

(No Model.)

2 Sheets—Sheet 1

J. K. FRICK.

REFRIGERATOR.

No. 302,474.

Patented July 22, 1884.

Fig. 1.

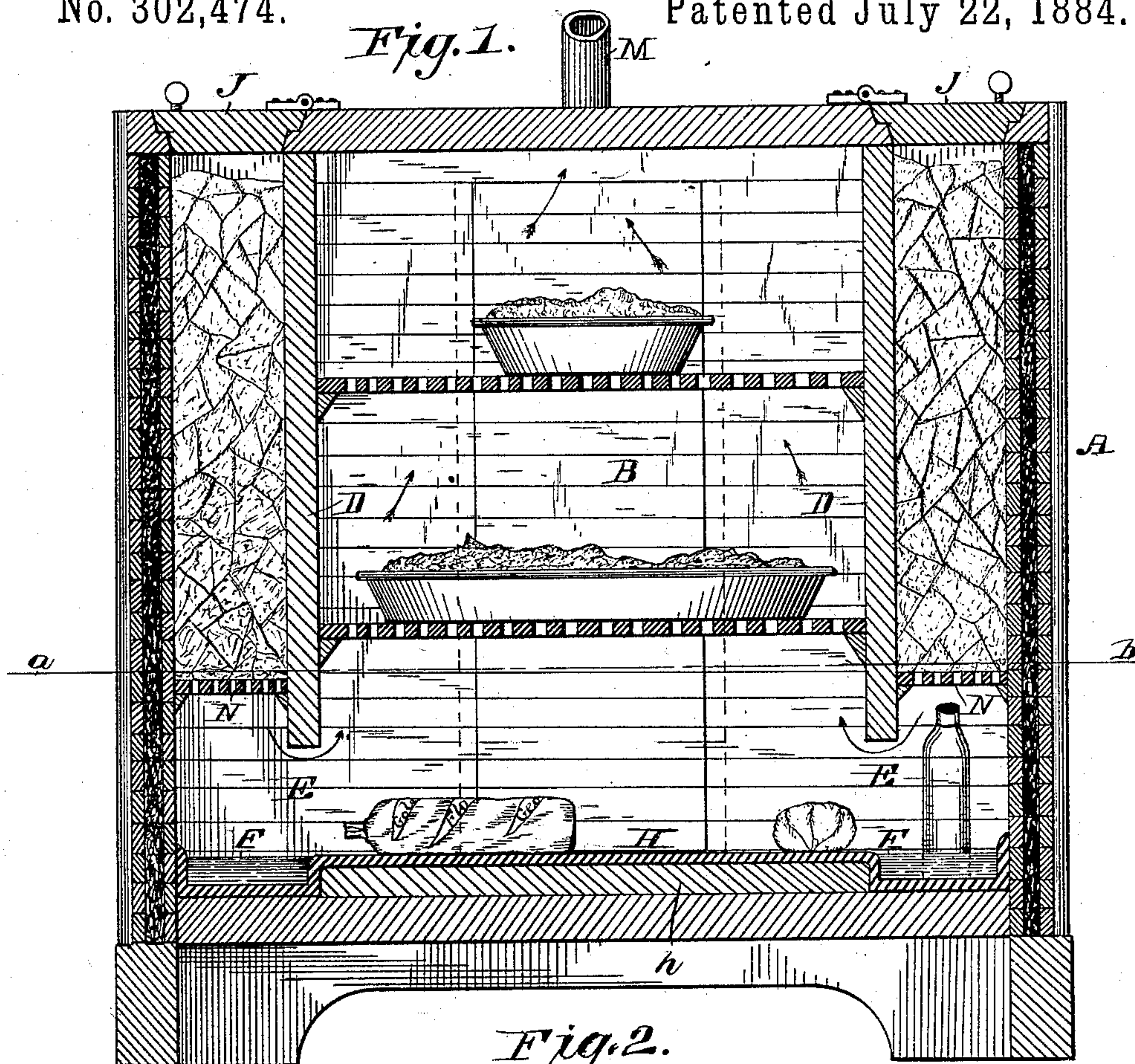
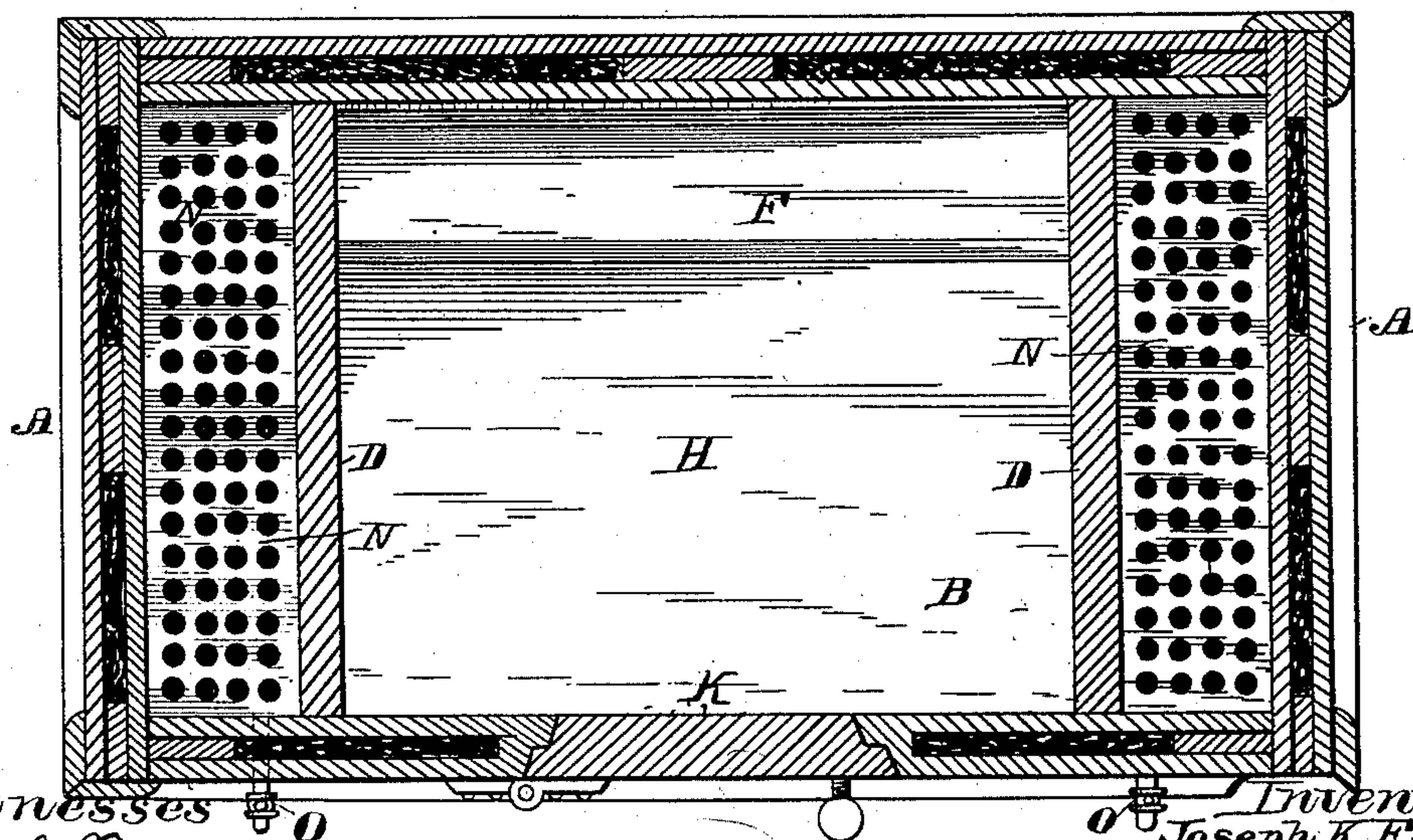


