

W. LELAND.
Refrigerator-Building.

No. 216,043.

Patented June 3, 1879.

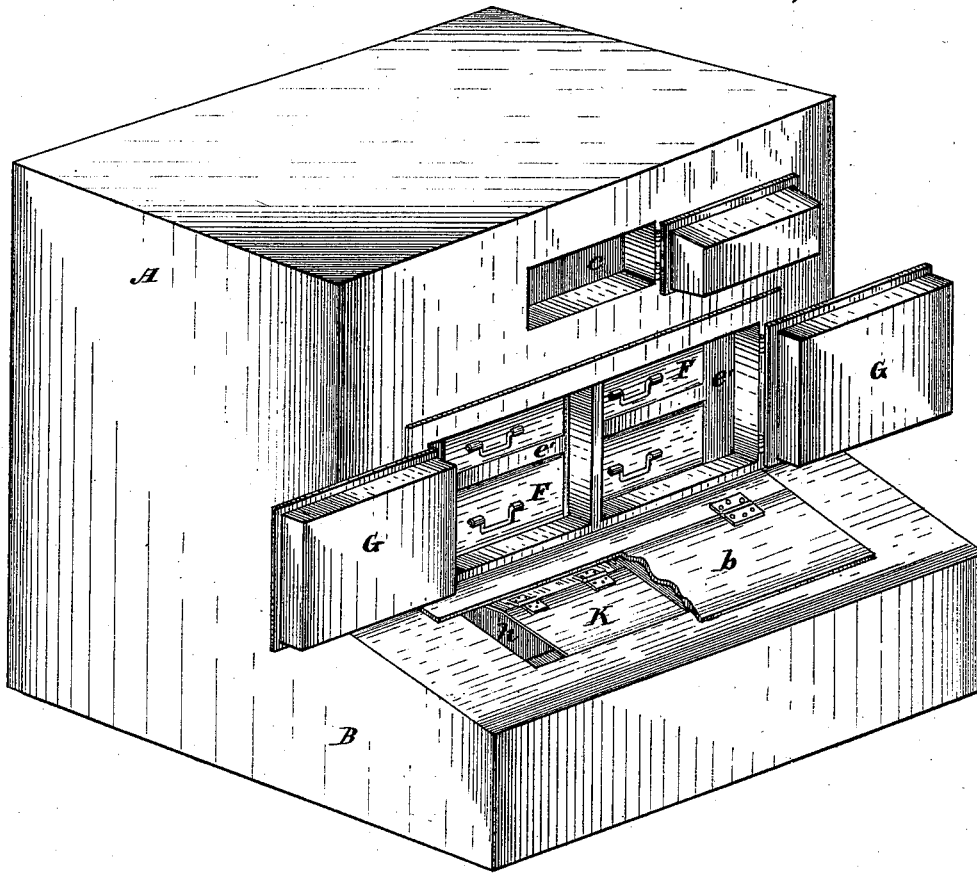


Fig 1

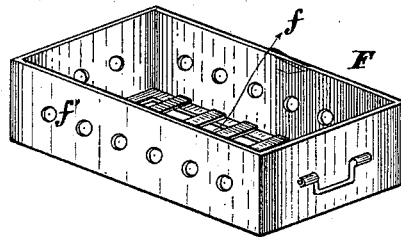


Fig 2

Witnesses
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INVENTOR
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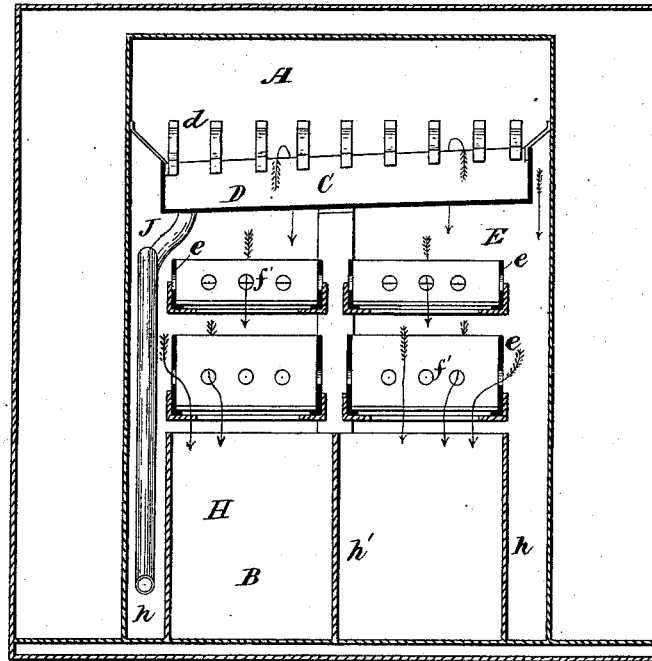


