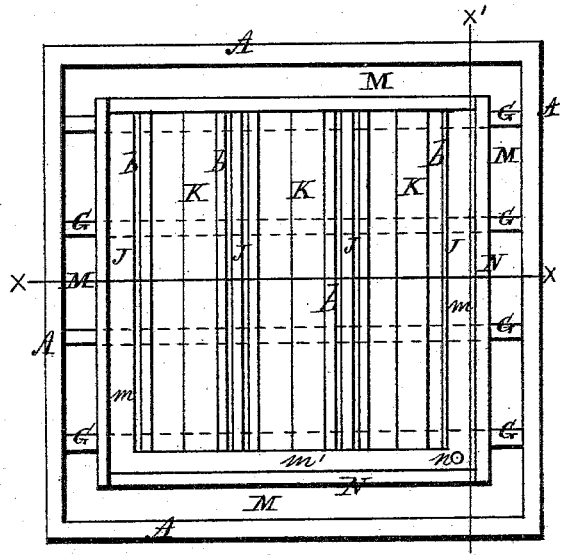

Fig. 4.

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UNITED STATES PATENT OFFICE.

CHARLES CAVANAGH, OF CLEVELAND, OHIO.

REFRIGERATOR.

SPECIFICATION forming part of Letters Patent No. 301,674, dated July 8, 1884.

Application filed April 19, 1884. (No model.)

To all whom it may concern:

Be it known that I, CHARLES CAVANAGH, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented new and useful Improvements in Refrigerators, whereof the following is a full and complete description.

This invention relates to the construction of the platform or horizontal partition in a refrigerating apparatus, whereby the air may be permitted to circulate freely through and around it, so that the cold air from the ice can descend and the warm air from the lower chamber can ascend; also, that the water from the melted ice and condensed moisture can be conducted away by the channels and waste-pipe, or as much of it kept in the apparatus as may be desirable, the whole platform made removable for cleansing purposes, all of which will hereinafter be more particularly described, and pointed out in the claim.

The accompanying drawings illustrate the improvements, and form a part of this specification, in which—

Figure 1 represents a front view of the refrigerator. Fig. 2 is a vertical transverse section in the direction of the line *x x*, Fig. 4. Fig. 3 is a vertical section through the line *x' x'*, Fig. 4. Fig. 4 is a plan view of the inside. Fig. 5 is a detached section.

Like letters of reference denote like parts in the several views.

As shown in the drawings, A represents the exterior walls or sides of the case of the refrigerator, which case may be of the shape shown, or of any other approved form, and of any desirable size. Access is had to the storage-section B of the refrigerator through the doors C C', whereas access is had to the upper section or ice-receptacle, D, through the top, of which F is the cover. The upper and lower sections of the refrigerator are separated from each other by a floor or partition, consisting of the joists G, Figs. 2 and 4, extending across the case and supported therein on cleats *a*. Projecting upward from said joists are piers H, having pointed tops, as seen in Fig. 2. Between the range of piers are strips of wood I, laid edgewise across the joists and against the edges of the piers, to which they are secured, forming sides or walls to the spaces or distances from one pier to another. The upper edges of the strips are beveled, for a purpose presently shown. Lengthwise between the said side strips, I, are laid, upon the joists, strips of wood, forming a floor or bottom, I', to the long narrow spaces between the ranges of piers, which practically are gutters J, overhung by the projecting eaves *b* of the metal covering or caps K, laid upon the piers and covering them lengthwise and transversely, as seen in Figs. 3 and 4. Before placing the metal coverings K, upon the piers, each one is covered with a metallic hood, L, Fig. 5, provided with grooves or channels *c*. As aforesaid, the covering or caps K are of sheet metal, and adapted to cover entirely a range of piers, substantially as seen in the drawings. The above-described piers, gutters, &c., form the partition dividing the refrigerator into the two compartments—viz., ice-chamber and section B, above referred to—for stores. Communication, however, exists between the two compartments by means of the open spaces between the piers, as seen at *d d* in Fig. 3, and as indicated by the arrows *x* in Fig. 2, said spaces occurring between the piers. All lead out therefrom between the edges of the sides J and the eaves of the covers K, as indicated by the arrows *x* aforesaid. Also, an open communication exists between the upper and lower compartments of the refrigerator through the spaces M, formed between the sides A of the case and the corresponding sides of the frame N. Said frame is adapted to fit closely around the floor or partition above described. The lower edge of the frame rests upon the joists, as seen in Fig. 2, while the sides thereof extend upward near to the top of the case, so that when the cover F of the refrigerator is shut down there will be a short space between the said cover and the upper edge of the frame, as seen at *e* in Fig. 2, by which space *e* and the space M, above alluded to, the ice-chamber and section B of the refrigerator are put in open relation one with the other, as indicated by the arrows 2.

The gutters above described and the side pieces, J, are covered with sheet metal; also, the sides of the gutters near the sides of the frame N are covered with the same material,

forming a metal gutter around the ice-chamber, as seen at *m*, of which *n* is the outlet or waste-pipe.

Practically, the refrigerator is used thus: Ice is placed in the chamber or section A upon the cap-covered piers within the frame N. The air in the chamber, cooled by the ice, descends into the compartment B, as indicated by the arrows *x*, while the warmer air in said compartment B flows upward therefrom into the ice-chamber through the spaces M, as indicated by the arrows 2. This interchanging of air from one section of the refrigerator to the other establishes a current of cold air from the ice-chamber to the provisions placed in section B, thereby keeping them cool and fresh, while the warmer air is displaced and ascends into the ice-chamber, as aforesaid. The moisture of the warm air that may condense upon the inner surface of the caps or covering K runs directly down to the eaves and falls therefrom into the gutters, while the water from the melting ice flows down the outside of the caps and drops therefrom into the gutters and flows away through the waste-pipe *n*. It will be noticed that the end of the waste-pipe is above the bottom of the gutter. This is for the purpose of retaining the cold water in the gutters, for utilizing its temperature before it runs off. The water, however, may be allowed to run off as fast as the ice melts by opening the perforation *h* in the side of the waste-pipe, which is near the bottom of the gutter for that purpose.

The frame N is not a fixture in the case, but can be removed therefrom for any needful purpose; so also can the partition or floor dividing the two sections of the refrigerator be wholly taken out for being cleaned, &c.

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

In a refrigerating apparatus, the removable frame N, constructed to have an air-space around it when placed in the case A, having a series of inclined ridges to support the ice, and covered with caps K, and the intermediate gutters, all supported on the joists G, having on them the piers H, covered with hoods L, provided with channels *c c*, whereby the water from the melted ice and condensed moisture will all be conducted to the side channels and waste-pipe, constructed so as to retain any desired quantity of water, all constructed substantially as and for the purpose described.

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

CHARLES CAVANAGH.

Witnesses:
J. H. BURRIDGE,
W. H. THOMPSON.