Fig. 2.



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Joseph K. Frick,
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(No Model.)

2 Sheets—Sheet 2.

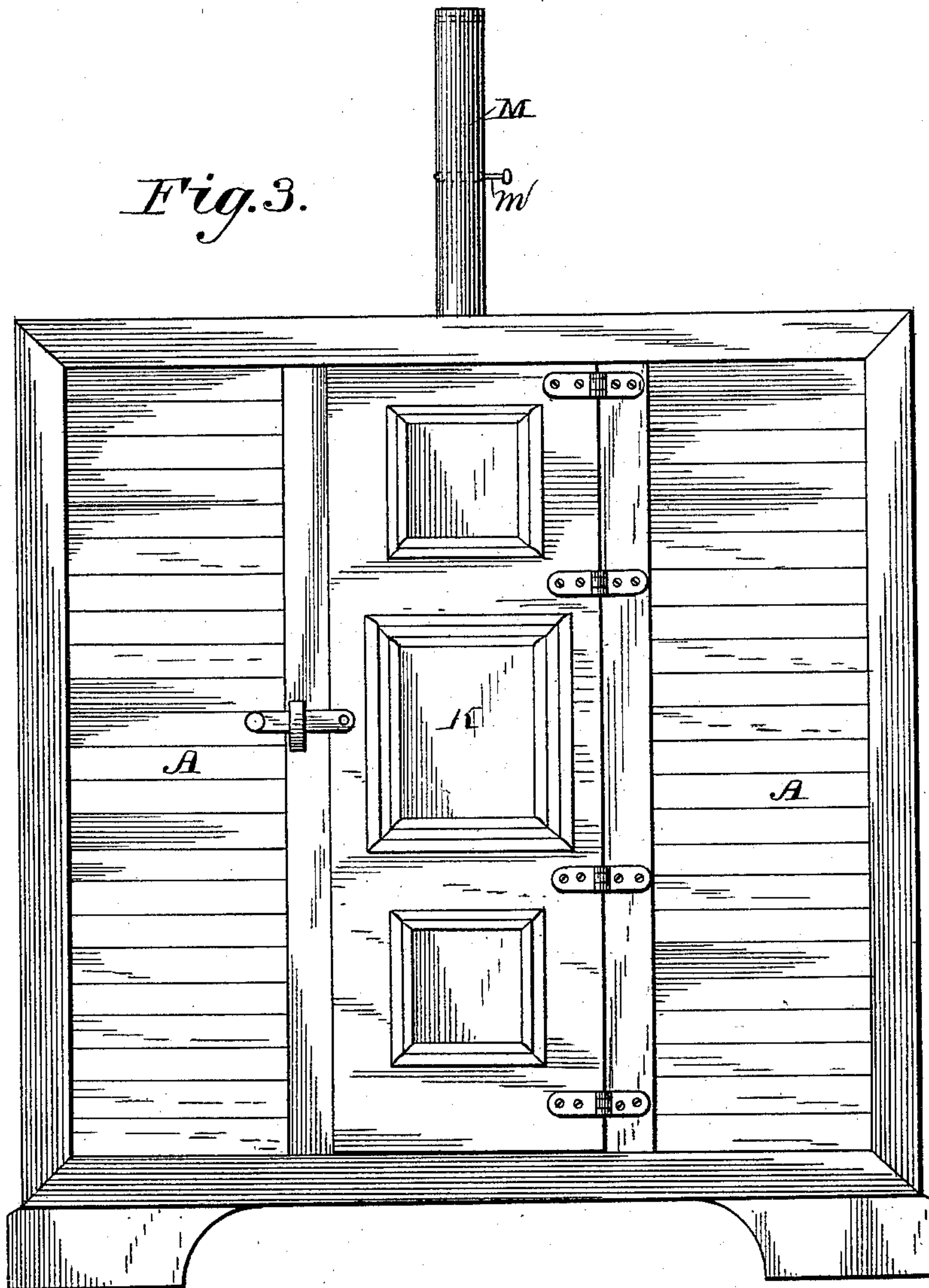
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Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

JOSEPH K. FRICK, OF EVANSVILLE, INDIANA.

REFRIGERATOR.

SPECIFICATION forming part of Letters Patent No. 302,474, dated July 22, 1884.

Application filed February 2, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH K. FRICK, a citizen of the United States, residing at Evansville, in the county of Vanderburg and State of Indiana, 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 the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to that class of refrigerators for preserving animal and vegetable substances or provisions, in which the temperature is reduced below the point of fermentative disorganization.

The object of the invention is to provide a refrigerator-safe adapted especially for domestic use, in which a maximum degree of cold is produced with a minimum consumption of ice, and in which the capacity of the preserving or provision chamber is greater than in refrigerators of the ordinary construction, effectual provision being also made for utilizing the water produced by the melting ice as a cooling agent, and carrying the same off without coming in contact with the substances placed on the floor of the preserving-chamber.

Another object of my invention is to prevent the tainting of the substances placed in the provision or preserving chamber, and keeping the same wholesome and sweet by inducing a current of air from the ice-chambers through the provision-chamber, and out through a ventilating-tube in the roof of the latter.

The construction and arrangement of parts constituting my invention will first be fully set forth in the following description, and then clearly pointed out in the claims.

In the drawings, Figure 1 is a vertical sectional view of a refrigerator constructed according to my invention. Fig. 2 is a horizontal sectional view taken through the line *a b* of Fig. 1. Fig. 3 is a front elevation showing the door of the provision-chamber.

The letter A designates a structure, chest, or safe, which is made of wood, metal, or other suitable material, and has double walls filled with some good non-conductor of heat, such

as pulverized charcoal or any of the substances commonly employed for packing non-conducting or jacketed walls. The interior of the chest or safe A is divided into a central provision or preserving chamber, B, and two lateral chambers, C, serving as receptacles for ice. These chambers are formed by means of the vertical partition walls or boards D, which extend from the roof of the chest or structure A to a point sufficiently far above the floor of the latter to leave openings or passage E for the entrance of the cooled air into the provision-chamber. The ice-chambers are formed by the aforesaid partition-boards D and the end walls of the structure or chest A, and suitable ledges or strips on said boards and walls serve to support removable perforated plates or racks N, upon which the ice is supported.