Fig 3

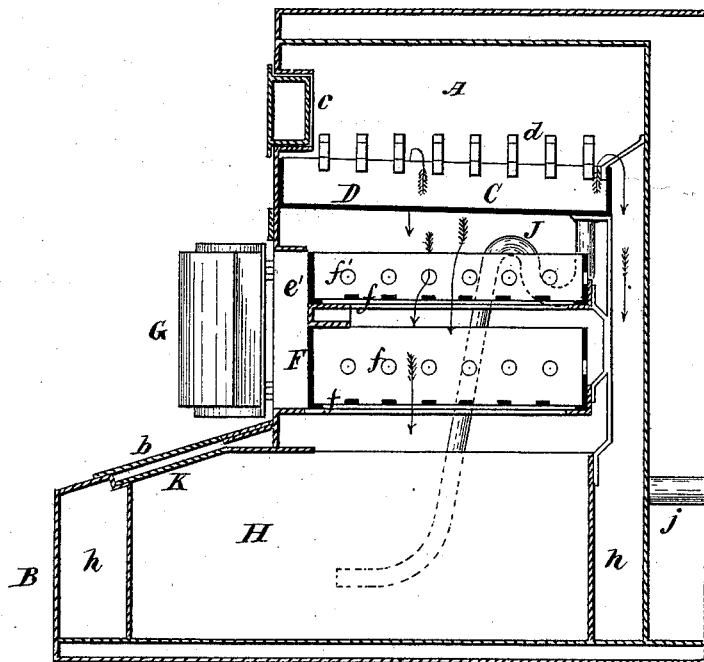


Fig 4

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UNITED STATES PATENT OFFICE.

WINDSOR LELAND, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN REFRIGERATOR-BUILDINGS.

Specification forming part of Letters Patent No. **216,043**, dated June 3, 1879; application filed March 17, 1879.

To all whom it may concern:

Be it known that I, WINDSOR LELAND, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Refrigerator-Buildings, which are fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 represents a perspective view of a refrigerator-structure embodying my improvements; Fig. 2, a similar view of one of the drawers or receptacles detached; Fig. 3, a longitudinal section of the structure shown in Fig. 1, and Fig. 4 a transverse section of the same.

My invention relates especially to a refrigerator-structure for meat-markets, although it is also applicable to other purposes, and may be used wherever found adapted to the purposes required.

The invention consists in providing the refrigerator with a series of independent drawers or receptacles, which are fitted to a close front, protected by suitable doors, whereby the cooling-space is but slightly affected when the outer door is opened.

It also consists in providing a cooling compartment or compartments in the base of the structure, to which admittance is had without disturbing the upper portion of the refrigerator.

It also consists in various special features of construction and combinations of devices, all of which will be hereinafter more fully described, and will be distinctly pointed out in the claims.

Refrigerator-rooms now in general use for meat-markets and other similar purposes usually consist of a single cooling-room, within which the meats are suspended, and to which admittance is gained by a door of comparatively large size, usually large enough to permit a person to enter the room. With this construction, every time the door is opened the temperature of the atmosphere within the refrigerating-compartment is seriously affected by the outside warm atmosphere, and as the door is frequently opened it is very difficult to maintain a low temperature within the refrigerator. I have sought to overcome this diffi-

culty in the construction of the refrigerator described below.

In the drawings, A represents the upper or main portion of the refrigerator, and B the base or lower portion thereof, this latter being of somewhat larger area than the former, and intended to be set below the floor of the building, though this is an arrangement that is optional.

The main walls of the structure are constructed with dead-air spaces, or in any way known and in ordinary use in refrigerator-structures, particular description not being necessary, therefore, in this case.

In the extreme upper part of the superstructure A is the ice-chamber C, to which admittance is gained through an opening, *c*, in the side walls, which is protected by a suitable door. The ice box or pan D is of less area than the chamber, and is suspended within the latter by means of brackets *d*, so that a free space is provided all around the box for the circulation of air between the ice-chamber and the cooling-compartment below.

Immediately below the ice-chamber is the main cooling chamber or compartment E, which is divided up into spaces of such dimensions as may be desired by means of partitions *e*, these partitions, however, being merely skeleton in form, so as to permit a free circulation of air throughout the chamber. At the front of the chamber the space is closed by a partition, *e'*, which is set in about even with the inner division of the main side wall. This partition or front plate is provided with openings of suitable form and size to receive drawers or receptacles F, which are, preferably, of rectangular form. These drawers are provided with slotted bottoms *f* and openings *f'* in their sides, so as to permit the circulation of air through them. The skeleton frame-work within the chamber and the openings in the front are arranged so that one of these drawers may be inserted in each opening, and will find a support on the frame-work within, as shown in Figs. 3 and 4 of the drawings; but when all are in place the entire front will be substantially closed, as shown in Fig. 1 of the drawings.

The meats to be preserved are placed with-

in the drawers or receptacles F, and as each one of these is independent of all the rest, and can be withdrawn without disturbing the others, very little of the outside warm air will enter the interior cooling-space when one of the drawers is pulled out slightly for the purpose of removing the contents or placing meats therein.

The front wall is, of course, provided with openings immediately in front of the drawers, and these openings are protected by suitable doors G, which also furnish an additional protection, as the space may be entirely closed, except in front of one set of drawers.

Immediately below the cooling-chamber is a cooling-well or sub-chamber, H, the top of which, immediately under the chamber above, is open, and communicates directly with the latter. This compartment is situated in the enlarged base B, and is of less area than the latter, so that a free space, *h*, extends around the three sides of the compartment, between it and the outside walls. The drip from the ice-chamber in the top of the refrigerator is discharged by a pipe, J, into this space; and, if desired, salt may also be introduced, to provide an additional cooling-mixture. Near the top of this space is a discharge-pipe, *j*, through which the water escapes, so as to prevent flooding. This opening is small, but, if necessary, may be protected by trap or any other suitable means to prevent the entrance of air from the outside.

If the drip is not sufficient water may be introduced from the outside to fill the space around the well.

As seen in the drawings, this well projects forward beyond the cooling-chamber and underneath the projecting portion of the base, in which is an opening and a door, *b*, immediately above the well.

The well is shown to be provided with a partition, *b'*; but this is an optional device, as the well may be divided or not, and, if divided, may have two or more subdivisions.

The doors K underneath the door *b* furnishes admittance to each of the compartments of the well; and, if desired, the door *b* may also be made sectional, so that a smaller space will be uncovered when the door is raised.

This well H is intended for pickling-mixtures, for preparing and keeping pickled meats, and it may be put into the structure or not, as may be desired.

The number and arrangement of the receptacles in the cooling-compartment will, of course, depend upon the nature and extent of the business in connection with which the refrigerator is employed, and it is evident that the arrangement of the partitions, the number of the drawer-sections, and the size and num-

ber of the receptacles themselves may all be varied to suit circumstances. So, too, the arrangement of the ice-chamber and the construction of the structure in other particulars are merely arbitrary, and may be varied, and still retain the essential features of my invention.

With this construction I am able to utilize the entire space within the cooling-chamber, which cannot be accomplished in the ordinary chamber, where the meats are suspended, and the chamber is intended to be entered for the purpose of placing articles therein or removing them therefrom.

In this structure it will be noticed that the necessity of entering the chamber is entirely avoided.

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

1. The cooling-chamber E, in combination with a rack or skeleton-frame, *e*, within the chamber, the sliding receptacles F, provided with openings in their bottoms and sides, the front partition, *e'*, constructed to receive the sliding receptacles, and the doors G, outside and in front of said partition, whereby a free circulation of air is permitted about and through the receptacles in the cooling-chamber, and the admission of warm air is prevented, substantially as described.

2. The cooling-chamber E, in combination with a series of removable drawers, F, provided with side and bottom openings for the circulation of air, the ice-chamber A, arranged above and extending over the cooling-chamber, and air-flues connecting the ice-chamber with the cooling-chamber, substantially as described.

3. The enlarged base B, provided with the pickling-well H, arranged in the base of the structure and immediately below the cooling-chamber, whereby the air circulates from the latter into the former, substantially as described.

4. The enlarged base B of the structure, in combination with a pickling-well, H, arranged therein, doors in the base, whereby admittance is gained to the well without disturbing the chamber above the cooling-chamber E, immediately above the well, and of less area than the base B, the ice-chamber A immediately over the cooling-chamber, and air-flues for the circulation of air between the ice-chamber and the cooling-chamber and pickling-well, substantially as described.

WINDSOR LELAND.

Witnesses:

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CHAS. UTES.