Beneath the ice-chambers are located troughs or gutters F, for the reception of the water dripping from the ice or resulting from the melting thereof. These troughs or gutters extend from the front to the back of the chest or structure A, and communicate at the rear with a transverse gutter or trough, G, located at the bottom of the provision-chamber, as is clearly shown in Fig. 2. A platform or floor, H, bridges the space between the two lateral troughs and occupies the space of the provision-chamber in front of the transverse trough C. The different troughs and the aforesaid platform or floor H are preferably constructed of a single piece of sheet metal, which is struck up or bent into the required shape, the plate or portion constituting the platform being joined with the inner vertical flanges of the various troughs. In this manner a space or cavity is formed beneath the sheet-metal plate or surface constituting the platform or floor H, said space being filled with a board, *h*, that serves to give the requisite degree of rigidity or strength to the floor of the provision-chamber in order to permit heavy objects—such as kegs of beer—to be supported thereupon. The main object, however, of the raised platform H is to utilize the bottom of the provision-chamber for holding articles which should be kept perfectly dry. In order to allow this to be done provision is made for preventing the water resulting from the melting ice from dripping onto the raised platform and wetting the articles placed thereon. I at-

tain this result by locating the vertical partition-boards D in such relation to the lateral troughs that the surfaces of said boards, in continuation of the inner walls of the ice-chambers, are located inside the inner flanges of the troughs F, so that the water must necessarily fall into said troughs. This arrangement of the partition-boards D is clearly shown in Fig. 1. Access is had to the ice-chambers through doors J at the top of the chest or structure A, said doors extending entirely across the chest A and being seated in the door-openings, so as to render the ice-chambers perfectly air-tight at the top. The doors J are hinged, or they can be entirely removed, and in either event they allow the chambers to be filled with ice, either in blocks or fragments. Access is had to the provision-chamber by a door, K, which is hinged to the casing or chest A, and fits into the door-opening extending from the top to the bottom of the latter. This door is sufficiently wide to facilitate the easy introduction and removal of articles intended to be preserved or cooled, and, if desired, several doors may be resorted to, a wide door being generally located at the bottom, so as to permit the water-troughs to be easily reached.

The space of the provision-chamber between the partition-walls is occupied by a suitable number of shelves or racks, L, which are supported upon ledges on said partitions, and are designed to support articles to be preserved or cooled. The shelves may be perforated metal plates or wooden lattice-work racks, so as to allow air to pass through them, and they are as wide as the provision-chamber. A tube in the roof of the provision-chamber serves for ventilating the interior thereof, and has a valve or damper, *m*, for controlling the temperature therein. The top of said tube may have a perforated guard-plate or piece of wire-gauze for excluding insects.

It will be understood that no communication exists between the provision and ice chambers, except at the bottom, and that no air is allowed to enter the ice-chambers at the top. It therefore follows that the melting ice alone induces a current of cooled air to enter at the bottom of the provision-chamber, and as the shelves in the latter are perforated or

open the air can pass freely through the same, and the warm air pass out through the tube M. The ice-water at the bottom of the chest or structure serves as an auxiliary medium for maintaining a proper temperature in the preserving-chamber, and the troughs in which said water circulates or flows can be used for holding bottles containing liquids to be cooled. Faucets O in either or both of the walls of the structure A serve for the discharge of the water from the troughs, and gage-glasses may be provided for indicating the amount of water therein and preventing the same from overflowing the raised platform or floor of the provision-chamber.

It will be manifest that a refrigerator constructed according to the above invention is simple and cheaply made, and serves most effectually for cooling or preserving articles placed therein, and for this reason it commends itself to general use.

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

1. A refrigerator having a portion of the inside of the bottom elevated to form a support for articles to be kept dry, and a depressed portion or portions integral therewith, forming a flat-bottomed trough or troughs under the ice-box adapted for the reception of vessels or articles which are cooled by the drip water falling upon and standing around them, substantially as herein set forth.

2. In a refrigerator, the combination of a central provision-chamber having a front door, a top ventilating-opening, and a rigid floor or bottom, and the water-troughs located below the top plane of said floor at the sides and rear thereof, and the ice-chambers having air-tight doors at the top arranged at the sides of the provision-chamber above the water-troughs, and communicating at the bottom with the provision-chamber, substantially as set forth.

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

JOSEPH K. FRICK.

Witnesses:

WM. J. TANNER,
MARTIN TANNER.